

Council Strategies and Plans

Innovative and Growing City Strategy
Eco City Strategy
Infrastructure Strategy
City Growth Plan
Economic Development Plan
Infrastructure Strategy
Transport Plan

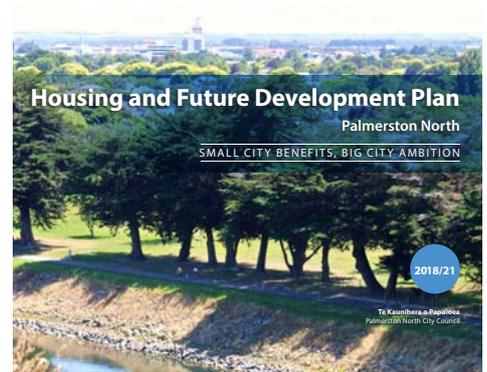
Palmerston North has a buoyant economy, and the Council has set a goal of 12,000 new jobs by 2028. Palmerston North's largest employers are education, agriculture research, health care, social services and logistics. Although tertiary student numbers dropped recently, all sectors including education have potential for significant expansion. In addition, government investment is set to increase. This includes major transport infrastructure projects and new Defence Force operations at Linton and Ohakea.

Population increase is lower than would be expected, given recent expansion in the city's workforce. This disparity suggests a widening labour market catchment for Palmerston North with a greater proportion of workers (now almost 20%) commuting from elsewhere in the region.

The council would prefer an expanding workforce to reside locally. However, the necessary housing construction needs to be carefully planned. Palmerston North people value living in a compact city with a strong centre. The council is committed to protecting agricultural production on high-quality soils in surrounding rural areas. Because there are few geographical constraints on urban expansion, growth needs to be actively managed. By using District Plan regulations and controlling the location of new infrastructure, the council can direct residential development towards appropriate locations like Aokautere.

Historically, most of Palmerston North's new residents were housed in greenfield subdivisions. Today, the council takes a multi-faceted approach to growth. It aims to raise overall density, increase choice and allow more people to live close to centres where services and amenities are readily available. In future, greenfield suburbs like those at Aokautere will provide little more than half the city's new housing. As much as one third of all new dwellings will be supplied by multi-unit developments and infill, including apartments and minor dwellings. As part of this strategy, the council will encourage redevelopment of public land, brownfield sites and underutilised commercial properties in the central city.

Rural residential properties – or lifestyle blocks – will continue to make a small contribution to the city's housing supply (approximately 12%). Although fragmentation of farmland is discouraged, the District Plan recognises that lifestyle blocks are a legitimate housing choice. Capacity exists for more of these properties in the foothills of the Tararua ranges. However, the council discourages the provision of reticulated services in these locations. Such services remove the distinction between urban and rural conditions and create expectations about further intensification. The council aims to match new housing to present and future accom-



modation needs. Infill housing and the redevelopment of brownfield sites can retrofit existing areas with a wider range of housing options. However, the trend towards smaller more diverse households means that greenfield developments should also contain some compact units and a range of dwelling types.

Proactive planning and innovative design are necessary adjuncts to higher densities and a more complex urban fabric. Accordingly, the council has taken an increasingly design-led approach to decision-making, applying urban design principles and multi-disciplinary thinking to all major projects and initiatives. As part of this proactive stance, the council aims to work closely with the development community rather than – as previously – focusing solely on the planning framework and “just-in-time” provision of new infrastructure.

One example of this approach is the council’s sponsorship of a Structure Plan for privately-owned land at Aokautere. Another is the council’s intention to “front-foot” provision of infrastructure so that the city can be more receptive to growth.

The Council’s Eco City Strategy states: “The Manawatū River is the geogra-

phic, recreational, and spiritual heart of the city and the wider region.” Objectives for improving the mauri of the river include re-establishing wetlands, restoring ecologies and introducing a more sustainable approach to the management of stormwater. As far as stormwater is concerned, the city needs to find alternatives to underground reticulation. New subdivisions should provide for the controlled release of naturally treated run-off into local waterways.

The Manawatū River Framework contains a suite of projects that will increase active and passive recreation along the river corridor. This programme is allied to the revegetation of gullies and the creation of “Biodiversity Corridors” between the river and the Tararua ranges. Predator control in the Turitea Reserve shows how biodiversity might be improved elsewhere within the Manawatū River catchment. The council intends to extend the Biodiversity Corridors into neighbouring gullies and streams, thereby creating a network of green links between the Turitea Reserve and the river. Planting the gullies will also reduce erosion and improve water quality. These initiatives are supported by a tree-planting programme in city streets and parks. One of the aims of these projects is to boost the food supply for native birds.

Two of the council’s strategic partners are located south of the river. Massey University and associated research institutes form a super-campus at Turitea. The Linton Army Base forms a separate enclave further to the east. Initiatives at Turitea campus include traffic calming and an improved “front door” on Tennent Drive. Linton is to become a national logistics centre for the Defence Force. The Army Base is also a possible link in a new regional ring road.

Linton and Turitea are the subjects of separate masterplans. In combination with Aokautere’s plan, these initiatives mean that most of the city’s southern flank has been the focus of design-led strategic thinking. Linton, Turitea and Aokautere differ markedly in character and function. They are also spread across 6km of broken terrain. However, all three areas adjoin the Manawatū River, and - as the river corridor becomes more important - this connection helps to form a coherent urban identity.

2.3 Local Context

Access & Movement



Palmerston North City Council's Street Design Manual (2013) establishes the desirable future character of streets.

In addition, Waka Kotahi's One Network Framework (ONF) categorises New Zealand's roads based on movement patterns, related activity and place-based character. A route's classification depends in part on whether it connects to important destinations; and whether it is the only route available. Five ONF categories are particularly relevant to Aokautere:

- Urban Connector
- Local Street
- Activity Street
- Rural Connector
- Peri-Urban Road

For the Aokautere area, relevant Street Design Manual typologies include Residential Local, Residential Collector, Residential Arterial and the Rural street types. These should inform the design of future street types for the Aokautere Masterplan as set out in Part 3 of this report.

Council has yet to align its own street classification with ONF. So, Pacific Drive is designated as a Urban Connector in ONF and as a Residential Collector in the Street Design Manual.

