



PALMERSTON NORTH **LANDSCAPE INVENTORY**

October 2011

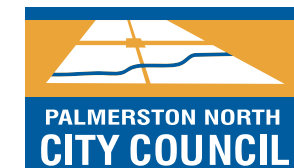




PALMERSTON NORTH LANDSCAPE INVENTORY

Stage One of the Landscape Study
Revision 1

October 2011





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This Landscape Study is formulated as an inventory, a value neutral study that describes the resources of the district in terms of a number of different landscape 'units' and their defining characteristics.

INTRODUCTION

As part of the Rural Review Palmerston North City Council (Council) commissioned Opus International Consultants (Opus) to prepare a detailed Landscape Inventory of the City.

The Landscape Inventory represents Stage 1 of the Landscape Study and the first output of the Rural Review policy development process.

The Landscape Study is formulated as an inventory, a value neutral study that describes the resources of the district in terms of a number of different landscape 'units' and their defining characteristics. It also provides a strategic overview of the District's landscape at two levels: it includes descriptions of the landform, landcover and landuse that define the physical landscape of the City and a finer grain analysis of landscape character and attributes. The Landscape Inventory itself will not provide the policy direction for future development in the Rural Zone, but will act as a baseline report and provide direction for whatever policy approach the Council seeks in the rural areas.

The next step for Council will be to consider the Landscape Inventory and identify various planning issues and policy options relating to future development within the Rural Zone. Further information on related matters such as roading and infrastructure requirements, potential development constraints such as soil quality and stability and future land requirements for rural-residential development will also need to be gathered to help inform Council's preferred policy approach on development within the Rural Zone.

BACKGROUND



Section 79(2) of the RMA requires Council to commence a full review of its District Plan not later than 10 years after the Plan became operative. This means Council must commence a review of the District Plan prior to December 2010.

One of the major projects that needs to be completed as part of the District Plan Review is a review of the Rural Zone, in particular the role of rural-residential subdivision in terms of fulfilling the City's long-term development strategy and the sustainable management of the rural land resource, including important landscape values. A corresponding project is the review of planning provisions for renewable energy developments, which is also underway.

In October 2006, Opus was commissioned to prepare a Landscape Study of the City.

In 2011, Council requested further interpretative materials to aid and enhance the appreciation and understanding of the primary elements of the City's landscape, its structure and character, and to illustrate the landscapes natural patterns. Opus worked with landscape architects Clive Anstey and Julia Williams to prepare the supplementary material for this revised document, now titled 'Landscape Inventory'.

The Palmerston North Landscape Inventory is the first major study of its kind to be completed for the City. In part the need for a Landscape Study highlights the complexity of the issues involved in the Rural Review and the need for planning provisions that recognise conflicting values and objectives in development processes, and provide for their resolution. It also recognises the detailed level of information required to support the successful development of new District Plan provisions under the Resource Management Act 1991.

Some of the key resource management issues to be addressed in the Rural Review are:

- The management of natural landscape features;
- The effective management of risks associated with soil instability;
- Wind-farm development;
- Reverse sensitivity effects in the Rural Zone (i.e. the development of new sensitive receiving environments, e.g. dwellings in close proximity to existing rural activities);
- Potential effects resulting from the use of on-site wastewater treatment systems (septic tanks);
- The use and / or protection of high class soils;
- The likely influence of other proposed developments including strategic infrastructure, e.g. the second bridge crossing; a possible future State

Highway realignment from Mt Stewart to the Ashhurst Gorge

- The extent and location of the existing rural-residential subdivision overlay (i.e. the areas identified suitable for rural-residential subdivision);
- The role of rural-residential subdivision in meeting the City's urban growth requirements;
- Long-term strategic planning considerations, e.g. rural-residential development on the fringe of the City has the potential to create problems for future urban growth;
- Alternative options for rural-residential development;
- The effects of development in the Rural Zone on the rural roading network; and
- Sustainable transport

This first stage of the Palmerston North Landscape Study has two key outputs:

1. The identification and description of the Landscape Types and individual Landscape Units within the City; and
2. A programme for Stage 2 of the Landscape Study which will take the characterisation of the landscape further in order to ensure the study provides a robust basis for the proposed Landscape Strategy as well as the wider Sectional District Plan Review. Stage 2 will cover 3 themes:
 - the landscape framework
 - individual landscape unit values
 - a land use study for rural residential development:

STUDY PROCESS

STUDY APPROACH

The objective for the first stage of this Landscape Study is to advance from a previous landscape assessment of the City carried out by Boffa Miskell Ltd in the early 1990s, following local government¹ re-organisation in 1989. The Boffa Miskell report provided high level recommendations for developing land use and landscape policy for inclusion in the current District Plan². This initial landscape assessment was subsequently updated as part of a citywide ecology study in 2002³, and usefully informed the City's Greening Strategy⁴. However this earlier assessment was found to have limited supporting descriptive detail so that the basis of the landscape analysis and classification was unclear. Further, while the report provided recommendations for developing landuse policy for inclusion in the current District Plan there was no reference to stakeholder or community input or formal engagement with the public.

A number of recent landscape studies from around the country have been reviewed and their positive aspects used to shape the approach that has been taken to defining the natural processes and land use patterns that define the Palmerston North City's landscape. The current study has taken a descriptive approach to defining the City's landscape so there is an overarching framework, or baseline, from which the Rural Review can be developed in a consistent and integrated manner. The City's landscape is a reflection of its landform, landcover and landuse and the community's historic, cultural and personal connections with this landscape, as outlined in the following overview.

Palmerston North Landform

The eastern edge of the Manawatu is defined by the Tararua-Ruahine Ranges, a narrow axial range that forms part of the 'backbone' of the lower North Island. North of the Pahiatua Track, the range is broad and almost flat-topped; south of Pahiatua Track the range rises and becomes progressively dissected until it forms a series of parallel ridges, each with a unique series of 'peaks', saddles and spurs.

West of the ranges lies the open landscape of the Manawatu Plains. The plains and ranges are linked by the Manawatu River, which over time has cut through the mountains and etched a wide, meandering channel into the lower flats.

Palmerston North city sits on the edge of the Manawatu Plains, straddling the Manawatu River and backdropped by the Tararua Ranges. The business centre and most residential development is located north and west of the river. The rural area, or at least the greater part of the rural area, lies between the river and the Tararuas.

From the foothills of the Tararua Ranges the landform steps down to the river corridor in a series of visible terraces, some relatively flat and some incised by valleys and gullies. Numerous watercourses in the form of rivers, creeks and ephemeral streams flow in a complex pattern across the terraces towards the Manawatu River. This is clearly illustrated in the Figure 1.

How the Manawatu was formed

Several million years ago, before the ranges were formed, the entire Manawatu Region was under the sea. The Manawatu River ran from southern Hawkes Bay to the west coast south of Whanganui. The surrounding land had a westward tilt and was drained by a network of watercourses.

As long as 1.5 million years ago the axial ranges emerged on the coastal boundary, the result of tectonic uplift. Greywacke basement rocks were pushed up along the north-south trending faultline to form the ranges. At the same time, sea levels were falling. Progressive marine erosion left a series of low angled benches cut into the flanks of the ranges, each covered with a layer of marine sediment. Over time material at the top of the riser, on the edge of the bench, has slipped, changing the angle of the riser and the formation of the terraces. The most prominent of these is the series of elevated flats at the foothills of the Tararuas known as the Tokomaru Marine Terrace.



Figure 1: Local stream network on Linton flats. NZTopo50 BM34

⁰¹ In 1989, the jurisdiction and land area of the City was expanded to meet City's future urban growth requirements. This newly incorporated land came from the former Manawatu District and Oroua County Councils.

⁰² The report recommendations were not adopted in the District Plan, as notified in August 1995.

⁰³ Palmerston North City Council (2002) Ecological Processes in Palmerston North City. Prepared by Boffa Miskell Ltd. Wellington.

⁰⁴ Greening Strategy: Enhancing Palmerston North's Biodiversity October 2006. A joint initiative of the Palmerston North City Council and The Environment Network Manawatu.

The terrace rises from Levin to Palmerston North, reflecting an increase in uplift rates to the north along the western flanks of the range. It represents the coastline at the time of the last interglacial, the warm period before sea levels started to fall.

The drainage network was increasingly impeded by the rising Tararua mountain range. The largest river, the Manawatu, was able to keep pace with the changing levels, and cut down and through the range to form the steeply incised Manawatu Gorge. Smaller rivers and streams were less able to cope with the rising land; over time they reformed and re-routed to flow into the Manawatu River.

With falling sea level the former seabed became what we now know as the Manawatu Plains. The floodplain associated with the Manawatu River has created four well-defined terraces, formed during the last glacial cycle in an on-going process of loess accumulation and erosion. The highest river terrace is the Forest Hill terrace. Cutting of this terrace and refilling formed the Milson terrace, then the Ashhurst terrace, and the finally the lowermost unit that is the Raukawa terrace.

PALMERSTON NORTH LAND COVER

The 2002 study 'Ecological Processes in Palmerston North City 2002' identified a total of 86 Ecological Areas (EAs) across the City, as shown in Figure 3. Under this heading are listed the ecological areas that fall within each landscape unit, being predominantly remnants of indigenous vegetation.

In an overview, the study notes "These areas covered approximately 4500 ha or somewhere between 12-15% of the total area of the City. The total area is very heavily dominated by large Ecological Areas (EAs) in the northern Tararua Range, such as the headwaters of the Kahuterawa and Turitea catchments. Without these areas the total area of EAs would be only about 300ha, less than 1% of the city's area. There are considerably more EAs under private than public tenure, but most of the large EAs, and by far the greatest proportion of the total area of EAs (about 88%) are in public tenure."⁵

In short, while there are a large number of very small EAs in private ownership, the Palmerston North City Council Reserves, (notably the Turitea Reserve and adjoining Hardings Park) are by far the most important components of City's protected ecological areas because they represent the largest area of land.

Aside from plant and animal pests (including humans), other threats to habitat include flooding, wind exposure, erosion, sedimentation, and fragmentation from subdivision and land development activity in particular. A major effect of fragmentation is not just the loss of the original habitat but also the loss of physical and ecological connections between EAs that remain.

Much of the rural area is intensively farmed. Habitat clearance, coupled with the city's need for flood control on the Manawatu River and Mangaone Stream, has been particularly hard on river and wetland habitats. The remaining wetland habitats are now extremely fragmented and limited throughout the city. There are only a few riparian EAs, and 8 wetland areas, all less than 10ha in area.

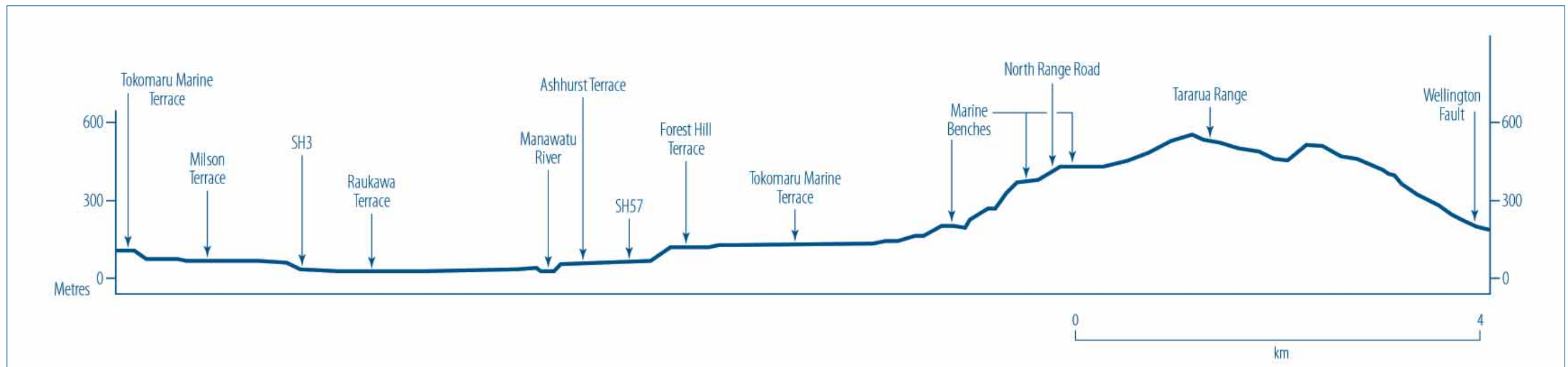
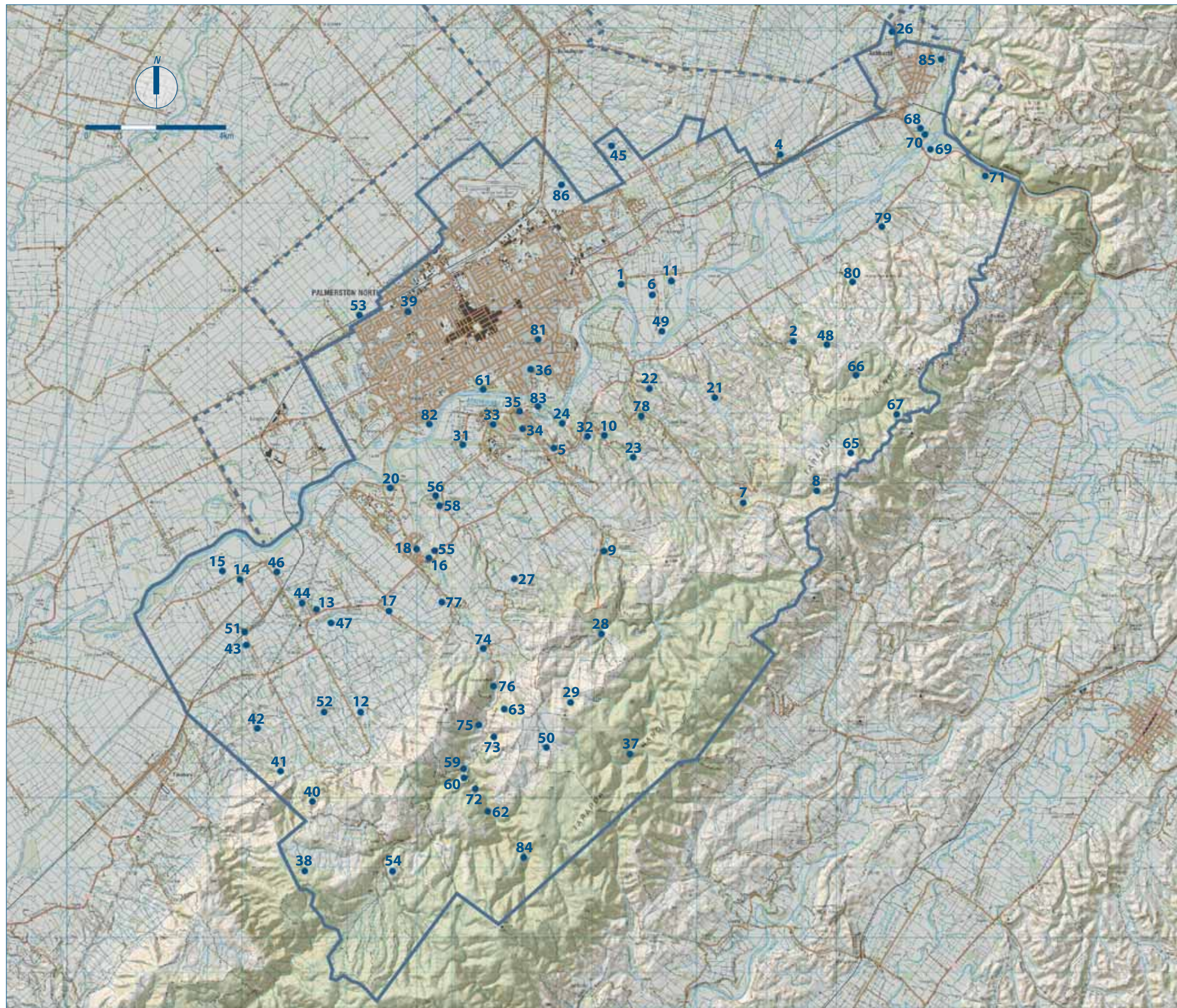


Figure 2: Cross-section of the Manawatu River valley-Tararua Range near Palmerston North (From Soons, J.M. and Selby, M.J. Landforms of New Zealand)

⁰⁵ Executive Summary Page 4. Palmerston North City Council (2002) Ecological Processes in Palmerston North City. Prepared by Boffa Miskell Ltd. Wellington.



LEGEND

1	Riverside Drive Oxbow	45	Dobson Lane wetland
2	Forest Hill Rd remnant	46	Aker's Bush
4	Napier Rd escarpment	47	Nguturoa Stream remnants
5	Poutoa Walkway Reserve	48	Taupiri Beech remnant
6	Kohlers Totara Block	49	Kohler's Rd B
7	Pahiatua Track remnant	50	Brown's Flat
8	North Range Rd Bush	51	Crow's Lagoon
9	Kereru Drive Bush	52	Larsen's Bush
10	Moonshine Rd Reserve	53	Manderson's Bush
11	Brookfields Park Golf Course	54	Kahutewara Stream site 1
12	Millrick's Line	55	Kahutewara Stream site 5
13	Nguturoa north remnants	56	Keebles Bush
14	Craw's Rd	58	Keebles Stream
15	Te Puna Rd Channel forest	59	Kahutewara Stream site 3
16	Linton Hall Bush	60	Kahutewara Stream site 2
17	Kendall's Line Bush	61	Esplanade Bush
18	Linton Camp Bush	62	Kahutewara Stream site 4
20	Linton Camp escarpment	63	Southey's Bush
21	Aokautere East	65	Buchanan's Dam
22	Aokautere Village Bush	66	Foresthill Stream
23	Tutukiwi Reserve	67	North Range Scrubland
24	Pari Reserve	68	Ashhurst Oxbow Escarpment
26	Ashhurst, Grove Rd	69	Manawatu River
27	Kahuterawa Rd A	70	Ashhurst Domain
28	Greens Rd bush	71	Manawatu Gorge Bush
29	Upper Greens Rd Scrub	72	Kahuterawa Gully Bush
31	Lower Turitea Stream	73	Kahuterawa East Bush
32	Lower Moonshine Valley	74	Kahuterawa Flat Remnant
33	Bledisloe Park	75	Kahuterawa West B
34	Heathcote Drive Bush	76	Kahuterawa West A
35	Summerhill Drive Escarpment	77	Hewitts Rd remnant
36	Centennial Lagoon	78	Wakefield Bush
37	Upper Turitea catchment	79	Gardiners Rd scrub
38	Kaihinu Bush	80	Tuapaka Scrub
39	Mangaone Stream	81	Hokowhitu Domain
40	Wicklow bush	82	Buick Park
41	Scotts Rd scrub	83	Anzac Park
42	Scotts Rd Wetland	84	Harding Park
43	Linton Station wetland	85	McRaes Bush
44	Linton Station wetland	86	Linklater Wetland

Figure 3: Map of Ecosites in Palmerston North City Council
 (Information sourced from Ecological Processes in Palmerston North City, Boffa Miskell Ltd., 2002)

PALMERSTON NORTH LAND USE

The patterns of land use have evolved to reflect the geomorphology. Maori settlement tended to focus around the Manawatu River rather than the raised terraces or exposed hills of the Tararua Ranges.

European settlement and land clearance began along the northern side of the Manawatu River where access was easy and the soils were fertile. Remaining parts of the city were virtually all in tall forest cover up to the mid 19th century. Once started however, forest clearance across the river flats and up onto the terraces was rapid.

“Palmerston North became a Borough Council in 1877, at which time the population was 800 and the main industries were milling the extensive native forests and processing flax. By 1902 the population was around 7,000 and the main industry was shifting into agriculture on the plains surrounding the river, which offered easy access and a hospitable environment. The shift to agriculture in the Ranges occurred about two decades later.”⁶

Land granted to the Borough of Palmerston North for water supply purposes by central government in 1905 was formerly crown land set apart for ‘the growth and preservation of timber’, in recognition of impending timber shortages. There was also an early realisation that the vegetation cover on the ranges and steeper land falling to the plains was important for soil and water management purposes; most of the land now administered by Department of Conservation (Tararua and Ruahine Forest Parks), was formerly classified as ‘Protection Forest’.

The City’s water supply area, together with other parcels acquired over a period of years, became a Reserve in 2003. The reserve was divided into 3 areas: one to provide for structures associated with the capture and management of water to supply the City; a second covering the water supply catchment (Turitea Reserve); and a third, now known as Hardings Park, became a ‘Scenic Reserve’. The City’s entire backdrop south of the Pahiatua Track is therefore managed for various reserve purposes, or for conservation. All of these areas, as well as the steeper faces above the Manawatu Gorge, are covered in native vegetation, most of which has naturally regenerated following timber removal or burning, with remnants of the original native forest cover within the Turitea Reserve. There are also scattered patches of exotic pines in the reserve itself that are being progressively logged and the land allowed to revert to an indigenous cover.

The intensity of land use is greatest on the fertile river flats where market gardening and horticulture, characterized by their small-scale pattern of shelter planting, predominate. There are extensive areas of dairy farming on the lower and upper Linton river terraces and on the river terraces adjacent to Fitzherbert East Road. Sheep, beef, and deer farming are the predominant land uses across the northern Tararua Ranges and the elevated foothills, extending across the marine and drier river terraces. There is a diverse range of activities occurring on small rural holdings across the rural landscape. Arable farming is limited to well-drained better quality soils on easy topography

Over time the diversification and intensification of land use has moved out from the river corridor and flats into the foothills of the Tararua Ranges. The most recent change has come with an increasing interest in life style blocks and the partial suburbanisation of the Aokautere area with the development of the Atawhai and Summerhill neighbourhoods. These were initially of a scale sufficient to enable the management of grazing stock but are now tending towards smaller lots that afford a rural lifestyle without the responsibilities stock management.

This more intensive form of subdivision has been associated with the planting of trees and shrubs for amenity, shelter and privacy, so that open pasture has been converted to a woody cover. This trend is similarly reflected in the process of exotic forest establishment on the more erosion prone soils. These forests sit across the foothills, extending up steep slopes onto the ranges.

The planting of woody vegetation associated with intensification generally tends to reflect the topography; steeper slopes and inaccessible gullies are being planted or allowed to revert to natives, at least in areas where the topography clearly excludes buildings and cultivation. This mix of trees, shrubs, and lifestyle contributes to greater soil stability and resilience, as well as enhancing rural character and amenity. In some areas of rural residential development however the easier topography has resulted in a more conventional and fragmented patchwork pattern of development.

The pattern and scale of this land subdivision is also partly a response to District Plan requirements, in particular compliance with best practise engineering design for effluent and stormwater disposal.

METHODOLOGY FRAMEWORK AND OUTPUTS

Defining Landscape Types

The landscape types and subsequent landscape units are primarily defined by landform. This basic structure is over-laid by variable patterns of land cover and use so that the character of the landscapes is diverse and interesting. One of the reasons for using landform as the basic structure is because while landcover and landuse change over time, landform remains relatively constant.

Landscape types have been defined in accordance with landform variation, each type being characterised by a particular landform. The different landscapes within each type have been identified as units. Each landscape unit has been described and this information is captured on landscape unit description sheets.

For the Palmerston North Landscape Inventory, a desktop study, field investigation and GIS mapping resulted in the identification of nine landscape types. The landscape types are defined by their geomorphology and in most cases the boundaries between the types are geographic features such as ridgelines, terrace tops or the margins of a watercourse. However, in almost all cases, the demarcation between one type and another is not a sharp or distinct line but rather a gradual change from one landform into another. Each of the nine types has been broken down into distinctive ‘units’.

Defining Landscape Units

The Landscape Inventory identifies and describes nineteen landscape units within the City. The patterns of development and the landscape and visual features for each of the landscape units have been identified.

The individual landscape units have been identified at a high level and the Landscape Study does not yet make any recommendations for their management. Future stages of the Landscape Study and Rural Zone Review will identify options for the management of the nineteen landscape units.

⁰⁶ Executive Summary Page 4. Palmerston North City Council (2002) Ecological Processes in Palmerston North City. Prepared by Boffa Miskell Ltd. Wellington.

Description Sheets

Description Sheets have been produced for each landscape unit outlining the following attributes:

Landscape Character Analysis

- Landscape Description describes the range of landscape elements and features found in the particular landscape unit
- Defining Characteristics are landscape elements and features that are distinctive to the particular landscape unit
- Visibility and Visual Amenity notes the factors that contribute to its visual amenity including the transport routes that traverse the particular landscape unit
- Patterns of Development notes the various land uses and types of development that are common to the particular landscape unit
- Landscape and Visual Sensitivity reflects the degree of modification within the particular landscape unit and indicates the units sensitivity to change

Landscape Attributes

- Natural Features and Legibility notes the various physical landscape elements within a landscape unit that define a sense of place and identity
- Cultural and Historic Associations identifies the landscape elements that provide links to Maori and European heritage within the particular landscape unit
- Aesthetics and Recognition identifies the scenic qualities of the particular landscape unit and the features it contains, the significance of its location for the City as a whole, and the form the landscape may have (developed or natural or a mix of both).

By their nature, many of these landscape attributes overlap.

Sense of Place

From a community perspective the City's landscape is composed of a rich diversity of places that need to be recognised and their values respected and enhanced by any ongoing development. Every unit has a particular identity or sense of place to which individuals and their communities respond and this has been identified in *Sense of Place*.

- Summary description highlights the critical attributes of character that make this landscape unit unique.
- Community identifies those residents or groups who live in, drive through, have views of, or have vested interests in the landscape unit.

For reasons of brevity, Community of Interest does not include organisations that are key stakeholders in the district as a whole or have interests across the district but with a focus on specific agencies such as Palmerston North City Council, Horizons Regional Council, New Zealand Transport Agency, Transpower or DOC. Nor does it include local iwi (who are considered to be partners), or residents of the city with an interest in each and every landscape unit.

- Sensitivity to change provides a preliminary indication of each landscape unit's sensitivity to ongoing development and change. Sensitivity' is to be interpreted as a guide to the sensitivity of the landscape's critical attributes to adverse effects, rather than as a directive to the appropriateness or inappropriateness of any potential development. Sustaining the quality of places for people goes hand in hand with sustaining resources and developing resilience. This will be subject to more detailed analysis in Stage 2 when both bio-physical limitations and resilience will be explored.

Te Koha O Te Whenua: A grove of karaka trees on Massey University land that is on the District Plan Schedule of Objects and Sites of Cultural Heritage Value to Tangata Whenua

Ecological Areas

Ecological Areas, as detailed in the 2002 report, are listed by name and reference number. However, the number and size of the ecological areas in each unit is not necessarily a reflection of its ecological diversity and naturalness.

*"What is 'natural' has been defined by the Environment Court as being something which is a 'product of nature'. It therefore includes pasture and exotic tree species but not man-made structures. A landscape with man-made structures may still have a degree of naturalness but it will be less 'natural' than an unaltered landscape or a landscape without structures."*⁷

Natural science, aesthetic and associative values for each landscape unit will be further explored in Stage 2 of the Landscape Study.

Section 17 of the District Plan has schedules of items of cultural and natural heritage value including heritage buildings, object and sites of value to Tangata Whenua, notable trees and areas of significant indigenous vegetation. These items will be identified with other landscape values in Stage 2 of the Landscape Study when a more in-depth analysis of 'associative values' is undertaken.



⁰⁷ Peart, Raewyn. Landscape Planning Guide for Peri-urban and Rural Areas. EDS 2005.

DESCRIPTION OF LANDSCAPE TYPES

LANDSCAPE TYPES

The following table provides a summary overview of the interrelationship between the nine landscape types and units in topographic order, rising from the Manawatu River up to the Tararua Ranges. The nineteen landscape units within the City are described in further detail in the accompanying Description of Landscape Units sheets in the report (pages 17-55).

LANDSCAPE TYPES AND UNITS			
LANDSCAPES	TYPES	UNIT	PAGE
River	River	1 Manawatu River	18
	River Flat	2 Fitzherbert Bridge	20
		3 Manawatu Bridge	22
		4 Linton Drain	24
	Lower Flat	5 Fitzherbert East	26
		6 Te Matai Flats	28
Valley	Valley	7 Lower Kahuterawa	30
		8 Turitea Valley	32
		9 Moonshine Valley	34
		10 Lower Pahiatua Track	36
		11 Aokautere Stream	38
Terrace & Plain	Plain	12 Palmerston North City	40
	Rolling Flat	13 Linton Flats	42
	Elevated Flat	14 Central Elevated Flats	44
		15 Northern Elevated Flats	46
Hill	Hill Slope	16 Te Mata Slopes	48
		17 Ngahere Park Slopes	50
		18 Forest Hill Slopes	52
	Upper Catchment	19 Tararua Heights	54

THE RIVER LANDSCAPES

River

One of the most distinctive landscape types within the City, the Manawatu River separates the Manawatu Plains and the northwest third of the City from the remainder of the City that rises to the Tararua Range in the east to southeast.

The Manawatu River enters the Manawatu Plains and the City via the Manawatu Gorge and is immediately joined by the Pohangina River, which drains the western flank of the Ruahine Range to the north of the City.

