BEFORE THE HEARINGS PANEL

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of proposed Plan Change G: Aokautere Urban Growth to the Palmerston North City Council District Plan

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SECTION 42A TECHNICAL REPORT OF ANDREW D. BURNS
ON BEHALF OF PALMERSTON NORTH CITY COUNCIL

TECHNICAL – URBAN DESIGN

15 September 2023

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A. EXECUTIVE SUMMARY

1. The key conclusions of my section 42A technical report are:

   (a) The masterplan that underpins the Structure Plan and proposed Plan Change G (PCG) has been developed in response to Aokautere's unique landscape, natural hazards and development conditions. It is principles-based, focused on achieving the design outcomes described later (Section G) and consistent with urban design best practice.

   (b) The proposed Urban Connector and Activity Streets are optimally configured to provide a logical and legible connected spatial structure feeding movement to the Local Centre. Cross-gully links are essential to connect residential areas together and develop resilience. Connections along plateaus provide a gully edge streetscape experience wherever possible.

   (c) Proposed extension of areas zoned Residential connect with existing housing, contribute to meeting the city's housing needs as set out in the Palmerston North Housing Business Development Capacity Assessment Report (2019), and utilise land in an efficient manner.

   (d) Extension of Residential zoning must be contingent upon:

      (i) providing a walkable fine grain block structure;

      (ii) allowing variation in lot size, including smaller lots;

      (iii) quality streetscapes fronted by development;

      (iv) attractive and accessible green gully spaces and walkways that extend the city's recreational network and enhance waterways and water management; and

      (v) access to new Local Centre commercial amenities.

   (e) Medium density housing is essential to achieve a sustainable walkable residential catchment to support the proposed local neighbourhood centre.

Medium density housing is also enabled in locations adjacent to very high-quality open spaces and served by new bus routes.

(f) Extension of Residential zoning requires the management of potential effects on the amenity values of any neighbours, particularly those in Moonshine Valley. I therefore support the design approach in this location, with controls on rear boundary setbacks and maintaining landscape gaps.

(g) The Structure Plan celebrates the expression of Aokautere's natural gullies through ecological restoration, public access and visibility, and a development interface that achieves a positive relationship.

(h) I considered all the submissions relevant to urban design and identified 17 common topics. I have provided a detailed response to each of these. I have noted both agreement and disagreement with those submissions for the reasons provided in my evidence, and in some instances have confirmed changes to the Structure Plan.

(i) I support PCG and the Structure Plan from an urban design perspective.

B. INTRODUCTION

2. My name is Andrew Davies Burns. I am a director at McIndoe Urban Ltd, a specialist urban design consultancy based in Wellington and have held that post since 2013. My qualifications are MA Urban Design (dist); Dip. Urban Design; BArch; BBSc. I am a full member of the Royal Town Planning Institute (MRTPI) and a Fellow of the Royal Society of Arts.

3. I have 29 years' experience in architecture, planning, urban design and academia. I am co-Chair of Kāinga Ora's National and Wellington Design Review Panels, a property committee member for Presbyterian Support Central, and guest lecturer and reviewer for the School of Architecture, Victoria University of Wellington. I was a Built Environment Expert for Design Council CABE (UK) and a design panel member for LB Newham and also for Royal Borough of Windsor and Maidenhead. I am a former director of Matrix Partnership Ltd, an urban design practice in London (2003-2013) and seconded urban design director to Arup (South Africa, 2012). Prior to these roles, I

worked as an urban designer for Urban Initiatives Ltd (London) and DEGW plc (London) from 1997 to 2003. I held part-time lectureships at Masters level in urban design at Oxford University's Department for Continuing Education, Kellogg College (August 2010 – March 2013, MSc course in Sustainable Urban Development) and Oxford Brookes University's Joint Centre for Urban Design (August 2006 – March 2013, MA course in Urban Design), and the Bartlett School of Planning, at University College London (2004 - 2006).

4. I have extensive experience in planning for growth and large scale masterplanning. In Palmerston North I am leading or led residential masterplans and district plan changes for Kākātangiata, Mātangi (Whiskey Creek), and 160 Napier Road; in Auckland masterplanning of Auranga and Providence Point (Drury); and in Wellington, Shelly Bay Masterplan and Petone and Hutt Central Spatial Plans. Internationally, in South Africa, I was project director for the Capital City of Tshwane (Pretoria) Masterplan. I also directed numerous urban design studies and residential masterplans in the UK.

5. I have been engaged by Palmerston North City Council (**Council**) in relation to PCG, which seeks to rezone a new greenfield growth area in Aokautere for residential development and inserts an accompanying structure plan and provisions (objectives, policies and rules) into the District Plan.

6. I have been involved with PCG since April 2018. My role included overall masterplan lead as part of a multi-disciplinary team that included a range of PNCC reporting officers with a variety of areas of expertise; Hudson Associates (landscape); Harriet Fraser Transportation Planning; Kahu Environmental (planning), Tanenuiarangi Manawatū (mana whenua values); Tonkin + Taylor (geotechnical engineering); GHD (stormwater); Acousafe Noise Control Solutions; Urbacity (development economics) and TPG (property demand).

7. As part of my role, I co-authored the following reports:

   (a) Aokautere Masterplan Report – setting out the overall masterplan design, rational and analysis of site conditions.[1]

[1] Appendix 4, of the Section 32 Report Plan Change G: Aokautere Growth Area.

(b) Aokautere Structure Plan: Urban Design Statement for Planning Controls – describing the proposed range of performance standards to achieve the urban design outcomes sought by the plan.[2]

(c) Aokautere Masterplanning Scenarios: Comparative Assessment – Multi criteria assessment of the range of scenarios including the proposed Structure Plan (**Appendix A**).

C. CODE OF CONDUCT

8. I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This technical report has been prepared in accordance with that Code. I confirm that I have not omitted to consider material facts that might alter or detract from the opinions that I express. The opinions I express are within my area of expertise, except where I state I am relying on the opinions of other reporting officers.

9. I am familiar with the site for PCG, having visited it on a number of occasions, with the first visit made in early April 2018.

D. SCOPE

10. This technical report provides an overview of the masterplanning approach and key analysis that underpins the masterplan and Structure Plan, before describing the plan itself. This includes the design principles that underpin the Structure Plan and supporting planning controls that ensure intended outcomes are achieved. I am mindful this material is part of the information notified with PCG and therefore I provide this evidence as a summary, or to describe any important changes.

11. Urban design related issues raised by submitters are addressed. Where a submitter has raised a matter within my area of expertise that I have not addressed in this statement of evidence this is not necessarily to be taken as acceptance of the matters raised.

12. In addition to my own observations, I rely on the technical evidence of:

[2] Appendix 14, of the Section 32 Report Plan Change G: Aokautere Growth Area.

(a) Anita Copplestone (Planning);

(b) John Hudson (Landscape and Visual Assessment);

(c) Dr Adam Forbes (Ecology);

(d) Harriet Fraser (Traffic and transport);

(e) Mike Cullen (Economics related to the Local Centre and housing);

(f) Ruth Allen and Gareth Nicholl (Property demand);

(g) Eric Bird (Geotechnical engineering);

(h) Reiko Baugham and Tony Miller (Stormwater management);

(i) Nigel Lloyd (Acoustic); and

(j) Aaron Phillips (Parks and reserves).

13. I have reviewed submissions and further submissions on PCG. At section 'I' of this evidence I provide a response to those submissions within my field of expertise, organised under common topics.

E. BACKGROUND

14. PCG seeks to rezone a new greenfield growth area to the south-east of Palmerston North for residential development and inserts an accompanying structure plan and provisions (objectives, policies, and rules) into the District Plan. The plan change will provide for additional housing supply in Aokautere (and the City), to help meet growth projections for Palmerston North over the medium to long term, while addressing the specific topography and environmental issues in Aokautere.

15. Working alongside other technical expertise, my involvement includes urban design inputs through all phases of the masterplanning process that began in April 2018, including:

(a) site and context analysis that underpins the masterplan;

(b) development of masterplanning scenarios and multi-criteria assessment of these to determine optimal outcomes and a preferred masterplan direction;

(c) public consultation and regular meetings with the technical team and with regulatory bodies;

(d) preparation of masterplanning principles and preferred masterplan conception, development and refinement;

(e) masterplan reporting and structure plan development; and

(f) masterplan and structure plan adjustment in response to submissions.

F. MASTERPLANNING APPROACH AND ANALYSIS

16. A Council-led inception meeting was held in April 2018 that identified the breadth of expertise required to ensure a robust masterplanning process. A wide range of technical advice was subsequently brought into the project to provide analysis of local conditions, including site and context analysis addressing:

- City wide context and strategic growth
- Regulatory planning context
- Access and movement / connections
- Social and cultural significance
- Urban structure and neighbourhood interface
- Land use patterns
- Land ownership
- Landscape character / open space network
- Ecology
- Services infrastructure

- Geotechnical conditions
- Stormwater and erosion
- Acoustic
- Local Centre economics advice

17. The Masterplan Report[3] provides summaries of the range of analyses carried out by the various disciplines and I refer to the respective technical reports of the relevant experts. A brief summary of key urban design analysis of existing conditions is provided below.

Spatial Context

18. While the plan change site has a defined area, its context includes the immediate Aokautere neighbourhood surrounding the site, the local environs of Fitzherbert, Turitea and Moonshine valleys, and the wider southeastern portion of Palmerston North extending from the foothills of the Tararua ranges to the Manawatū River (Figure 1). Of particular note are the natural gullies that connect with and extend through the site, Pacific Drive that links the site to SH57 and the patterns of existing housing.