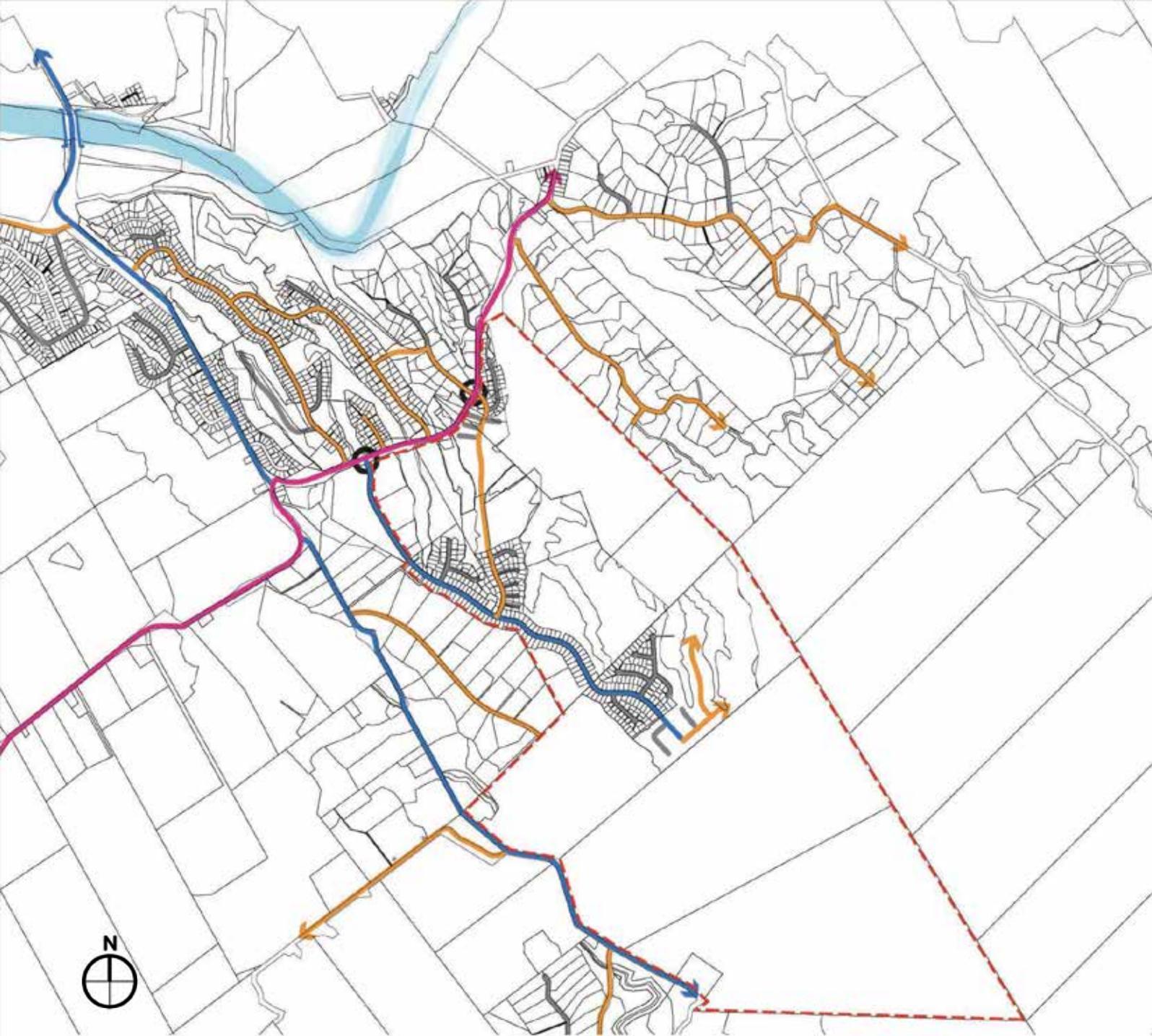
Both categories identify Pacific Drive as a street that has links to arterials but also facilitates circulation within a residential area.

There is a need to manage through traffic and high levels of pedestrian amenity; to carry public transport; and to function as a gateway to residential areas. There is also an expectation that separate cycling facilities will be provided. It is clear that some of these outcomes are not present under current conditions. However, all outco-

mes should be delivered through the masterplan.

Public transport (local buses) connect to Summerhill and to the IPU tertiary institute. However, at present these do not extend further into the Aokautere area. This is a matter for the masterplan to address in consultation with Horizons Regional Council and PNCC.

The following bullet points identify key movement issues for Aokautere:



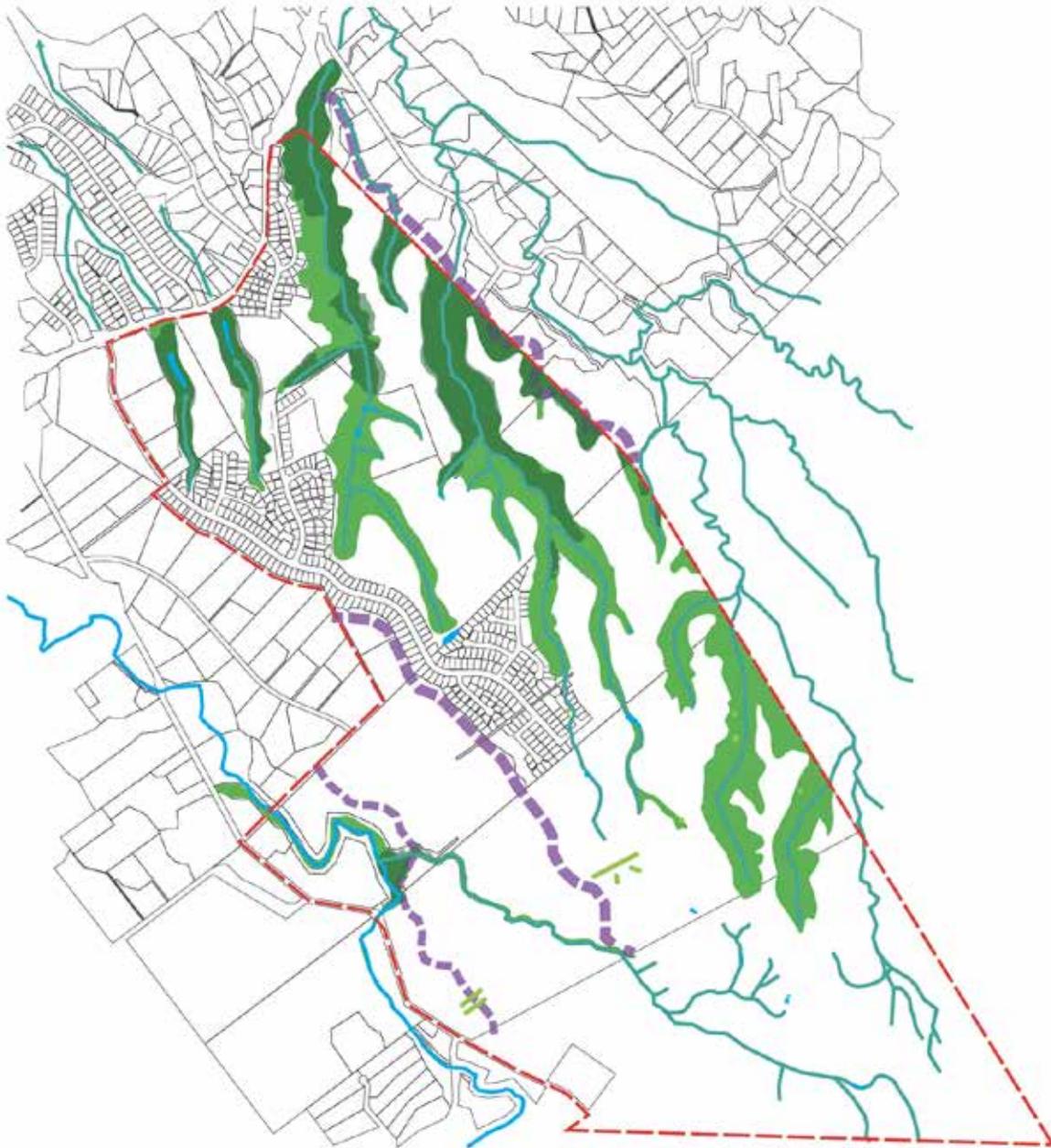
- Extend Waka Kotahi's ONF into the Aokautere area to access future development;
- Reflect PNCC's Street Design Manual guidelines in the design of new streets;
- Retrofit the existing Pacific Drive street space to deliver improved pedestrian, cycleway and street tree amenity;
- Consider the volume of traffic movements at intersections with SH57 as a result of residential growth (PNCC/Waka Kotahi);
- Extend the public transport (bus) network into the masterplan area offering access choices;
- Connect the street networks of existing and future development to minimise cul-de-sac conditions and offer permeability and ease of movement; and,
- Consider better connections between the Turitea Valley and the upper terraces of Pacific Drive.