For the most part, the river flows in a relatively broad river channel that contains numerous shingle side and point bars. The river channel meanders within a course that is defined through much of the City by flood control measures such as willow plantings and stopbanks; the exception being a high set of cliffs below the observatory at Anzac Park and a lesser set of cliffs adjacent to Linton Military Camp.

This Landscape Type includes one landscape unit within the City:

Unit 1: Manawatu River

The accompanying data sheet provides a description of the components of the landscape unit.

Character	Landscape is dominated by the river, both its current and historic locations.
Patterns	Pattern of water movement is charted by banks, pools, rapids and shingle bars, plus established vegetation that follows the meander of the river.
Processes	River movements and meander and seasonal vegetation change.
Resilience	The river's resilience is constrained by the cultural imposition of stopbanks and planting to control the river within a distinctive channel.

River Flat

There are two areas of low-lying river flat on the true left bank of the Manawatu River within the City that are not separated from the river channel by a stopbank. Both of these relatively small sets of fertile flats are contained by distinctive terraces to the southeast.

This Landscape Type includes two landscape units within the City:

Unit 2: Fitzherbert Bridge

Unit 3: Manawatu Bridge (crossing in proximity to Ashhurst Domain)

The accompanying data sheets provide a description of the components of the landscape units.

Character	An integral part of riparian environment that buffers flood flows, highly modified with a strong cultural overlay.
Patterns	Land use and ownership, creates a close pattern of fences, and shelter/flood control plantings.
Processes	River containment with periodic flooding.
Resilience	Limited by containment between river and raised river terrace and functions as an overflow area in flood events.

Lower Flat

There are a further three areas of low, fertile flat land that bound the Manawatu River within the City, but these are slightly more elevated than the River Flat landscape type and are protected, in most part, by stopbanks. The lower flat on the true right bank upstream of urban Palmerston North is contained to the northwest by a distinctive terrace. The opposing flat on the true left bank rises directly to the adjoining hill slopes in the north and to an intervening elevated flat in its mid to southern extent. The remaining lower flat is defined by a subtle change in landform to the east and extends south beyond the City boundary.

This Landscape Type includes three landscape units within the City:

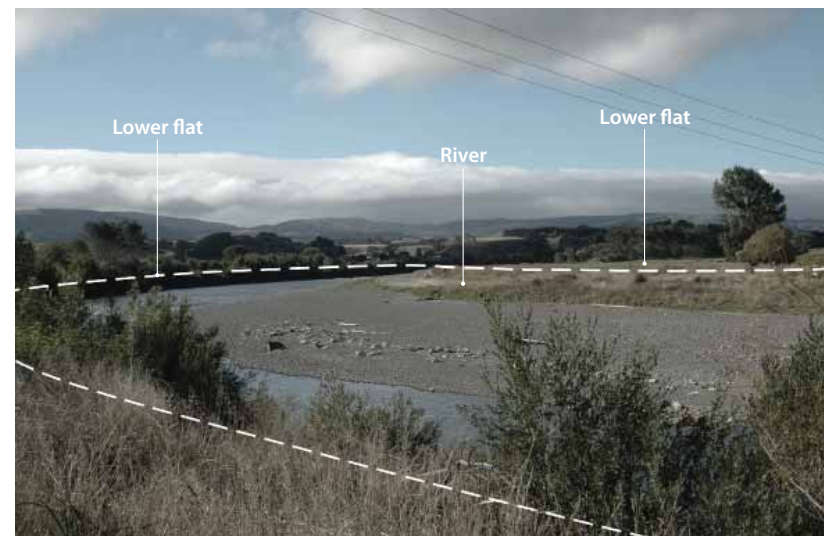
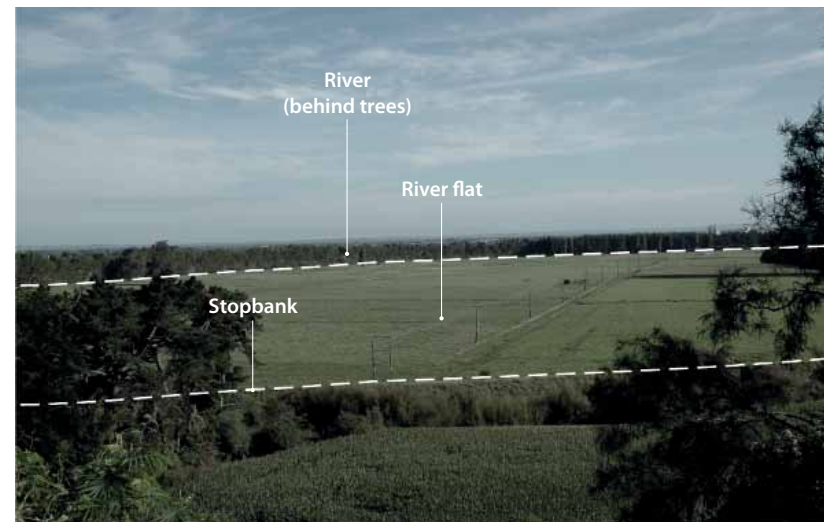
Unit 4: Linton Drain

Unit 5: Fitzherbert East

Unit 6: Te Matai Flats

The accompanying data sheets provide a description of the components of the landscape units.

Character	Fertile soils on gently sloping land with strong cultural overlay. Small lots of fertile, productive land used for intensive farming and horticulture fragments the landscape.
Patterns	An ordered landscape dissected by fences, vegetation, shelter belts.
Processes	Now protected by stopbanks with minimal evidence of former periodic flooding.
Resilience	Resilience enhanced by river control works, focussed on the City's urban areas (middle reach of the Manawatu River). Land use can be adapted but ultimate limitation will always be potential flooding and high water tables.



THE TERRACE AND PLAINS LANDSCAPES

Plain

The major portion of urban Palmerston North, lying northwest of the Manawatu River, sits on the eastern edge of the Manawatu Plains. This flat to undulating landform extends southwest, west and northwest of the urban area beyond the cadastral boundary of the City and includes a small area of the City above the terrace to the immediate west of the Ashhurst village.

This Landscape Type includes one landscape unit within the City:

Unit 12: Palmerston North City

The accompanying data sheet provides a description of the components of the landscape unit.

Character	Gently undulating landform with small-scale detail in depressions, localised gullies and waterways. A rich and varied landscape when viewed from within.
Patterns	Strong river terrace edge to the east is a direct reflection of the topography. Cultural overlay of fencing, shelterbelts, home paddock amenity plantings and some more recent life-style developments. This development results in a softer, less ordered landscape with more distant views screened by the foreground vegetation associated with dwellings along roads.
Processes	Localised creeks and wetlands.
Resilience	Well-drained land is relatively flat, easily accessible. The rural character should be maintained by providing adequate open space buffers to built development.



Rolling Flat

A large broad area of rolling flat rises from the lower flat to the west and extends east to the foot of the hill slope that rises to Te Mata. The Manawatu River and lower Kahuterawa Stream catchment defines the north to northeast edge of this landscape type and it extends southwest beyond the district's boundary.

This Landscape Type includes one landscape unit within the City:

Unit 13: Linton Flats

The accompanying data sheet provides a description of the components of the landscape unit.

Character	A pastoral landscape with gently sloping landform, sharply incised by creeks and ephemeral waterways. See Figure 1 Local Stream Networks on Linton Flats.
Patterns	Lack of pattern with broad scale fragmentation due to large lots interspersed with pockets of more intense use and development which limits distant views.
Processes	Some recent rural residential living, especially at the base of hill slopes, supplements established communities including Lower Kahuterawa Valley, Linton and Linton Camp.
Resilience	Slope and soil and complex landform allow this land type to absorb change.

Elevated Flat

In the central portion of the City, between the river and the foot of the hill slopes that rise to the Tararua Range, are two areas of elevated flat that are incised by local stream valleys.

This Landscape Type includes two landscape units within the City:

Unit 14: Central Elevated Flats (south of Massey University Campus)

Unit 15: Northern Elevated Flats (north of Massey University)

The accompanying data sheets provide a description of the components of the landscape units.

Character	Gently sloping landform, sharply incised by creeks and ephemeral waterways. Viewed from the City's urban areas, the gentle rise in elevation enables views of an open and expansive landscape stretching back to a distinctive edge at the base of the Tararuas. The proximity and visibility of these elevated flats and associated escarpments effectively makes the rural character an integral part of the built environment.
Patterns	When viewed from a distance this is a flat plane with vertical elements limited to isolated shelterbelts. Intensive development tends to follow the original access roads. Structures in sheltered depressions or associated with intensive planting that provides shelter from the prevailing winds. In close views, the gullies and depressions with mixed vegetated cover provide diversity and interest.
Processes	Some recent rural residential living, especially at base of hill slopes and clustered along the top edges of the valleys.
Resilience	Development needs to be contained within the existing pattern to retain the wider rural character of expansive open space and long open views. Arable land has capacity to absorb built development. Potential for the larger pattern of open space to be fragmented through land subdivision and shelter/boundary plantings, so that the landscape loses the sense of expansiveness and openness. The addition of woody vegetation on steeper slopes has added to resilience where it reflects the pattern of the landform.

THE VALLEY LANDSCAPES

Local Valley

There are five local valleys that drain the adjoining elevated flat and the hill slopes to the southeast and lead down to the river and its adjoining flats on the true left bank. The northern three of these small valleys are quite contained and have relatively parallel northwest – southeast alignments. The southern two valleys are the downstream part of catchments that extend back behind the frontage hill slopes of the Tararua Range.

This Landscape Type includes five landscape units within the City:

Unit 7: Lower Kahuterawa

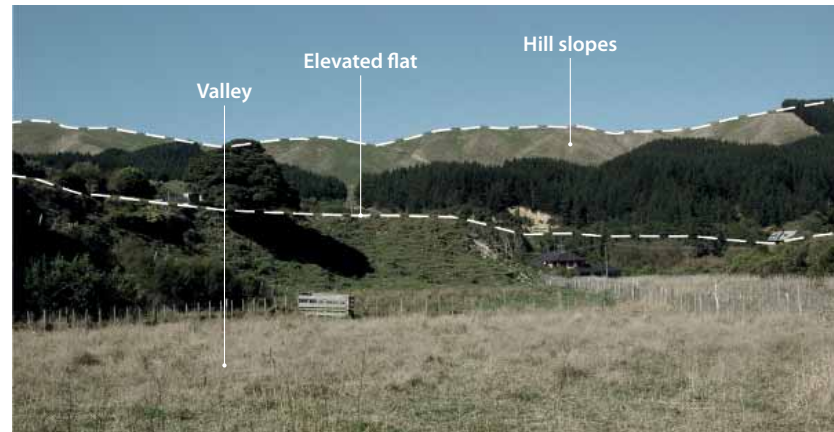
Unit 8: Turitea Valley

Unit 9: Moonshine Valley

Unit 10: Lower Pahiatua Track

Unit 11: Aokautere Stream

The accompanying data sheets provide a description of the components of the landscape units.



Character	<p>The character has been greatly influenced by land use and development that in turn is influenced by slope and soil.</p> <p>Valleys formed by watercourses cutting into marine terraces, with bank and terrace erosion continuing over time.</p> <p>Size varies, depending on the proximity of the valley to the Tararuas, steepness and the size and gradient of the watercourse.</p> <p>Some of the valleys have been developed, particularly if they have wide, flat valley floors. Other deeply entrenched gullies have been planted with pines and allowed to revert to indigenous cover.</p>
Patterns	<p>Strongly reflects distinctive topography and vegetation.</p> <p>Transport corridors have in turn provided access for more intense settlement.</p>
Processes	<p>Pattern strongly influenced by the natural process of water movements.</p> <p>Processes of soil erosion significant, particularly where valleys are deeply incised, abutting elevated terraces and have steep sides.</p>
Resilience	<p>High resilience as the landscape is visually contained and visual effects are internalised and can be absorbed.</p> <p>Effects in terms of soil and water runoff and on-site effluent disposal require careful management. This landscape type is erosion prone and vulnerable to extreme weather events with potential for localised flooding to be aggravated by increased sediments in waterway.</p>



THE HILL LANDSCAPES

Hill Slope

The hill slope landscape type extends from the Manawatu Gorge southwest to the southern boundary of the district and beyond and is broken in two places where the Turitea Stream and the Kahuterawa Stream flow out of the range and through the adjoining elevated flats. The northern half of this landscape type rises to the skyline. To the south the hill slopes rise to prominent northeast – southwest running ridges that are forward (north-west) of the main Tararua Range.

This Landscape Type includes three landscape units within the City:

Unit 16: Te Mata Slopes

Unit 17: Ngahere Park Slopes

Unit 18: Forest Hill Slopes

The accompanying data sheets provide a description of the components of the landscape units.



Character	Hill slopes have a history of extensive pastoral farming where original vegetation has been removed. Over time the steeper and erosion prone areas have been planted in pine or allowed to revert to indigenous cover. More recently there has been a trend to pockets of rural residential development where access is relatively easy, particularly at the base of the more gentle slopes to the north, as opposed to the steeper Te Mata slopes, to the south. Windfarms are now a visually distinctive feature of Forest Hills slopes. Visually prominent slopes, spurs and ridgelines provide backdrop to elevated flats. These hills provide a critical backdrop to the City and the foothills communities.
Patterns	Deeply incised gullies and ridge/spur systems. Culturally imposed patterns of mixed vegetation, predominantly pines. Patterns, including access tracks are not always sympathetic to the landform.
Processes	Soil quality, exposure, elevation and landform reduce land use options. As pastoralism has become less economic, only the productive and easier land is being grazed; on the more difficult slopes, pine plantations have been established and reversion to indigenous vegetation, allowed to occur. This has resulted in vegetation patterns that crudely reflect the landform
Resilience	The complex landform of this large-scale landscape can absorb small-scale change. At higher elevations the patterns are bold and simple with increasing complexity along the lower slopes where land use diversification is already occurring. Further built development will be constrained by access, aspect/wind exposure and increasing visual prominence on higher slopes and ridgelines.

Upper Catchment

The elevated southern portion of the City extends southeast from the top ridges of the adjoining hill slopes to the main axis of the Tararua Range and encompasses the upper catchments of the Turitea Stream and the Kahuterawa Stream. This landscape type continues southwest beyond the City boundary.

This Landscape Type includes one landscape unit within the City:

Unit 19: Tararua Heights

The accompanying data sheet provides a description of the components of the landscape unit.

Character	Land has not been grazed for a long time, due to its steepness, elevation and exposure. It has a history of protection forest, water catchment and legal status and protection as Reserve. Elevation and broken topography make this landform the prominent backdrop feature for the City. It provides the City with a distinctive skyline, identified as a regionally significant landscape in both the RPS and Proposed One Plan.
Patterns	All bush cover with some remnants of the original forest and advanced regrowth. Plantations on the margins of the water reserve are gradually being removed and areas allowed to revert to indigenous cover.
Processes	Wind and water highly significant in dictating vegetation patterns.
Resilience	Landscape has evolved to the point where it is self-maintaining and in its best use. It is highly resilient in terms of natural processes and events. Elevation, slope and exposure place severe limits on any development potential and settlement. The Reserve status overlying over most of the landscape provides some legal protection and controls around reserve management and use.

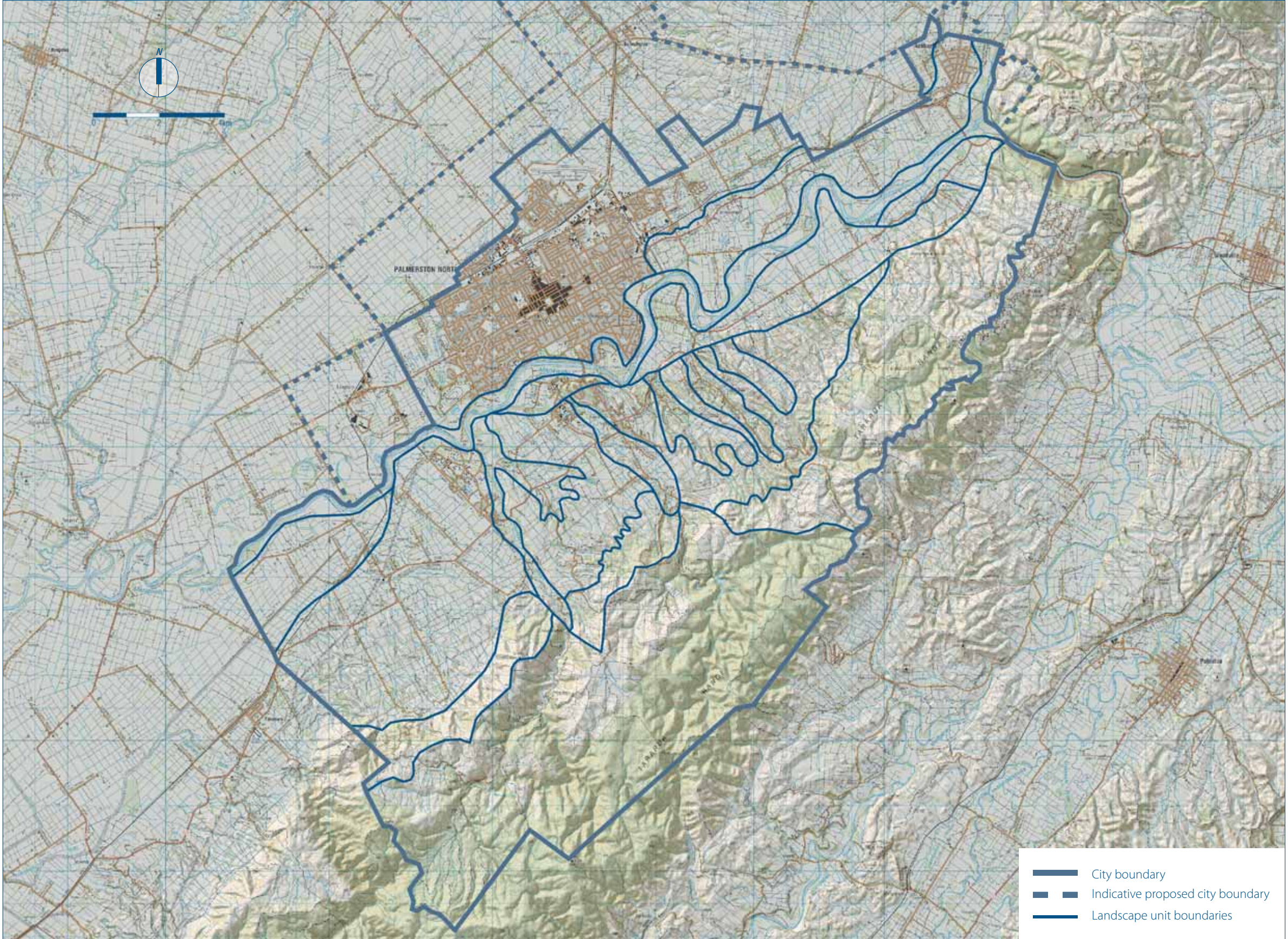


Figure 4: City boundary

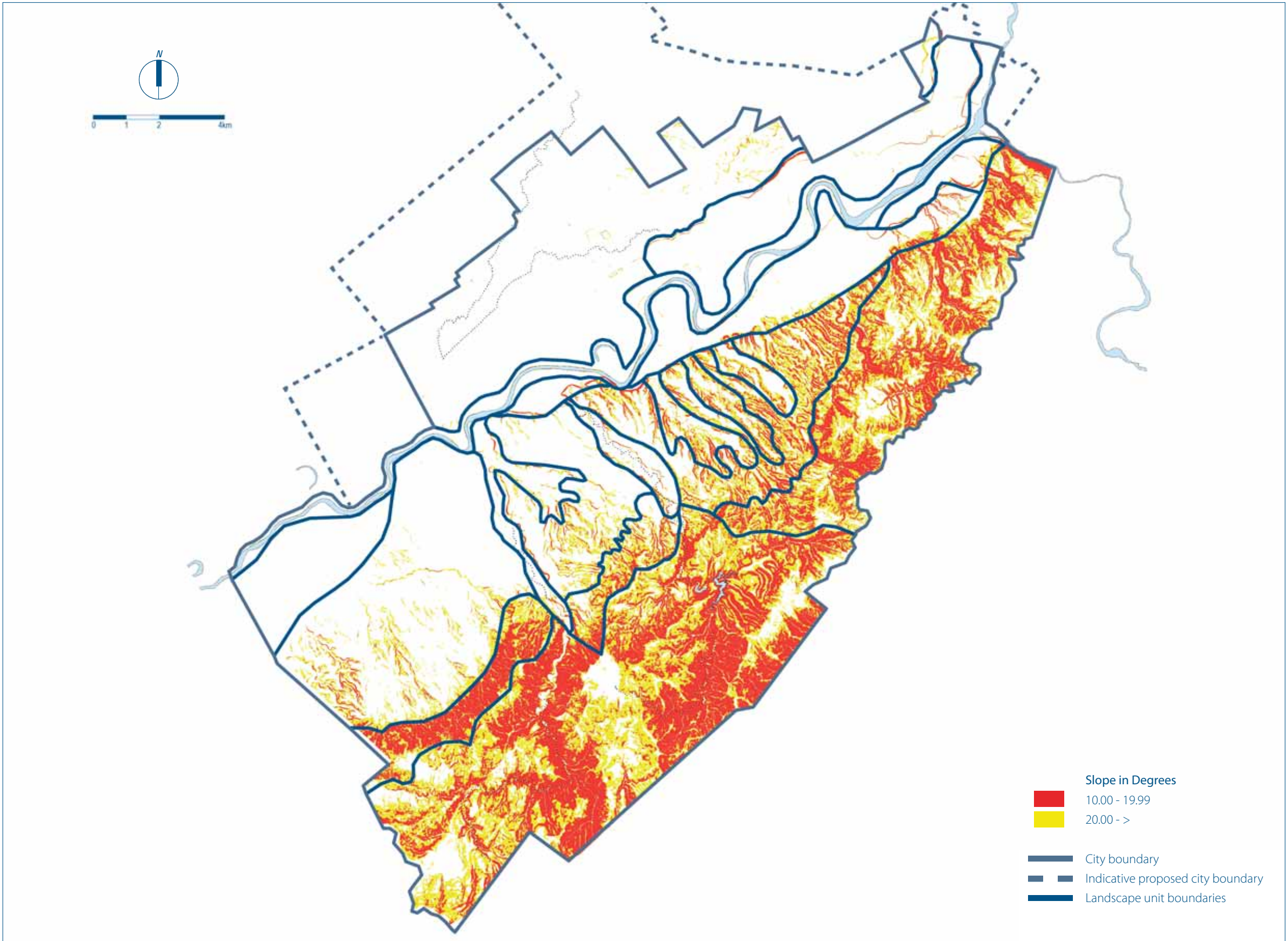
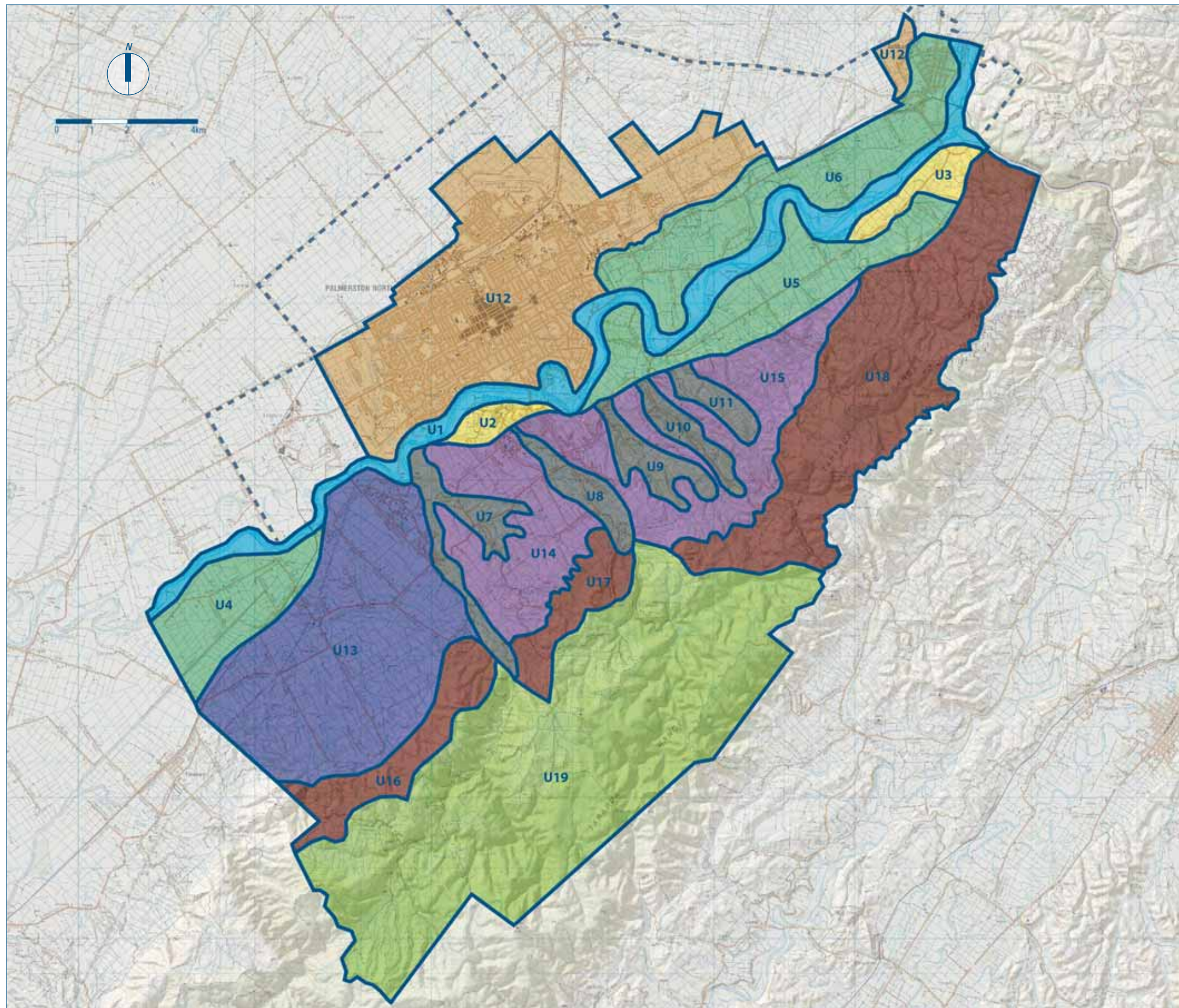


Figure 5: Slope categories



DESCRIPTION OF **LANDSCAPE UNITS**



LEGEND

- U1** Manawatu River
- U2** Fitzherbert Bridge
- U3** Manawatu Bridge
- U4** Linton Drain
- U5** Fitzherbert East
- U6** Te Matai Flats
- U7** Lower Kahuterawa
- U8** Turitea Valley
- U9** Moonshine Valley
- U10** Lower Pahiatua Track
- U11** Aokautere Stream
- U12** Palmerston North City
- U13** Linton Flats
- U14** Central Elevated Flats
- U15** Northern Elevated Flats
- U16** Te Mata Slopes
- U17** Ngahere Park Slopes
- U18** Forest Hill Slopes
- U19** Tararua Heights

— — Indicative future city boundary

NOTE:

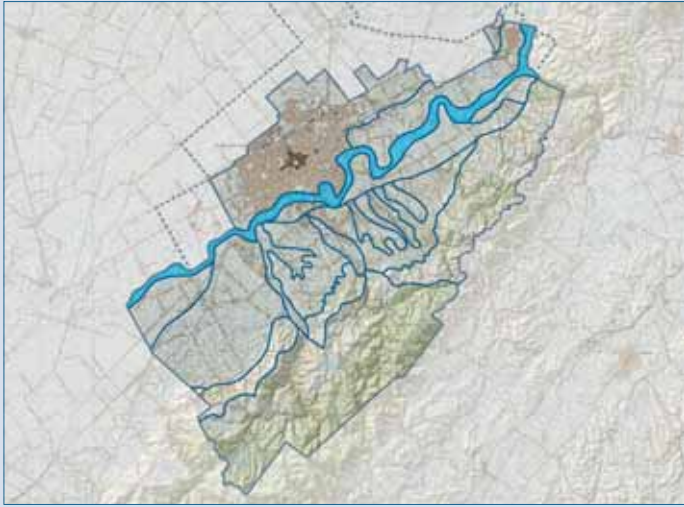
Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

The Stage 1 inventory describes the landscape type, irrespective of its underlying planning zone. This map encompasses the entire area of Palmerston North City. Individual unit maps therefore do not differentiate between planning zones; the landscape character descriptions cover rural and residential areas

Figure 6: Palmerston North Landscape Units

UNIT 1

Manawatu River River

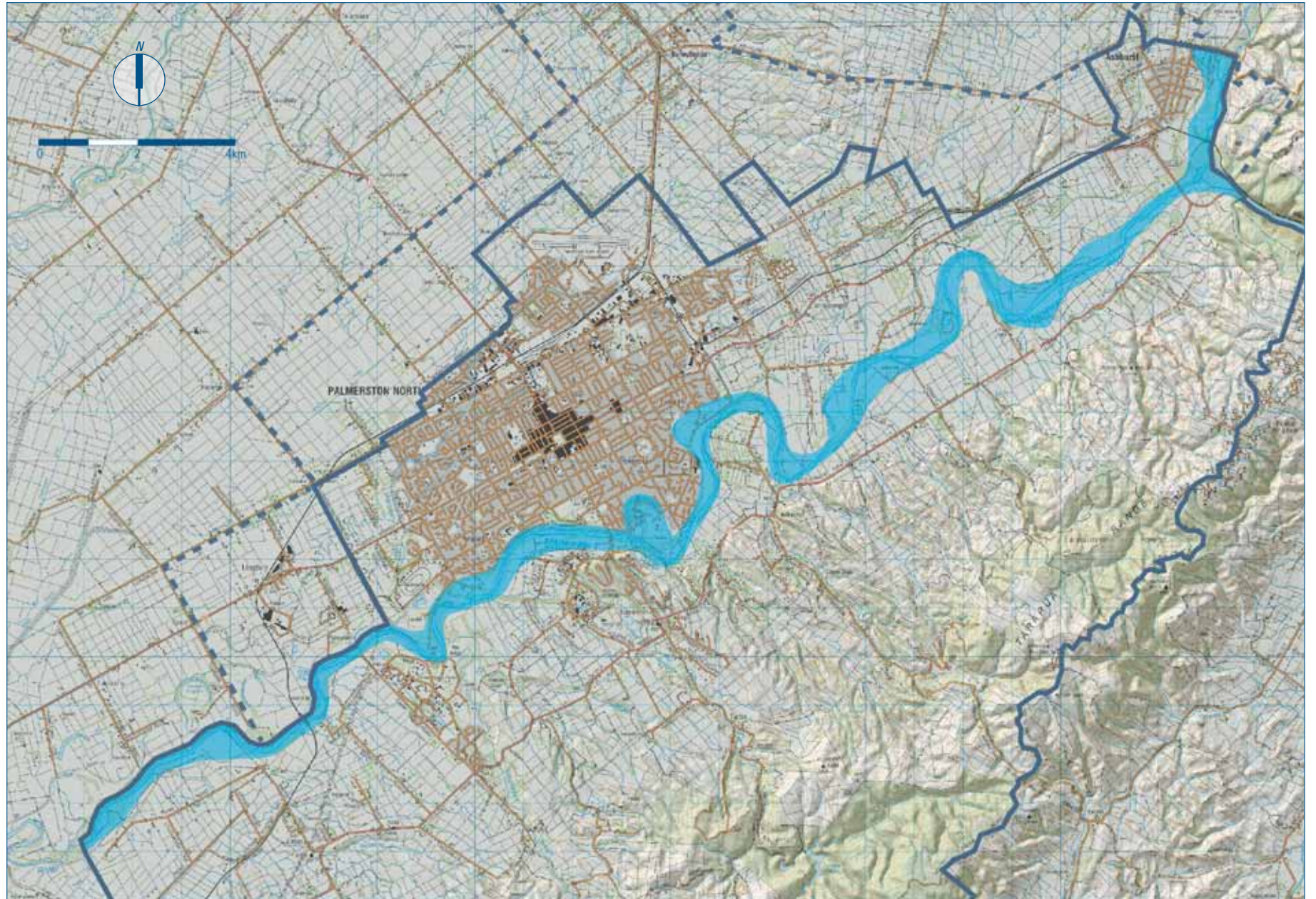


SENSE OF PLACE

The Manawatu River and the Tararua Ranges are the most distinctive landscape features within the district. For residents of the city however, the river is more immediate. The character of the river changes as it moves from the Manawatu Gorge through to Linton so the corridor is complex and varied. Distinctive river terraces reflect the river's earlier meanders and facilitate expansive views of the broad river environment.