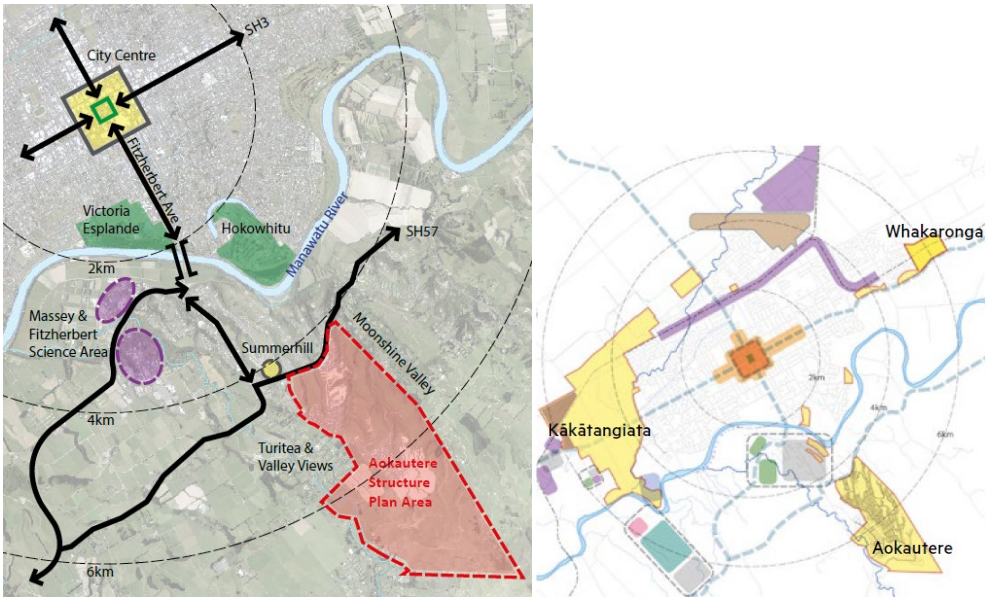


Figure 1: Aokautere's wider context

[3] Aokautere Masterplan Report, 30.05.2022, Part 2 Existing Conditions (Appendix A).

19. Aokautere is located some 4.3km – 7.6km from Te Marae o Hine (The Square). This proximity is similar to other identified growth areas of Kākātangiata and Whakarongo. Aokautere is distinguished from the majority of the city by its location across the Manawatū River, relative containment as a suburb, noticeable rising topography and unique incised gullies.

Land use and ownership

20. Land ownership is described at Figure 2 below. Three private landowners (Mr Green, Mr Fugle, Mr Waters) hold the majority of land across the plan change area. Council ownership includes pockets of land around Abby Road / Adderstone Reserve and the Institute of the Pacific United (IPU), a tertiary educational institution is located along Pacific Drive near the connection to SH57. Multiple smaller ownership interests exist, including existing residents.

Figure 2: Aokautere Land ownership – three major private landowners and Council ownership around Abby Road / Adderstone Reserve.

21. Significant parts of the plan change area comprise existing residential land use patterns, rural grassed land and vegetated gullies. The Christian Brethren Church Campus and IPU present noticeably different developments within the area. Residential areas and their typical lot characteristics have been analysed in the Masterplan report.[4] Of note is the relatively uncoordinated approach to development overall, where pockets of

[4] Aokautere Masterplan Report pages 32-37.

land within different ownerships have failed to connect with each other contrary to good practice.[5] This is particularly evident along the interface between Monaco Grove / St Helliers Grove / Silicon Way and adjacent land to the west owned by Mr Fugle. Another typical feature is the tendency for development to 'turn its back' on the adjacent natural gully network, removing the opportunity for public engagement and access to this open space system (e.g. Sardinia Grove).

22. Opposite the northwest corner of the plan change area is Summerhill Local Centre. While most of the proposed new housing area (and existing housing) is beyond a walkable distance to this centre, it does provide local services and facilities that are likely to be accessed by cars moving to and from the city centre.

Housing growth

23. Housing growth across the city is described in Council's City Growth Plan 2021-31. The city is likely to need 500 new dwellings each year up to 2031 and 400 per year thereafter. Aokautere is identified as a key area for greenfield development that is to be guided by a structure plan. Council projections for Aokautere range from 400 to 1200 additional dwellings beyond those currently zoned. The Structure Plan indicates a future capacity at the upper range of this target.

Utilities

24. Transpower New Zealand Limited (Transpower) operates high voltage overhead transmission lines within the plan change area.[6] The two Bunnythorpe-Wilton 'steel tower' lines (220kV) run through existing / consented residential areas (Figure 3). These require a 12m setback from the outer edge of the support structure and 12m either side of the centreline of the overhead line. In addition, a 37m wide subdivision corridor on either side of the centreline applies. Existing development appears to have occurred within these setbacks and is a matter identified by Transpower in their submission. 33kV overhead power lines exist along the property boundary between Mr Green and Mr Fugle. Advice from Powerco[7] notes that NZECP34 identifies minimum building

[5] Urban design best practice promotes integrated, connected approaches. See People+Places+Spaces – A design guide for urban New Zealand, MfE, 2002, page 1 'Integration and connectivity'.
[6] Transpower submission #59.
[7] Email exchange including PNCC and Powerco dated 26 and 27 July and further telephone discussions.

setbacks for 11kv-33kV conductors (with span lengths not exceeding 125m) being 7m beneath conductors and 8.5m to the side of conductors. These distances can be reduced with engineering advice.[8]

Figure 3: Transpower 220kV transmission lines at Aokautere (left) and 33kV lines.

25. Water supply is provided via falling mains or booster stations from the Aokautere reservoir situated on Mr Waters land.[9] A second reservoir is to be constructed next to the existing to provide for future growth. Wastewater is managed by a gravity pipeline network along Pacific Drive, fed by small pump stations and future development will require more pump stations. Rural and rural residential properties will be self-sufficient.

Consultation and engagement

26. The masterplanning process was informed by multiple expert sessions that included Council Officers and disciplinary specialists. Consultation was undertaken with various institutional stakeholders including Waka Kotahi, the Ministry of Education, HNZC now Kāinga Ora – Homes and Communities and Horizons Regional Council. A public consultation event was held in August 2019 that was attended by 65 people with key issues recorded.[10] I understand various discussions with major landowners have also been carried out by Council Officers. I was not present at those meetings.

[8] NZECP34, Table 2 'without engineering advice'. See also Table 3 with engineering advice (calculation of conductor movement).
[9] Refer to PNCC utilities assessment, Masterplan Report page 44.
[10] Masterplan Report page 11 and s32 Report pages 31 to 38.

Scenario planning

27. Scenario planning was undertaken in 2019 to model alternative approaches for housing growth and urban development. Four scenarios were developed (Figure 4).

(a) **Scenario 1 Business as usual** – presents a model based on continuation of current development approaches led by major landowners and developers. Generally piecemeal with limited area-wide integrated planning. No gully crossings, no local centre, no variation in housing type/lot size, extensive cul-de-sac layouts backing onto gully network. Assumes limited/no ecological investment in gullies.

(b) **Scenario 2 Low-intensity masterplan** – proposes very low (rural residential) density to all rural areas within the plan boundary not currently zoned for residential activity. Low intensity housing to plateau areas and south of Atlantic Drive. Suburban areas proposed as per Scenario 1. Piecemeal developer-led approach does not deliver integrated planning and limits area-wide gully investment.

(c) **Scenario 3 Conventional masterplan** – Premised on a traditional suburban layout comprehensively designed – large housing blocks with mixture of through-streets and cul-de-sac arrangements. No mixed density, no Local Centre, access to centre of plateaus and few cross-gully links. Standard minimum lot sizes.

(d) **Scenario 4 Mixed-density masterplan** – provides range of housing density influenced by proximity to Local Centre retail, access and open space amenity. A network of streets that connect across gullies and along gully edges. Investment in gullies and public gully access.

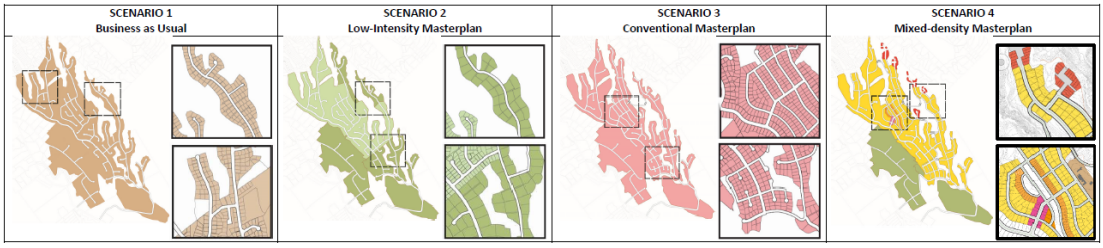


Figure 4: Scenario development and MCA assessment (Appendix A)

28. Investigations included planning of street, block and lot layouts organised around retention of gullies and existing development. Key metrics were measured and recorded for each scenario, including overall yield, lot size/type, amount of new roading, and mix of commercial vs residential. A multi-criteria analysis (MCA) was then undertaken to evaluate the scenarios (Appendix A), with Scenario 4 performing the best across the range of criteria.

29. I consider this first stage of 'analysis and scenario planning', which included related stakeholder engagement, was suitably comprehensive, and provided a robust base for the masterplanning that followed.

Preferred plan

30. The preferred plan and Structure Plan are derived from Scenario 4 and responded to the following matters:

(a) Integration with constantly evolving consent applications for adjacent areas;

(b) Removal of a proposed primary school that did not eventuate due to the timing of PCG;

(c) An extended Local Centre to connect with Pacific Drive and allow for an anchor store (these matters are discussed further in the section 42A report of Mr Mike Cullen);

(d) Extended medium density housing areas around the Local Centre to reflect city-wide approaches to provide for such housing, consistent with the NPS UD;

(e) Testing and refinement of open space reserve areas with Council;

(f) The separate statutory process regarding the future use of Adderstone with consequences for the development extension to Abby Road;

(g) Further development and testing of street hierarchy and associated typologies with Council traffic experts;

(h) Stormwater attenuation and treatment approaches that resulted in stormwater pond location refinements and buffer setbacks integrated along plateau edges; and

(i) Provision for the potential for a retirement village near the Local Centre. Guided by the landowner's interest in establishing a retirement village at this location, it was considered sensible to facilitate such an outcome through a 'Variation' to the Structure Plan (Maps 7A.4, 7A.4A, 7A.4B). This Variation indicates how a retirement village would fit with the overall intentions for development, connecting with key roading and supporting the adjacent Local Centre.

31. For completeness, an assessment of this plan against the MCA and relative to previous MCA option 4 was carried out (**Appendix B**). The assessment indicated a very good level of support across the range of 16 assessment criteria used within the MCA, with only two exceptions:

(a) The first exception relates to criteria 7 'Connectivity' where 'partial support' is noted for changes to the rural residential area. These changes are driven by the need for a buffer from the nearby rifle range. This has resulted in reduced roading connections, although these areas are still connected into either Valley Views Road or the proposed extension to Pacific Drive and Turitea Road; and

(b) The second exception relates to criteria 12 'Impact on landscapes'. Again 'partial support' is noted due to the imposition of cross gully link roads on the natural gully landform. I note that these are limited in number (two) and are proposed to run down/up the gully sides with a cross-sectional road profile (Figure 5) that reads as a rural road, allows for reduced roading / footpath widths and separates the shared path to better follow topography and reduce visual impact of large cut/fill areas on the gully slopes.