Landscape Character

Aokautere is distinguished by its unique landscape of water-cut gullies, which have carved the land into a series of plateaus. This highly legible landscape pattern is further defined by the relatively undeveloped nature of the gullies with their dark green threads of vegetation. These contrast with more conventional rural and residential uses on the elevated plateaus.

A landscape-led development approach requires the coherence of gullies and plateaus to be maintained. This implies restricting development in the gullies, sustainably managing stormwater, and restoring gully vegetation. The approach requires public access to the gullies. It also demands high-amenity streetscape, which includes stormwater and planting that is functionally linked to the gully system.

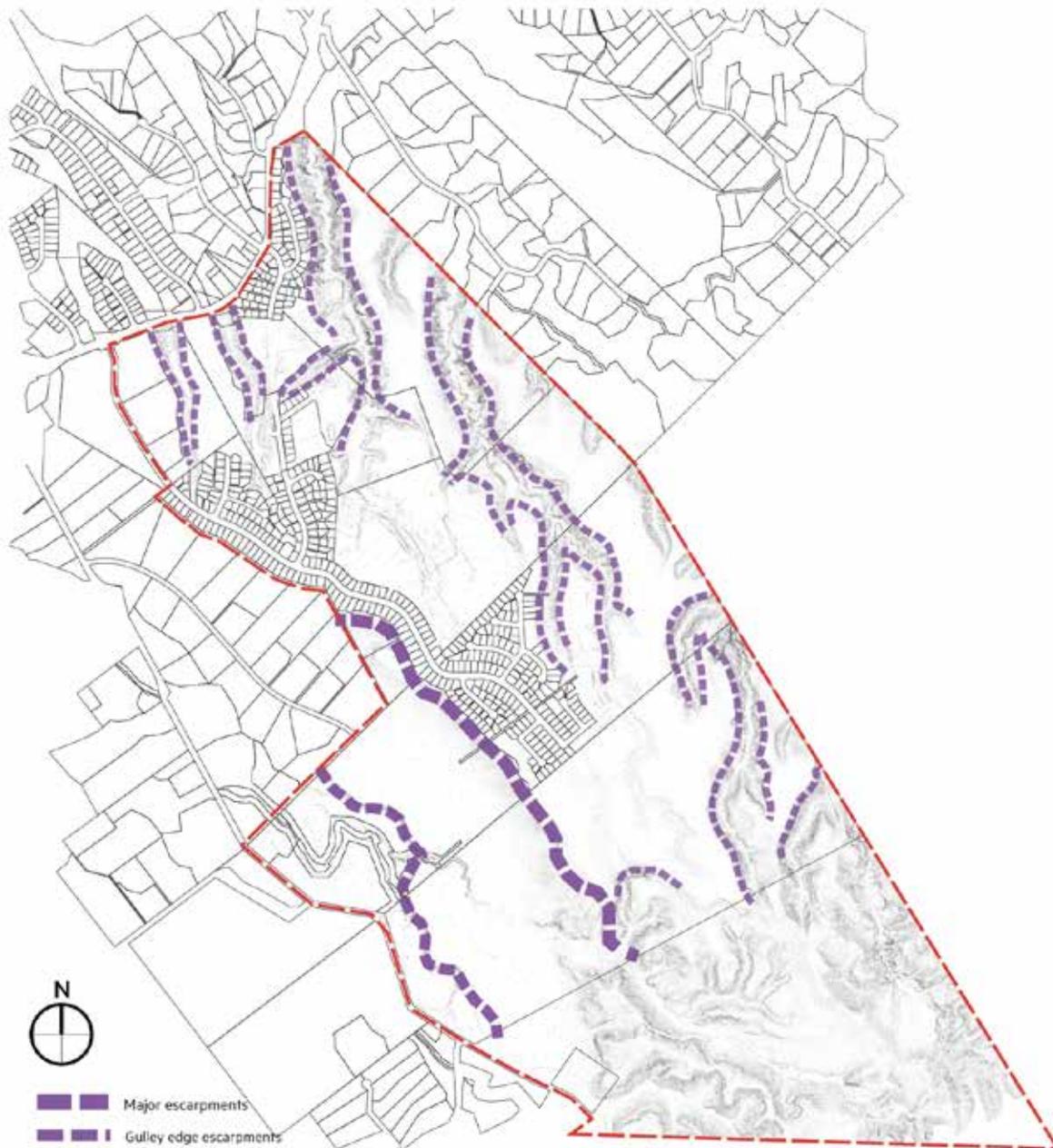


Recreation Network

Several of the gullies in Aokautere form part of the city reserves and open space network. These vegetated areas create a sense of openness and interest and contribute to the recreational opportunities that Aokautere is valued for.