Although the river channel is contained, the river has a strong presence in the city due to distinctive riverbank plantings, public walkways and stop-banks, the limitations it imposes on access around the district, and its function as a buffer between urban and rural sectors.

The river corridor, the river flats, and the river terraces are for the most part free of prominent structures so that nature predominates. Although visual connections with the river may be limited, the river is quite central to Palmerston North's landscape and identity.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Residents district-wide
- Recreational users of the Riverside Walkway which extends along the River's edge, from Parklands through to Riverdale
- Local residents whose properties look onto the river eg Hokowhitu and Parklands
- Road users on Fitzherbert Avenue and Fitzherbert Bridge, State Highway 3 and Manawatu Bridge, Albert Street
- Residents of Summerhill and Atawhai whose properties directly overlook the Manawatu River

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover	✓	
Landscape complexity - modification	✓	
Visibility within the wider context (views in)	✓	variable ✓

LANDSCAPE CHARACTER DESCRIPTION

- The Manawatu River is the largest river in the lower North Island, which drains much of the central East Coast before flowing through the Manawatu Gorge then crossing the Lower Manawatu Plains to flow into the Tasman Sea at Foxton.
- Pohangina River flows into the Manawatu River at Ashhurst
- Manawatu Gorge is a regionally significant feature. As a gorge through an axial range, it forms the 'break' between the Ruahine Ranges and the Tararua Ranges

DEFINING CHARACTERISTICS

- Major regional river that feeds from and flows on beyond the district
- Stopbanks provide visual and physical containment
- Strong lines of riverbank willows
- No built structures other than two road bridges and one rail bridge; one rail bridge across Pohangina River
- Flows from a gorge out onto the plains, then follows a meandering course within a broader river channel

PATTERNS OF DEVELOPMENT

- Central natural river channel
- Artificial stopbanks and lines of flood protection plantings
- Grazed riverbanks upstream and downstream of Palmerston North City and on true left bank through the city; mown park-like margins on true right bank through the city

ECOLOGICAL AREAS 2002

- Centennial Lagoon Wetland (36)
- Esplanade Bush urban forest remnant (61)
- Manawatu River river site (69)
- Buick Park urban forest remnant (82)
- MacRaes Bush urban forest remnant (85)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Numerous indigenous forest remnants; majority in Ashhurst area
- Distinctive river edge cliffs on left bank 2km upstream of Fitzherbert Bridge
- Manawatu Gorge is a regionally significant geographic feature

Cultural and Historic Associations

- The Manawatu River was the main highway for travel and communication in earlier times
- The river also supplied Rangitaane o Manawatu with valuable resources like fresh water, food, and of course mauri
- City riverbanks are a important recreational asset

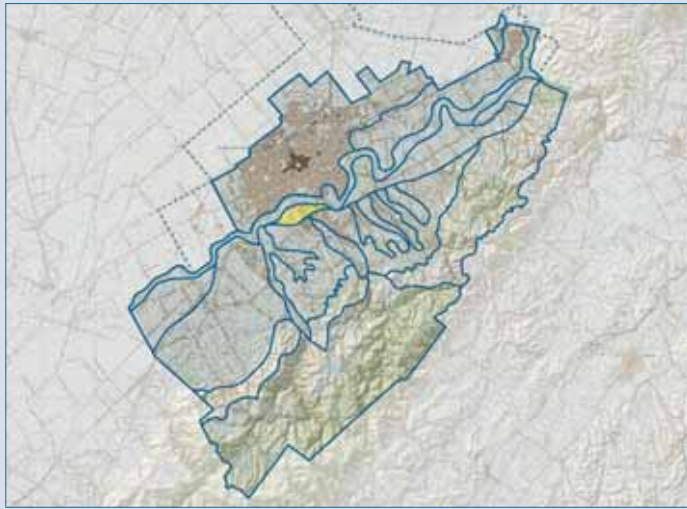
Aesthetics and Recognition

- Manawatu River is the most distinctive landscape feature within the district
- Manawatu Gorge is very distinctive due to its natural form, active geology and due to its narrow confines being in strong contrast with the open plains and rounded hill slopes



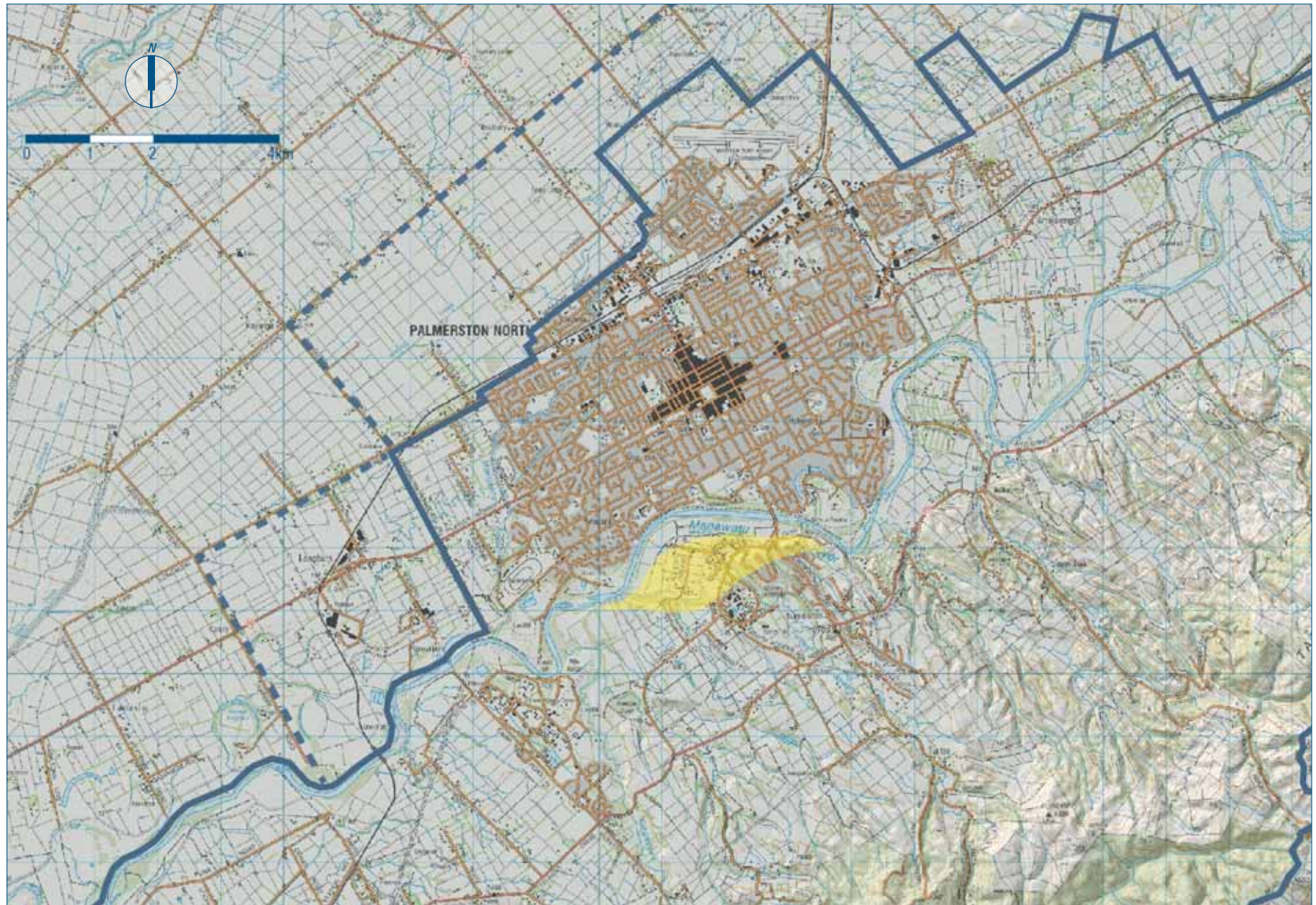
UNIT 2

Fitzherbert Bridge River Flat



SENSE OF PLACE

The unit is experienced as an expansive area of open space with a very natural character. The lush, pastoral landscape accentuates the sudden rural to urban transition at this gateway to the city. The river flat, part of the river corridor, provides a context for the Manawatu River, particularly when seen from the Manawatu Riverside Walkway and the Victoria Esplanade.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Travellers on Fitzherbert Avenue, Bridge, Tennant and Summerhill Drives
- Staff, students and visitors to Massey University, both the Turitea Campus, the Fitzherbert Science Centre campus on Tennant Drive and the Hokowhitu Campus located on Centennial Drive.
- Visitors to the Victoria Esplanade, Fitzherbert Park and Anzac Park
- People recreating along the Manawatu Walkway (riverfront)
- Residents of Summerhill and Atawhai overlook the river

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover	✓	
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Low river flats immediately adjacent to the Manawatu River and contained to the south by a steep river terrace that runs southwest below Anzac Park and passed the
- Massey University Turitea Campus to Turitea Stream
- Flats are bisected by the southern approach ramps to the
- Fitzherbert Bridge, which crosses the Manawatu River
- and leads into Palmerston North City

VISIBILITY AND VISUAL AMENITY

- Directly visible from Fitzherbert Bridge and the northern extent of the two major arterials that feed onto the bridge – Tennent Drive and Summerhill Drive.
- Visual amenity is that of well managed river flat pasture and
- relatively diverse built forms and landscape treatment
- around the research faculties that bound onto Tennent Drive

DEFINING CHARACTERISTICS

- Low lying flats contained between the Manawatu River and the terrace faces below Summerhill and Massey University
- River flat paddocks with a distinct cluster of research and farm buildings
- Distinctive vegetated terraces that rise up to the adjoining elevated flat form the southern edge of this unit

PATTERNS OF DEVELOPMENT

- Central natural river channel
- Artificial stopbanks and lines of flood protection plantings
- Grazed riverbanks upstream and downstream of Palmerston North City and on true left bank through the city; mown park-like margins on true right bank through the city

ECOLOGICAL AREAS 2002

- Lower Turitea Stream rural forest remnant (31)

LANDSCAPE ATTRIBUTES**Natural Features and Legibility**

- River flats are dominant feature
- Forms the open space between the city and the university
- Downstream extent of Turitea Stream flows along the base of the terrace at southwest extent of this unit

Cultural and Historic Associations

- A significant pa site Te Motu o Poutoa was located on an elevated terrace east of the Fitzherbert Bridge
- Open paddocks and farm sheds linked with agricultural research and development

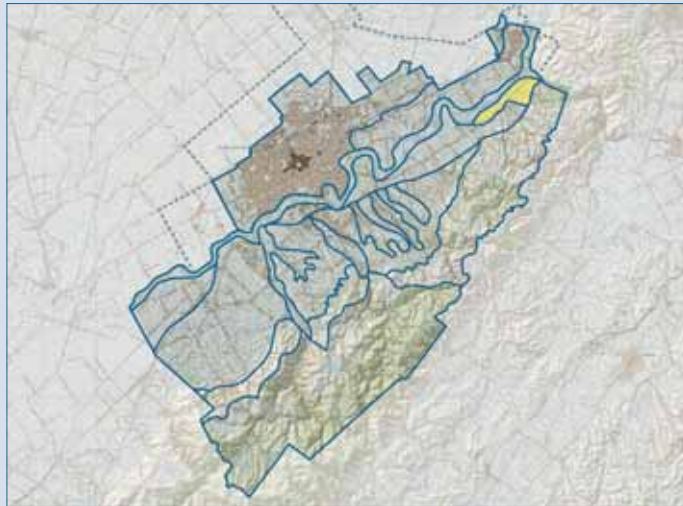
Aesthetics and Recognition

- Grazed paddocks, trimmed hedges and buildings of the agricultural research 'campus'
- Southern 'river crossing' entrance/exit to urban Palmerston North



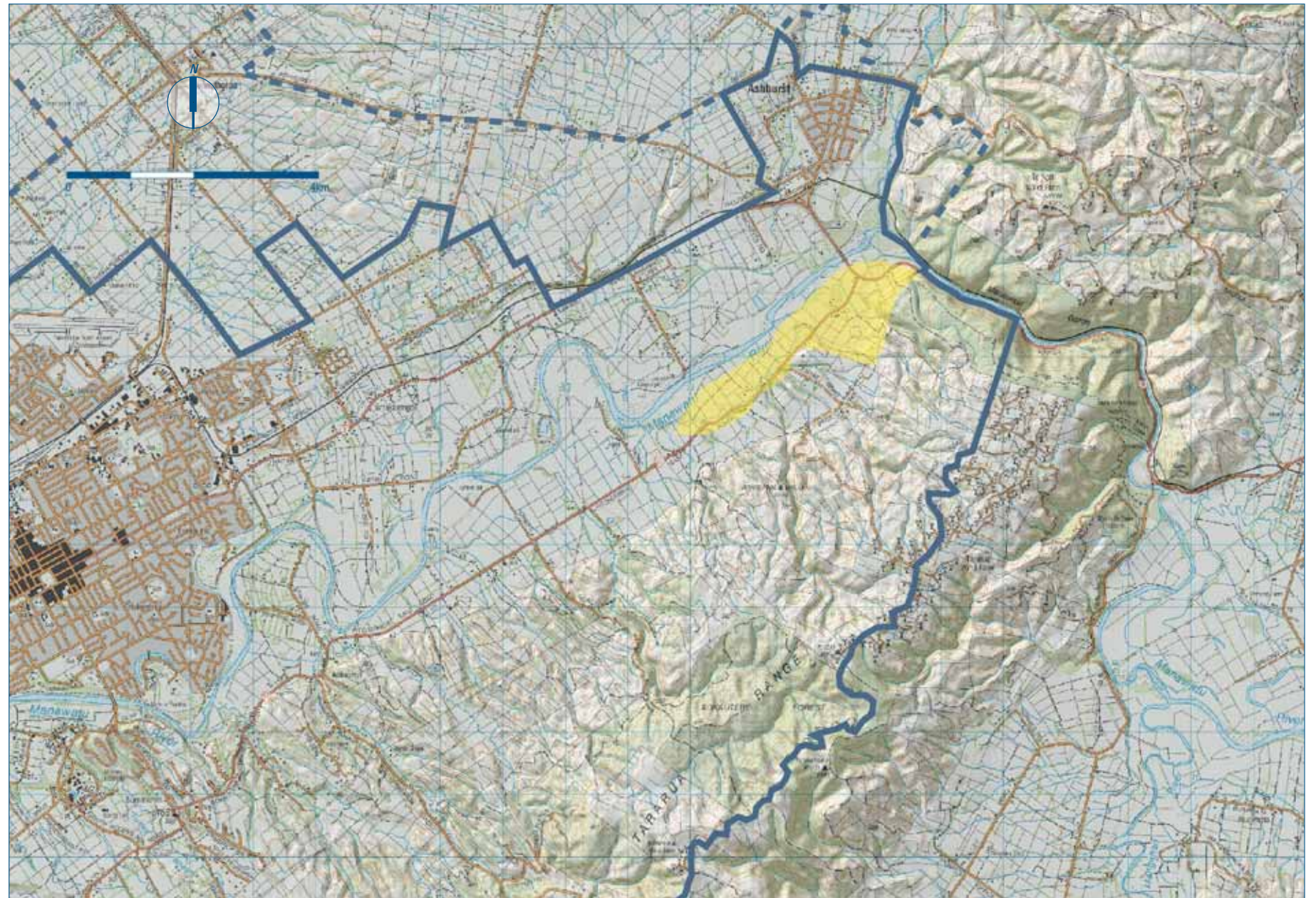
UNIT 3

Manawatu Bridge River Flat



SUMMARY DESCRIPTION

These broad fertile flats within the river corridor have been farmed for many years. The flats are distinguished by the mature shelterbelts and large trees, which give the unit a mature, stable and well-established rural character.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Travellers on and SH57 and particularly SH3, entering and exiting the Manawatu Gorge
- Landowners within the unit
- Users of Ashhurst Domain, (which has some viewshafts to the river)

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓	
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Low lying area that is intensively farmed
- Contained by the Manawatu River to the west and a distinct terrace to the east and south
- Northern portion of the unit is bisected by SH57A which then follows along the terrace face in the southern portion of the unit
- Has a significant role as a national/regional roading junction and is visually dominated by the Manawatu Bridge, State Highway 3 and 57, and associated roading infrastructure, including signage
- Serves as an access point (via State Highway 57 Fitzherbert Road East) to the City's Windfarms

VISIBILITY AND VISUAL AMENITY

- Directly visible from the eastern approach to SH3
- Manawatu Bridge and from northern extent of SH57A
- Visual amenity is that of well managed farmland

DEFINING CHARACTERISTICS

- Broad, fertile river flats on true left bank of river
- Established, large tree plantings
- Prone to flooding

PATTERNS OF DEVELOPMENT

- Developed farmland with established plantings of large trees and shelterbelts
- Relatively few buildings
- Two sections of highway; no local roads

ECOLOGICAL AREAS 2002

- No Ecological Areas

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Open sections of river flat and the terrace face forming the eastern edge of the unit are the most obvious natural features and, along with the established trees, define its legibility

Cultural and Historic Associations

- This area was known traditionally for its hinau berries which were harvested regularly by Rangitaane o Manawatu
- The two highways and the adjacent crossing of the Manawatu River and the link to the Manawatu Gorge define the historic context of the unit

Aesthetics and Recognition

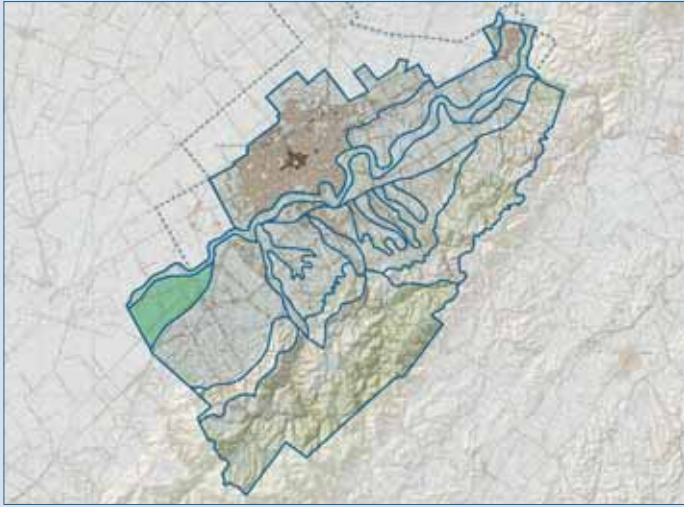
- Northeast 'gateway' to the district



UNIT 4

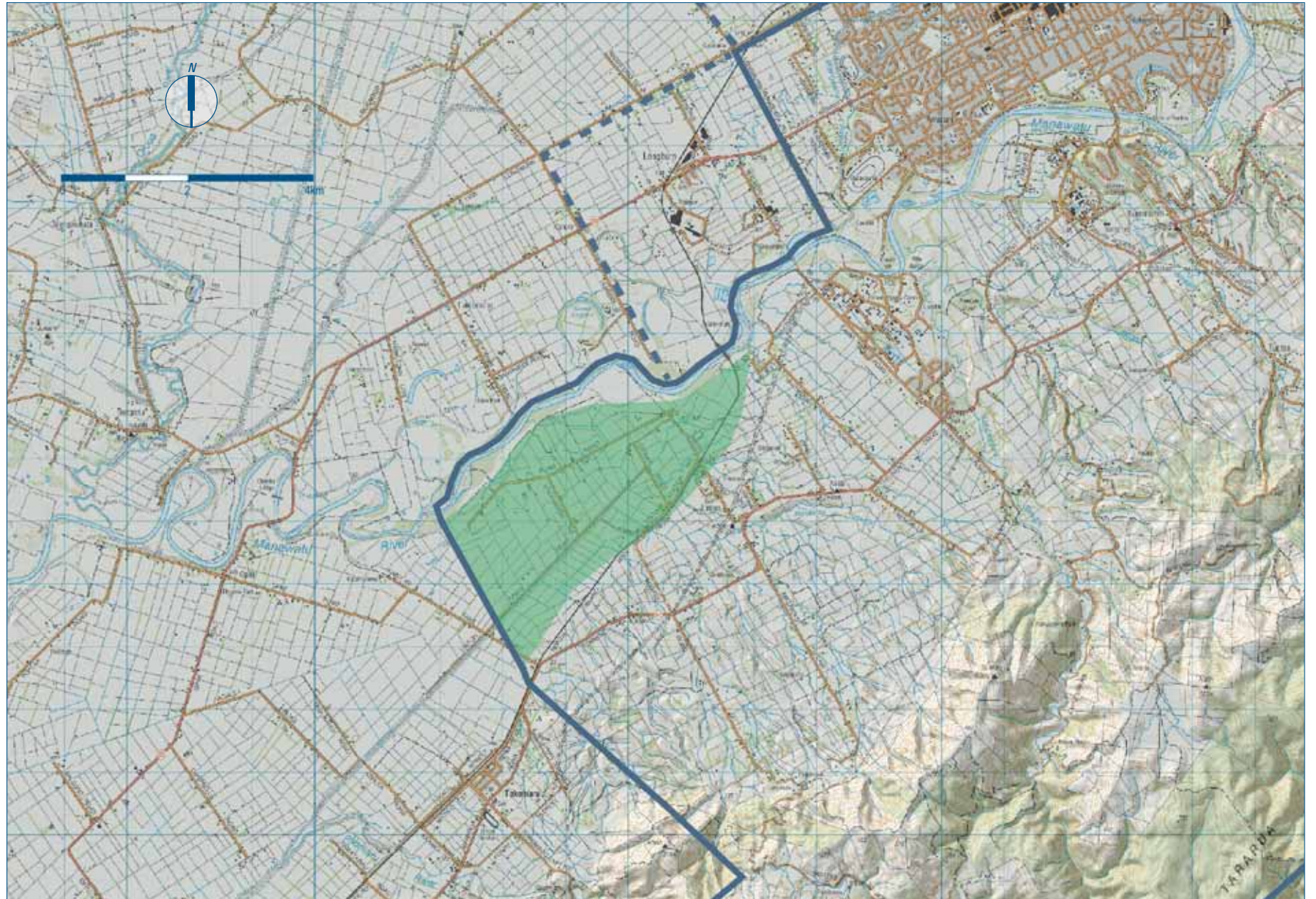
Linton Drain

Lower Flat



SENSE OF PLACE

The Linton lower flat, is an open, expansive, productive landscape. Stop-banks protect this low-lying farmland from the meandering Manawatu River and its periodic flooding. Its history is made legible by the overlying large-scale pattern of drainage channels, roads and shelterbelts that criss-cross the landscape. The largest drainage channel is the known as the Linton Drain.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local rural landowners
- Linton School on perimeter
- Visible from the NIMT which runs along the southern boundary of the unit

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover	✓	
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Low lying, expansive area that is intensively farmed;
- predominately dairying
- Predominance of linear roads, drains and shelterbelts
- Several small remnant stands of native forest appear
- as isolated 'islands' within the expanse of pasture

VISIBILITY AND VISUAL AMENITY

- A flat and relatively featureless area
- North Island Main Trunk Railway traverses southwest to north west
- Various local access roads

DEFINING CHARACTERISTICS

- Extensive, open flat pasture
- Numerous deep drainage channels
- Expansive views
- Unit extends south-west beyond PNCC boundary

PATTERNS OF DEVELOPMENT

- Intensive pastoral agriculture

ECOLOGICAL AREAS 2002

- No Ecological Areas

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Several pockets of remnant forest and various wetlands

Cultural and Historic Associations

- This drainage area once provided a large amount of food resources for the iwi. There were also many natural occurring lagoons and swamps which were associated with early Rangitaane kainga and pa sites
- Te Puna Homestead notable due to its distinctive built form and established shelter and garden planting