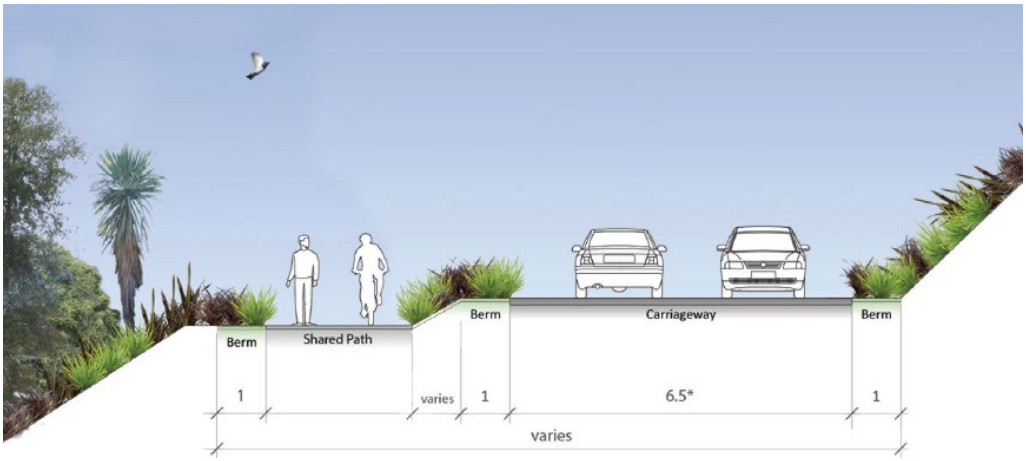


Figure 5: Cross-gully road (Urban Connector Type 'D')

Design approach and principles

32. The Structure Plan is intended to 'complete' the Aokautere suburb. This includes integrating with existing housing, establishing a new Local Centre, protecting and enhancing natural gullies and providing a range of housing types and residential options to address current and ongoing housing demand in Palmerston North. The Structure Plan connects future development on land owned by the major landowners. It focusses on reconciling relevant cultural, social, environmental and economic drivers to address shortcomings with the existing Aokautere neighbourhood structure. New development is designed to provide a coordinated, well-serviced and high amenity neighbourhood that will contribute to the well-being of its residents and the wider community.

33. In order to achieve the above matters, the masterplan is based on a set of 8 design principles. The design principles were developed at an early stage following site analysis. This stage of work included understanding the broad range of planning and design issues (e.g. addressing gully revitalisation, flooding, land stability, integrating with adjoining / developed areas, providing access to recreation, offering local services and facilities, ensuring mix of housing types and applying urban design good practice).

- Principle 01 **Nature is the Mother of Invention**: Aokautere's special landscape character is protected and enhanced. Residential development works with the natural pattern of gullies and plateaus.

- Principle 02 **Everything is AoK**: Design best-practice sets a local benchmark for high-quality housing and amenity-rich suburban lifestyles. Development makes the best use of valuable peri-urban land and increases housing choices.

- Principle 03 **Life in the Big Outdoors**: Bush-clad gullies provide widespread access to regenerating vegetation and habitats. A network of ecological corridors and recreational trails complements the street layout.

- Principle 04 **Travel Is its Own Reward**: Connecting streets offer direct experience of the terrain. Through-routes traverse gullies and intermittently hug the edges of plateaus. Elsewhere, streets define the perimeter of formally laid out spaces.

- Principle 05 **Going Around in Circuits**: Street networks create permeable and connected neighbourhoods. Through-routes create intersecting circuits, which facilitate public transport and offer a choice of pathways.

- Principle 06 **It Takes a Village to Raise Density**: North Village is a recognisable destination with a range of amenities. To maximise access and activation, medium-density housing occupies the Local Centre's pedestrian catchment.

- Principle 07 **Thinking Outside the Property Boundary**: The masterplan knits together new and existing developments. By making a few strategic connections, the plan achieves order and efficiency with little disruption to established housing.

- Principle 08: **Here, There and Not Just Anywhere**: The masterplan creates areas of character with distinct identities. Some are strongly influenced by the natural landscape while others are characterised by formal geometry.

G. MASTERPLAN DESCRIPTION

34. **Overall description** – The Masterplan envisages between 1024 and 1,681 new dwellings[11] on 454Ha of land in addition to the 903[12] existing dwellings or consented lots (residential and rural residential). The plan includes two proposed notable areas of near-flat land identified here as 'North Village' and 'South Village' (Figure 6) where indicative Local Streets are laid out as semi-uniform grids. In the larger North Village,

[11] Yield calculations based on a range in density for the Aokautere Medium Density Village area.
[12] Data supplied by The Property Group.

the plan's regularity facilitates smaller lots and compact dwellings around a Local Centre. These areas are accompanied by a series of narrow plateaus where curvilinear streets are strongly influenced by landform. Here, it is anticipated that lots will accommodate conventional detached dwellings and allow a more flexible response to aspect and terrain. The Masterplan also encompasses bands of existing housing, which frame the two main areas of developable land.

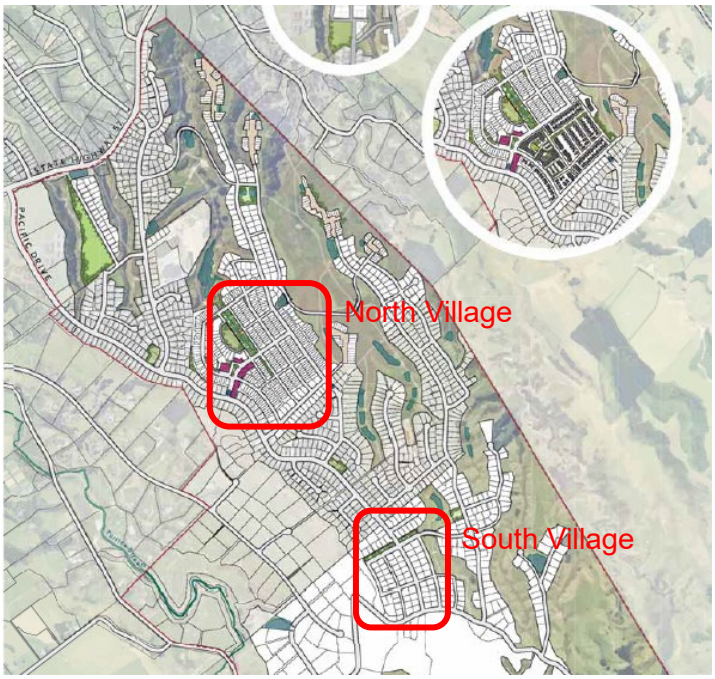


Figure 6: North Village and South Village identifiable areas

35. **Landscape / Ecology / Stormwater** – Aokautere's gullies are ecologically valuable but susceptible to erosion. These areas will become reserves where streams, wetlands and indigenous vegetation will be restored. New residential subdivisions are confined to Aokautere's less sensitive plateaus. Here, setbacks, swales and detention ponds protect the gullies' vulnerable upper slopes from the damaging effects of runoff. The result is a unique landscape-led development where green 'fingers' separate corridors of housing and all residents live in close proximity to nature.

36. **Access and Movement** – With its southern extension, Pacific Drive provides a common spine for existing and proposed residential areas. This is complemented by new Connector Roads that provide alternative routes for through travel. Proposed development has a highly-permeable network of small blocks and joined-up streets. This fine-grained mesh is more receptive to active modes than the long branching

layout and numerous cul-de-sacs of the existing street system. Despite having markedly different spatial structures, the existing and proposed street layouts are interconnected. Strategically placed linkages create two Connector Road circuits, which traverse new and established neighbourhoods and overlap at North Village. The Local Centre benefits from the increased connectedness of the latter location. At the same time, the Local Centre is positioned eccentrically within North Village so as to have a presence on Pacific Drive where through-traffic is greatest. Two gully crossings are essential components of Aokautere's movement network. Without these links, each of the big plateaus would remain isolated, and the integration of existing and proposed neighbourhoods would suffer. The Masterplan has four contact points with the external road network. Helpfully for connectivity, these are located on the northern and southern extremities of the plan: two on Aokautere Drive and one each on Turitea Road and Valley Views Road. Pending improvements to Valley Views Road, the last of these access points is presently limited to pedestrians and cyclists. Further internal and external connectivity is provided by off-road trails.

37. **Street hierarchy and street types** – These are fully described in the Masterplan Report[13] and are not repeated here. The range of cross sections have been jointly developed with traffic advice from Ms Fraser and landscape advice from Mr Hudson. It is worth noting that the street hierarchy is consistent with Waka Kotahi's One Network Framework (ONF), including: Urban Connector, Activity Street, Local Street and Peri-Urban Roads. Within each category a number of cross-sections are proposed that respond to local topographic or development conditions or the role of the particular street within the hierarchy (for example the Activity Street presents both single-sided and double-sided commercial conditions that affect footpath width and parking).

38. **Public Realm** – The playable area of Adderstone Reserve acquires an extensive frontage to Abby Road. At its southern end, Gully G1 is formalised as a rectangular wetland feature with an associated crescent-shaped green. These two adjacent spaces help to define the core of 'North Village'. A smaller linear reserve provides a similar spatial signature for 'South Village'. This linear space is also keyed to wider landscape attributes. It connects Gully G12 with the western escarpment above Turitea Valley. Additionally, the Masterplan includes new flat playable reserves, which augment

[13] Appendix 4, of the Section 32 Report Plan Change G: Aokautere Growth Area. Pages 66-76.

existing neighbourhood parks on Pacific Drive. Collectively, the reserves are well distributed and offer a range of open space amenities. The Local Centre is the other feature of Aokautere's public realm. This area focuses on a commercial Activity Street, with a neighbourhood square. This accommodates car parking and the passing motorist but also delivers spatial definition and continuous pedestrian-friendly building frontages.

39. **Character areas** – Changing street patterns and shifts in development intensity amplify the differences in Aokautere's terrain.

(a) The principal distinction is that which separates gully reserves from elevated built-up areas.[14]

(b) In addition to this, medium-density housing occupies the large tract of near-flat land identified as 'North Village'.[15] This distinctive neighbourhood of regular blocks and compact dwellings is made more recognisable by the presence of focal commercial and recreational spaces.

(c) The Retirement Village Variation also introduces a further point of difference. This 'Variation' is shown on Structure Plan Map 7A.4, 7A.4A and 7A.4B and is explained further at paragraph 30 (i) of this report.