A network of existing public walkways meander alongside some of the vegetated gullies. These walkways provide

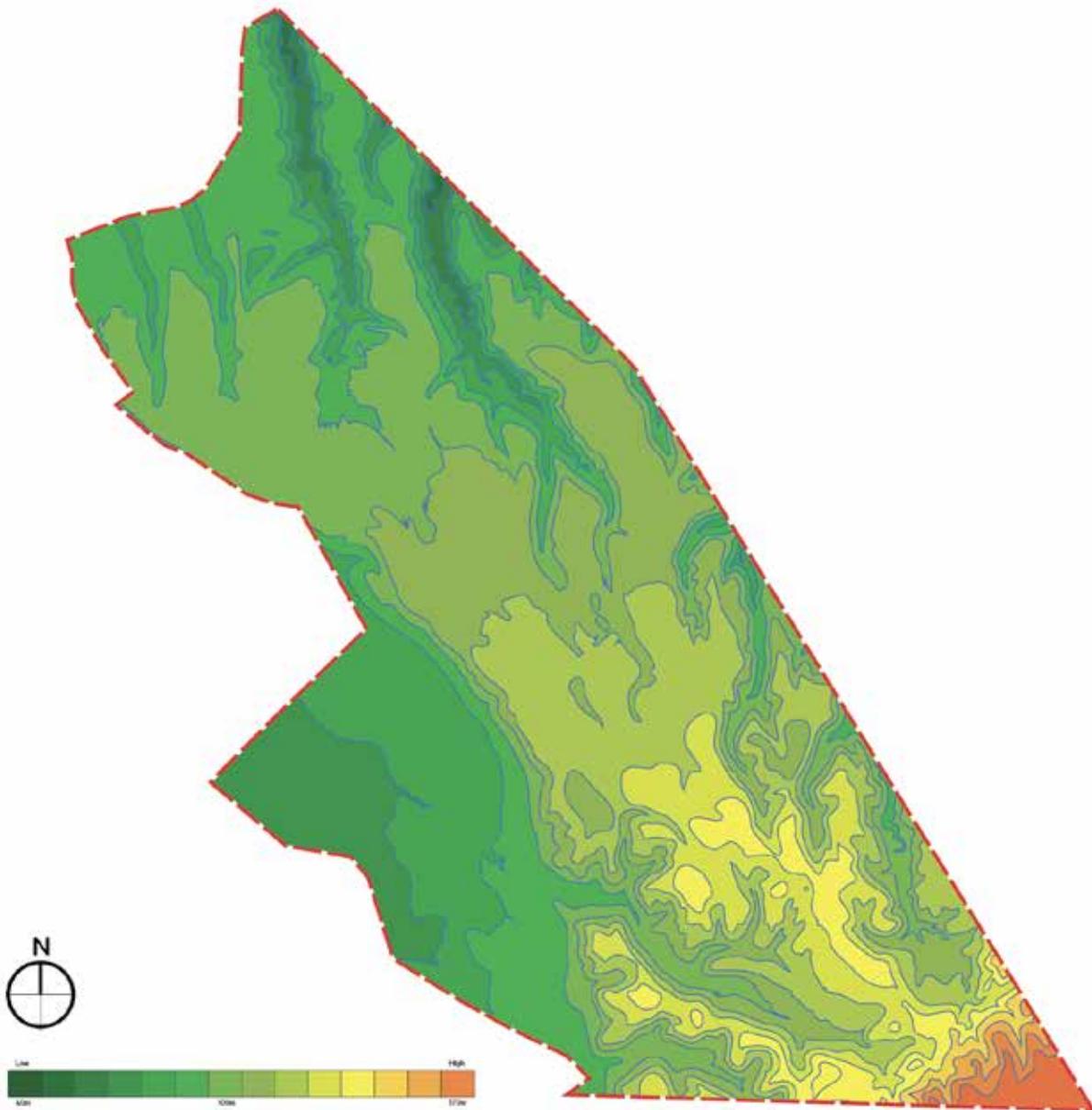
secondary access for pedestrians through to neighbouring parks and to areas of development within Aokautere. They also provide a means for experiencing the natural landscape. The area's recreational pathways are yet to reach their full potential. There is scope to extend the network and improve pedestrian and cycling connectivity throughout Aokautere.



Land Form_ Escarpments

The masterplan area features a complex pattern of escarpments with clearly defined top-of-escarpment edges. These include major escarpments that are visible from beyond the study area (see views analysis later in this section) and gulley edge escarpments that define the tops of the water-cut ravines. Visibility of gully escarpments is generally limited to views within the study area and from the plateaus that run between the gullies.

Escarpment edges play an important role in manifesting the Site's topography. Along these edges, the physical association between plateaus and gullies is most apparent. Future development should respond sensitively to the escarpments, ensuring that public visibility and connectivity to the gully landform becomes an integral part of overall spatial structure.



Land Form_ Elevation

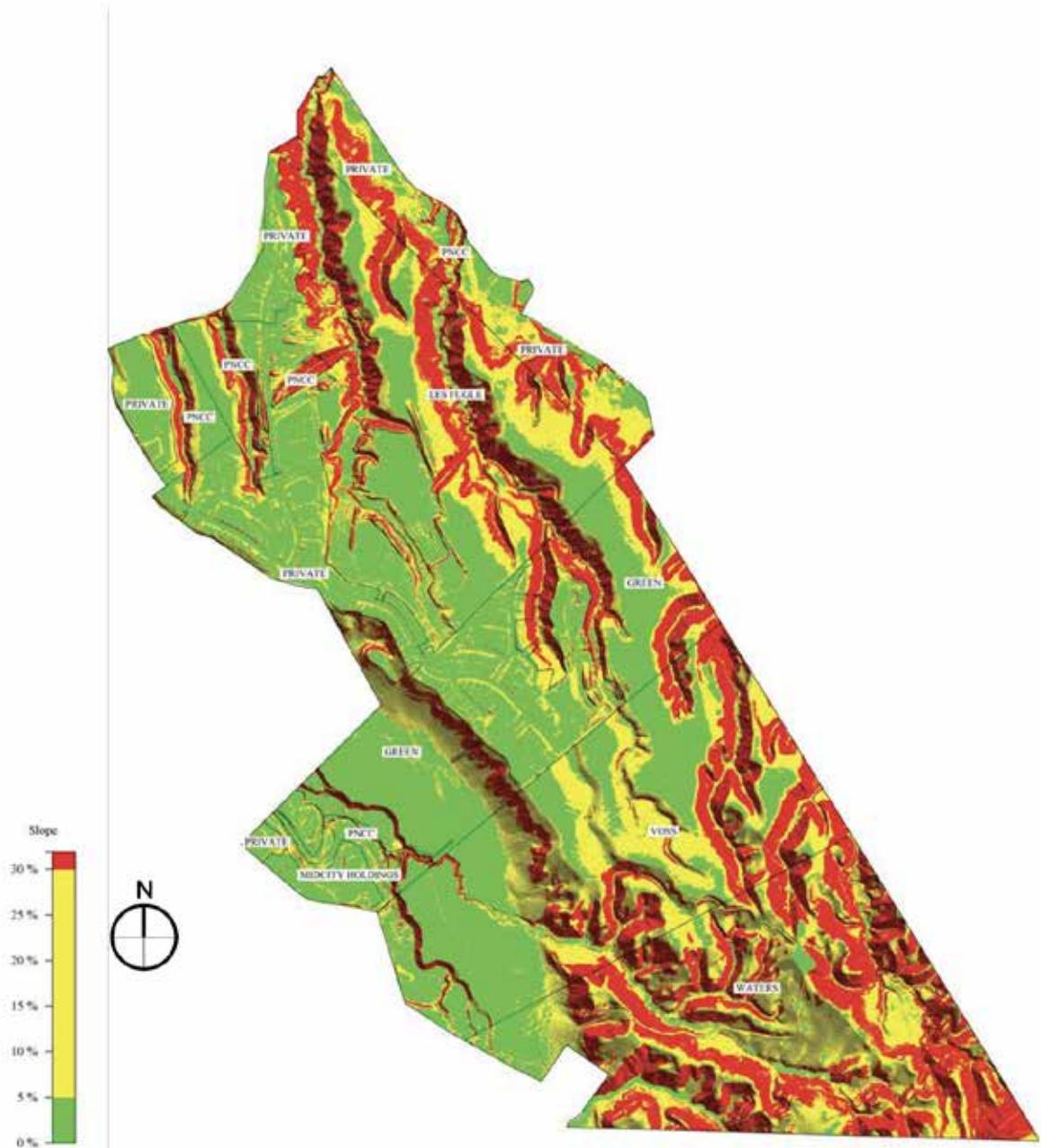
Aokautere comprises a complex series of plateaus, incised by a network of gully and stream systems that feed into the Manawatū River. These gullies are an essential element of the area's character and a defining feature of Aokautere.