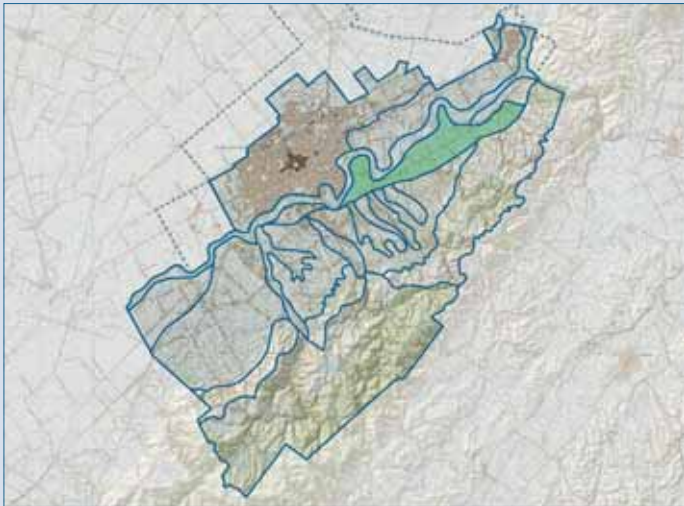
Aesthetics and Recognition

- Simple, open landscape with numerous straight lines of roads and drains



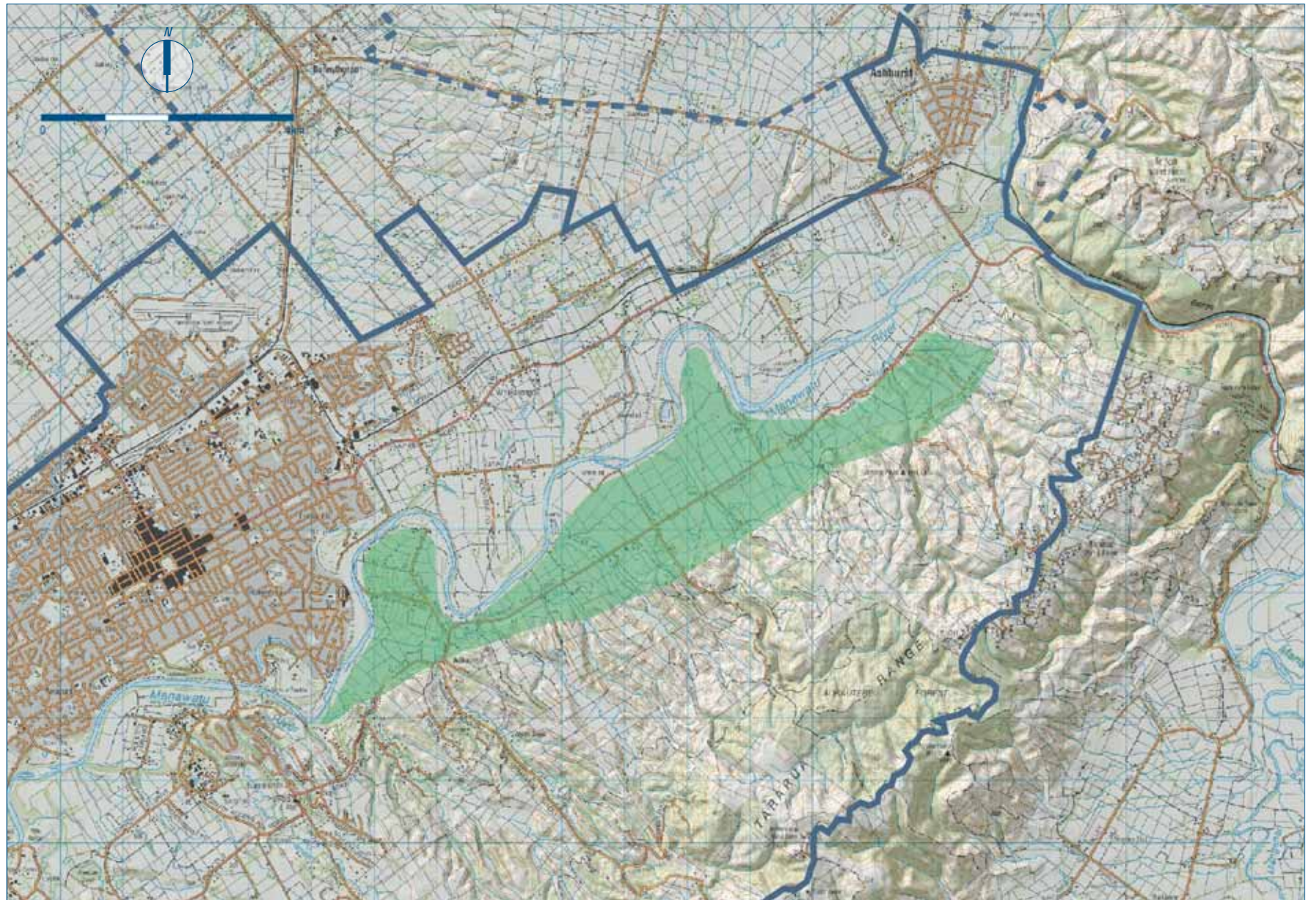
UNIT 5

Fitzherbert East Lower Flat



SENSE OF PLACE

This flat, open land is slightly elevated above the river but still part of the wider river landscape. The long established rural area combines a mix of traditional New Zealand farm holdings with 'English' patterns of shelter and farmhouse plantings to create a managed productive landscape. From State Highway 57 this landscape is experienced as expansive, with periodic vistas across the flats to the Manawatu River and the Tararua Ranges.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Travellers on SH57 and SH3
- Local landowners
- Recreational users including recreational fishers

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓	
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Open flats slightly elevated about the true left bank of the Manawatu River; a long, linear unit between the river and the hills
- Intensively farmed for dairying, cropping and beef-fattening
- Open paddocks with trimmed thorn hedges; shelterbelts predominantly bound local roads; mature tree plantings around farm houses
- Extensive horticultural-type shelterbelt plantings at southern end of flats at Staces Road

VISIBILITY AND VISUAL AMENITY

- Highly visible from SH57A
- Few local roads; most are no-exit running perpendicular to highway
- Views to the Tararua Ranges rising immediately to the east, to the Te Rere Hau Wind Farm, to the Tararua
- Wind Farm, to the Te Apiti Wind Farm north of the Manawatu Gorge and to the Ruahine Ranges beyond

DEFINING CHARACTERISTICS

- Broad, fertile flats between river and hills, bisected by SH57A
- Distinctive terraces that rise up to the adjoining elevated flats form the southeast edge to much of this unit
- Open pasture with areas of established shelter plantings associated with roads and farm houses
- Views to ranges and wind farms

PATTERNS OF DEVELOPMENT

- Rural landuse in relatively large, traditional farm holdings; some lifestyle blocks in the southern end of the unit

ECOLOGICAL AREAS 2002

- Gardiners Road rural forest remnant (79)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Occasional pockets of indigenous vegetation confined to stream banks

Cultural and Historic Associations

- This area is associated with the arrival of Rangitane into the Manawatu
- Remnants of Aokautere soil conservation nursery in Staces Road area

Aesthetics and Recognition

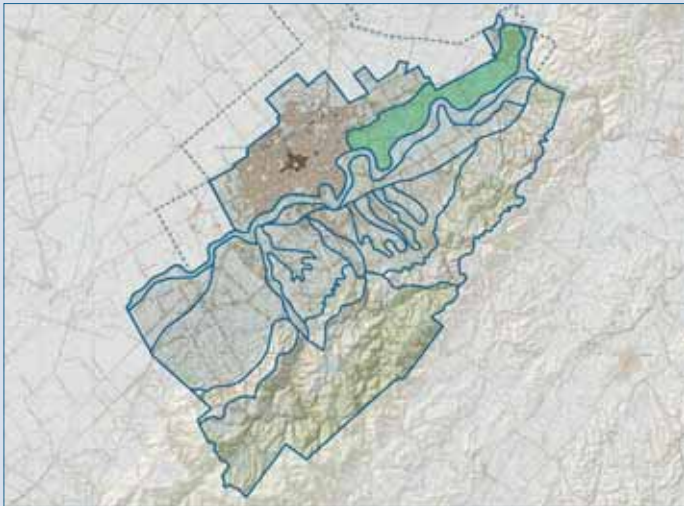
- Managed productive agricultural landscape



UNIT 6

Te Matai Flats

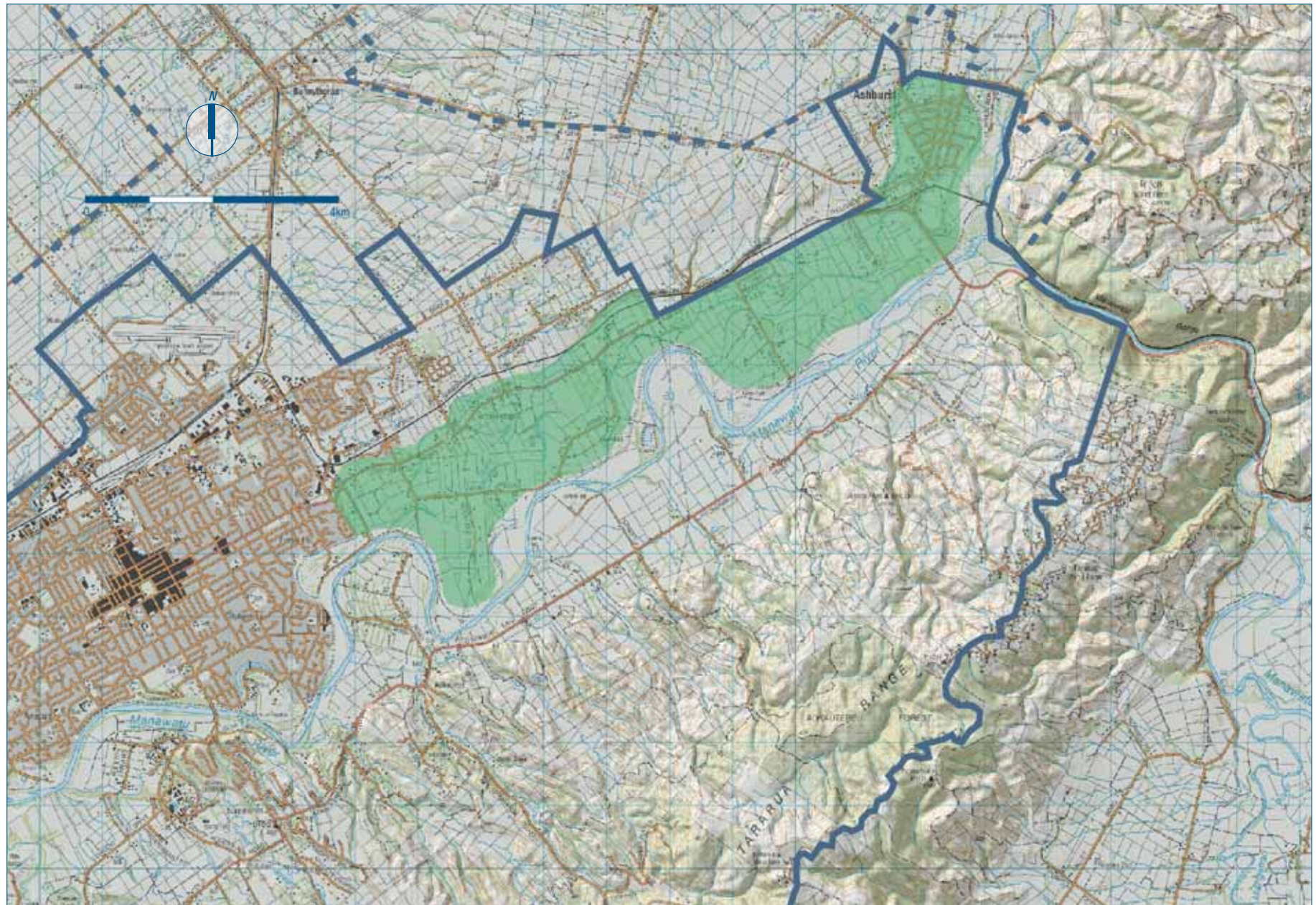
Lower Flat



SENSE OF PLACE

The rich fertile land has a long history of settlement and intensive horticultural use, despite being relatively low lying and subject to flooding. The flats provide a rural gateway to the city for travellers from Napier and the Wairarapa and a distinctive rural buffer between Ashhurst and Palmerston North.

The river terrace to the immediate north of State Highway 3 and the Railway (Palmerston North-Gisborne Line) provides a sense of containment so that views for travellers are directed across the river flats and out to the Tararua Ranges through 'windows' in shelterbelts. The landscape is very coherent at the broad scale with great diversity and interest locally. The intensive horticultural production in particular is associated with activity and a sense of vibrancy.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Landowners and residents of Ashhurst and Kelvin Grove on elevated terraces, overlooking Te Matai Road (SH3) and the productive rural riverflats
- Travellers on SH3, and users of the Palmerston North-Gisborne Rail Line
- Local rural landowners and residents including market gardeners and nurseries
- Gravel extraction operators
- Recreational users -the Manawatu River Walkway and Bridle Track
- Brookfields Park Golf Course users
- Whakarongo School and school community

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Open flats slightly elevated about the true right bank of the Manawatu River; a long, linear unit between the river and a terrace that rises to the northwest
- Relatively low lying area that is intensively farmed for dairying and cropping with some market gardening
- Numerous shelterbelts, hedges and established tree plantings around farm houses
- Ashhurst – a small country town (~3,500 pop.) with views to the Ruahine Ranges, Manawatu Gorge and the wind farms on both sides of the gorge; gateway to the Pohangina Valley
- Ribbon urban development from Whakarongā south to city edge

VISIBILITY AND VISUAL AMENITY

- Directly visible from SH3 and from PN-Gisborne railway, which traverse the western extent of the unit
- Various local roads; many running perpendicular to the highway
- Higher ground at the Ashhurst end of the unit allows views across the flats
- Shelterbelts and hedges provide varying degrees of enclosure
- Southern outskirts of Ashhurst are directly visible to SH3
- Ashhurst has a pleasant 'small country town' ambience

DEFINING CHARACTERISTICS

- Broad, fertile alluvial flats between SH3 and Manawatu River
- Closely subdivided farmland with a strong pattern of shelterbelts and hedges
- Ashhurst being a small country town
- Areas in the downstream extent close to Palmerston North are prone to flooding
- Distinctive vegetated terraces that rise up to the adjoining Manawatu Plain form the northwest edge of this unit

PATTERNS OF DEVELOPMENT

- Rural landuse in traditional farm holdings, but being broken down into lifestyle blocks closer to the urban centres
- Ashhurst forms a small urban centre
- Ribbon urban development on northern highway approach to Palmerston North City

ECOLOGICAL AREAS 2002

- Riverside Drive Oxbow wetlands (1)
- Napier Road escarpment reverting bush area (4)
- Kohlers Totara Block rural forest remnant (6)
- Brookfields Park Golf Course rural forest remnant (11)
- Kohlers Road rural forest remnant (49)
- Ashhurst Oxbow Escarpment riparian area (68)
- Ashhurst Domain rural forest remnant (70)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Drainage channels and remnant oxbow lakes
- Ashhurst Domain and established indigenous tree and shrub plantings forms a buffer between the highway and the town
- Terrace face on northwest edge provides containment and a local visual backdrop

Cultural and Historic Associations

- This area was traditionally heavily settled with numerous Rangitane settlements.
- Early land negotiations with the Crown occurred in the area, namely at Raukawa pa
- Village of Ashhurst established in the late 1870s by the English Emigrant and Colonists' Aid Corporation
- Rich soils of the flats have a history of intensive cropping and market gardening

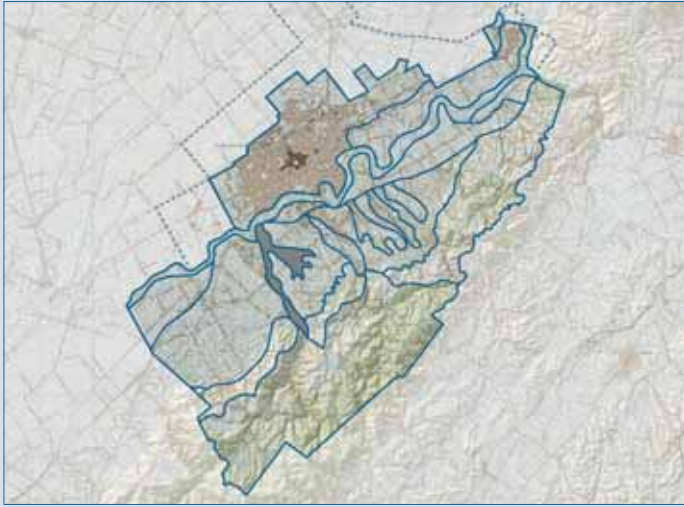
Aesthetics and Recognition

- Provides a rural 'introduction' to Palmerston North City from the north
- Positive rural outlook to adjoining small holdings to the north, the Pohangina Valley and the ranges beyond



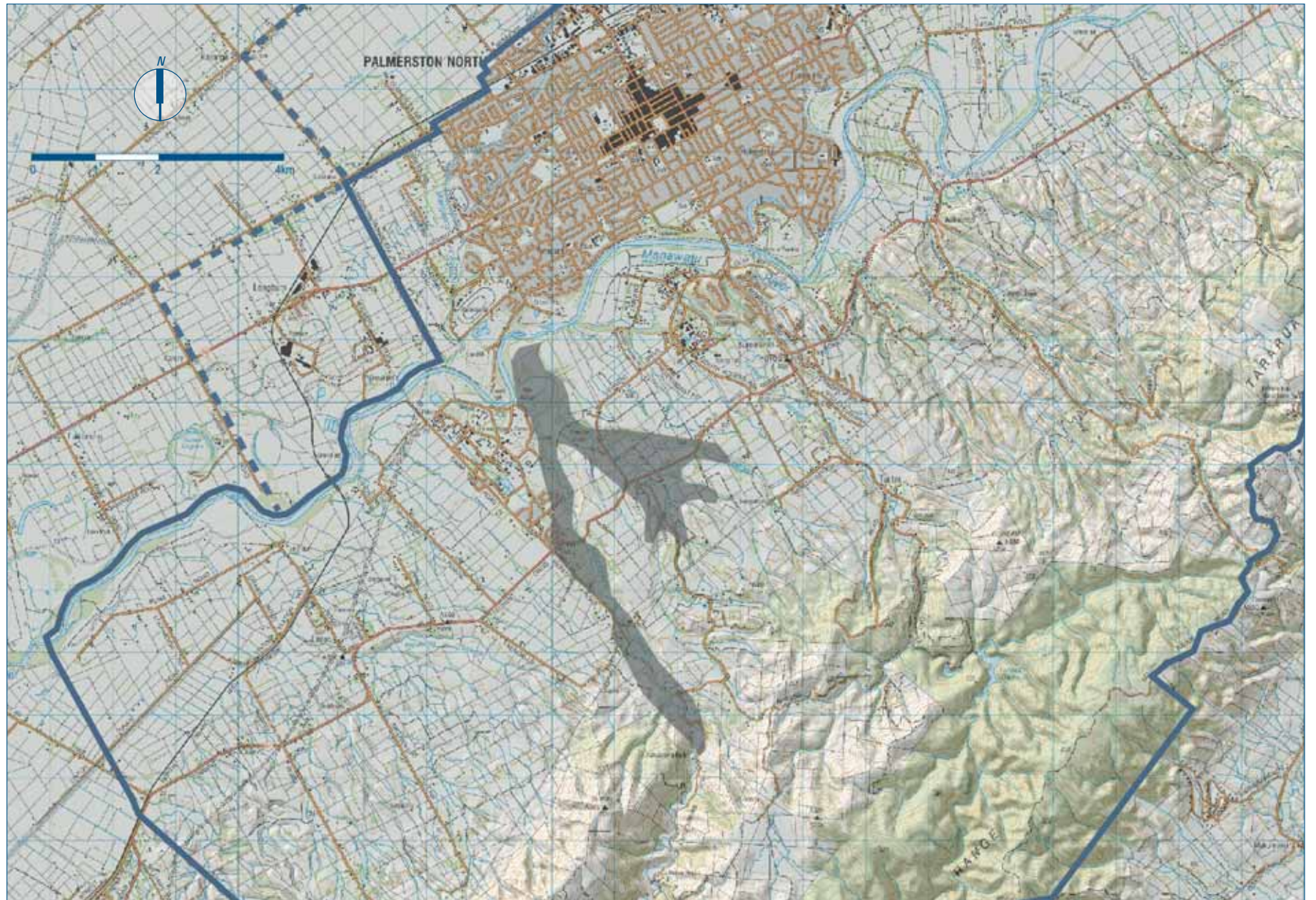
UNIT 7

Lower Kahuterawa Local Valley



SUMMARY DESCRIPTION

Kahuterawa Valley is a branched valley, mainly pastoral but with small plantations and numerous pockets of bush. The complex valley landscape is dissected by Old West Road (SH 57) and Tennant Drive; earthworks associated with the upgrade of these two major roads have changed the visual and physical integrity of the valley landform, severing the natural flow of the valley floor with the road becoming the dominant visual element. Nevertheless the valley retains a distinctive rural character with, for the most part, well integrated and low impact structures set within a diverse mix of trees and shrubs.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents in Old West Road and lower Kahuterawa Valley
- Recreational users enroute to Kahuterawa Valley and Sledge Track
- Travellers on Old West and Kahuterawa Valley Roads

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓	✓
Visibility within the wider context (views in)	✓	variable ✓

LANDSCAPE CHARACTER DESCRIPTION

- Distinct incised valley with two branches within the Central Elevated Flats unit
- Kahuterawa Stream flows through the southern branch; this branch and lower catchment contains small pine plantations and various areas of remnant indigenous vegetation
- Keebles Stream flows through the open farmland of the north branch and then through Keebles Bush, a distinct stand of mature native bush

VISIBILITY AND VISUAL AMENITY

- SH57 and Old West Road traverse the unit
- The cover of bush, plantation and associated rank growth within much of this small valley is a contrast to the more managed landscape of the adjoining unit
- Few houses within valley; mainly in Old West Road

DEFINING CHARACTERISTICS

- Valley form; rounded valley slopes
- Small, separate stands of bush
- Numerous areas of indigenous vegetation for what is a relatively small unit

PATTERNS OF DEVELOPMENT

- Rural with areas of native bush and exotic plantation

ECOLOGICAL AREAS 2002

- Linton Hall Bush rural forest remnant (16)
- Linton Camp Bush urban forest remnant (18)
- Kahuterawa Stream site 5 river site (55)
- Keebles Bush rural forest remnant (56)
- Keebles Stream river site (58)
- Kahuterawa Flat rural forest remnant (74)

LANDSCAPE ATTRIBUTES**Natural Features and Legibility**

- Stream channels and areas of native bush
- Valley distinct larger scale relative to drainage pattern/streams of adjoining unit

Cultural and Historic Associations

- This was an area of resource gathering as well as traditional crossings to the east and communication
- Close proximity to former major Rangitaane Maori village known as Te Kairanga and to Manawatu River, so likely to have strong cultural and historic associations

Aesthetics and Recognition

- Contrast of areas of native bush and exotic plantation with adjoining managed pasture Valley form



UNIT 8

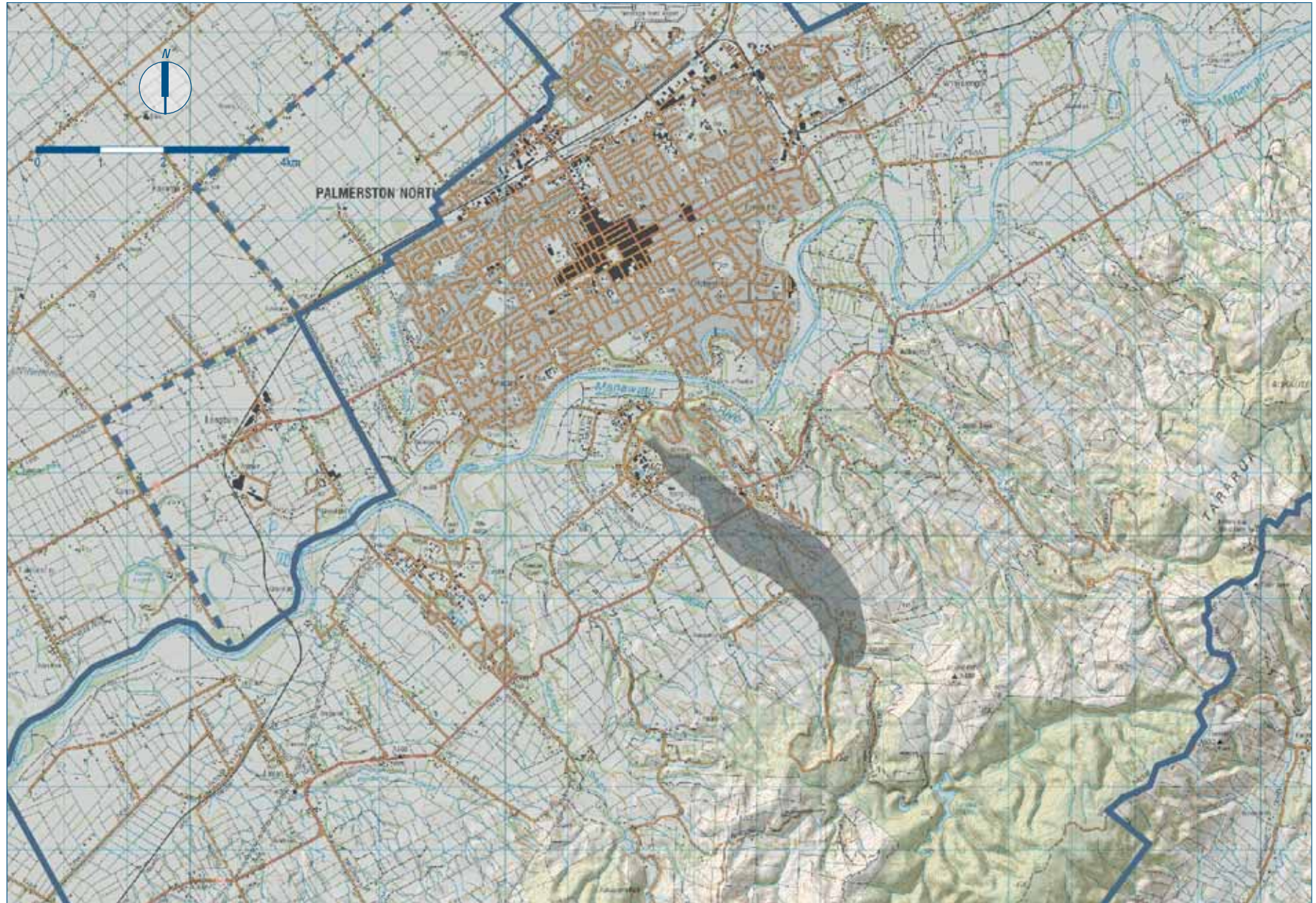
Turitea Valley

Local Valley



SENSE OF PLACE

The Turitea Valley is a well-defined, shallow valley with Turitea Stream and Turitea Road running along the valley floor. The valley has a history of low intensity settlement, now supplemented by pockets of more intensive rural residential and lifestyle development to create a fragmented but densely planted and intimate landscape. In spite of this intensification the rural and natural character of the valley remains and the planting has added interest and diversity to the visual landscape.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Residents of Valley Views
- Residents of Ngahere Park (although the subdivision itself is outside the unit)
- Massey Turitea Campus on perimeter
- Travellers on Old West Road
- Residents of Pacific Drive who overlook the valley

SENSITIVITY TO CHANGE	HIGH → LOW	
	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover	✓	
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Relatively broad, linear valley that separates the Central Elevated Flats unit from the Northern Elevated Flats unit
- Local access road serves upper portion of the valley
- Intensive pastoral farming in lower and upper valley
- Lower valley includes Massey University sports fields
- Established lifestyle blocks and rural-residential subdivision in upper portion of valley
- Numerous plantings of amenity, shelter, and woodlot tree species throughout valley
- Occasional pockets of indigenous vegetation
- High voltage transmission line crosses midpoint of valley

VISIBILITY AND VISUAL AMENITY

- Lower end of valley visible from Massey University
- Turitea Campus and its southern access road
- Mid section of valley visible from Old West Road
- Majority of valley visible from Turitea Road
- Scale and diversity of valley provides a positive visual amenity

DEFINING CHARACTERISTICS

- Broad, shallow valley
- Numerous stands/belts and specimens of mature exotic and native trees
- Established small-holdings/lifestyle blocks and various more recent rural-residential subdivisions

PATTERNS OF DEVELOPMENT

- Rural landuse with intensive pastoral farming and lifestyle blocks
- Rural-residential development common
- Developing ecological and walkway 'connections' via Green Corridors revegetation project

ECOLOGICAL AREAS 2002

- Kereru Drive Bush rural forest remnant (9)
- Bledisloe Park urban forest remnant (33)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Two areas of notable indigenous vegetation
- Distinct broad, shallow valley
- Turitea Stream

Cultural and Historic Associations

- Traditional Rangitaane track located in the area which linked up with the Pahiatua track

Aesthetics and Recognition

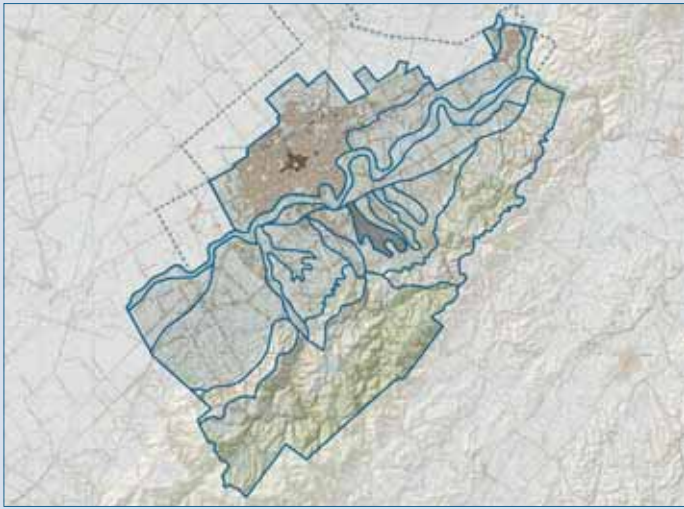
- Degree of containment, scale and diversity of landuse and land cover provide ready recognition



UNIT 9

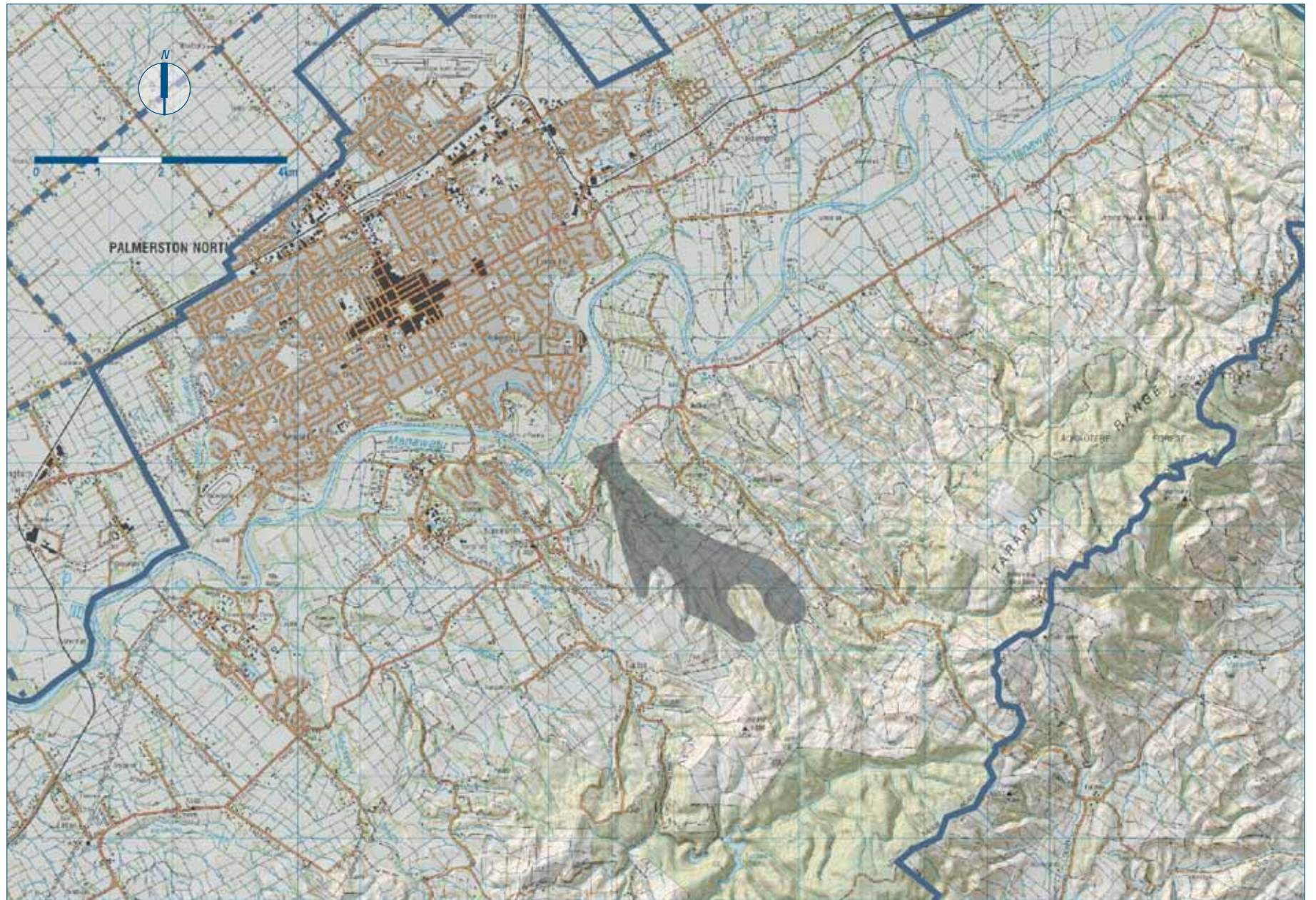
Moonshine Valley

Local Valley



SENSE OF PLACE

This small, incised valley branches out in the upper reaches of the catchment. Rural residential development at the lower end of the valley has resulted in a landscape of two distinct parts: an open pastoral landscape in the upper valley and an intensive cover of indigenous revegetation, woodlots and amenity planting in the lower valley. The valley is contained so that there is a strong sense of intimacy and privacy with dwellings integrated into a matrix of trees and shrubs. The upper valley lies beyond the public road.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents of Moonshine Valley Road community
- Users of Council Reserves in the Valley: Tutukiwi Reserve and Moonshine Valley Reserve.