(d) 'South Village' lacks the higher density and specialised functions of its northern counterpart. Nevertheless, a formal street layout gives this area a demonstrably urban character.

(e) The remainder of the developable residential land consists of narrow plateaus where natural features have a greater impact on built form and open space.[16] Here, most streets are curved and emerge intermittently onto the edges of gully reserves. In these locations, the single-loaded thoroughfares create a vivid expression of the boundary between city and natural landscape. This interface is most acutely felt at the plateaus' northern terminations i.e., the

[14] See paragraphs 35 and Aokautere Masterplan Report pages 24, 26, 27.
[15] See paragraph 34.
[16] See paragraphs 35 and Aokautere Masterplan Report pages 24, 26, 27.

'promontories'. On the promontories the layout seeks to provide visual and physical access to surrounding gully reserves.

(f) Rural residential development comprises Aokautere's remaining character area. Either this is contiguous with existing lifestyle properties or it occupies elevated erosion-prone land that is unsuitable for suburban housing.

H. FURTHER ASSESSMENT AND PLAN ADJUSTMENTS

40. Plan Change G was notified on 8 August 2022. Since then, further work has been undertaken in response to various matters raised by submitters and resulting assessment, including further consideration the structure plans, adjustments to suburban reserve areas, review of proposed planning controls, and integration of geotechnical and stormwater parameters. These are identified below.

Aokautere Neighbourhood Centre

41. Key changes relating to the Aokautere Neighbourhood Centre include:

(a) Part of the Local Centre identified for a superette (small supermarket) has been re-classified as an 'anchor store' (refer to Precinct Plan 7A.4C). Mr Cullen addresses this in his section 42A report. This allows greater flexibility for any future occupier.

(b) Housing density for the Local Centre has also been reviewed, with the minimum net residential density requirement of 50 dwellings per hectare (50DPH) removed. This recognises the potential that, in the short term, a low-scale (single storey) centre may only be possible. Removal of the minimum density standard also enables flexibility by encouraging other levels of residential density. I remain of the view that providing residential apartments above commercial is a common development outcome and has been facilitated for the Local Centre through position and N/NW orientation of blocks for sun and outlook with dedicated rear service and parking access.

(c) The Retirement Village boundary has been slightly adjusted to correct an inconsistency with Structure Plan Maps 7A.4, 7A.4A and 7A.4B. A Local Centre zone boundary has also been shown on the Precinct Plan.

(d) A key detailing 'Key Outcomes' has been removed from the Precinct Plan. The reasons for this are addressed in the section 42A report of Ms Copplestone. Key Outcomes are picked up within the policy framework and related assessment criteria.

42. All of the proposed Structure Plan drawings, including the Aokautere Neighbourhood Centre Precinct Plan, have been updated to align with the above changes.

43. As well as the changes described above, I note that a number of amendments have been recommended to the plan provisions for this zone (Local Business). These are addressed in the evidence of Ms Copplestone. Design outcomes sought for the centre have been described in the 'Urban Design Statement for Planning Controls' report[17] and are not repeated here. However, one key changes to the notified provisions relevant to urban design is the revision of Figure 11.5A. This figure has been revised to illustrate shelter from canopies is intended to be continuous, and to describe the relationship more clearly between canopies and their parent building. I have worked with Ms Copplestone to clarify the wording related to this figure.[18] I consider the revised wording expresses a clear urban design outcome that will promote good quality shopfront design and enhance the pedestrian experience within the centre. I otherwise address the concerns of submitters related to the prescriptiveness of Local Centre provisions in the following section 'I' of this report.

Open space reserve

44. The provision of parks and reserves within the Structure Plan has been reviewed by Senior Parks Planner Aaron Phillips, with minor updates to the original reserve assessment.[19] Suburban reserve #6[20] has increased in size from 2,080sq.m to 11,600sq.m of which circa 8,900sq.m is flat payable space (Figure 7). Mr Phillips discusses this change in his section 42A report. The increased reserve area has resulted in the loss of a developable area equating to eight residential lots.

[17] Appendix 14, of the Section 32 Report Plan Change G: Aokautere Growth Area.
[18] The wording is: "*Within the Aokautere Neighbourhood Centre (Map 7A.4C) canopies and fascia must be individually distinguishable and relate to the building they serve*".
[19] Parks and Reserves Servicing Assessment 2021, Appendix 13, of the Section 32 Report Plan Change G: Aokautere Growth Area.
[20] Aokautere Masterplan Report, page 65.

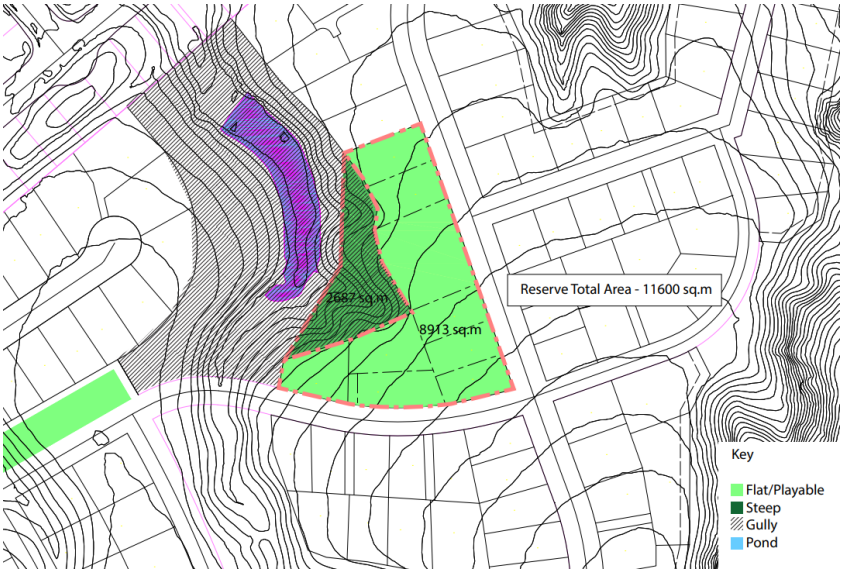


Figure 7: Adjusted Suburban Reserve #6

Acoustic effects from Rifle Rod and Gun Club Manawatu Inc.

45. The Rifle Rod and Gun Club is located at 333 Turitea Road. The acoustic impacts of this activity have been assessed by Mr Lloyd. As set out in his section 42A report, Mr Lloyd is of the opinion that rural residential development should not be enabled within any land affected by noise levels of 55dBA$_{Lmax}$ or more. Further, Mr Lloyd recommends that future occupants of lots within the 50dbA contour should be alerted to the noise and housing layout designed to provide acoustic mitigation.

46. The 55dBA$_{Lmax}$ contour overlaps with a rural residential zoned area, and adjustments to the Structure Plan have been made in those areas. The changes include:

(a) removal of the Rural Residential overlay from areas within the 55dBA$_{lmax}$ noise contour. A circa 8.5Ha has changed from rural residential overlay to rural;

(b) identification of the 50dBA$_{Lmax}$ and 55dBA$_{Lmax}$ noise contours on the Structure plans; and,

(c) the proposed peri-urban road connecting to Valley Views and Turitea Road has been adjusted to respond to the rural residential changes above. This has resulted in reduced connectivity between rural residential areas on Mr Green's land and Mr Waters' land. However, these areas are still connected into either Valley Views Road or Turitea Road and are planned to be linked into Pacific

Drive and the Aokautere Neighbourhood Centre once upgrades to the Valley Views / Turitea Road junctions are complete. Ms Fraser discusses this change to the proposed roading network further in her section 42A report.

Promontories

47. Locating multi-unit (medium density) housing in these areas has been revisited in light of further direction arising from Council's upcoming plan change to introduce a Medium Density Residential Zone (MRZ). The MRZ promotes higher density around centre zones and the Council has defined walking distances to key facilities as a means of identifying appropriate areas for inclusion in this zone.[21] To ensure alignment with the MRZ, the level of density proposed on the promontories has been amended. The promontory density has also been revisited to address the potential for amenity effects on residential properties in Moonshine Valley. As described in his section 42A report, Mr Hudson has undertaken further, site specific assessment, following submissions, including with regard to issues relating to visual dominance and overlooking.

48. To manage the potential for adverse visual and overlooking effects (and to better align with the future MRZ), the Structure Plan has been amended to:

(a) Enable (as opposed to require) multi-unit dwellings (medium density) as a development outcome on all five Promontory Clusters D1 – D5. The promontories are proposed to be standard suburban low density residential. However, medium density in these areas will be enabled should a developer wish to pursue this, through a restricted discretionary consent process. This is represented on Structure Plan Map 7A.4B as variations for the promontories, specifically clusters D1 – D5; and

(b) introduce a 15m minimum setback for buildings along the common boundary with Moonshine Valley properties.

Street structure

49. Several submissions identified concerns over the level of prescriptiveness of the Structure Plan, including with regard to the layout and classification of streets. I have

[21] 600m to bus stop; 300m to open space; 800m to schools; 800m to centres.

described the basis for the layout and classification of streets above.[22]. Having revisited the classifications, it is recommended that streets are divided into two categories:

(a) Streets with 'fixed locations': these include the Urban Connector (Types A, B, E, F only) and Activity Street (all types). The position of these streets should be fixed in order to ensure their collector function is supported, to provide the basis for a public transport circuit arrangement, to connect into existing / consented development, and to access the designated Local Centre.

(b) Streets with 'flexible locations': these include Local Streets and associated street cross-sections described as Local Streets A, B, C, D, E, F. The Peri-Urban Roads[23] are recommended to be flexible, as are the Urban Connector types C and D, due to topographical and geotechnical constraints that will influence the final position of these cross-gully routes. The Private Street type associated with the 'Retirement Village Variation' is also categorised as flexible.

50. Adopting a flexible approach to some street types and removing indicative lot layouts provides greater freedom as to how future housing might be arranged within housing blocks and how the blocks themselves can be configured.

51. A minor adjustment has been made to the street cross-sections for those street types that adjoin gullies. A note has been added to these street types that states - "No stormwater to drain towards the gully edge". This is to ensure that any storm water run-off is captured by the piped system within the legal road corridor.

52. A change has also been made to a number of street cross-sections (Types Urban Connector 'B', 'E' and 'F') to remove reference to fence heights. This is to avoid confusion and to limit the role of the cross-sections to matters within the legal road corridor.