They help to distinguish it from other areas of Palmerston North, which are flat and undissected. It is essential that the legibility of this highly distinctive

pattern of plateaus and gullies is protected and enhanced where possible.

This unique land form can be respected by ensuring that development is restricted to the plateaus and visibility of the gullies remains available from public roads where possible.

This strategy allows the gullies to be appreciated for their natural characteristics. It also enables them to be used for recreation.

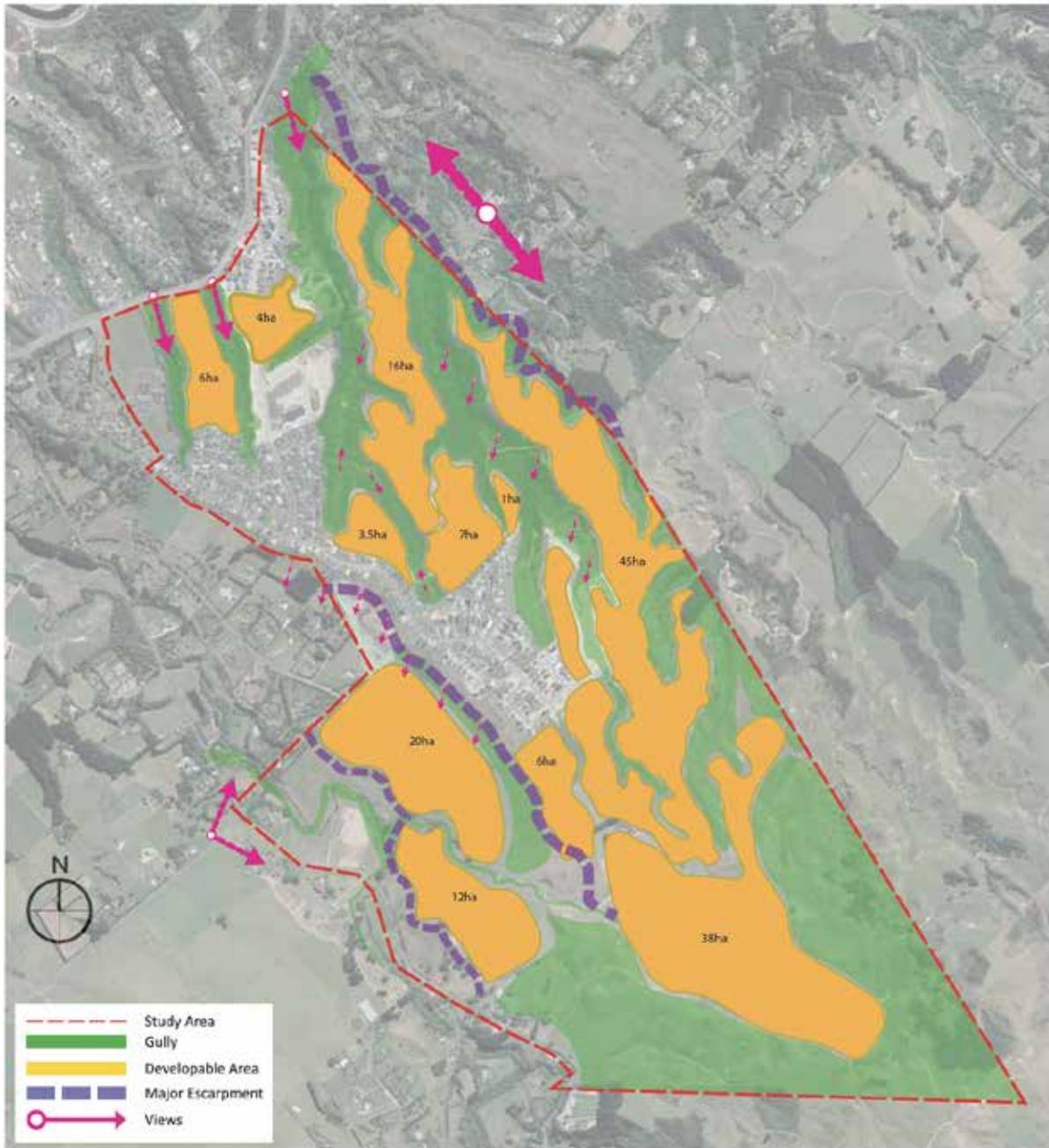


Source: Tonkin + Taylor

Slope Conditions

The landscape is typified by plateaus interspersed with steep sided gullies, some of which contain escarpments. These areas of steep land have the potential to restrict high levels of connectivity. However, there is an opportunity to create recreational trails through the gullies. Such routes increase connectivity by introducing strategically placed gully crossings. Slope conditions will direct development. Steeper slopes require buffer setbacks to protect sensitive

gully areas from stormwater runoff. A 5m buffer is recommended along the top of slopes that have a gradient of 25% or more. These buffers will form a perimeter around the tops of gullies and in this zone, development is not recommended. Cut-offs and additional setbacks may be required to reduce the risk of landslips. The volume and velocity of surface runoff on the plateaus will need to be addressed to prevent erosion issues within the gullies.