SENSITIVITY TO CHANGE	HIGH → LOW	
	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓	
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Relatively incised valley that sits within the broader Northern Elevated Flats unit; broadens into three branches upslope
- Local access road serves lower end of the valley
- Established rural-residential subdivision in lower valley
- Extensive pastoral farming in upper valley
- Numerous plantings of amenity, shelter, and woodlot tree species in lower end of valley
- Various areas of indigenous vegetation
- High voltage transmission line crosses midpoint of valley

VISIBILITY AND VISUAL AMENITY

- Lower end of valley visible from access road – Moonshine Valley Road; views contained by vegetation
- Parts of upper valley visible from SH57A/Aokautere Road

DEFINING CHARACTERISTICS

- Narrow valley that broadens out
- Established rural-residential subdivision
- Various stands of mature exotic and indigenous vegetation in lower valley
- Extensive pastoral farming in upper valley

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming
- Rural-residential development
- Developing ecological and walkway 'connections' via Green Corridors revegetation project

ECOLOGICAL AREAS 2002

- Moonshine Valley Reserve rural forest remnant (10)
- Tutukiwi Reserve rural forest remnant (23)

LANDSCAPE ATTRIBUTES**Natural Features and Legibility**

- Numerous areas of indigenous vegetation
- Distinct valley landscape

Cultural and Historic Associations

- This area and the two adjoining valleys to the north were generally known as the entrance point to the Manawatu by Tawhakahiku and Mangere - descendants of Whatonga and as an alternative transportation route between the east and west

Aesthetics and Recognition

- Distinct valley system
- Pattern of established residences and plantings



UNIT 10

Lower Pahiatua Track

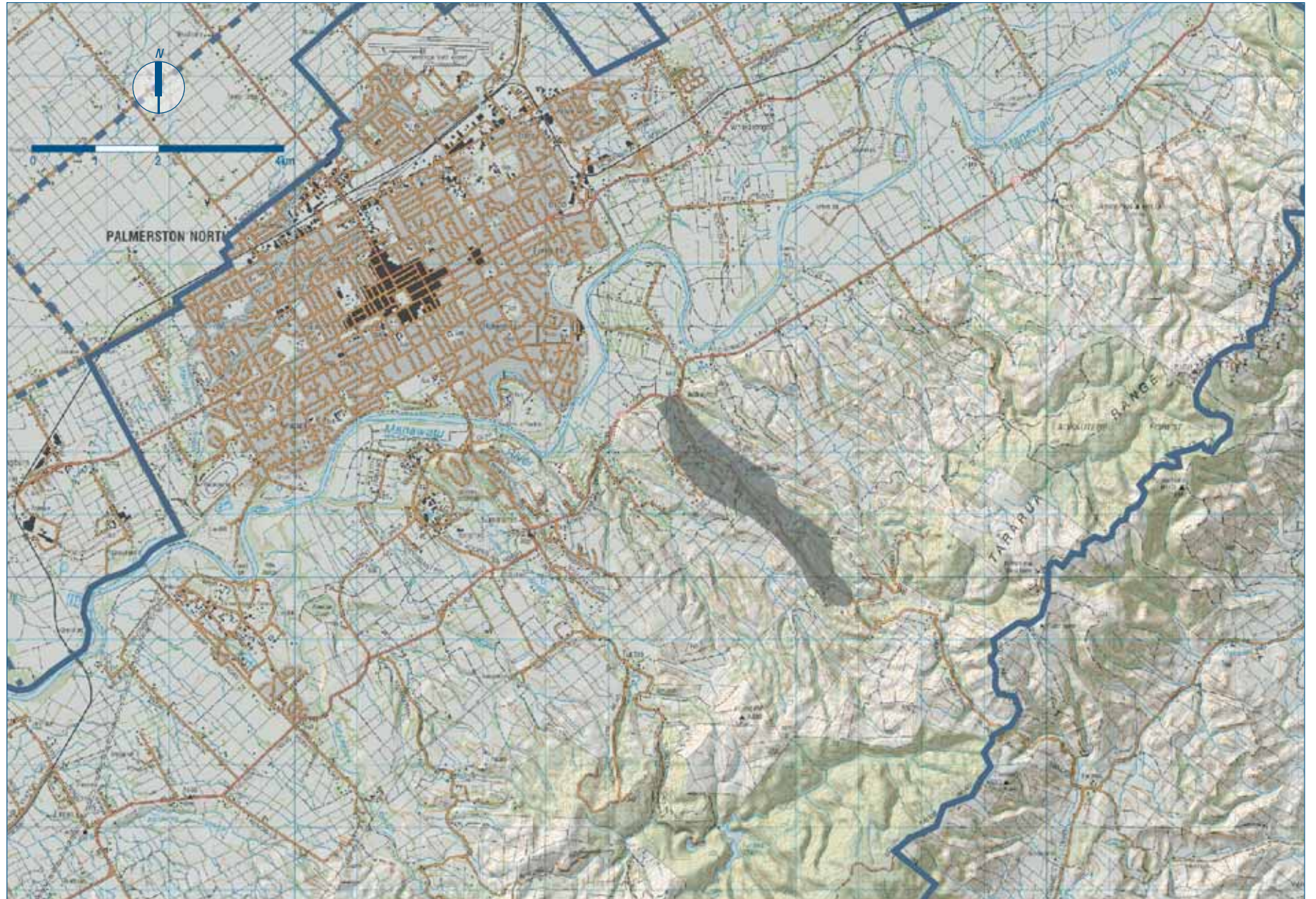
Local Valley



SENSE OF PLACE

This deeply incised, narrow valley forms the lower end of the Pahiatua Track, which has been settled since Palmerston North City was first established. The valley is characterised by a diverse mix of land use activities. Although pasture predominates, the visual prominence of trees and shrubs along roadsides, around dwellings, and sheltering pastured spaces creates a landscape that is intimate and interesting, managed intensively but not overly ordered.

Plantings of native species, supplemented by natural regeneration in wet areas and on steeper slopes, add to the beauty and resilience of the valley, softening the more formal exotic plantings and providing coherence through the valley landscape. Structures within the valley are well integrated into established vegetation so that the landscape is experienced as distinctly rural.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents.
- Travellers on Pahiatua Track
- Residents of subdivisions established on the river terraces that edge this unit who use The Track to access their homes.

SENSITIVITY TO CHANGE	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover	✓ variable	✓
Landscape complexity - modification	✓ variable	✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Incised, narrow valley that sits within the broader Northern Elevated Flats unit; remains a similar width up to the head of the valley
- Major local road traverses the length of the valley
- Numerous plantings of amenity, shelter, soil conservation and woodlot tree species
- Various areas of indigenous vegetation on valley slopes, along with scattered mature native trees
- Various lifestyle blocks and area of recent rural-residential subdivision
- High voltage transmission line crosses midpoint of valley

VISIBILITY AND VISUAL AMENITY

- Pahiatua Aokautere Road – Pahiatua Track – traverses the length of the valley
- Immediate slopes visible from road, but due to steepness of slopes and vegetation, outward views are contained

DEFINING CHARACTERISTICS

- Long, linear valley
- Various stands and specimens of mature exotic and native trees
- Established small-holdings/lifestyle blocks and various recent rural-residential subdivisions, e.g. Country Heights

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming and lifestyle blocks; various areas of plantation forestry
- Rural-residential development becoming common

ECOLOGICAL AREAS 2002

- Wakefield Bush rural forest remnant (78)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Numerous areas of indigenous vegetation
- Distinct valley landscape

Cultural and Historic Associations

- This area and the adjoining valleys to the north and south were generally known as the entrance point to the Manawatu by Tawhakahiku and Mangere - descendants of Whatonga and as an alternative transportation route between the east and west
- Pahiatua Track is a long established alternative route from the Manawatu to the Wairarapa

Aesthetics and Recognition

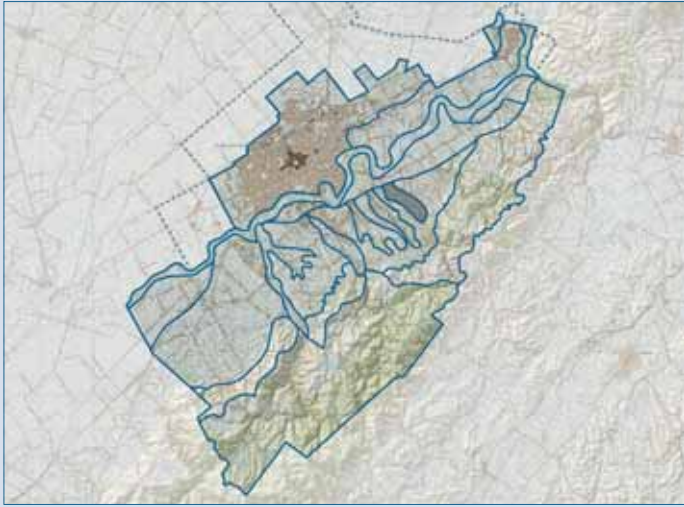
- Great diversity of vegetation within a contained visual and physical catchment



UNIT 11

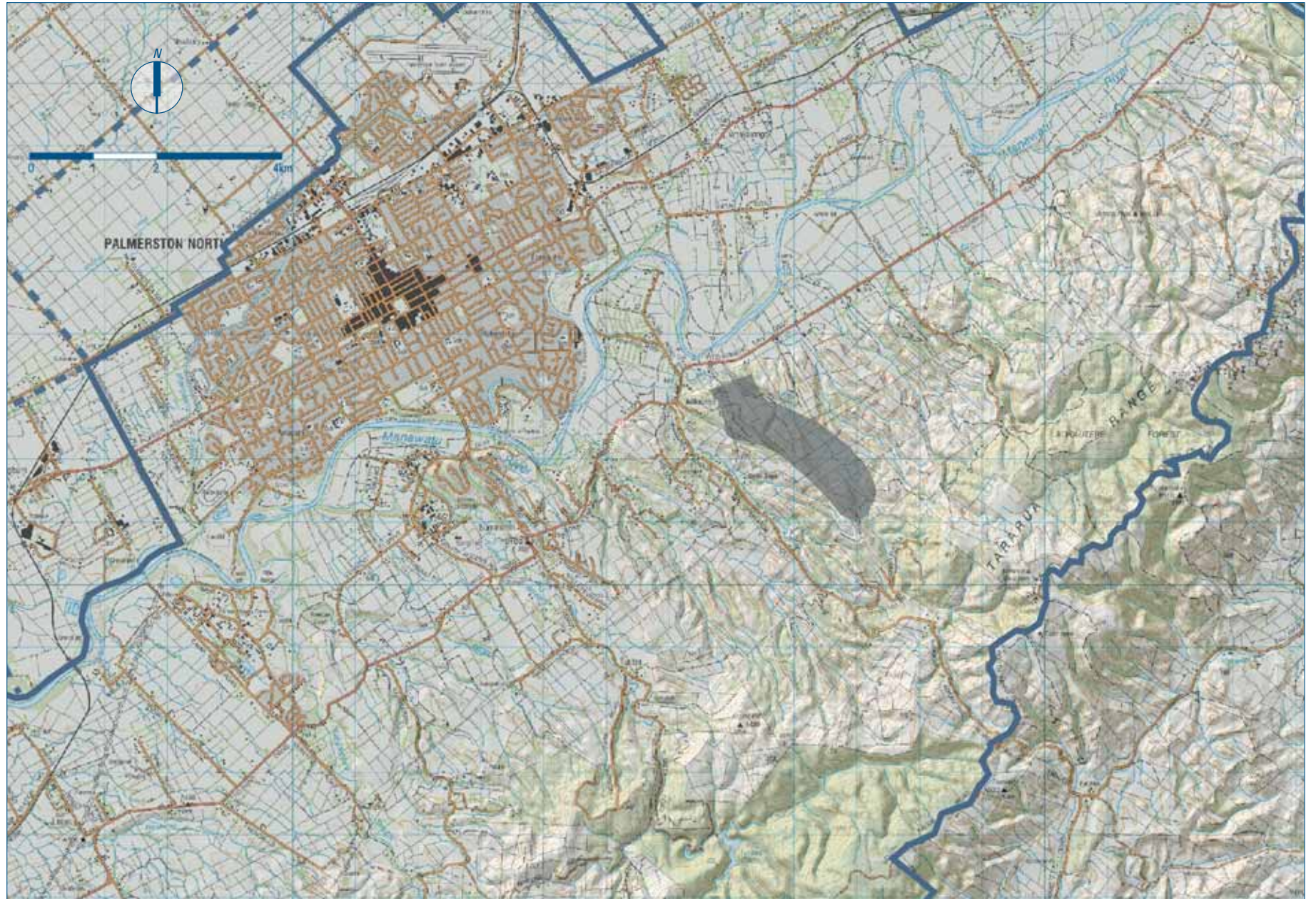
Aokautere Stream

Local Valley



SENSE OF PLACE

The narrow, linear valley has a simple pastoral landscape relieved by established shelter planting and some early reversion to native vegetation on the steeper, south facing, slopes. In the lower valley, the Aokautere Stream meanders across a broad valley floor. In the upper reaches, the valley narrows as it rises to merge with broad open terraces.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local landowner/s
- Kingsdale subdivision (the upper areas overlook the valley)
- Country Heights subdivision

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)	✓	variable ✓

LANDSCAPE CHARACTER DESCRIPTION

- Singular, narrow valley that sits within the broader Northern Elevated Flats unit; opens out towards the head of the valley
- No public road access
- Sinuous stream channel
- Small areas of indigenous vegetation on south-facing slopes
- Sections of established shelterbelt in lower valley
- Areas of gorse on valley slopes
- High voltage transmission line crosses midpoint of valley

VISIBILITY AND VISUAL AMENITY

- Majority of valley not visible from public viewpoints
- Valley visually contained
- Simple, farmed landscape

DEFINING CHARACTERISTICS

- Long, linear valley
- Various stands/belts of mature exotic trees within lower valley
- Mixed cover of weed and indigenous vegetation on south-facing slopes of lower valley; otherwise valley devoid of larger vegetation

PATTERNS OF DEVELOPMENT

- Rural landuse - extensive pastoral farming

ECOLOGICAL AREAS 2002

- Aokautere East rural forest remnant (21)

LANDSCAPE ATTRIBUTES**Natural Features and Legibility**

- One small area of native bush

Cultural and Historic Associations

- This area and the two adjoining valleys to the south were generally known as the entrance point to the Manawatu by Tawhakahiku and Mangere - descendants of Whatonga and as an alternative transportation route between the east and west

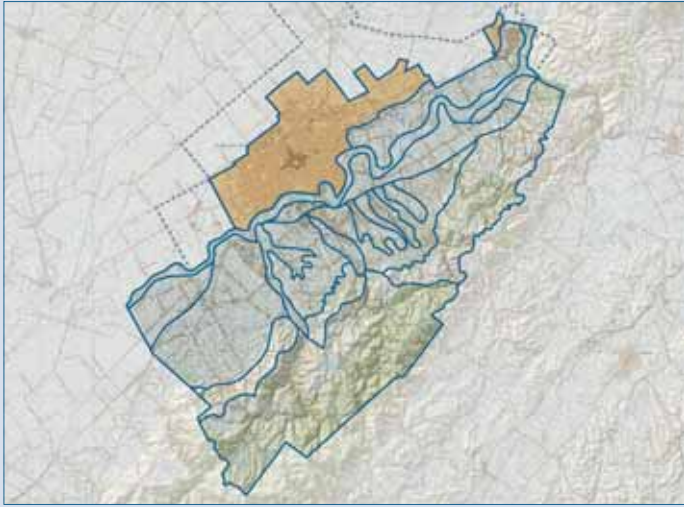
Aesthetics and Recognition

- Simple, farmed landscape contained in an enclosed valley



UNIT 12

Palmerston North City Plain

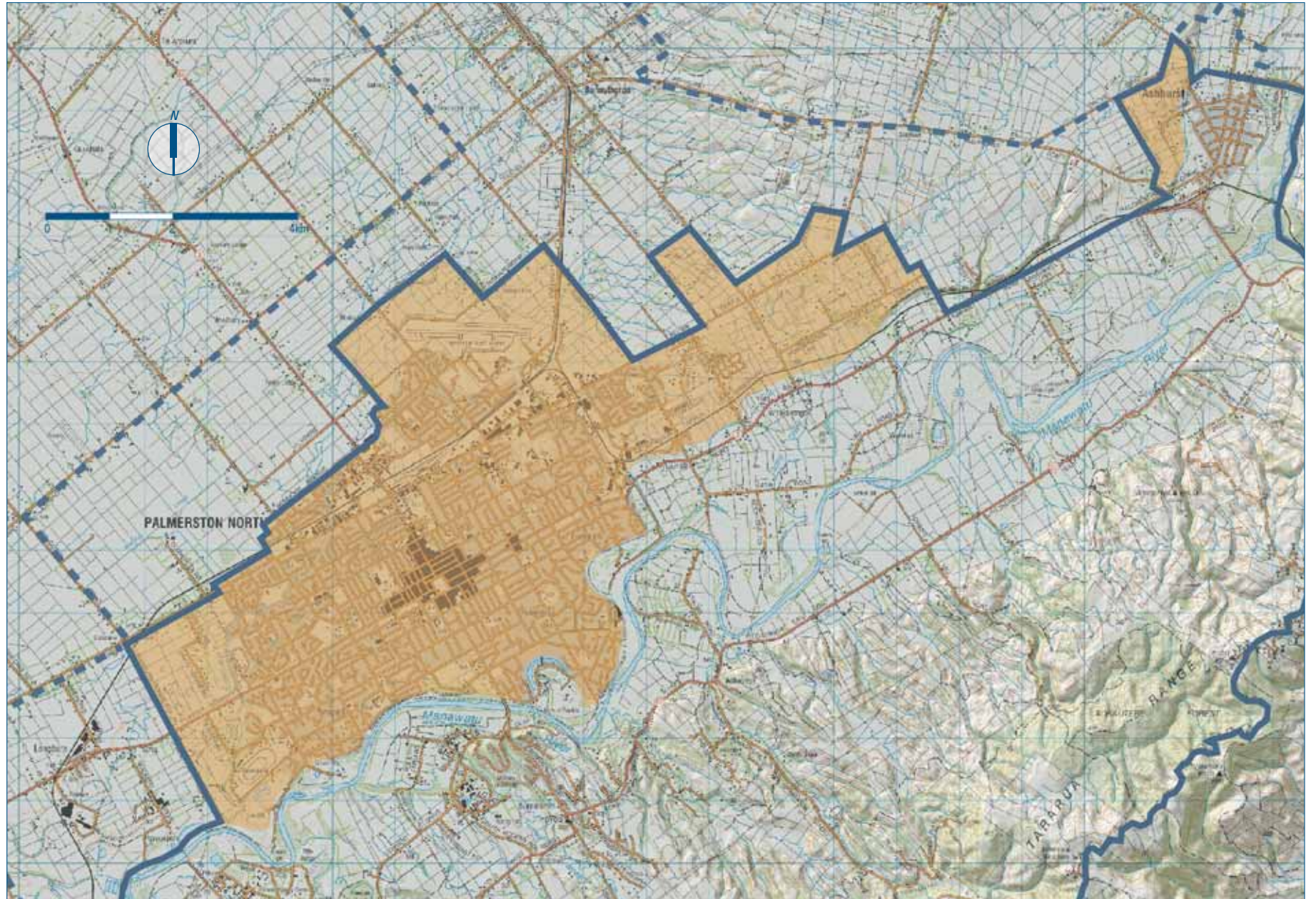


SENSE OF PLACE

The rural land in this unit fringes the northern and western edge of the city suburbs and is characterised by the geometric pattern of roads, fences and shelterbelts that overlay the gently undulating landscape.

The open, pastoral landscape is under pressure from ongoing rural residential development. Such development has resulted in a softer, less ordered landscape with more distant views screened by the foreground vegetation associated with dwellings along roads.

This more intensive use is creating a greater sense of community and identity where previously this landscape was experienced as being 'between places' rather than having its own sense of place and identity.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Residents and farmers of Palmerston North, Ashhurst and Longburn on the perimeter of the unit.
- Residents and farmers of the Kelvin Grove Road, Tutaki Road and Stoney Creek developments.
- Travellers on the key approach routes to the City

SENSITIVITY TO CHANGE	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Southeast edge of open, undulating flats that extend out across the Manawatu Plains
- Flat topography
- Open farmland extends to the southwest of the city and more undulating rural land extends to the north east
- The land to the west contains highly versatile soils and historically was used for intensive production, horticultural uses and the like. This area is characterised by shelterbelts and amenity planting around the farm house and buildings
- Landform that is basis of unit extends along top of terrace behind Ashhurst
- Main drainage feature - Mangaone Stream – is an embanked floodway through the city

VISIBILITY AND VISUAL AMENITY

- Very high visibility as major regional transport routes pass through the urban area
- The NZTA have identified a possible future State Highway realignment from Mt Stewart to the Ashhurst Gorge that would traverse through or near this area
- Domestic and international airport within northwest extent
- Large resident population
- Numerous local roads on a relatively regular grid traverse the rural parts of the unit
- Axial views along Fitzherbert Avenue and Main Street form important visual links to broader landscape

DEFINING CHARACTERISTICS

- Flat city with a high-rise CBD
- The urban expansion of Palmerston North (~78,000 pop.) is the predominant landuse in this unit
- Sharp transition from urban to rural on southwest and much of northwest edge of city; northern edge of city now sprawling into rural land
- Extensive, plains landform that extends west beyond PNCC boundary
- Very few areas of remnant indigenous vegetation

PATTERNS OF DEVELOPMENT

- Urban grid pattern with a distinct CBD
- Traditional peri-urban small holdings being replaced by lifestyle blocks and rural-residential subdivisions
- Currently industrial and residential expansion extending north – northeast of the city

ECOLOGICAL AREAS 2002

- Mangaone Stream other: floodway (39)
- Hokowhitu Domain urban forest remnant (81)
- Dobson Lane wetland (45)
- Ashhurst Grove Road rural forest remnant (26)
- Linklater wetland (86)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Victoria Esplanade is one of the few natural features within urban area
- Manawatu River forms a natural eastern edge
- Two notable indigenous forest remnants

Cultural and Historic Associations

- A large clearing known as Papaioea covered a span of 800 acres and was located within the confines of the what is now urban Palmerston North
- Rakaumau was the name of the pa which was located in what is now The Square
- Urban Palmerston North was established in late 1800's as a service centre for pastoral farming

Aesthetics and Recognition

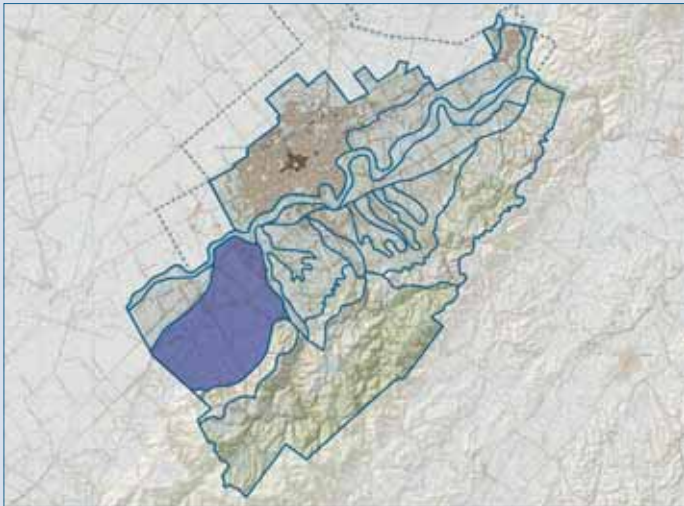
- Treed avenues and established parks and gardens are a notable feature
- Large urban centre on the edge of plains