53. A change has been made to the Urban Connector along the southern eastern edge of the Aokautere Medium Density Village area, re-classifying this as a Local Street (Figure 8). This change better accommodates the retirement village variation[24] and

[22] At paragraph 37.
[23] Note: Peri Urban Road Type 'B' has been removed as this duplicated type 'A'.
[24] Aokautere Structure Plan Map 7A.4A.

acknowledges the challenges in achieving a connection with Silicon Way[25] (which puts into question the likely collector function of this route). Similarly, the Urban Connector running along the northeastern edge of the Aokautere Medium Density Village area has been changed to a Local Street. This change acknowledges the removal of the proposed primary school that previously influenced the classification of this road as an Urban Connector.

Figure 8: Red dash – roads changed to Local Street

Lot distribution

54. As with the street layout, several submissions identified concerns over the level of prescriptiveness of lot distribution within the Structure Plan. To address this matter, it is proposed that Structure Plan Map 7A.4B be amended to remove indicative lot layouts (shown as dashed lines). However, it is recommended that the Structure Plan should retain the different density overlays to ensure variety in development (housing) type and size is achieved, to provide critical population density that will support the Local Centre, and to promote a walkable environment around the centre. In my opinion, this will ensure that the Structure Plan delivers on best practice sustainable neighbourhood design.[26]

[25] Aokautere Structure Plan Map 7A.4 (refer to annotation 'K').
[26] Sustainable Urban Neighbourhood, 2009 (e.g. urban density and gasoline consumption page 148; the walkable city page 174/175; pedestrian-focused neighbourhood density page 178).

Geotechnical and stormwater issues

55. Various changes have been made to the Structure Plan as a consequence of more detailed stormwater and erosion mitigation solutions. Following a multi-disciplinary process,[27] these changes include revised pond sizes and locations, adjustments to the 5m buffer to recognise its function primarily as a 'perimeter stormwater swale' and adjustments to proposed residentially zoned areas and associated roads.

Rural Residential zoning

56. Classification of land to the south of the Structure Plan area, accessed off Turitea Road and the extension to Pacific Drive, has been adjusted. Changes include:

(a) minor corrections to the zoning plan to those parts of the area that were incorrectly omitted from the notified Structure Plans; and

(b) selective removal of rural residential areas in response to acoustic modelling of effects generated by the Rifle Road and Gun Club Manawatu Inc.[28]

57. The impact of the changes above, particularly item 'b' has resulted in changes to the peri-urban rural road connections (refer to Structure Plan Maps 7A.4, 7A.4A, 7A.4B).

Transmission lines (33kV)

58. The alignment of the 33vK transmission lines that run along the southeastern property boundary of land owned by Mr Les Fugle was omitted from the notified Structure Plan. These lines have been added to the Structure Plan, including the associated 8.5m minimum horizontal setback line required by NZECP34. I note that no changes are required to proposed residential areas as a result of this setback.

Development controls

59. I discuss below a suite of recommended adjustments to the proposed Performance Standards for PCG in response to submissions. I note that a number of the recommendations also ensure alignment with the approach of Council through the

[27] This process is described in the section 42A reports of Ms Baugham and Mr Millar, and Ms Copplestone.
[28] At paragraph 46.

proposed MRZ and proposed Plan Change 'I'.[29] These recommendations expand on and update the 'Urban Design Statement for Planning Controls' as notified with PCG.[30] The provisions are fully described in the planning evidence of Ms Copplestone.

Medium density housing

60. In line with the notified PCG provisions, I support the requirement for a minimum net density of 25 dwellings per hectare (25 DPH) in the Aokautere Medium Density Village area. This will ensure higher population densities and more varied housing typologies are organised into a permeable walkable catchment around the Local Centre. The minimum density approach will also ensure that valuable, well-located residential land is developed efficiently and in a manner consistent with urban design good practice, and also aligns with outcomes sought for the emerging MRZ regime. I also refer to the evidence of Mr Cullen[31.] that sets out the importance of medium density housing typologies and population thresholds to support Local Centre vitality.

Building height

61. Within the Aokautere Neighbourhood Centre I recommend that the notified height standard of 11m for medium density areas is revised to be consistent with the Medium Density Residential Standards (MDRS)[32] of 11m +1m (Figure 9). This change will also align with the proposed MRZ standard. The purpose of the 11m standard is to achieve the planned urban built character of up to three storeys in medium density areas, while the 11m +1m ensures suitably generous internal amenity can be achieved in combination with allowing variety in roof forms.

62. Maintaining the Operative Plan 9m height limit generally restricts development to two storeys, and in my view, would simply retain the status quo and not suitably address intentions of housing intensification supply and choice. Conversely, three storey development should be permitted if these intentions are to be facilitated.

[29] Ms Copplestone addresses the proposed MRZ in her section 42A report.
[30] Appendix 14, of the Section 32 Report Plan Change G: Aokautere Growth Area.
[31] Mr Cullen addresses density and catchments at paragraphs 1(f, h), 25, 26, 71
[32] Medium Density Residential Standards (MDRS) - while Palmerston North is not a 'Tier 1' city, for the sake of consistency there is merit in aligning the MDRS where their application is appropriate, and where they deliver both the intensification and the qualities of a 'well-functioning urban environment' that are considered desirable in Palmerston North.

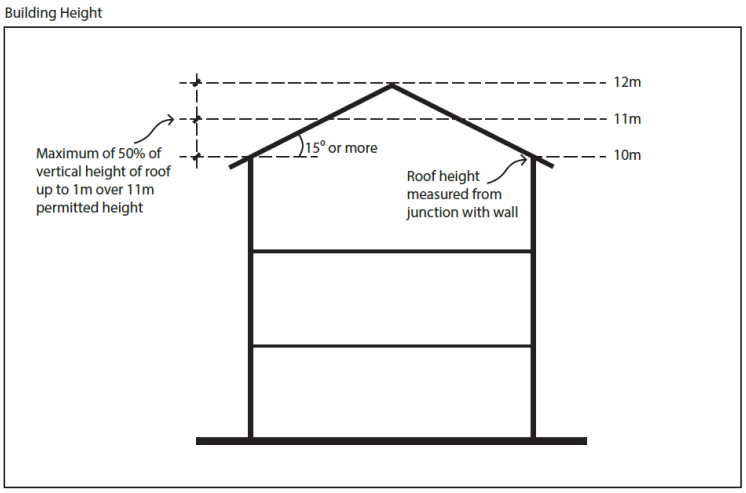


Figure 9: Proposed building height for Local Centre (Appendix C)

63. An appropriate height in relation to boundary (HIRB) standard will manage potential shading and visual dominance effects across boundaries. The HIRB standard for PCG of 5m + 45° and 2.8m + 45° provides this protection (Appendix D). Therefore, enabling three storey development will lead to change, but at the same time with appropriate HIRB standards reasonable amenity across the boundary will be maintained. Lastly, from a scale relation and character perspective, I note my experience that three-storey development can generally sit comfortably next to two storey buildings.

Boundary separation

64. 3m rear boundary setback – It is recommended to remove the notified 3m rear boundary setback standard. Deep yards are of most value at the rear of the property where they help to provide amenity at the centre of the urban block, allowing for planting that contributes to visual amenity and privacy. With increased site coverage, height and more enabling recession planes, the character of areas will become considerably more urban and residential amenity reduced. Therefore, a 3m rear yard rule was considered to allow that intensification while continuing to provide for some of the quality that makes neighbourhoods pleasant to live. Whilst it offers benefits, I recommend that the 3m setback is not adopted for the reasons below:

(a) for lots with complex shapes and multiple alignments, the rear yard would be very difficult to apply;

(b) for rear lots, the 3m rear yard would need to apply to all lot boundaries, which would be too restrictive and contrary to the intent of medium density outcomes; and

(c) testing of development by applying other standards including outdoor living space, site coverage and HIRB shows that these standards determine the depth of space at the rear of buildings and inherently will often lead to deeper rear yards without the need to specify any such depth.

Garage setback

65. I recommend that the position of the garage is required to be setback by a minimum of 0.5m behind the frontage of the dwelling served (this is a slight reduction from the notified 1m setback, to align with the proposed MRZ standard) and offers more flexibility in house planning. The 0.5m setback (in combination with garage width standard) ensures that garages are less likely to dominate the street frontage and lead to visual monotony. This avoids undermining the quality of the streetscape and the quality of user experience.

66. A 5m no-build setback is required along identified lot boundaries adjoining gullies. This is required for stormwater management and to control the potential for erosion to the gully sides. This matter is addressed in the evidence of Ms Baugham and Mr Miller.

Site area and site coverage

67. The operative Residential Zone standards are proposed to be applied across the majority of the PCG area, continuing establish planning practices and creating a sympathetic relationship to existing built areas. Improvements to the residential fabric are promoted through block size and street position as set out in the Structure Plans, limiting the number of rear lot conditions.

68. The notified provisions require the medium density areas in Aokautere to provide for a minimum notional site area of 150sq.m, by applying with the Operative District Plan rule for multi-unit residential development. A 150sq.m lot allows for a two-storey detached house that complies with all other performance standards and may have a GFA of 130sq.m (2 bed with integral garage or 3 bed without garage). However, terrace

house testing indicates that lot size could be reduced further. A 150sq.m minimum site size would also preclude development of small walk-up apartments. For example, a two-storey 130sq.m detached house could provide for two high-quality one bedroom apartments, each with a net area of circa 60sq.m and with theoretical site sizes less than 150sq.m. These unit types would contribute positively to housing choice, diversity and affordability in medium density areas.

69. More recently, testing of the proposed MRZ provisions (for proposed Plan Change 'I") has shown that it would be appropriate to have no minimum site area standard for medium density areas. I recommend this is also adopted in Aokautere. In my view, a minimum site area standard is unnecessary within PCG, as other standards are the determinants of density and form (building coverage, separation distances and outdoor living space are key factors that determine suitable site size).

70. The notified provisions adopt the operative site coverage provisions for the suburban low density areas and in the medium density areas in Aokautere, it is proposed that a site coverage of 45% is adopted. This is an increase on the operative standard of 40% for multi-unit residential development (MUHA). This is in combination with a recommended new standard for permeable surfaces of 25% and 40% for medium density and suburban low-density housing respectively. This change in permeable surfaces arises from the amended Stormwater Strategy discussed in the evidence of Ms Baugham and Mr Millar.

71. Site coverage of 45% is enabling of residential intensification. Testing of this coverage on smaller 150sq.m lots alongside the full range of standards demonstrated that 45% is realistic and allows for on-site parking.