Strategic Views & Site Visibility

Views from Aokautere take in expansive rural vistas as well as the mountainous backdrop of the Ruahine and Tararua Ranges. The plateau and gully system of Aokautere creates a unique visual element within the Site. Together, these scenes contribute to the sense of place that defines Aokautere. It will be important to maintain public views of the gullies, either by ensuring public accessibility or by preserving

viewshafts. Without protection, there is a risk that character-defining features are privatised. Aokautere is visible from several adjacent areas. From Moonshine Valley, views of the Site are characterised by a major escarpment and a rural plateau. From Turitea Valley, the outlook is more mixed. It includes residential development, rural elements and vegetated gullies. All three conditions are visible from SH57.



Ecology

Pre-human vegetation is predicted to be tawa-rimu forest on the elevated terraces and hill country with native conifer forests in the gullies. The vegetation today has regenerated following clearance. Therefore it is secondary vegetation rather than primary forest.

There are nine gullies in Aokautere with various ecological attributes.

The health and vitality of the gully system contributes to the life-supporting capacity of the Manawatū River. It also provides habitat corridors for wildlife and contributes to the amenity of Aokautere.

These gullies have been attributed different levels of ecological restraint from low to very high. Very high levels of ecological restraint indicate areas



that are unsuitable for development. One gully on the mid-eastern boundary has been identified as having very high ecological restraint. It contains mature kānuka forest which is a Threatened Ecosystem type in One Plan and has a threat ranking of Threatened-Nationally Vulnerable.

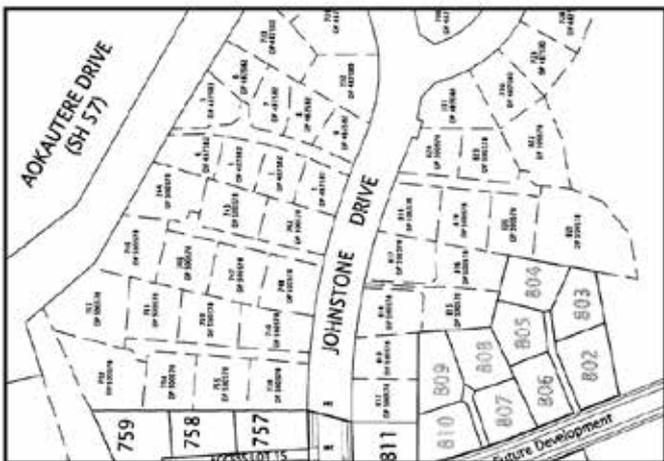
There is a mixture of permanent and ephemeral streams in the gullies. Per-

manent streams are attributed a high level of ecological restraint. In some places, there is extensive bank erosion, sedimentation and perched culverts.

The gully system would benefit from ecological restoration work, including: restorative native planting; connectivity with the wider ecological system; and sustainable stormwater management.

Water sensitive design (WSD) offers one way to achieve this. WSD protects natural features and incorporates them into stormwater management. It also has the potential to enhance the amenity and biodiversity of streetscapes. Planted swales, raingardens, permeable surfaces and detention ponds are typical features used in WSD.

Existing Land Use Patterns

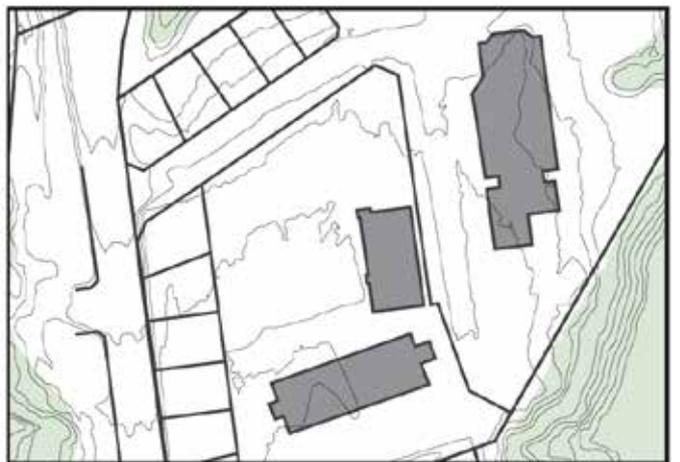
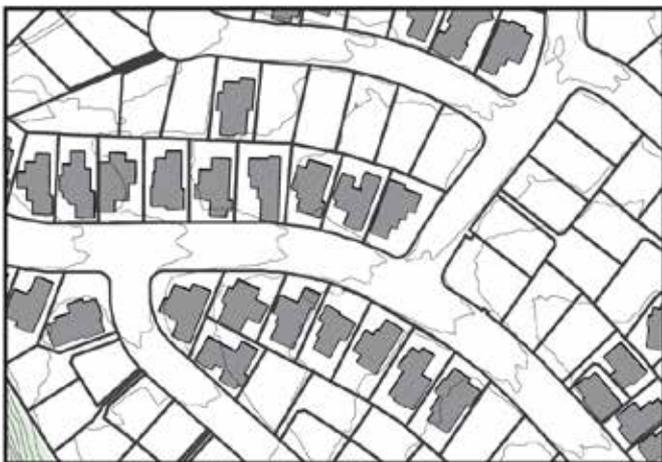


Johnstone Drive (near Aokautere Drive)

This subdivision has a high proportion of rear lots; especially along Johnstone Drive, where sections are sometimes four deep. Although seemingly efficient, Johnstone Drive is excessively wide and depends on numerous private rights-of-way. Few houses have a public presence. Because building footprints are large relative to lot size, dwellings are located close to boundaries and often have limited outlooks. Most properties have a modest north or west-facing outdoor space. Typically, an equivalent area is hard paved and devoted to vehicles. With little scope for large-scale vegetation in private gardens, street trees become a vital landscape element.

Pacific Drive (at Abby Road)

All streets follow gently curving trajectories. As the only through-route, Pacific Drive is conspicuously wider than either Abby Road or Woodgate Crescent. Most properties have a street frontage. However, gullies are bordered by rear lots, which are accessed via shared driveways. As a result, there is little physical or visual connection between streets and nearby open spaces. Site coverage is moderate, and houses typically have generous side or rear yards. Because lots are shallow, most dwellings sit close to the street. This limits the amount of visible on-site vegetation. However, side and rear boundaries are often intensively planted.