UNIT 13

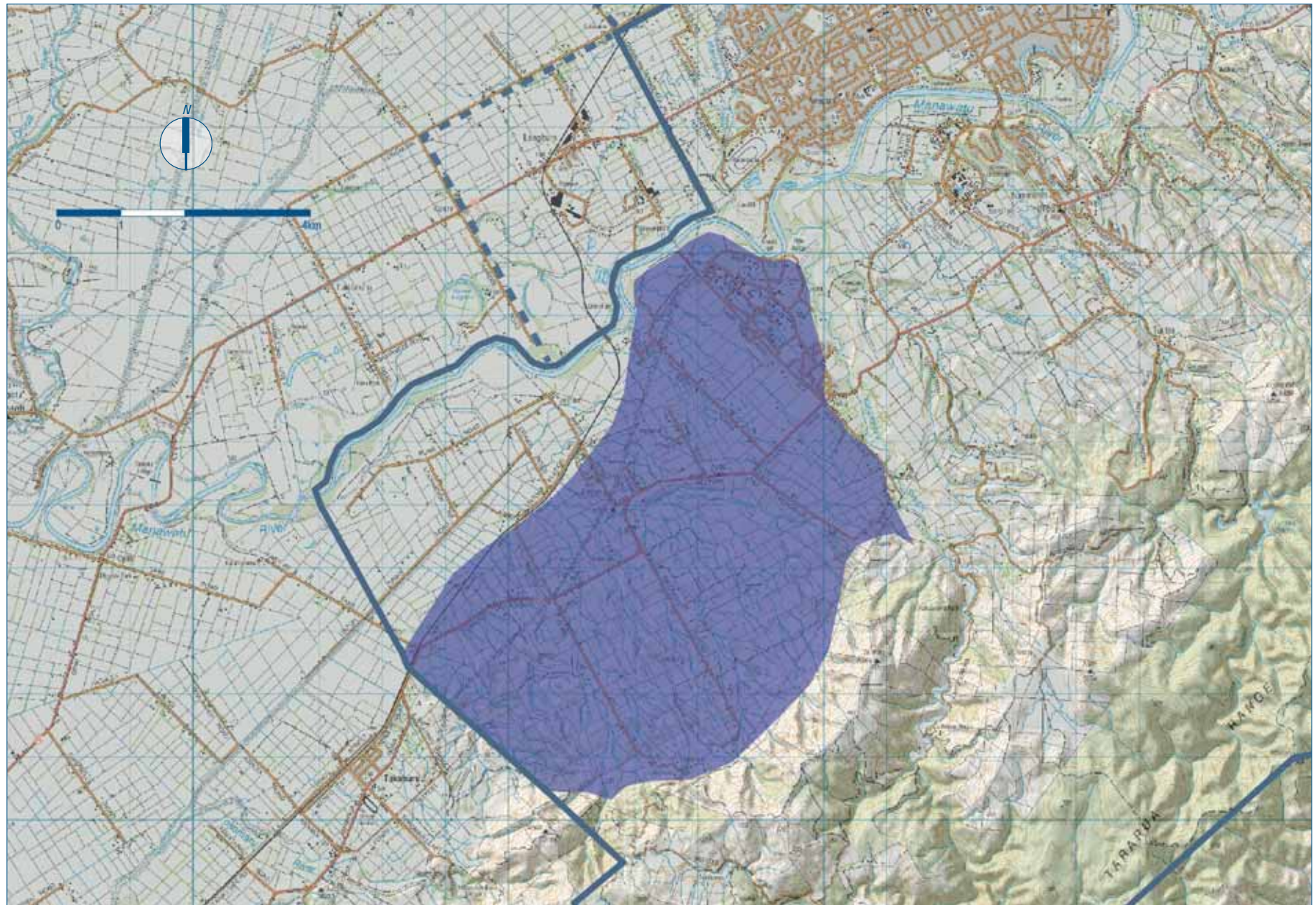
Linton Flats

Rolling Flat



SENSE OF PLACE

Numerous small gullies and watercourses lightly scarify the expansive rolling pastoral landscape of Linton Flat. The open vistas are moderated by shelter plantings of pines and macrocarpa with some eucalypts. When viewed from a higher elevation, indigenous vegetation in gullies and along riparian edges breaks up the homogeneity of the landscape.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Linton residents
- Linton Military Camp
- Scotts Road and Millricks Line foothills communities
- Local and interregional travellers using SH 57

SENSITIVITY TO CHANGE	HIGH	LOW
Landscape complexity - topography		✓
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)		✓

LANDSCAPE CHARACTER DESCRIPTION

- Extensive undulating flats that have a subtle slope to the west-northwest and are dissected by numerous small streams
- Pastoral farming is the predominant landuse
- Unit contains two urban areas within rural settings
 - Linton Military Camp, New Zealand's largest army base and associated village to the west, and
 - Linton, a small community to the south

VISIBILITY AND VISUAL AMENITY

- SH 57 traverses the unit
- Numerous linear local roads run perpendicular to the highway
- Views to the Tararua Ranges rising immediately to the east and running to the south
- The military camp is enclosed by established tree plantings
- Well managed farmland forms the predominant visual amenity

DEFINING CHARACTERISTICS

- Rolling farmland with established shelterbelts
- Extensive drainage pattern of small local streams
- One distinct enclosed urban community
- Extensive, open landform that extends south-west beyond PNCC boundary

PATTERNS OF DEVELOPMENT

- Rural landuse in relatively large, traditional farm holdings; some isolated pockets of lifestyle blocks off various local roads towards the ranges
- One separate, specific purpose urban centre and a rural school/community centre
- Landuse predominantly farming, with urban development confined to two established locations; both close to, but separate from the highway

ECOLOGICAL AREAS 2002

- Millricks Line rural forest remnant (12)
- Nguturoa north rural forest remnant (13)
- Kendalls Line Bush rural forest remnant (17)
- Linton Camp Escarpment farmland riparian area (20)
- Kahuterawa Road rural forest remnant (27)
- Scotts Road scrub rural forest remnant (41)
- Scotts Road wetland (42)
- Linton Station wetland (43)
- Akers Road wetland (44)
- Nguturoa Stream rural forest remnant (47)
- Larsens Bush rural forest remnant (52)
- Hewitts Road rural forest remnant (77)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Numerous 'pockets' of remnant indigenous vegetation on stream banks
- Undulating landform with numerous watercourses means there is a degree of similarity to many parts of the unit

Cultural and Historic Associations

- Large Rangitaane settlement called Te Kairanga, the area was renowned for its great supply of food. The name Te Kairanga can be interpreted to mean 'the place where much food is gathered'
- Site first planned for Linton Military Camp is several kilometres to the south. Site purchased for the military camp included an area which had been the Te Kairanga village, by the Manawatu River

Aesthetics and Recognition

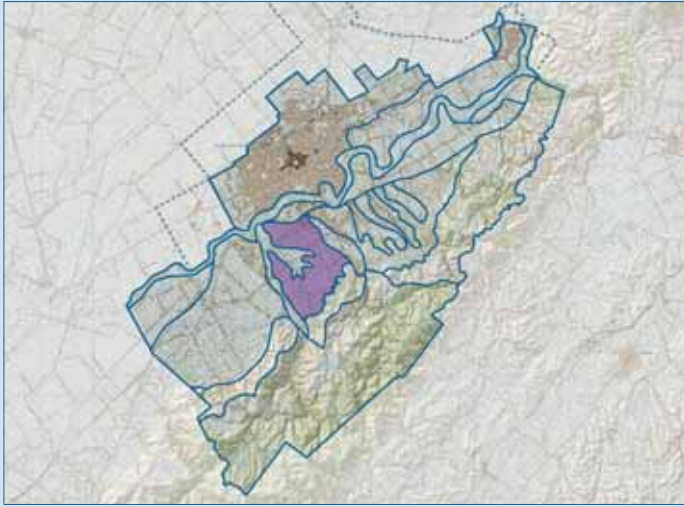
- Extensive area of undulating farmland that forms a large portion of the southern aspect of the district
- Two small urban centres have their own distinct character



UNIT 14

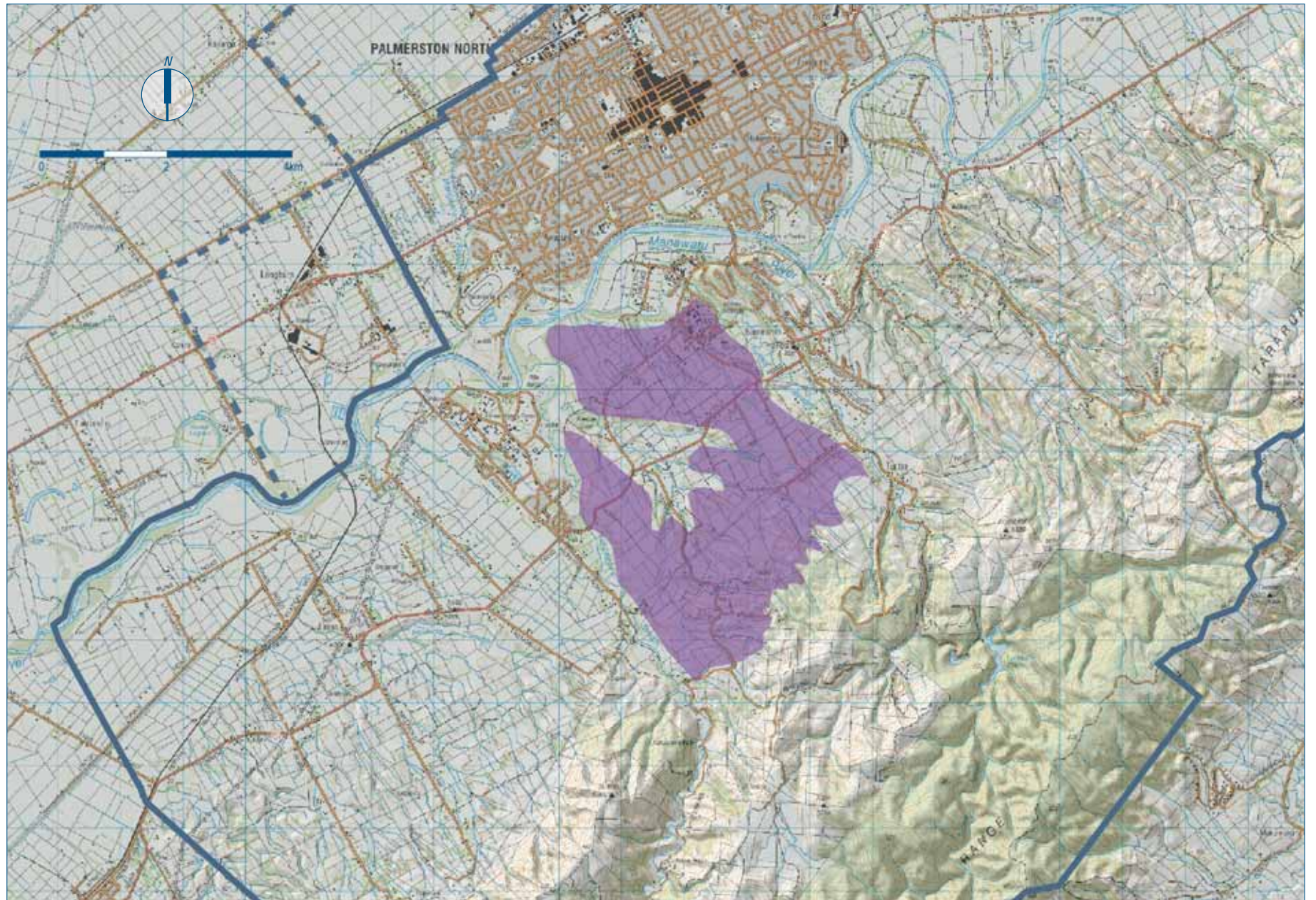
Central Elevated Flats

Elevated Flat



SENSE OF PLACE

The unit is defined by the two valley systems that contain and confine it, namely the Kahuterawa Valley to the south and Turitea Valley to the north. The raised terrace forms an expansive and undulating pastoral landscape. The rigid geometric patterns of paddocks are relieved by shelter plantings, waterways and local gullies; some relatively minor but becoming more pronounced towards the foothills. Pockets of more intensive development with houses and dense plantings of shelter and mixed ornamentals provide a focus of interest in what is an otherwise open and expansive pastoral landscape.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Massey University's Turitea Campus, Massey Farms, Massey University Sport and Rugby Institute
- By-pass traffic using the interregional route
- Residents of Shere Lane, Kahuterawa Valley
- Residents of Pacific Drive (on perimeter of unit)

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓variable	✓
Visibility within the wider context (views in)	✓variable	✓

LANDSCAPE CHARACTER DESCRIPTION

- Broad undulating flats with a subtle slope to the northwest dissected by various small streams
- Pastoral farming is the predominant landuse
- Unit contains an urban area within a rural setting
 - Massey University's Turitea Campus
- Old West Road (SH 57), the interregional by-pass route, dissects through the centre of the unit. Access is provided off this route to the Massey's Sport and Rugby Institute and parking

VISIBILITY AND VISUAL AMENITY

- SH 57 traverses the unit
- Several local roads run perpendicular to the highway
- Views to the Tararua Ranges rising to the east
- The university campus is enclosed by established tree plantings
- Well managed farmland forms the predominant visual amenity

DEFINING CHARACTERISTICS

- Rolling farmland with established shelterbelts
- Obvious drainage pattern of numerous, small local streams
- One enclosed urban community

PATTERNS OF DEVELOPMENT

- Rural landuse in relatively large, traditional farm holdings; some isolated pockets of lifestyle blocks off local roads in the southern part of the unit
- Separate, specific purpose urban centre
- Landuse predominantly farming, with urban development confined to the university campus which is close to, but separate from the highway

ECOLOGICAL AREAS 2002

- Kahuterawa Road rural forest remnant (27)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- 'Pockets' of remnant indigenous vegetation on stream banks
- Undulating landform means there is a degree of similarity to many parts of the unit

Cultural and Historic Associations

- This area would have been broadly associated with the settlements of Te Kairanga, Turitea, Karaka Grove and Te Kuripaka
- There were also seasonal food gathering areas throughout this area

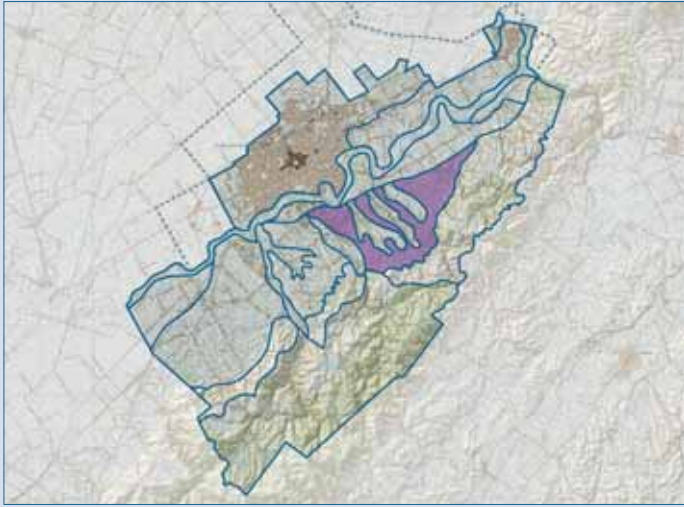
Aesthetics and Recognition

- Extensive area of undulating farmland
- One distinct urban centre



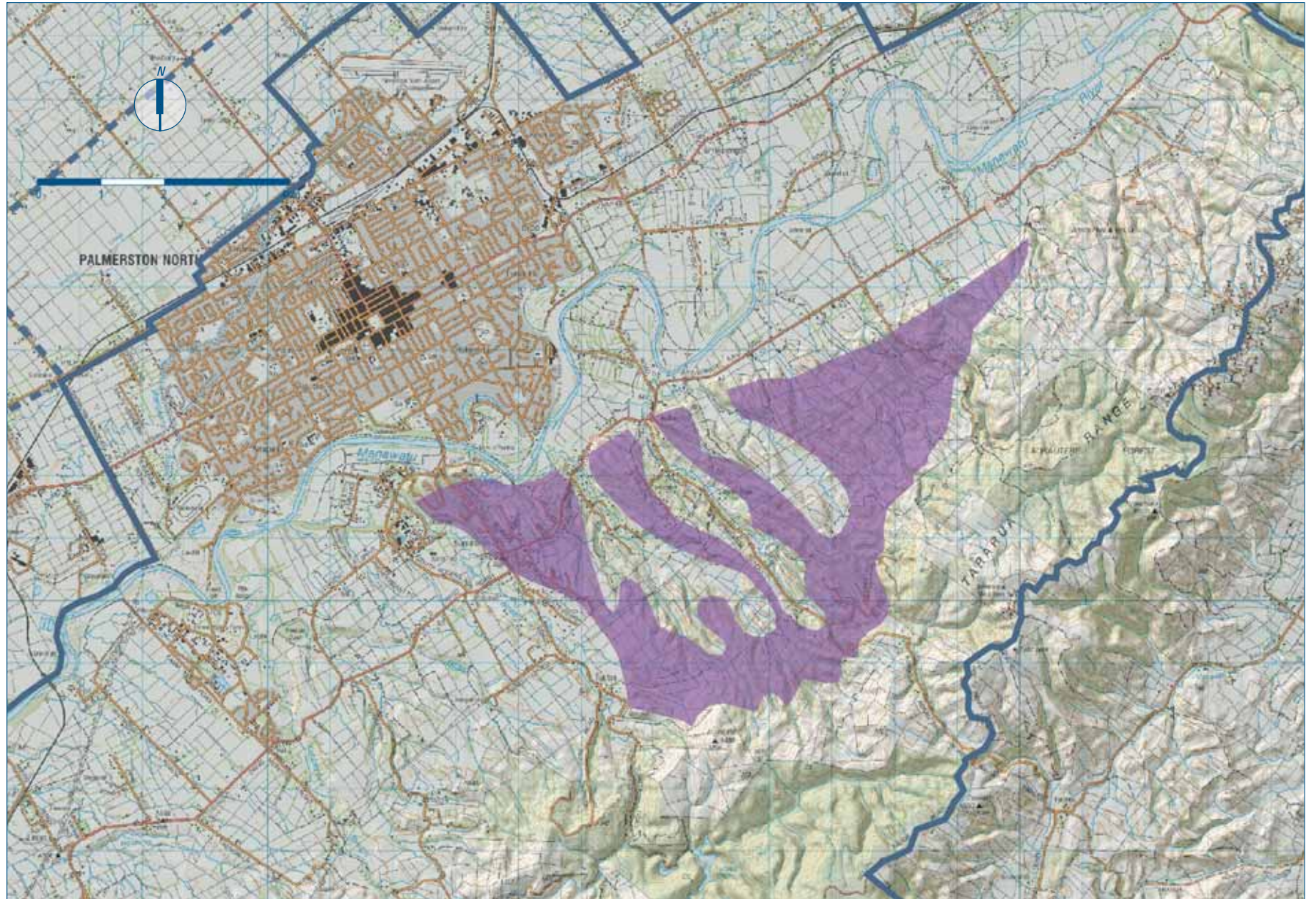
UNIT 15

Northern Elevated Flats Elevated Flat



SENSE OF PLACE

Viewed from across the plains to the north of the City, the elevated flats appear relatively flat. In closer views, a more broken landform becomes apparent; the terrace landform becomes progressively more corrugated towards the Manawatu Gorge. The landscape is characterised by valley systems falling from the foothills down to the terrace edge, ever more deeply incised with steeper sides clothed with small pockets of indigenous vegetation. These valleys merge with the terraces moving towards the foothills to become part of a pastured continuum running up onto the lower slopes.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents of Polson Hill, Hillcrest, Kingsdale and Country Heights subdivisions who have built up out of the valleys in the edge of these elevated flats.
- Travellers along SH 57 and Pahiatua Track
- City residents who look onto these landforms

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)	✓	variable ✓

LANDSCAPE CHARACTER DESCRIPTION

- Broad expanse of open, slightly elevated flats that gently slope to the west
- Three distinct and separate local valleys encompassed by the unit
- Summerhill – a developing suburban ‘hub’ occupies the western extent of unit, with subdivisional development extending up broad ridge south of Aokautere Road to the point where high voltage transmission line crosses the unit
- Landuse of upper flats/slopes and all of northern flats is extensive farming

VISIBILITY AND VISUAL AMENITY

- Western portion of unit is visible from Summerhill Road and Aokautere Road (SH57A)
- Northern edge of unit visible from SH57A north of Aokautere
- Pahiatua Track rises through the unit, though the road is within a local gully; most frequented route that allows outward views to Manawatu Plains
- Broad outward views from the unit

DEFINING CHARACTERISTICS

- Broad ridge tops/flats ‘sitting’ between the river flats and the front slopes of the northern Tararua Range
- Pockets of indigenous vegetation and also extensive areas of gorse within gullies
- Gully network in the western portion of the unit being developed as the framework of local reserve and urban greenway system
- Residential development common and expanding within western portion of unit

PATTERNS OF DEVELOPMENT

- Rural landuse currently the predominant use
- Residential development now well established in western portion of unit

ECOLOGICAL AREAS 2002

- Poutoa Walkway Reserve other: restoration area (5)
- Pahiatua Track rural forest remnant (7)
- Aokautere Village Bush rural forest remnant (22)
- Pari Reserve farmland riparian area (24)
- Lower Moonshine Valley rural forest remnant (32)
- Heathcote Drive Bush urban forest remnant (34)
- Summerhill Drive Escarpment urban forest remnant (35)
- Anzac Park urban forest remnant (83)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Numerous small areas of native bush in Summerhill
- Broad elevated, open ridgetops

Cultural and Historic Associations

- This area is directly associated with Te Motu o Poutoa as well as the track linking the pa site with the ranges
- There were also a number of strategic vantage points located within this area where pa were established for their safety appeal with views of the broader region

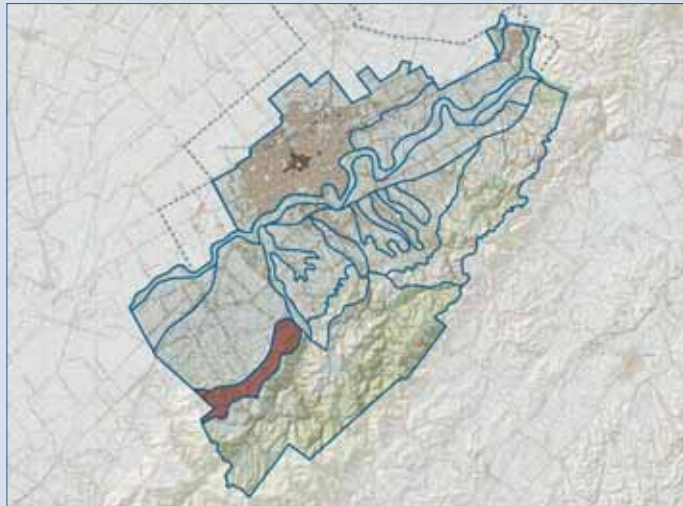
Aesthetics and Recognition

- Outward views to the river flats and Manawatu Plains



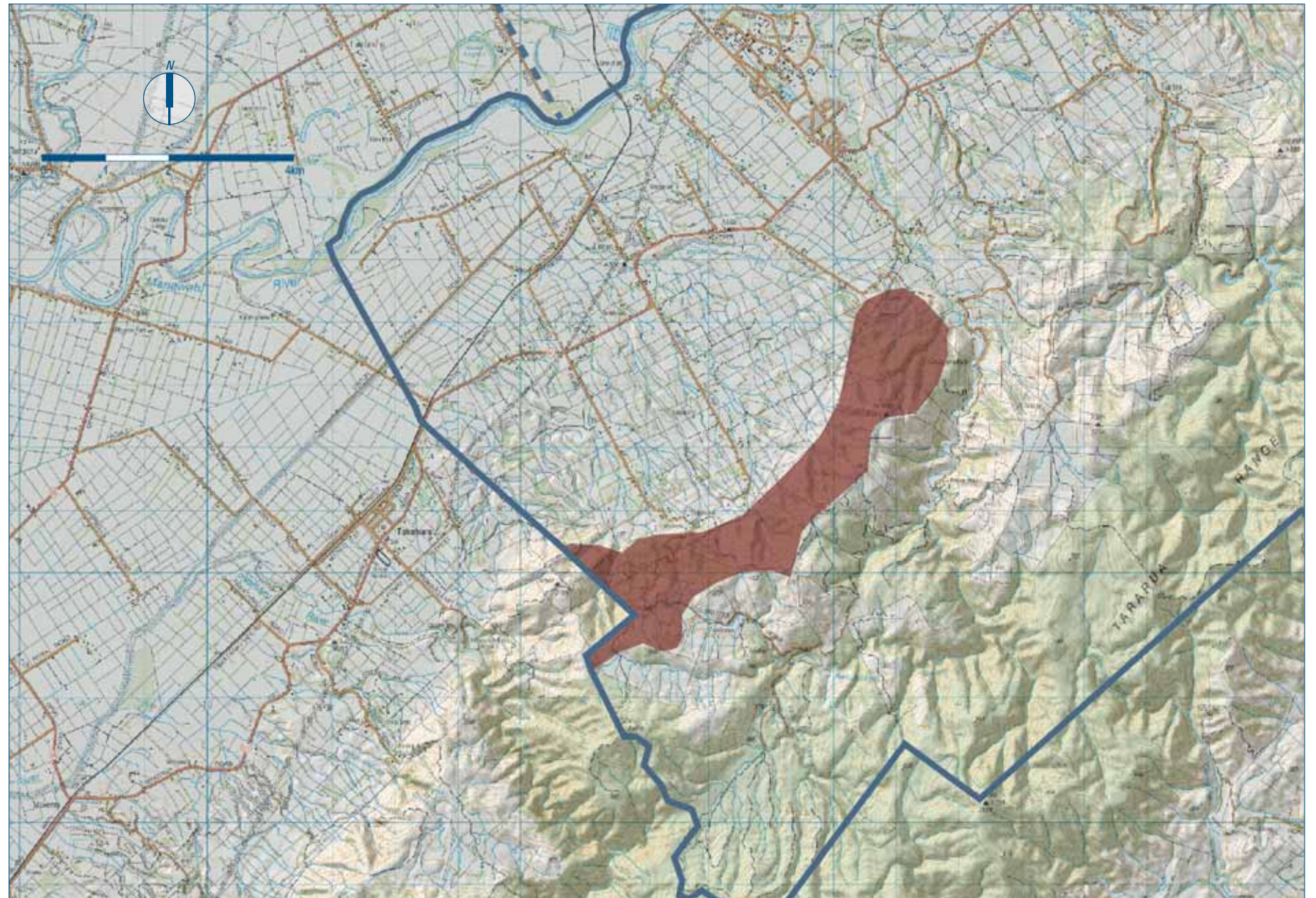
UNIT 16

Te Mata Slopes Hill Slope



SENSE OF PLACE

The Te Mata Hill slopes are clearly defined, rising steeply from Linton flats up to the Te Mata ridgeline and backdropped by the northern Tararua ranges. The landform is very pronounced and dramatic. The steep slopes are predominantly in pasture but with prominent blocks of pines. The slopes are distinctive and visible from SH57 and Linton flats.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents/ landowners at the base of the foothills
- City residents and travellers who look onto these landforms

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification		✓
Visibility within the wider context (views in)	✓	

LANDSCAPE CHARACTER DESCRIPTION

- These west facing slopes have been modified by pastoral farming, with indigenous vegetation now confined to gullies
- Geometric patterns of pine plantations are a common feature at the southern and northern extent of the unit, along with linear fencelines.
- Te Mata is the prominent highpoint at the north end of the ridgeline
- A high voltage transmission line traverses across lower edge of unit

VISIBILITY AND VISUAL AMENITY

- As a prominent 'front slope' to the northern Tararua Ranges, this unit is directly visible from SH57, NIMTR and numerous local roads.
- More distant views from urban Palmerston North
- Visual amenity has been reduced by the 'placement' of landuses and structures that are out of context with natural shapes and forms i.e. pine plantations, transmission lines

DEFINING CHARACTERISTICS

- Main ridges and high points are distinctive features
- Steep slopes running from skyline ridge down to plains
- Complex pattern of topography and vegetation cover
- Plantations of pine trees, plantings of mixed tree species in gullies and scrub common along the easier slopes to south-west
- Distinctive patterns of amenity/shelter tree planting associated with dwellings and roads on lower slopes
- Unit extends south-west beyond PNCC boundary

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming, with areas of plantation forestry
- Energy production from wind turbines, a new landuse that overlays pastoral farming – potential development of northern half of the Motorimu Wind Farm, which was consented, although the consent was later voluntarily relinquished in 2009

ECOLOGICAL AREAS 2002

- Wicklow Bush reverting bush area (40)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Notable area of indigenous vegetation near Scotts Road at south end of unit

Cultural and Historic Associations

- These lower areas provided places for overnight settlement at times of food gathering in the range, and traversing the other side of the Tararua Range
- Various long established homesteads

Aesthetics and Recognition

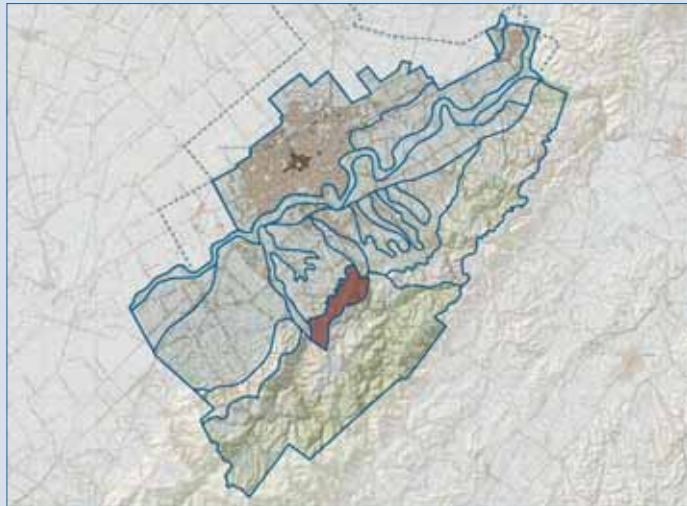
- Distinctive west-facing slopes and ridgeline in southern extent of district



UNIT 17

Ngahere Park Slopes

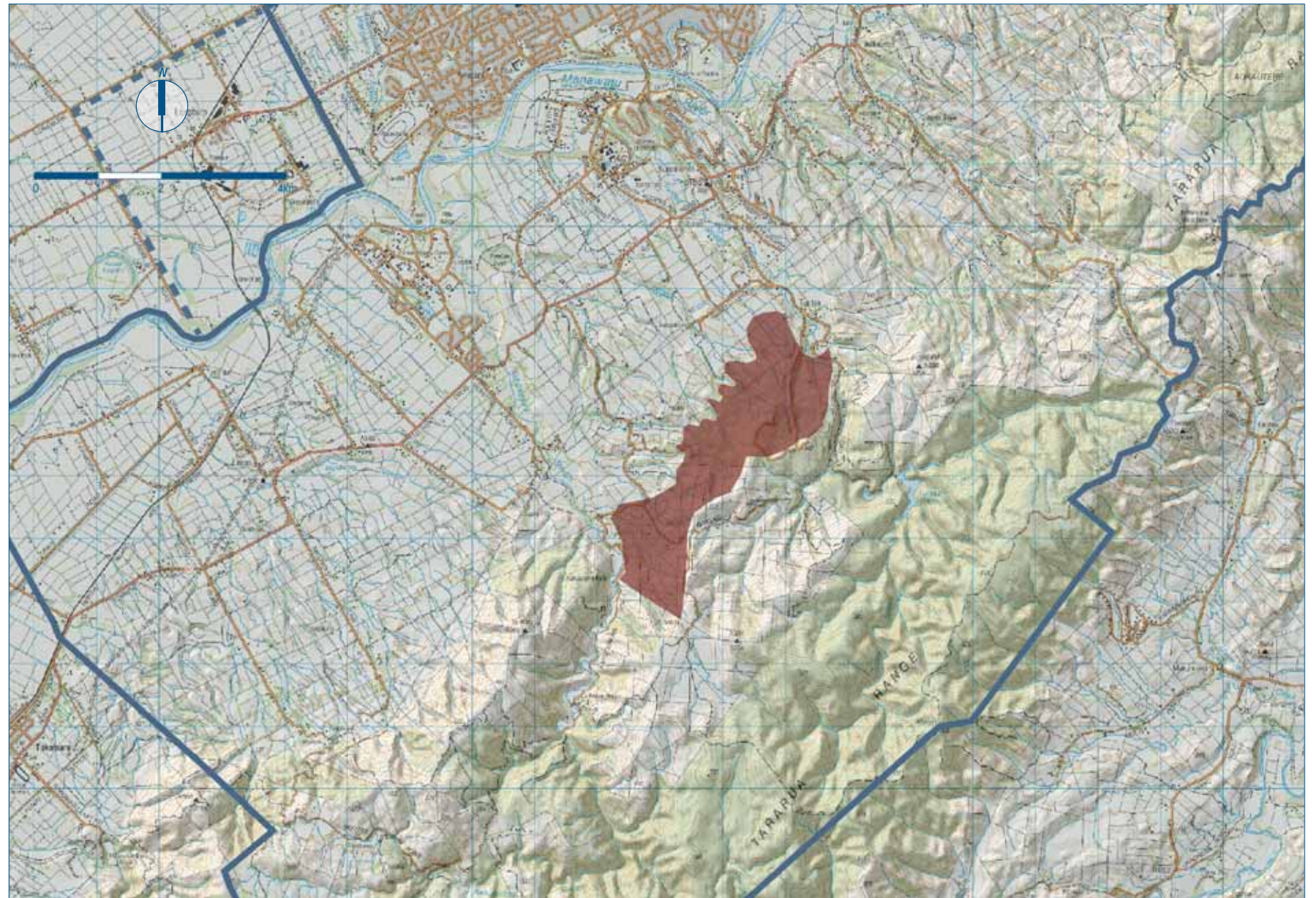
Hill Slope



SENSE OF PLACE

The Ngahere Park slopes have a similar aspect to the Te Mata slopes but the landform is not as steep and prominent. The landform is composed of a complex series of small valleys and rolling ridges, with steeper gullies along the lower slopes. The steeper upper slopes are predominantly in pasture but pine plantations cover an extensive area across the lower slopes at the top end of the Turitea Valley.