Outdoor living space

72. The outdoor living standards at Aokautere for the suburban low-density areas are aligned with Operative Plan standards (36sq.m, 4.5m amenity circle). For Aokautere's medium density areas the standards are aligned with current MUHA standards (min 30sq.m, 4m diameter amenity circle) with adjustments for upper-level units (8sq.m in area unless a unit has less than two bedrooms in which case a minimum of 5sq.m applies). The proposed smaller minimum area (5sq.m) for upper-level small units recognises the need for a lesser area for smaller households. This also offers

construction cost savings, assisting affordability while at the same time providing for reasonable residential amenity.[33]

73. Garden and privacy spaces were raised within submissions. I have reviewed the proposed submissions and recommend slightly revised open space standards for at ground and above ground dwellings. These adjusted standards represent minor departures from the notified standards for PCG, however, they represent emerging best practice and align with the proposed MRZ.

Other Draft MRZ standards

74. While it is not a matter for this plan change, I recommend that Aokautere's Medium Density Village area should be subsumed in the future into the Council's Plan Change I, which will introduce a medium density residential zone. This would have the benefit of applying other standards that would enhance amenity, such as the 'Outlook Space' standard[34]; requirement for a minimum level of sunlight access; front façade glazing percentages; front door orientation and shelter; car parking at the street frontage; and, minimum percentages for landscaped areas.

I. SUBMISSIONS

75. I have reviewed all of the 107 original submissions and five (5) further submissions for PCG and respond to those that address urban design related matters. Submissions are made both in support of and opposition to the proposed plan change. I have grouped the urban design related issues raised in submissions under the following 17 topics.

Topic 1: Unsuitable location for residential development

76. Several submitters support the proposed location relative to avoidance of flood-prone areas and use of low-value land. I do not comment on these matters.

[33] Dimensions for a table for 2 people (600mm dia) plus 500m length per chair either side would need a min space length of 1.6m and a width of 600mm Table + say 800-900mm access so say 1.5m min width. Therefore, a 5sq.m balcony can accommodate sitting out for 2 people and, say, a fold-down washing line.
[34] 6m × 4m for a principal living room; 3m × 3m for a principal bedroom; and 1m × 1m for all other habitable rooms.

77. A number of submitters[35] have noted the plan location is too far from the centre of town, while others[36] are concerned about increases in car dependency. A further submission[37] has noted potential severance from the Summerhill centre. Other locational concerns[38] relate to development impinging on bush reserves and the difficulty of developing on hills.

78. I do not agree with these submissions. As part of the plan change process, I have assessed matters related to strategic location, accessibility, bush reserve impacts and developability. Palmerston North's growth options are constrained. The 'City Growth Plan' (2021-31) identifies Aokautere as a growth area, development of which is to be guided by a Structure Plan. About 6kms from the city centre, Aokautere is only one kilometre (approx.) further away from The Square than other main growth opportunities i.e., Kākātangiata and Whakarongo. Several factors reduce the need for residents to access the central city in private vehicles. The Structure Plan includes a new large Local Centre (Aokautere Neighbourhood Centre) and improved connectivity with the existing Summerhill centre. Active modes are supported with a network of off-road trails, dedicated cycle lanes and shared paths on key connector routes, which join commuting routes to Turitea and the central city.

79. Significant stands of bush are located in gully reserves where extensive re-vegetation and remediation occur. Only the relatively flat plateaus are subdivided for housing. Setbacks protect the gully slopes from building development and detailed work has been undertaken by geotechnical, ecology and stormwater experts to ensure the gullies are maintained and enhanced. Cross-gully roads are limited to two key strategic links, and these routes are located and designed to minimise impact on existing terrain.

80. Aokautere's existing Rural Zone land is already fragmented by topography and subdivision. Comprehensively planned residential development is easier because large tracts of land remain in single ownership. The Structure Plan assists this process by assembling existing piecemeal subdivisions into a coherent whole.

[35] Submission S18, S11, S43, S54, S56, S62, S63, S68.
[36] Submission S43, S54, S62, S63, S66, S68, S69, S73.
[37] Submission S35.
[38] Submission S54, S107, S92.

Topic 2: Planned approach to growth

81. A number of submitters[39] support the co-ordinated, planned approach to growth for Aokautere, particularly the preparation of a comprehensive plan. One submitter[40] has identified support for the 'landscape-led' approach while others[41] provide general support for PCG. These 16 submitters observe that comprehensive planning – such as that provided by the Structure Plan – is preferable to piecemeal, ad hoc development.

82. I note this support and agree with a best practice approach to masterplanning that considers the wider picture, promotes integration and connectivity and recognises the unique features of a place.

Topic 3: Prescriptiveness of the plan

83. This topic addresses submitters[42] concerns around the prescriptiveness of the proposed Structure Plan. The submitters have identified a general concern that the plan is too detailed and prescriptive and should enable alternatives and modification. Submitter issues include a lack of feasibility, inflexibility regarding demand, and that the masterplan is inappropriate in a District Plan and should not be considered at subsequent consenting stages. Inflexibility of the proposed retirement village was a specific point mentioned by Submitter 51. I provide separate comments in relation to the plan change provisions under Topic 15 later in this section.

84. It remains my opinion that a range of factors necessitate specific design responses in Aokautere. The Aokautere area is a semi-developed area, has complex terrain, fragmented (existing) subdivision, specific stormwater and geotechnical parameters and developable land that is geometrically constrained. The Structure Plan stitches together existing piecemeal development areas in a co-ordinated and connected manner. In addition, PCG seeks to achieve an optimal arrangement of development in and around the new Aokautere Neighbourhood Centre. The locations of Connector Roads are also specific so as to achieve a joined-up street layout, movement 'loops' and

[39] Submission S22, S41, S43, S45, S48, S59, S60, S64, S68, S73, S77.
[40] Submission S77.
[41] Submission S79, S87, S93, S94, S101.
[42] Submission S51, S58, FS5.

a satisfactory level of integration with existing housing. These matters are set out in more detail at Section G 'Masterplan Description', paragraphs 34-39.

85. Having considered submissions on this topic, they are partially supported.

86. To allow more flexibility, I have recommended the proposed streets are divided into two categories. One category has fixed locations namely, Urban Connectors 'A', 'B', 'E' and 'F' and Activity Streets. The other category has flexible locations namely Local Streets, Peri-Urban Roads and Urban Connectors providing cross-gully connections. These categories are shown on Structure Plan Map 7A 4A. Indicative lot layouts, previously shown as dashed lines, have been removed from Structure Plan Map 7A.4B. I have explained these changes above.[43]

87. The Structure Plan otherwise provides for a variety of suburban and medium density outcomes, with a view to encouraging diversity. I remain of the view that this is appropriate. The notified Structure Plan includes a Retirement Village Variation in North Village. This provides an alternative design option for the landowner/developer should they wish to pursue a retirement village when developing the land. [44] Medium-density housing with minimum net densities on the promontories is no longer 'required' by the plan (for reasons I have explained) and the density is now suburban. However, flexibility exists with medium density development enabled in these areas through a resource consent process, as is the case elsewhere in the city. Within the Aokautere Medium Density Village area minimum densities apply to whole subdivisions i.e., flexibility remains at the scale of individual lots. The Structure Plan and provisions also remain flexible regarding dwelling type. These options and attributes ensure that the Structure Plan offers a good level of flexibility. Detail can be varied and/or finalised as part of a resource consent process for individual subdivision and land use consents.

88. The Structure Plan has been subject to a number of feasibility studies. The Structure Plan is consistent with Council's growth projections, which are evidence-based as required by NPS-UD.[45] In particular, PCG gives effect to the Housing and Business

[43] At paragraphs 49, 50 and 54
[44] At paragraph 30 (i).
[45] NPS-UD Policy 2 "at least sufficient development capacity"; Section 3.2(1) provide for both "stand along and attached dwellings"; Section 3.2(2) sufficient capacity to be "plan enabled"; and Section 3.12 consistent with FDS. In this regard the Council is preparing is HBNA as part of the FDS.

Development Capacity Assessment (HBA)[46] and the City Growth Plan 2021-31. As a result, there is confidence that Aokautere's development is consistent with projected demand for new housing in Palmerston North. The Structure Plan has also been subjected to a series of technical feasibility studies including geotechnical assessment, stormwater management, ecology and traffic / transport. These studies have confirmed viability and contributed additional design parameters.

89. Although not part of the Structure Plan, the Aokautere Masterplan is a feasibility study in its own right. The Masterplan tests whether the Plan's various principles and provisions are consistent with good design at the scale of individual lots, blocks and neighbourhoods. Ms Copplestone addresses the role of the Masterplan within the District Plan in her section 42A report.

Topic 4: Consultation

90. Two submitters[47] have raised concerns around a perceived lack of engagement and/or agreement with landowners. Consultation was undertaken with various institutional stakeholders as noted previously,[48] facilitated by the Council. This includes a public consultation event in August 2019. As noted earlier in my report, I attended, alongside other members of the project team and Council officers. There were 65 attendees, and feedback was recorded during the event via annotations on large format drawings. These issues were considered in the evolution of PCG. Comments were made both in support of and objection to the proposals. Concerns over development at the ends of plateaus (promontories) were noted, including the distribution of housing density. Comments also focused on management of stormwater and impacts on the gullies.

Topic 5: Density and housing type

91. The topic of housing density generally was the focus of a large number of submissions as well as sub-topics related to housing sprawl, affordable housing, gated communities, and providing more rural residential land. Submitters identified both 'excessive density' and 'insufficient density' as concerns.

[46] HBA Page 90 – Greenfield growth of 5,003 dwellings + Infill growth of 3,802 dwellings (long term).
[47] Submission S58, S65.
[48] At paragraph 26.

92. In terms of density and diversity of housing, a number of submitters[49] noted support for the PCG. These seven submitters support provision for a range of dwelling types including multi-unit housing. Some submitters also perceive multi-unit housing to be more accessible to renters and to Māori. If this premise is correct, then the extent of multi-unit (10.7% of total net residential site areas)[50] is itself conducive to achieving affordable housing at Aokautere. This calculation only includes the Aokautere Medium Density Village area. If medium density development were also to occur (as enabled) on the promontories, then 14% multi-unit housing would be achieved for PCG. In terms of housing yield medium density could therefore deliver between 16% and 37% of the overall plan's housing numbers, depending on density assumptions.[51]

93. Three submitters[52] are concerned the proposed plan change lacks affordable housing, identifying the need for Council-owned housing for rental, minorities' path to home ownership and an area for a Pacific housing provider. Housing tenure is beyond the scope of PCG. However, the Structure Plan establishes an efficient street pattern with a range of densities and lot sizes, and places a large number of residents within walking distance of local services and public transport. In my experience, these attributes are conducive to multi-unit development by Kainga Ora and other affordable housing providers.