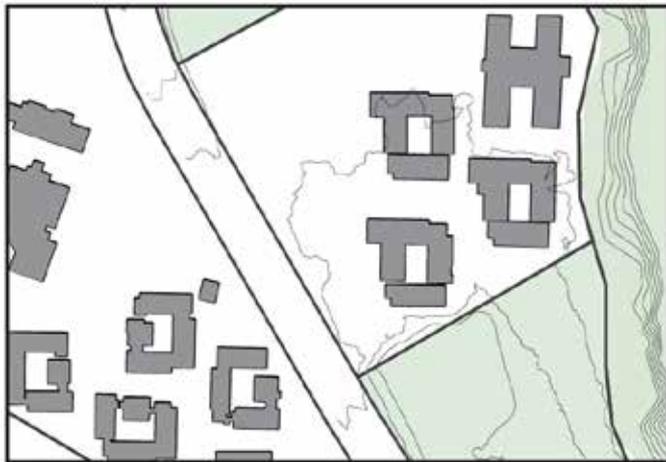


Pacific Drive, Varsity Heights, Silicon Way

The street system has a tree-like structure. Cul-de-sacs branch off from Pacific Drive, which serves as a local collector road. Although permeability is low, thoroughfares are numerous and evenly spaced. This street pattern produces uniform lots and very few back sections. Irregularities are generally confined to the corners of blocks, where streets meet at an angle. Most houses are modestly scaled in relation to their lots. This permits generous front and rear yards. However, front setbacks are minimised on south-facing properties. Private gardens are still undeveloped. There is scope to add significant on-site vegetation, as the area matures.

Christian Brethren Church Campus

The Christian Brethren Church is developing a campus on the eastern side of Johnstone Drive. In time, the present school will be joined by several other large low-rise free-standing structures. These are likely to include a hall, a chapel and a training centre. The buildings are surrounded by lawns, car parks and - in the case of the school - hard paved play areas. The Site will eventually have its own fully articulated circulation system with dual access points on Johnstone Drive. Residential lots frame the campus on two sides. When these sections are occupied, the Brethren Church complex will be less conspicuous.

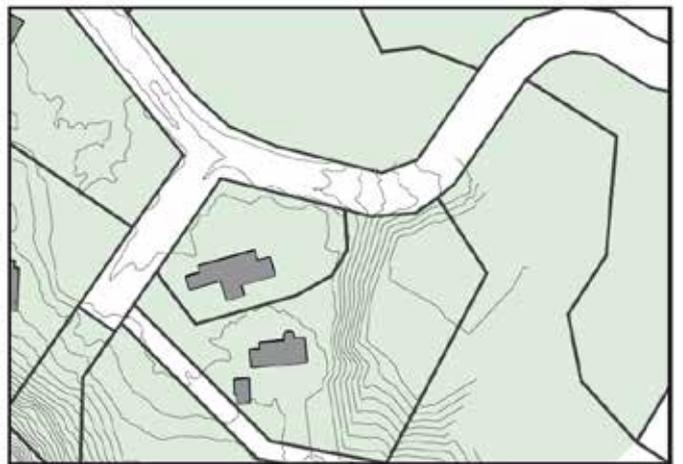
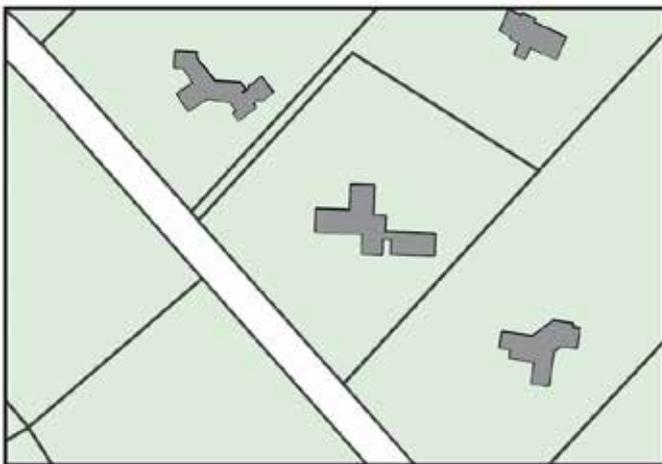


IPU Campus

IPU occupies a well-established campus at the junction of Aokautere Drive and Pacific Drive. The Site has an explicit spatial structure, which combines formal and informal landscapes. The principal organising elements are a grid, an axis and a sweeping main driveway that arcs between adjacent streets. Site boundaries are heavily planted, and most major buildings are set well back from the two frontages. So built form generally has little public presence. One exception is the sport and recreation centre. Although utilitarian in character, this complex is large and is conspicuously located at the corner of Aokautere Drive and Pacific Drive.

Summerhill Local Centre

Like most suburban shopping centres, Summerhill's street interface is dominated by parking lots. However, the New World supermarket is sleeved with smaller retail premises that are outward facing. These bring active edges to the car-park, and they create a pocket of pedestrian-oriented space at the core of the Site. A Summerset retirement village and a Lollipops Educare facility mediate between the shopping centre and nearby residential properties. The sense of a community hub is enhanced by a small park and a possible site for a primary school. However, the layout of buildings and open spaces fails to take advantage of adjacent gullies.



Valley Views Road

Because the terrain is flat, Valley Views has evolved a very explicit settlement pattern. Property boundaries approximate a grid, and these lines are often expressed visually as shelter belts. Large houses with outbuildings occupy the centres of the lots. The structures are organised orthogonally in a series of micro-grids, but these layouts do not align with the cadastral plan. Frequently, organic landscape features mediate between building clusters and lot boundaries. Typical devices include sweeping tree-lined driveways and naturalistic stands of vegetation. On some properties, the sinuous lines of gullies and watercourses make an appearance.

Moonshine Valley Road

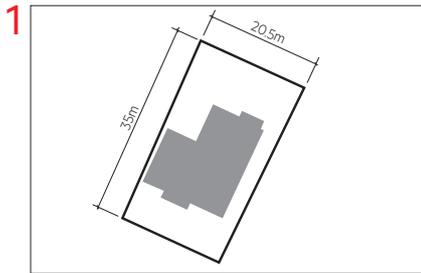
Moonshine Valley is shaped by spurs and gullies at the edges of adjacent plateaus. Accordingly, the subdivision pattern is much less regular than that found at Valley Views. Most properties contain sizeable areas of regenerating bush. Houses vary greatly in size and appearance. Only a few residences have a strong presence on Valley View Road and Whisky Way. The rest are partially or fully concealed by broken contours and the mantle of vegetation. Intermittently, the view broadens to encompass an expanse of pasture. However, more typically, trees along the road edge contain sightlines within a narrow corridor.

Typical Lot Characteristics

A relatively limited palette of lot types and sizes exists within the Aokautere study area, as shown in the adjacent diagrams. Note: for Aokautere, District Plan Rule R76.11 b requires a min lot size of 400sq.m and an average of 600sq.m In the Rural Residential Overlay area, a lot min of 1Ha exists. Generally, existing lots include:

- Suburban Lots (fronting streets): Lot size: 20m width x 30-35m depth / Lot area: 600-700sq.m
- Suburban Lots (rear): Typically 3.5-4m driveway width. Lot size: 20m x 30-35m / Lot area: 600-700sq.m.
- Rural Lots: either front a rural road or (in the case of rear lots) are accessed off a private r.o.w. Lot sizes vary but generally 1Ha to 1.5Ha (100m x 100m or 100m x 150m).