Pockets of rural residential development extend from the Turitea Valley up onto the Ngahere Park Slopes and into the pine plantations, with some tree clearance to create space for buildings and outdoor living. While pines provide shelter and a coherent green framework, amenity plantings provide variety and interest. Dwellings, some substantial in scale, tend to be set into carefully managed vegetation so that privacy is provided while views are retained.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Residents of Ngahere Park and Greens Road

SENSITIVITY TO CHANGE

HIGH → LOW

Landscape complexity - topography	✓
Landscape complexity - vegetation cover	✓
Landscape complexity - modification	✓
Visibility within the wider context (views in)	✓

LANDSCAPE CHARACTER DESCRIPTION

- Open, west-facing 'front' slopes between Kahuterawa and Turitea Streams; lower slopes consist of many small rounded ridges and gullies
- Slopes have been modified by pastoral farming, with indigenous vegetation now confined to gullies
- Geometric patterns of pine plantations in the northern extent of the unit contrast with pastoral farming; rural-residential subdivision enclosed within forestry blocks

VISIBILITY AND VISUAL AMENITY

- As a 'front slope'/foreground ridge to the Tararua Ranges, this unit is visible from SH57 and numerous local roads
- More distant views from urban Palmerston North
- Visual amenity has been negated by the 'placement' of landuses and structures that are out of context with natural shapes and forms i.e. pine plantations, some areas of rural-residential subdivision

DEFINING CHARACTERISTICS

- Main ridge forms a distinctive feature
- Slopes running from main ridge down to flats broken by many sub ridges
- Complex pattern of topography with numerous stands of mature exotic evergreen trees
- Pine plantations cover north end of unit, some of which includes rural-residential subdivision

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming, with areas of plantation forestry
- Rural-residential development common to north end – Ngahere Park Road – and south end – off Kahuterawa Road

ECOLOGICAL AREAS 2002

No Ecological Areas

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- No areas of notable indigenous vegetation
- Relatively complex/broken topography within lower slopes

Cultural and Historic Associations

- These lower areas provided places for overnight settlement at times of food gathering in the range, and when traversing the Tararua Range

Aesthetics and Recognition

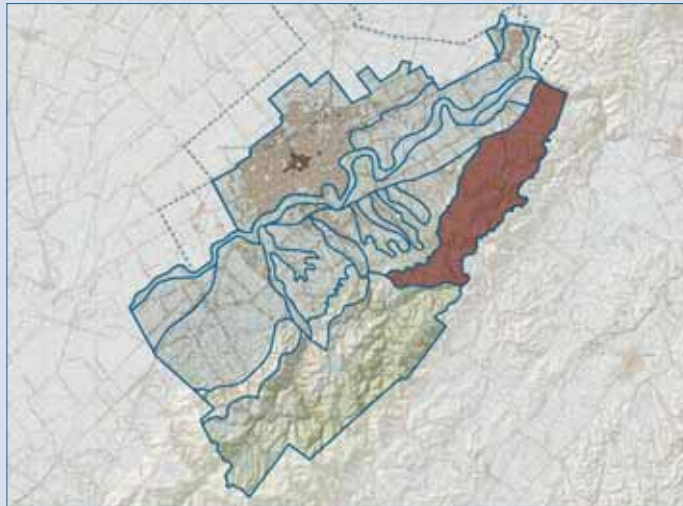
- Prominent 'foreground' slopes and ridgeline



UNIT 18

Forest Hill Slopes

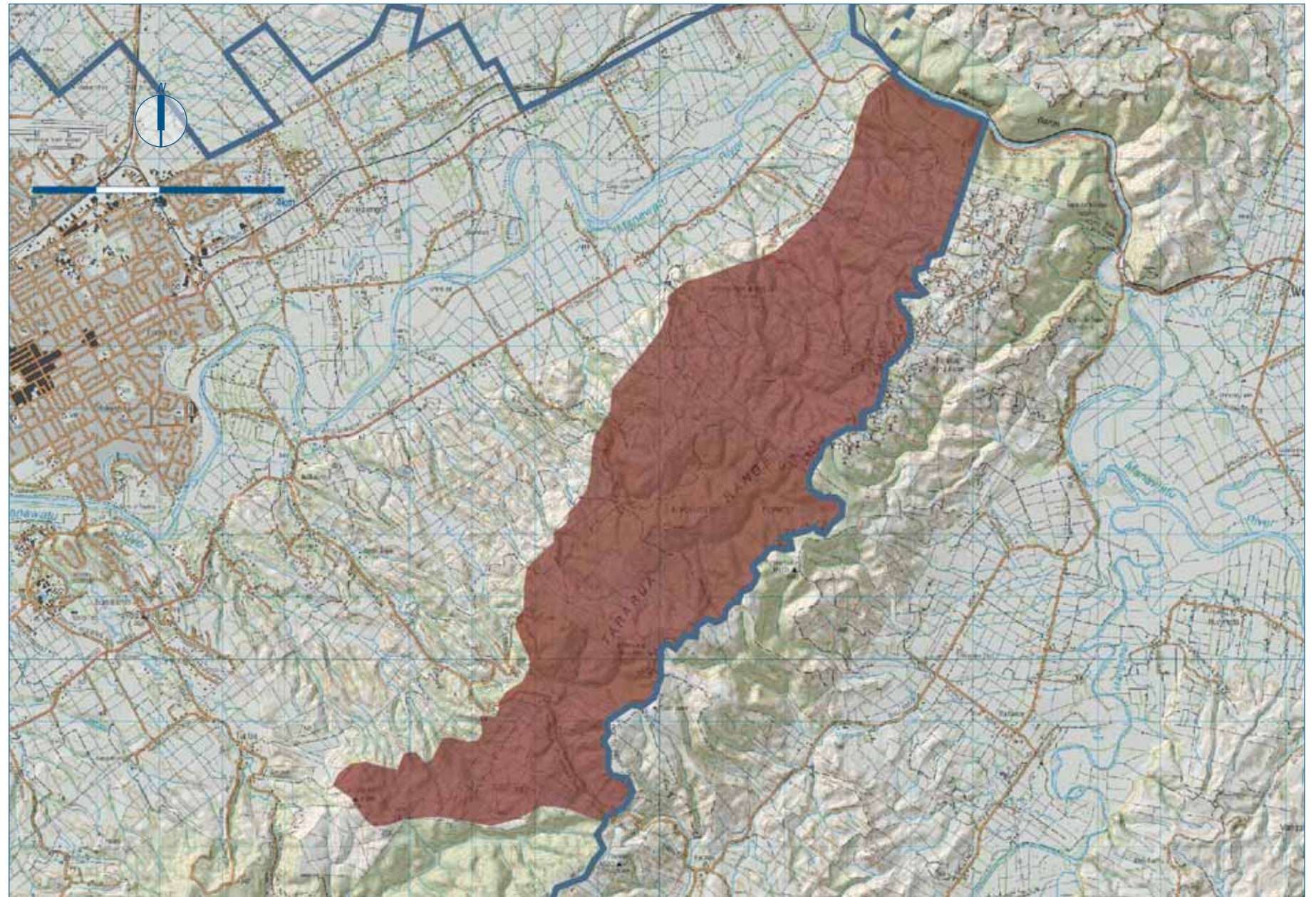
Hill Slope



SENSE OF PLACE

The Forest Hill unit covers the exposed northern end of the Tararua Ranges, falling steeply to the Manawatu gorge. The landscape is characterised by steep, corrugated hill slopes and spurs rising to a broad, prominent ridgeline. It reflects patterns of traditional pastoral farming with substantial areas in pine plantations, and wind turbines of a variable scale and design.

The simple and natural landform patterns revealed by open pasture have increasingly given way to more ordered, often geometric, patterns of plantations and turbines. On such prominent ridgelines, spurs, and slopes wind turbines and the plantations are highly visible.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- Local residents/landowners
- Travellers on Napier Road and SH3
- Residents district-wide
- Wind Energy Sector

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover		✓
Landscape complexity - modification	✓	
Visibility within the wider context (views in)	✓✓	

LANDSCAPE CHARACTER DESCRIPTION

- Running south from the Manawatu Gorge, west-facing slopes rise steeply up from the lower flats and adjoining elevated flats
- Convoluted drainage pattern of Forest Hill Stream breaks the central slope into several north-south running ridges
- The development of these slopes in the past for pastoral farming, followed by plantation forestry, has shaped appearance and current landuse
- The more recent development of wind farms on the northern Tararua Ranges has brought further obvious change.
- The majority of the Tararua Wind Farm is in the northern portion and the yet-to-be completed Te Rere Hau Wind Farm is in the southern portion of the unit

VISIBILITY AND VISUAL AMENITY

- Directly visible from SH57A, SH3, various local roads and much of urban Palmerston North. Roads within unit are limited, but provide broad outward views to plains
- Established plantation forestry was a controlling influence on the visual amenity of this unit. Wind farm now has an influence on this

DEFINING CHARACTERISTICS

- Steep, open slopes with rounded ridges; numerous linear gullies in the northern and southern parts of the unit; more complex drainage system in the centre of the unit
- Various gullies and some upper slopes have a cover of indigenous vegetation
- Numerous blocks of plantation forestry, both large and 'small'
- The bush cover of Manawatu Gorge to the north and pine plantation on the central slopes accentuate the open portions of this unit
- Numerous wind turbines, both large and 'small'

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming being the predominant use; some plantation forestry
- Energy production from wind turbines, a new landuse that overlays pastoral farming (With Stage 3 of the Tararua Wind Farm complete and the final stage of Te Rere Hau Wind Farm, completed further expansion of this landuse within this unit is unlikely)
- Protection/Recreation – Manawatu Gorge Bush

ECOLOGICAL AREAS 2002

- Forest Hill Road reverting bush area (2)
- North Range Road Bush reverting bush area (8)
- Taupiri Beech rural forest remnant (48)
- Buchanans Dam exotic forest riparian area (65)
- Forest Hill Stream riparian area (66)
- North Range Scrubland reverting bush area (67)

- Manawatu Gorge Bush sizable mature forest (71)
- Tuapaka Scrub rural forest remnant (80)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Numerous forest remnants, several of which are 'enclosed' by plantation forestry
- Manawatu Gorge and its DoC reserve are distinctive natural features

Cultural and Historic Associations

- The northern end of the Tararua Range which was utilised by Rangitaane through tracks across the range - this area is lower than other parts of the range therefore crossing would have been easier
- History of logging and forest clearance
- Pahiatua Track frequently used alternative route over ranges to the Wairarapa
- First large scale wind farm in New Zealand

Aesthetics and Recognition

- The northern-most extent of the Tararua Ranges
- Visual contrast between pastoral farming and plantation forestry and now wind farms



UNIT 19

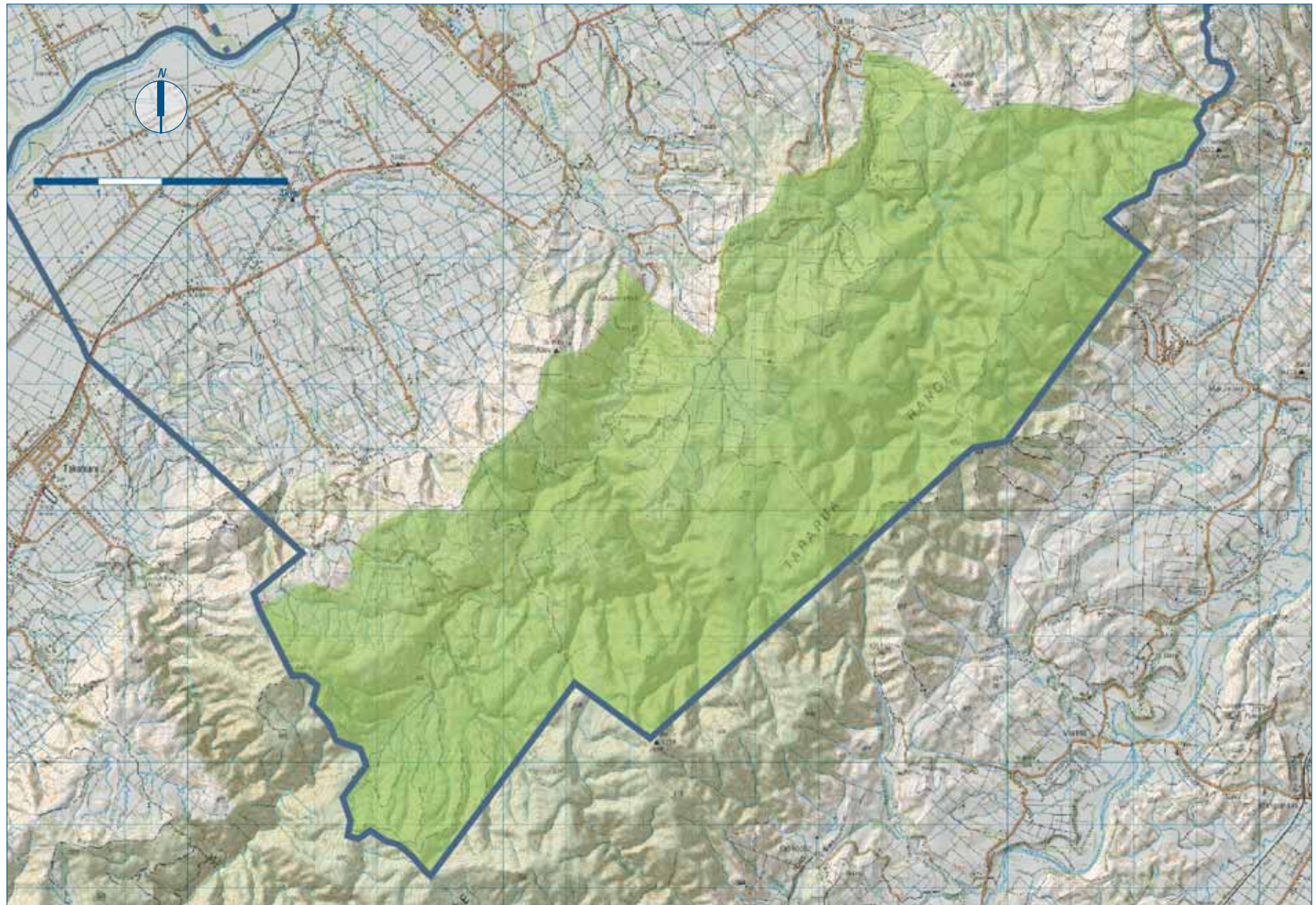
Tararua Heights Upper Catchment



SENSE OF PLACE

For the most part the unit is wild and rugged with limited access and a dense cover of indigenous regrowth typical of elevated and exposed sites on the Tararua Ranges. The patterns of vegetation reflect a history of logging with only remnants of the original cover remaining (in the Turitea Water Reserve), naturally regenerating indigenous forest on steeper slopes with patches of rough (reverting) pasture on easier lower slopes, and exotic forest plantations on the upper slopes and ridgelines accessible from Pahiatua Track and South Ridge Road.

There are substantial plantings of pines across more erosion prone areas and regenerating indigenous vegetation where grazing pressures are low or stock have been excluded. This unit provides the visual backdrop for the City, for both residential and rural residents. Council has identified the Kahuterawa Valley as the City's primary 'natural area'.



NOTE: Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

Community

- The outdoor recreation community (upper Kahuterawa)
- Residents district-wide,
- Local landowners
- Wind Energy Sector

SENSITIVITY TO CHANGE

	HIGH	LOW
Landscape complexity - topography	✓	
Landscape complexity - vegetation cover	✓	
Landscape complexity - modification	✓	
Visibility within the wider context (views in)	✓	variable ✓

LANDSCAPE CHARACTER DESCRIPTION

- Existing landscape character and that of much of the upper and top slopes of the northern Taranua Ranges reflects a history of tension between development for pastoral farming and the need to protect steeper slopes for soil and water purposes
- The remaining areas of indigenous forest in the upper Turitea catchment reflect the historic need to protect Palmerston North's water supply.
- Various areas of extensive pastoral farming on the flatter land in the western half of the unit
- Plantation forestry is found in the upper Kahuterawa catchment

VISIBILITY AND VISUAL AMENITY

- Not directly visible from the Manawatu Plains
- Unit accessible from upper Scotts Road, upper Kahuterawa Road, upper Greens Road and upper Turitea Road
- Visually enclosed/contained unit

DEFINING CHARACTERISTICS

- Two visually and physically isolated valley systems
- Extensive pastoral farming accessed from Scotts Road and from Kahuterawa Road
- Extensive areas of indigenous forest cover in the upper two-thirds of the Turitea catchment and further indigenous forest and pine plantation in the upper Kahuterawa catchment
- Unit extends south-west beyond PNCC boundary
- Kaihinu is a distinctive high point to the south of upper Scotts Road. Arawaru is the highest point at the southeast corner of the City

PATTERNS OF DEVELOPMENT

- Rural landuse with extensive pastoral farming and plantation forestry
- Energy production from wind turbines, a new landuse. Potential development of Turitea Wind farm to the north (decision released 2011) and the part of Motorimu Wind Farm to the south (consent voluntarily relinquished 2009)

ECOLOGICAL AREAS 2002

- Greens Road Bush rural forest remnant (28)
- Upper Greens Road scrub rural forest remnant (29)
- Upper Turitea catchment sizable mature forest (37)
- Kaihinu Bush sizable mature forest (38)
- Browns Flat wetland (50)
- Kahutewara Stream site 1 wetlands (54)
- Kahutewara Stream sites 2, 3 & 4 river site (59, 60, 62)
- Southeys Bush rural forest remnant (63)
- Kahuterawa Gully Bush sizable mature forest (72)
- Kahuterawa East reverting bush area (73)
- Kahuterawa West A reverting bush area (76)
- Kahuterawa West B rural forest remnant (75)
- Harding Park sizable mature forest (84)

LANDSCAPE ATTRIBUTES

Natural Features and Legibility

- Extensive areas of indigenous forest and forest remnants
- Two distinct valley systems
- Open connection to southeast and the bulk of Taranua Range

Cultural and Historic Associations

- This is the ancestral maunga of the Rangitaane iwi, a place where many spiritual and ritualistic practises occurred
- Lower/western extent cleared for pastoral farming

Aesthetics and Recognition

- High natural landscape values





PROGRESSING
**THE LANDSCAPE
STUDY**

STAGE 2:

ALIGNING LANDSCAPE VALUES WITH LANDSCAPE MANAGEMENT

This Stage 1 report provides baseline information describing the City's landscapes as objectively as possible. Each landscape unit has been characterised on a factual basis in terms of landform type and land use, and on the expert opinion of landscape architecture professionals in relation to patterns of development and the degree of modification and sensitivity to landscape change.

The report is designed to 'engage, inform, and assist' readers in gaining a broad overview of the city, how it is structured, and the diversity of landscapes which the community enjoys. To this end the 'Sense of Place' approach has provided a snapshot of each unit and its unique qualities, the people to whom it is important and, more value based, an indicative analysis of the landscape's sensitivity to change. The challenge for the council is to develop planning provisions that provide for landscape values and ensure that these are protected and sustained over time whilst still supporting the continuing and ever changing productive activities within these rural environments.

For 'landscape management' to make sense there must be an alignment of objectives for the landscape with those for land and water management generally, whether for productive or conservation purposes. Providing direction to the management and development of the city's landscapes requires a thorough understanding of the landscape's natural values and processes, how places within the city relate one to another, and how they function within an overall framework of waterways, hills and ridgelines.

Stage 2 will take the characterisation of the landscape further in order to ensure a robust basis for the Rural Review as well as the wider Sectional District Plan Review. Stage 2 will explore 3 themes:

- **Theme 1. Landscape Framework:** refining the landscape framework and incorporating statutory requirements.
- **Theme 2. Landscape Unit Values:** progressing the Stage 1 report by evaluating Landscape Units in terms of key values and assessing potential land use implications.
- **Theme 3. Land Use Study for Rural Residential Development:** mapping development opportunities and constraints in order to develop a draft landscape framework for rural residential development as part of the wider PNCC Rural Residential Subdivision Review.

It is anticipated that the three themes will run concurrently but will inform each other and feed into the Sectional District Plan Review consultation process. Outcomes from Stage 2 will be integrated into Stage 3 where preliminary development principles and options for managing growth will be developed.

A diagrammatic breakdown of the various stages of the Landscape Study and its interrelationship with parts of the Rural Review is provided in the adjacent diagram.

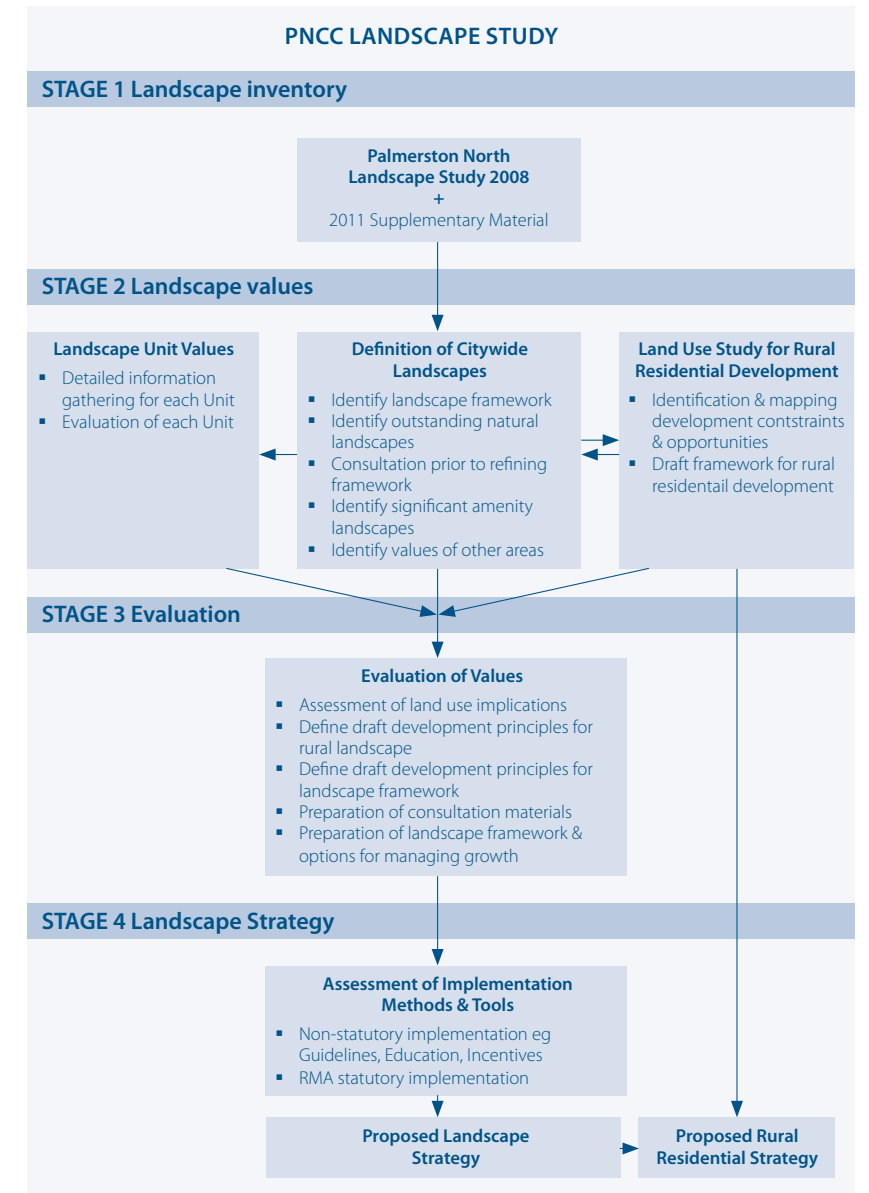


Figure 7: The various stages of the Landscape Study and its interrelationship with parts of the Rural Review

THEME 1. LANDSCAPE FRAMEWORK

For the practical purpose of establishing the basis for integrated landscape and resource management Stage 2 will commence with a strategic overview of the broader Palmerston North City landscape. Two preliminary conceptual frameworks have been defined and they will be refined in consultation with appropriate experts and stakeholders.

The first of the two conceptual frameworks, Figure 8 Natural Patterns includes:

- areas with significant resource and historic values
- areas with development constraints such as a tendency to flooding, and soils prone to water logging with poor percolation rates which is a particular constraint for rural residential development
- areas at risk from soil erosion, generally steeper areas
- water ways and permanent wetlands
- ridgelines and hilltops

Central to this framework will be water, the management of which is critical to both ecological and human health, as well as the ongoing resilience and productivity of the land. Also included in the framework will be the city's high quality soils, a scarce resource to be protected from the encroachment of activities detracting from their productive value. Retaining these soils in their present use will sustain not only their productive value but also the open space character of the Manawatu River landscape. The framework will encompass land in the public estate including all City parks and reserves, Department of Conservation land, QEII covenanted land, regional council land, and some private land.

Well-managed frameworks provide a wide range of benefits including high quality water, biodiversity, recreation, as well as high quality living environments and visual amenity. In Palmerston North City, the framework will give emphasis

to natural patterns and processes, and define the visual coherence and a connectedness across the landscape, linking the Manawatu River with its source in the Tararua Ranges. Areas not captured within the framework may be subject to fewer development constraints but nevertheless are equally important to the City's identity and 'sense of place'.

Most of the City's rural areas are in open pasture while others are more intensively used with a strong sense of enclosure and fragmentation. In assessing and attributing values to the various units during Stage 2 it will be important to recognise the relationship between areas within the framework and areas outside of it. While providing coherence across the landscape, the framework also contributes to the unique character and quality of each unit. The proposed Landscape Strategy must be able to express and manage this uniqueness within a coherent and unifying framework. The strategy must also enable the purpose and principles of the Resource Management Act to be met. Accounting for and managing the effects of activities requires a thorough understanding of the place within which an activity is proposed. In some places the values and sensitivities will be very constraining while in others it will be possible to successfully accommodate substantial change. In fact there will be 'degrees of constraint' in accordance with the relevance of the various matters set out in the Act.