94. One submitter[53] states the Structure Plan will deliver a 'gated community' look and prefers tree street frontages not walls. I disagree with this submission. If it is well designed, medium-density housing (including multi-unit developments) will contribute to a high-quality streetscape and a strong sense of community. Several factors assist in producing this outcome:

    (a) Although front yards tend to be shallower to make efficient use of typically smaller lot sizes, there is stronger housing frontage or 'presence' along the street.

[49] Submission S43, S77 (variety of housing), S22, S27, S77, S83 (inclusion of medium density); S68 (provision for multi-unit), S64 (enables rental), S77 (accessible to Maori), S22, S77 (medium density adjacent to centre and reserves).
[50] Calculation includes both existing and proposed residential areas within PCG.
[51] At paragraph 97.
[52] S47, S69, S70.
[53] S69.

(b) Housing design in medium density areas is subject to more rigorous design scrutiny (as a restricted discretionary activity) and coupled with the Operative District Plan's (ODP) Assessment Criteria will ensure attractive outcomes.

(c) In a gated development, dwellings back onto public streets at the perimeter of the site. At Aokautere, housing is required to front adjacent streets with architectural detail, habitable rooms and a legible entrance and will not result in a gated type of development. Good design, as ensured by ODP Assessment Criteria, is a source of visual interest that will augment as density increases.

(d) As densities increase, a street's built edge typically becomes more continuous and more conspicuous. Rather than detracting from the streetscape, the resulting enclosure identifies the street as a clearly defined spatial entity.

(e) Smaller lots are associated with two and three-storey dwellings. Even if garages partially occupy ground floors, first and potentially second-floor elevations contain human-scale features such as balconies and windows onto habitable rooms. Compared to ground-floor openings, upper-level windows are less likely to be concealed by vegetation. So, in medium-density areas, built-up street edges typically contain more conspicuous signs of human presence.

Topic 6: Insufficient density

95. A number of submitters[54] are concerned about low-density sprawl, high car-dependency and that there are few locations for multi-unit housing. In particular submissions S18 and S20 do not wish to see more single-family dwellings while S31 and S95 recommend the use of alternative compact urban design models. More intensive use of Pacific Drive is proposed (S43) along with taller, denser housing with retained green spaces (S69). Co-housing should be enabled (S73).

96. I generally disagree with these submissions. Aokautere's single-family housing is part of a balanced growth strategy for Palmerston North as a whole.[55] In line with the NPS-UD (Policy 1), PCG provides for medium-density dwellings adjacent to parks and

[54] Submission S18, S20, S27, S31, S43, S62, S68, S69, S73, S95, S97.
[55] Housing and Business Needs Assessment (Draft) 2023 – whilst greenfield development has dropped from almost two-thirds to one-third there is still a clear need for larger family housing, particularly larger homes of 5 beds or more.

services in the North Village area. As previously noted, the Structure Plan enables 10%-14% of the net residential area as medium density housing with a yield of 16%-37%. The lower range is not inconsistent with Palmerston North's overall proportion of medium density housing (14%).[56]

97. Testing of housing numbers shows that medium-density dwellings could account for some 16% to 37% of all housing in the Plan Change area[57] depending on net density and dwelling typology. Within medium-density areas, minimum density standards of 25dph ensure that efficient use is made of the most strategically located land.

98. Economic / property evidence prepared by Ruth Allen and Gareth Nicholl has confirmed the feasibility of medium-density housing at Aokautere (based on 2021 values). This evidence addresses submissions by some landowners about the level of demand for multi-level units in attached or semi-detached layouts. In my opinion, PCG balances these concerns against the need to diversify housing stock and make efficient use of scarce greenfield development sites.

99. I note that co-housing is a form of multi-unit development. The Structure Plan can accommodate this model especially in Medium Density and Local Centre areas.[58] In theory, individual co-housing units are smaller than conventional dwellings. Typically, co-housing developments include a communal kitchen, living area and potentially other shared facilities. In low to medium-density environments, these are likely to be treated as standalone purpose-built accommodation. I understand 'Community Houses' are a Permitted Activity[59] (subject to compliance with permitted activity standards).

100. Some submissions are opposed to the introduction of more rural residential development[60] and would wish to see the Turitea area included in the urban growth proposal.[61] I do not agree with these suggestions. 'Lifestyle blocks' continue to play a role in overall housing provision. Indications from the Councils emerging updated HBNA

[56] Stats NZ data for PNCC (2021) provided by TPG.
[57] Housing yield is heavily influenced by assumptions towards density within the Medium Density Village area. At the lower density standard (25DPH) PCG could deliver 298 medium density dwellings, at 50DPH 597 dwellings and at 80DPH 955 dwellings. These in addition to proposed standard residential (567) and existing including consented lots (903). As a percentage of total, this ranges from 16% to 27% to 37%.
[58] Refer to the section on housing needs within Ms Copplestone's section 42A report.
[59] Rule 10.7.1, Palmerston North City District Plan.
[60] S27, S31, S43, S97.
[61] S101.

are that the number of consented rural residential lots has been consistent over the period 1999 to 2022 (circa 15%).

101. At Aokautere, rural residential lots are driven by terrain, character and existing land use patterns rather than a desire to promote this type of residential development. The Rural Residential overlay is confined to the southern portion the PCG area and is contiguous with an existing area of lifestyle properties centred on Valley Views Road. In this respect, the Structure Plan consolidates the existing semi-rural character.

102. To the south, rural residential zoning is applied to an area of pastureland which is too deeply incised to accommodate suburban housing. In this location, lifestyle properties provide a transition between new residential subdivision and existing rural land allows a network of gullies to be preserved and enhanced as bush and wetland areas.

103. Rural residential development also helps justify new Peri-Urban Roads in the southern portion of the Structure Plan. These roads provide greater connectivity and resilience to Aokautere's movement network.

104. Finally, at 3%-5%, I note that the number of new rural residential properties is small in relation to total yield from PCG.

Topic 7: Excessive density

105. Two submitters[62] seek either a reduction in the extent of medium density housing or removal of all multi-unit housing. Submitter 58 states there is no evidence for demand for medium density housing. Several other submitters[63] are concerned that medium density housing provides little privacy and open space, that space between dwelling is also "little" and that height is excessive. I do not agree with these submissions for the reasons provided below.

106. The NPS-UD (Policy 1) requires Tier 2 authorities like PNCC to enable the construction of a variety of dwellings including both stand alone and attached dwellings. The Council is also required to enable heights / densities commensurate with accessibility or

[62] Submission S58, S74.
[63] Submission S9, S40, S87.

relative housing demand.[64] This is addressed in the evidence of Ms Copplestone. The Council's HBA shows sustained high demand for new housing in the city and 2021 with medium density housing comprising some 14%[65] of overall housing stock. In this circumstance, the Council is obliged to promote efficient use of scarce greenfield development sites.

107. If they are well-designed and comprehensively planned, a range of dwelling types contributes positively to the character and amenity of new residential areas. Taller houses and more built-up street frontages help to create a recognisable Local Centre. Compact dwellings on regular lots reinforce the distinctive geometry of North Village's formal street layout. Medium-density housing adds variety to Aokautere's built fabric. This is accompanied by greater diversity in household composition, which in turn supports diversity and vitality. Finally, medium-density housing provides increased patronage to shops and services in the proposed Local Centre.

108. Matters of privacy, open space, space between dwellings and height have been raised in three submissions[66] that consider PCG does not appropriately provide for these matters. I do not agree with these submissions. Whilst not applicable to a Tier 2 city like Palmerston North, the NPS-UD and associated MDRS have established a national position towards appropriate housing density standards and amenity. For Palmerston North, these have been tested through the emerging MRZ (PCI) process and modified to achieve better amenity outcomes both on-site and for adjacent properties. I have described these changes earlier.[67]

109. At Aokautere, comprehensive planning, application of some proposed MRZ standards and design-based Assessment Criteria (ODP) all help to produce a favourable living environment in medium-density areas. Achieving this outcome begins with a street layout that is conducive to regular east-west oriented lots and consistent front-to-front and back-to back relationships. In my view, the Structure Plan achieves this layout.

[64] HBNA (Draft) – Consents for apartments and multi-unit dwellings have increased from 0% (1999) to 20-30% (2020-2022). Identified need for more 1-2 bedroom homes and to provide for a range of section sizes including multi-unit development in all new growth areas.
[65] Paragraph 96
[66] Submission S9, S40, S87.
[67] At paragraphs 59-74.

110. Within this spatial structure, development standards encourage neighbouring dwellings that are uniformly set back from the street and attached or closely spaced along their side boundaries. This arrangement allows amenity to be concentrated at the front and rear of each property, where it is most beneficial to "street presence" and private outdoor living. The fronts of houses "borrow" amenity from the street corridor, which is landscaped to a high standard as described in the Structure Plan street cross-sections.[68]

111. In specific terms, rear-yard amenity is achieved with more restrictive recession planes. These reduce shading and overlooking within the rear third of each residential lot and increase the degree of 'openness'.[69] The purpose of the HIRB standard for PCG is to manage height and bulk at external boundaries, to maintain reasonable levels of sunlight access and minimise adverse visual dominance effects on immediate neighbours. The standard encourages the tallest and bulkiest parts of buildings to be located towards the street frontage of the lot and away from the boundaries at the rear of the lot where private open space usually occurs. Three storey development with the third storey close to side and/or rear boundaries compromises the potential to achieve a well-functioning urban environment and the well-being of people and communities. The PCG proposed 5m + 45° ensures the uppermost storey is set back from side boundaries to address visual dominance and overlooking while 2.8m + 45°

112. Multi-level construction is necessary to enable medium density typologies with 45% site coverage and 25% permeable surface area. Two-storey houses are a traditional feature of Palmerston North's suburban fabric. Nationally, a popular model for medium-density housing is the three-storey townhouse with garage at ground, first-floor living and bedrooms above. This is enabled by the proposed 11m height standard. As Palmerston North grows and intensifies, it is anticipated that this dwelling type may become more common (as has been the case in other urban centres).