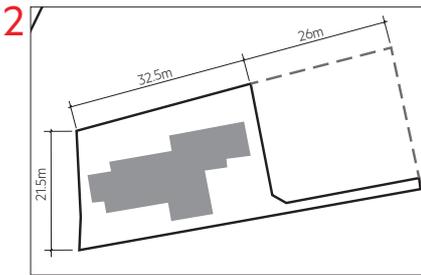




Street-front Lot, Pacific Drive

Lot size: 690m²
 Lot Dims: 20m x 35m
 Footprint: 255m²
 Coverage: 37%
 Frontage setback: 8m

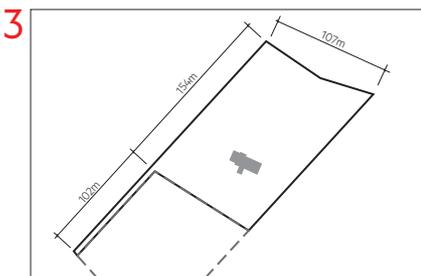
Single detached dwelling,
 street-fronting Lot.



Rear lot, Couatts Way

Lot size: 765m²
 Lot Dims: 22m x 32.5m
 Footprint: 251m²
 Coverage: 33%

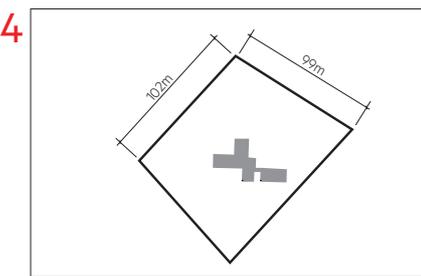
Single detached
 dwelling, rear Lot.



Rear Lot, large size, Valley Views

Lot size: 15,865m²
 Lot Dims: 154m x 107m
 Footprint: 416m²
 Coverage: 2%

Rear lot, backing onto slope.
 Non-serviced.
 Private drive access.

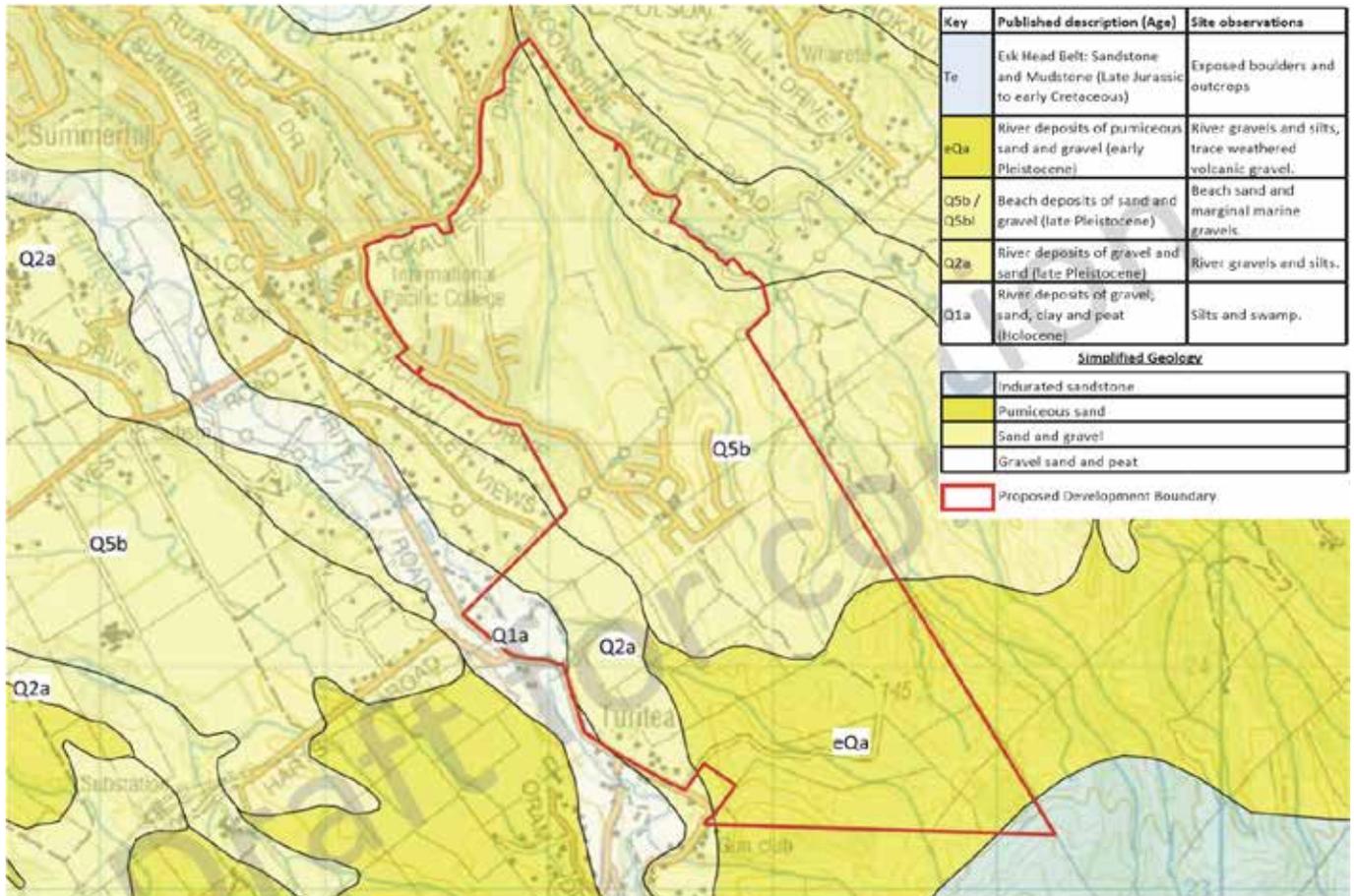


Street front Lot, min size, Valley Views

Lot size: 11,335m²
 Lot Dims: 100m x 99m
 Footprint: 673m²
 Coverage: 6%
 Frontage setback: 40m

Street front lot.
 Building set back from street.
 Heavily screened with planting.
 Non-serviced.





Source: Tonkin + Taylor

Geotechnical Assessment

The following pages provide extracts from Tonkin+Taylor's 'Preliminary Site Observations for Proposed Aokautere Redevelopment' (June 2020). A comprehensive understanding of geotechnical conditions requires T+T's report to be read in full.

The geotechnical assessment aims to provide a high-level evaluation of possible geotechnical risks associated with developing land for residential

and rural-residential purposes. Aokautere measures roughly 4km by 1.5km and slopes gently up from north to south. The area has two distinct characters:

- 1) Water-cut eroded gullies in elevated flat-to-rolling hills (larger eastern portion of site).
- 2) Flat, river and stream formed (smaller western portion of site).