The 'landscape framework' is indicative of those areas where constraints are likely to be greatest. This does not mean that development and new uses cannot occur within the framework and neither does it mean that areas outside of the framework are devoid of constraining resource values. The purpose of the 'framework' is to give expression to the Act's purpose at a landscape scale, accepting that there will be local nuances and a need for refinement as the 'landscape framework' is developed. The second of the two conceptual frameworks, Figure 9 Development Constraints, amalgamates the areas of constraint into one unified pattern.

Outstanding Natural Features and Landscapes (ONFLs), Significant Amenity Landscapes (SALs), and landscape attributes important to environmental quality will be identified and incorporated into strategies. From this strategy planning provisions will be developed and incorporated into plans, policies and consent processes as required by the Resource Management Act.

Relevant Legislation

The Resource Management Act sections 6 (b) & 7(c) provide for *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development as a matter of national importance and the maintenance and enhancement of amenity values as one of the other matters*. Some guidance on addressing these matters is provided by the decision of the Board of Inquiry that heard Mighty River Power's application for a resource consent to build the Turitea Wind Farm. This decision concludes that most of the proposed wind farm site is an outstanding natural landscape and that the skyline of the Tararua Ranges is an outstanding natural feature. The Board also acknowledged the significant amenity values associated with the foothills landscapes.

Horizon Regional Council's Proposed One Plan lists the Manawatu-Wanganui Regions outstanding natural features and landscapes. The list includes the 'The skyline of the Tararua Ranges' and 'Tararua Forest Park'. Also listed is 'The Manawatu Gorge'. The One Plan provides guidance, through assessment criteria, on the identification of further outstanding natural features and landscapes and concedes that the list that the plan provides is not necessarily exhaustive.

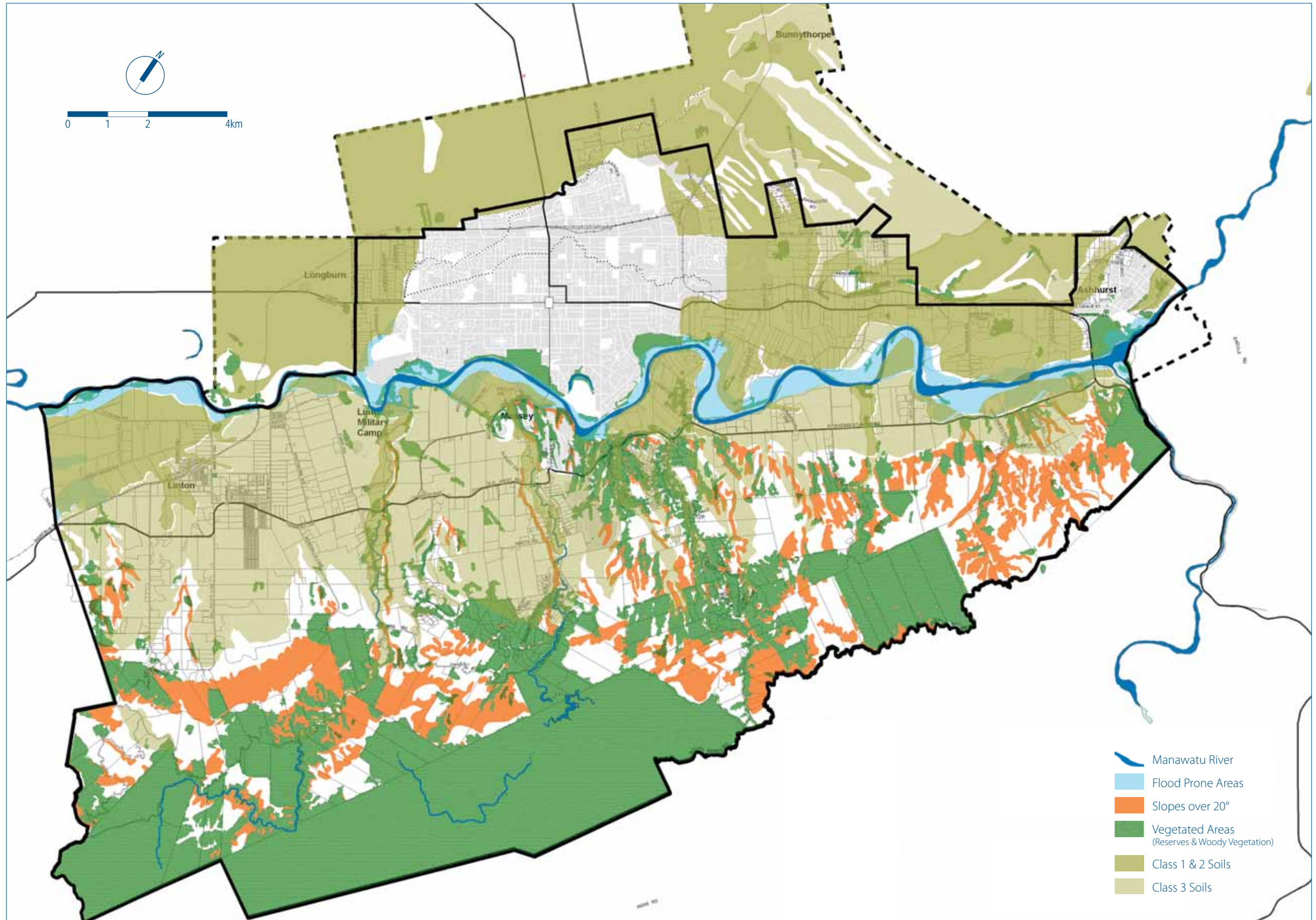


Figure 8: Natural Patterns

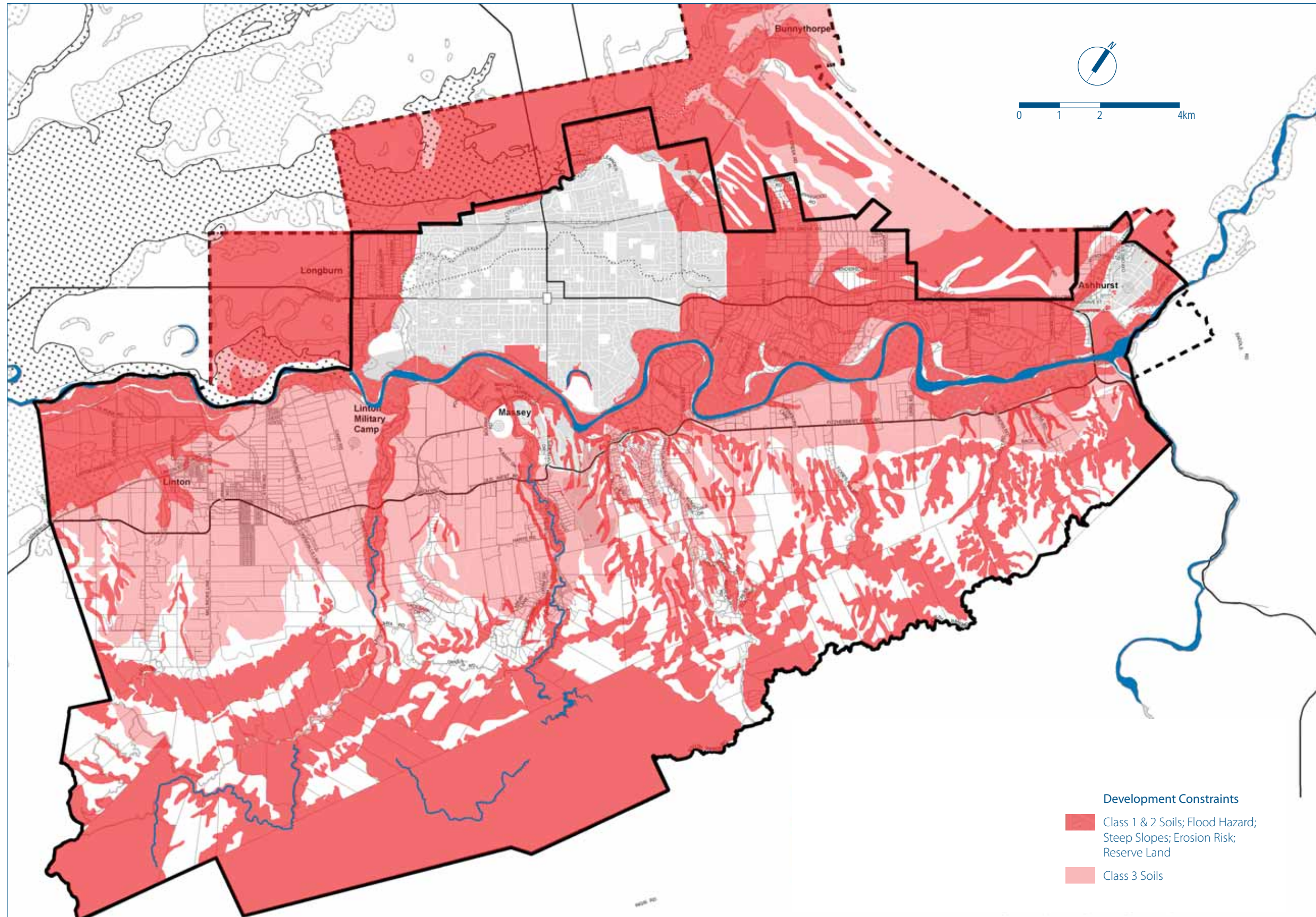


Figure 9: Development Constraints

Neither the Turitea Decision nor the Horizon's One Plan provides systematic assessments to define the boundaries of landscapes referred to. (They are not defined on maps.) The One Plan therefore requires Local Authorities within the region to undertake assessments to verify the listed landscapes and features, define features and boundaries on maps, and to add any features and landscapes that meet the criteria in the RPS. Such assessments might usefully identify areas worthy of recognition and enhancement, and areas vulnerable to adverse changes as significant amenity areas, a section 7 matter.

Another section 7 matter of relevance is *the maintenance and enhancement of the quality of the environment*. The definition of *environment* provided in the Act includes a wide range of values important to community wellbeing.

A further matter of national importance under section 6(c) of the RMA is *the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna*. A draft National Policy Statement (NPS) dealing with indigenous biodiversity is currently in preparation and once approved will have significant implications for landscape management.

The National Policy Statement for Renewable Electricity Generation was released in 2011, at the same time as the supplementary work for this report was being prepared. The policy focuses on enabling the sustainable management of renewable electricity generation. The policy acknowledges that development to increase renewable electricity generation can have environmental effects that span local, regional and national scales, often with positive effects nationally but adverse effects locally. This NPS requires that district plans include provisions to enable the development, operation, maintenance, and upgrading of new and existing renewable electricity generation activities. This has the potential to impact on the various approaches the District Plan uses to manage the hill slopes and upper catchments of the Tararua Ranges, given the qualities of the wind resource available.

The Operative Palmerston North City District Plan

Provisions in the current district plan: *Landscapes of Significance*

The operative District Plan (Section 17 Cultural and Natural Heritage) does not identify any landscapes of district significance, although at the time of preparing the RPS and District Plan PNCC commissioned a landscape assessment for the new 'kairanga' land (formerly part of the Manawatu and Oroua County Councils) located southwest of the Manawatu River, which identified 'the skyline of the Tararua Ranges' as being a regionally significant Outstanding Natural Landscape. This finding was duly submitted to Horizons Regional Council for inclusion in the RPS.⁸ Other landscape policy recommendations, included within this report, were not incorporated into the District Plan.

The Tararua Ranges are for the most part accepted as an Outstanding Natural Landscape (ONL). The Manawatu River Corridor is a very important unifying feature for the City, providing amenity for local residents and recreational opportunities for the wider community. This may well warrant consideration for special recognition in terms of section 7 of the RMA, both for its *amenity* values and for its contribution to the *quality of the environment*. Consultation with the community may identify other significant amenity features or landscapes, or viewshafts that warrant identification in the 2nd generation District Plan.

Also of relevance to considerations of landscape management (and the resilience provided by the recognition of a 'Landscape Framework'), is the 2010 Manawatu Accord, signed by the members of the Manawatu River Leaders' Forum to take action to improve the state of the Manawatu River. The Accord sets out a focus, vision, and goals for the river's future. Palmerston North City Council and Horizons Regional Council are signatories to the Accord.

Key action points in the Accord with implications for the Landscape Strategy include reducing sediment run-off from intensive land-use such as dairying and cropping, reducing sediment run-off from erosion prone farmland, and protecting areas of habitat for native fish, birds and trout. In terms of infrastructure the Accord recognizes the need for care in the development and management of the rural road network, particularly where there are major earthworks, and a need to minimize the adverse impacts of flood-control and drainage schemes.

*“Kei te ora te wai,
kei te ora te whenua,
kei te ora te tangata.*

*If the water is healthy,
the land and the people
Are nourished.”*

OURS Action Plan⁹

⁰⁸ Subsequently, the landscape was not formally included in the DP, presumably on the grounds that such a provision essentially duplicates the RPS (S 32 assessment).

⁰⁹ From the OURS Action Plan.

THEME 2: LANDSCAPE VALUES



Assigning values is clearly a subjective process; frequently local residents are best placed to know the vulnerabilities and sensitivities of the landscape they live in. Identifying and assigning values to the landscape units will be done through engagement with their respective communities in conjunction with professional experts and key stakeholders.

An assessment of each of the landscape units will inform thinking as to the specific environmental outcomes sought for each unit. It will assist in the process of determining which unit(s) warrants particular protection and/or development guidance and will provide guidance on determining implementation tools that can be used in the proposed Landscape and Rural Residential Strategies.

It is recommended that the following steps are taken before the values and importance of each landscape unit is established.

Information Gathering Recommendations:

- That the baseline information contained within this Stage 1 report be used to focus on clearly defining the particular values associated with each landscape unit. Through a process of consultation, the values of each of the landscape units need to be affirmed and any additional values identified.
- Consultation feedback must be supplemented with more specialized information. In considering the values associated with the wider landscape framework, as well as each of the landscape units, it is recommended that further technical input be sought from experts in the fields of soils, ecology / biodiversity, tangata whenua and heritage, social and cultural impacts, and economic values.
- That the national policy context and the priorities Central Government is placing on landscape attributes associated with Water, Biodiversity, and Renewable Energy be reviewed and their relevance addressed.

Value Weighting Recommendations:

- Prepare a methodology for evaluating the significance of landscape values within each of the landscape units in a local, regional, and national context, using appropriate criteria. For example, Horizon's Proposed One Plan includes criteria that have been accepted by the Environment Court.
- Undertake an evaluation of landscape units in order of priority as set by the council using an agreed methodology. Priority should be given to units that are the focus of development pressures or are vulnerable to adverse natural events such as erosion and flooding.

THEME 3: LAND USE STUDY FOR RURAL RESIDENTIAL DEVELOPMENT

The Council is undertaking a sectional review of its district plan, staged over 5 years. The first stage includes a review of the Rural Zone provisions, including rural residential subdivision and wind farm policy.

The need for the rural residential subdivision review has been highlighted by recent development pressures, controversy over the extent and location of the existing rural-residential subdivision overlay, and the potential impact of residential development on farming activities and landscape values. It has become evident that strategies to guide future rural residential development need to be responsive to natural patterns and processes, provide for the widest possible range of community needs, and not be inconsistent with Council's long term growth strategy.

It is proposed that a high level strategic study be undertaken looking at where and how rural-residential land uses should most appropriately occur for a period of 20 or more years. Strategic land use studies for other activities dependent upon, and affecting the supply of land such as industrial and residential growth, have recently been completed or are underway, e.g. the Joint Industrial Land Review, Palmerston North-Manawatu Joint Strategic Transport Study (JTS).

Existing rural-residential land uses and past, present and future trends need to be understood. In addition, the current best practice planning provisions relating to rural residential land use will be researched. Agreed landscape values will be fed into the defining development principles for rural residential land use, as part of the Land use Strategy.

Currently approximately 41% of the Rural Zone is covered by the rural-residential subdivision overlay. This is understood to be a consequence of the permissive, effects-based approach applied in the Rural Zone of the District Plan. The current extent of the overlay is based on a coarse screen methodology, linked to soil quality and site-specific considerations rather than a consideration of all the relevant resource management constraints. Rural-residential subdivision

consents approved under the current District Plan framework have highlighted a number of resource management issues including:

- the potential for low density urban development to extend into areas inappropriate for such growth;
- an increased desire for urban services in the rural environment;
- the ad-hoc provision of infrastructure, in particular upgrades to local road networks;
- the effectiveness and suitability of on-site wastewater treatment systems (septic tanks), particularly with regard to best practise engineering design for effluent and stormwater disposal responsive to site/soil conditions;
- potential effects on the overall productivity of the rural zone;
- the premature subdivision of rural land that may be suitable for future residential growth;
- effects on rural amenity and local landscape features;
- reverse sensitivity (complaints from new rural residents about existing rural activities, effects of development on nationally strategic infrastructure); and
- increasing difficulty in some areas reconciling lot layout/building design with effluent disposal requirements to achieve satisfactory landscape and visual amenity outcomes.

Other strategic studies have taken place, or are underway, including Residential Growth, Industrial Land Use and the Regional Land Transport Strategy. In developing its strategy for future rural residential development the council will review the extent and location of the current rural-residential overlay (and/or propose an alternative planning mechanism) within the revised district plan.

For example the proposed One Plan prescribes a minimum lot size of 5,000m² for rural lots to ensure sites can adequately deal with on-site effluent. This could be considered a 'blunt stick' approach and Council may commission further work to assess the practical feasibility of identifying areas where development meeting the range of market demands can be accommodated.



LOOKING AHEAD TO STAGE 3 AND 4 OF THE LANDSCAPE STUDY

The **Stage 3** evaluation will integrate landscape values arising from the three Stage 2 themes, initially by mapping the existing land uses within each landscape unit, and then identifying the opportunities and constraints for new uses. This will establish the landscape implications of changes in land use and the effects on critical values. In light of the opportunities and constraints for various land uses, it is appropriate to consider the availability of land for future uses such as rural-residential development and new wind farms. Part of this task will be to examine the sources of conflict arising with large-scale developments and reverse sensitivity effects.

This information will be used to outline a set of draft development principles and a development scheme for the Rural Zone, aligned to the conceptual landscape framework. The opportunities and constraints will then be assessed in line with current District Plan provisions and other non-statutory protection mechanisms currently being used, and an assessment made of their effectiveness. Any commonalities or disparities between existing zonings and the revised landscape units will be noted.

This material will enable the city to prepare preliminary options for managing rural residential growth and to engage in consultation.

Stage 4 will provide Council with a more strategic approach to landscape management. It will start with a review of the range of implementation methods and tools used throughout New Zealand for rural landscape management, as well as an assessment of current best practice. The review will encompass both District Plan implementation methods and the potential range of less regulatory mechanisms such as guidelines, incentives and resident/council partnerships. There is also potential for the Objectives and Policies for the Rural Zone to be modified to better respond to identified values and processes.

The fundamental challenge in managing the landscape and environmental qualities that communities enjoy is to ensure that all activities are managed in an holistic way. This means that all effects on the critical values and processes underpinning the landscapes values and qualities need to be accounted for. Taking a more strategic approach to landscape management therefore involves greater recognition of critical values and processes and ensuring that activities are integrated in a way that respects and enhances them.

The objective of the Landscape Strategy is to move beyond judgments about activities per se and provide direction to where various activities are best located within the wider landscape and how they can be managed and designed to 'fit' within the chosen setting.

TERMINOLOGY AND DEFINITIONS

The Rural Review will use generally accepted terminology and will adopt approaches to and criteria for assessment that have been promoted by the NZ Institute of Landscape Architects and accepted by the Environment Court. The approach outlined in Horizons Proposed 'One Plan' is generally consistent with that accepted by the court.

DEFINITIONS

Environment¹⁰ includes:

- a. Ecosystems and their constituent parts, including people and communities; and
- b. All natural and physical resources; and
- c. Amenity values; and
- d. The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.(as defined in the RMA

Landscape¹¹ is the cumulative expression of natural and cultural features, patterns and processes in a geographical area, including human perceptions of and associations with these.

Landscape is the cumulative expression of natural and cultural features, patterns and processes in a geographical area, including human perceptions and associations.

Landscape attributes comprise biophysical features, patterns and processes; sensory qualities; and spiritual, cultural, and social associations, including both activities and meanings.

Landscape amenity is the natural and physical quality and character of an area (landscape) that contributes to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes (RMA 1991).

Landscape character: the distinctive combination of landscape attributes that give an area its identity including slope, soils, geomorphology. These in turn dictate landuse.

Landscape value derives from the importance that people and communities, including tangata whenua, attach to particular landscapes and landscape attributes.

Landscape evaluation is the process of identifying and/or comparing landscape values.

Landscape patterns: the patterns of the landscape and all landscape types are strongly influenced by the geology and associated topography, the natural process of water movement, and the location of shelter belts and settlement.

Landscape processes: on-going changes to the landscape, the outcome of water movements, wind, vegetation growth and indigenous regrowth, erosion and changing land use.

Landscape resilience: the ability of a landscape to adapt to change whilst retaining its particular character and values. A more complex landform and vegetated landscape has greater resilience.

Landscape sensitivity is the degree to which the character and values of a particular landscape are susceptible to the scale of external change.

Natural Landscape has been defined by the Environment Court as being something which is a 'product of nature'. It therefore includes pasture and exotic tree species but not man-made structures. A landscape with man-made structures may still have a degree of naturalness but it will be less 'natural' than an unaltered landscape or a landscape without structures.¹²

Natural Character is the expression of natural elements, patterns and processes in a landscape.

Rural Character means the distinctive combinations of qualities which make an area "rural" rather than "urban". These include the dominance in the landscape of natural vegetation and pastoral regimes and the absence or subservience of man-made structures other than those related to primary production or to activities, including rural residential living, for which provision is made in the District Plan applying to that area.¹³

¹⁰Definition from the RMA.

¹¹All other definitions from NZILA Best Practice Note. *Landscape Assessment and Sustainable Management*.

¹²Pearl, Raewyn. *Landscape Planning Guide for Peri-urban and Rural Areas*. EDS 2005.

¹³North Shore city District Plan.

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The Palmerston North City Council District Plan Section 17: Cultural and Natural Heritage

- Appendix 17A Schedule of Buildings and Objects of Cultural Heritage Value
- Appendix 17B Schedule of Objects and Sites of Cultural Heritage Value to Tangata Whenua
- Appendix 17 C Schedule of Notable Trees, Groups of Trees and Areas of Significant Indigenous Vegetation

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APPENDIX 1

CONSULTATION AND FEEDBACK

Tanenuiarangi Manawatu Incorporated (TMI), the mandated iwi authority for Rangitaane o Manawatu, was provided with a copy of the draft descriptions of the landscape types and units and was encouraged to review these and comment on the cultural and historical associations listed for each landscape unit.

As a 'starting point' for establishing what values the community within the City places on its landscape, as well as what issues are confronting the management of that landscape, a public Open Day was held in 2008 to present the draft landscape descriptions and unit map. It also provided the public with the opportunity to provide feedback on the features they value within each of the landscape units identified.

There were a number of consistent themes to the feedback:

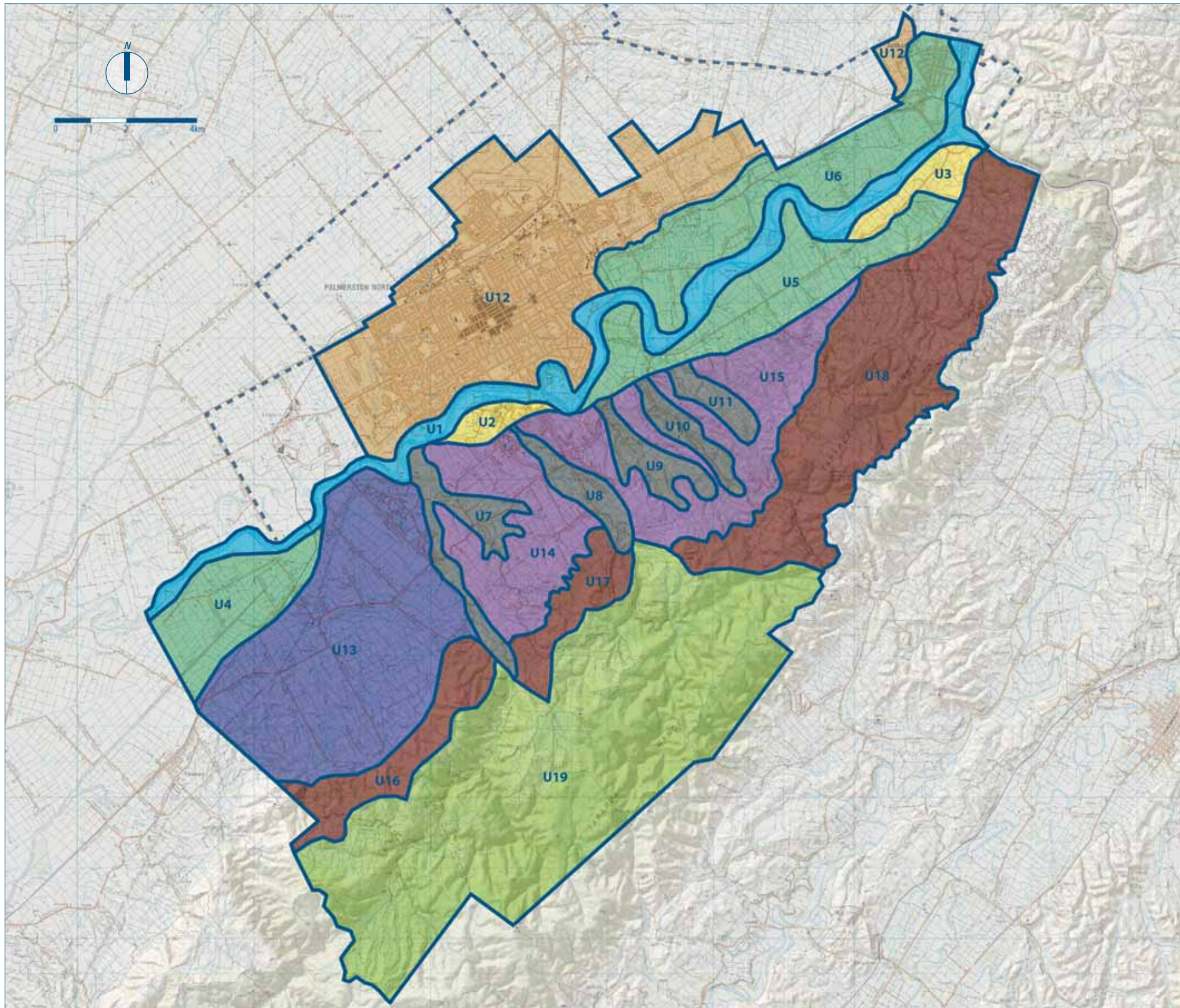
- The significance of the Tararua Ranges as a landscape feature
- The protection of high quality soils
- The need for recognition of iwi values
- The strong desire that the 'sense of place' of particular parts of the City landscape is recognised, and
- A desire to curb further wind farm development

Little comment was made about changes that are already happening in the Rural Zone, such as increasing rural-residential development or the expansion of large scale industrial activities on the edge of urban Palmerston North (North East Industrial Zone), but this may reflect the limited participation in this initial round of public consultation.

Subsequent to the Open Day in 2008, specific comment was received from TMI and incorporated into the landscape unit description sheets under the heading "Cultural & Historic Associations." Various specific suggestions and amendments (which were received in the feedback sheets from the Open Day) were also included in the data sheets, at this time.

Further information on the ways in which communities and interest groups value and enjoy the City's landscapes has been provided through submissions made on the Horizons 'One Plan' and submissions to the Board of Inquiry Hearing for Mighty River Power's Application for a Resource Consent to build the Turitea Wind Farm. In both processes, there were a large number of submissions stressing the importance of the landscape and the amenity values of the Turitea Ranges and foothills and wishing to see some statutory protection for these features, under the provisions of the Resource Management Act.

In summary, the submissions were focused at two scales, at the scale of the wider city landscape and at the more local scale where rural communities living in the Tararua Foothills enjoy particular amenity values, some of which are shared with recreational users of the Turitea and Kahuterawa Valleys.



LEGEND

- U1** Manawatu River
- U2** Fitzherbert Bridge
- U3** Manawatu Bridge
- U4** Linton Drain
- U5** Fitzherbert East
- U6** Te Matai Flats
- U7** Lower Kahuterawa
- U8** Turitea Valley
- U9** Moonshine Valley
- U10** Lower Pahiatua Track
- U11** Aokautere Stream
- U12** Palmerston North City
- U13** Linton Flats
- U14** Central Elevated Flats
- U15** Northern Elevated Flats
- U16** Te Mata Slopes
- U17** Ngahere Park Slopes
- U18** Forest Hill Slopes
- U19** Tararua Heights

Indicative future city boundary

NOTE:

Unit boundaries are indicative only, and will be refined and clarified in Stage 2 of the Landscape Study

The Stage 1 inventory describes the landscape type, irrespective of its underlying planning zone. This map encompasses the entire area of Palmerston North City. Individual unit maps therefore do not differentiate between planning zones; the landscape character descriptions cover rural and residential areas



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