113. On-site private open space requires a minimum 30sq.m area with a 4m diameter 'amenity circle' for dwellings. This improves on the MDRS 20sq.m with 3m minimum dimension standard and maintains the ODP minimum 30sq.m with 4m circle for MUHA. Extensive gully reserves in close proximity to medium density housing compliment

[68] Structure Plan Map 7A.4D and cross sections 1-17.
[69] At paragraph 63 and also see Appendix D.

private gardens and offer a very high level of outdoor amenity. In addition, I have recommended that Aokautere's Medium Density Village area be eventually subsumed into the Council's wider MRZ process through Plan Change I.[70] This would see other standards included that would enhance amenity further.

Topic 8: Rural and rural residential zoning

114. Two submitters[71] have commented on zoning matters related to rural residential of the 'Green Block'[72] and 'Waters land'[73] while a Further Submission[74] has noted a general need to enable "alternatives and modifications" to PCG.

115. Matters related to zoning changes are dealt with in the evidence of Ms Copplestone. In relation to enabling alternatives, I agree in part with the submission and note that Structure Plan Map 7A.4A has been amended to provide for Peri-Urban roads as 'flexible' in terms of their final alignment. As previously noted,[75] the rural residential overlay is recommended to be removed from land within the $55dBA_{Lmax}$ noise contour.

Topic 9: Character change and loss of existing rural character

116. Four submissions[76] have commented on general character loss related to semi-rural / rural and open space. Traffic effects on the character of Turitea Valley including Valley Views Road is identified by a further four submissions[77]. I address Moonshine Valley character later at Topic 17 as part of 'Promontory Clusters'.

117. I do not agree with these submissions. The expanded Residential Zone has little direct visual impact on Valley Views or Turitea. At the top of the western escarpment, a modest southward extension of housing continues an established edge condition along Pacific Drive, Varsity Heights and Cyprus Place. Elsewhere towards the south, development is limited to rural residential lots, which generally match the character of existing lifestyle properties along Valley Views Road. Turitea Road has a more authentic

[70] At paragraph 74.
[71] Submission S45, S61.
[72] Submission 45.
[73] Submission 61.
[74] Submission FS5.
[75] At paragraph 46.
[76] Submission S2, S10, S29, S107.
[77] Submission S31, S35, S56, S86.

rural character. However, the rural residential zoning already applies to either side of the road's curtilage.

118. Some of the submitters' concerns are based on increased traffic volumes i.e., the prospect that additional vehicles will deprive local roads of their rural character. This is unlikely to be the case on Valley Views Road, which is protected – in the short to medium term – by a strategically located break in the new Peri-Urban Road connecting up to Pacific Drive. While active modes can pass, the break prevents motorists accessing Valley Views Road from Pacific Drive. In time, a full road link will be introduced following improvements to the Valley Views Road intersection with Turitea Road. Even then, the convoluted nature of the Pacific Drive/Valley Views Road link will discourage large numbers of motorists from using the connection as a through-route. As a result, the number of vehicles on Valley Views Road is expected to rise by a modest amount (low volumes) and will be within the capacity of the road. This is addressed in the section 42A report of Ms Fraser.[78]

119. A proposed Peri-Urban Road accesses Turitea Road directly from Waters land. A circuitous trajectory makes the new road unattractive as a through-route. As a result, vehicle numbers on Turitea Road are expected to rise by a relatively modest amount (as explained further by Ms Fraser). Aokautere residents along Pacific Drive will find it easier to access SH57 and Fitzherbert Bridge by travelling north along Pacific Drive and traffic effects on Turitea Road character will be limited.

Topic 10: Lack of amenities / services and walkable destinations

120. A number of submissions[79] consider the plan change to lack shops, a primary school and other facilities including day-care. Desire for a sports field was also noted.

121. The Section 42A report of Mr Phillips addresses the provision of open space including playable spaces and gully reserves.

122. In terms of any lack of commercial and community amenities, I do not agree with the submitters' views. Services will be available locally to Aokautere residents. Within Aokautere itself, the proposed Aokautere Neighbourhood Centre will provide around

[78] Section 42A report Table 4, point 4.
[79] Submission S2, S11, S18, S66, S69, S73, S101.

5,000sq.m (GFA) of retail / commercial / community space. This includes provision for an anchor store such as a superette. At nearby Summerhill, the shopping centre contains a full-service supermarket and pharmacy. On the adjacent Ruapehu Drive, there are early childhood facilities and a site for a proposed primary school. When built, the school will be approximately 2km from the proposed Aokautere Neighbourhood Centre, which is at the core of the Structure Plan area.

123. Improvements to the intersection of Pacific Drive and Aokautere Drive as noted on Structure Plan Map 7A.4 (annotation 'K') will facilitate improved access to Summerhill. Further, both the school site and the shopping centre are accessible, at least in part, via off-road trails.

124. Two submissions[80] have identified concerns that there are few walkable services available, and that primary school provision is inaccessible, noting the need for children to walk to school safely. I agree that primary school active mode access for parts of the structure plan area is not readily available (the proposed school on Ruapehu Drive will be beyond a comfortable walking distance), but disagree that few walkable services are available.

125. Ideally, Aokautere would have its own primary school. A local school helps to build a sense of identity. It ensures education is accessible to young children using active modes. Schools also offer a range of amenities and events that benefit the wider community. Early versions of the Structure Plan included a school site on the perimeter of North Village. This component was removed following discussions with the Ministry of Education, given its commitment to building a new school at Summerhill. However, the Structure Plan remains receptive to a local primary school, that could be provided as part of a future consent process.

126. The location and layout for the Aokautere Neighbourhood Centre has been arranged to achieve a high degree of local walkable access to amenities (Figure 10). Blocks are kept small, ensuring permeability and higher housing densities within a 400m catchment encourage greater numbers of people to live closer to the centre.

[80] Submission S18, S57.

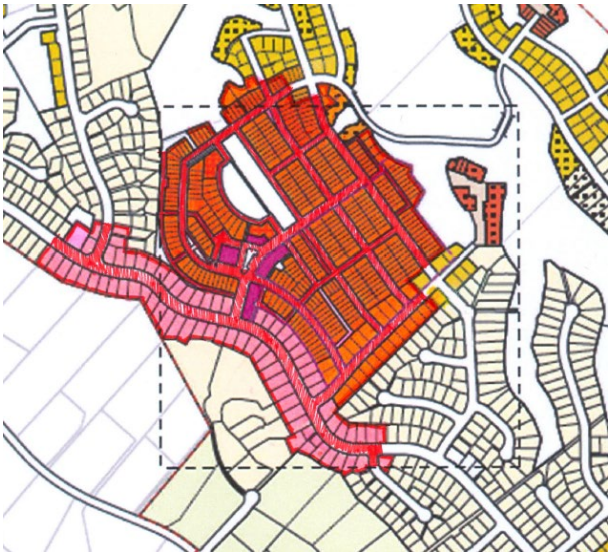


Figure 10: Local Centre 400m pedestrian catchment

127. The Local Centre is readily accessible for people who use other active modes i.e., scooters, bikes, ebikes, etc. Many residents – particularly those living in the areas of proposed development – can travel to and from the shops by bus, on shared paths, dedicated cycle lanes and off-road trails.

128. Despite the population of its "ped shed",[81] the Local Centre also relies on motorists for its economic viability.[82] For this reason, the commercial precinct is grafted onto Pacific Drive where shops and services are visible to motorists as they enter or leave Aokautere by way of SH57. This reliance on vehicular traffic explains why the precinct is located eccentrically rather than at the Structure Plan's geographical core, where more residents might be able to access the Centre on foot.

129. The southern portion of the Structure Plan, including South Village, is beyond comfortable walking distance from the Local Centre. Existing subdivision has introduced an impermeable street layout between the two areas. Particularly for existing residents, access to proposed shops and services is convoluted. So, in purely spatial terms, a second smaller commercial area may be justified at the southern end of the plan. However, Aokautere cannot support two Local Centres,[83] not if each is large enough to offer an attractive range of services and to be perceived as a genuine

[81] The pedestrian catchment of a location related to walking distance.
[82] Evidence of Mr Cullen, paragraphs 25, 70.
[83] Evidence of Mr Cullen, paragraph 103.

destination. From an urban design perspective, it is preferable to achieve critical mass and a vibrant community heart in a single location.

Topic 11: Movement / connections and subdivision extensions

130. A number of submissions[84] have been made in relation to connectivity between Valley Views residents and the proposed PCG area, seeking to maintain the status quo. These matters are primarily addressed in the evidence of Ms Fraser. From an urban design perspective, I do not support the submissions. I consider best-practice urban design supports the creation of a joined-up network of (peri-urban) roads in the southern portion of the Structure Plan area. Benefits include increased contact between residents and visual contact for passing motorists, resilience and a wider choice of circuits for recreational walking and cycling. If vehicle access to Valley Views Road eventuates, rat running is unlikely owing to the convoluted road layout. Further disincentives for through-travel could be provided in the form of traffic calming.

131. Three submissions[85] have been made objecting to the proposals at Adderstone Reserve including the extension of Abby Road to service this area and links to Johnstone Drive. I do not agree with these submissions. The extension of Abby Road is consistent with the broader landscape-based pattern of development at Aokautere. Suburban housing occupies the plateaus while gullies are reserved for wetlands and re-vegetation. At Abby Road, the developed area and the flat playable portion of Adderstone Reserve separates gullies G10 and G11. A similar pattern exists north of Aokautere Drive, where Cashmere Drive provides access to housing on the plateau's northern extension.

132. The Abby Road extension could deliver around 30 additional standard residential lots and further 5 lots on the re-zoned area of flat land off Pacific Drive. The modest scale of the development means that the existing portion of Abby Road will experience a limited increase in traffic (circa 30 vehicle movements per hour) that is within the capacity of the road, according to the transport assessment of Ms Fraser.[86]

133. The number of new lots is relatively low because Adderstone Reserve occupies the western half of the flat portion of this plateau. The Abby Road extension enhances

[84] Submission S86, S13, S16, S86.
[85] Submission S71, S79, S99.
[86] Section 42A, Table 4, Point 6.

visual and physical access to the playable portion of Adderstone Reserve. Currently, the reserve has almost no visible presence on local streets. The reserve's playable area combines with gullies G10 and G11 to create exceptional open space amenity. It is appropriate to make this amenity more widely available. This is achieved with additional residential lots and improved physical and visual access.

134. I have not addressed the submissions relating to the Abby Road connection to Johnstone Drive, given the Notice of Requirement (NOR) has already been approved to facilitate this new link. These matters are beyond the scope of PCG.

Topic 12: Pedestrians / cyclists and public transport

135. A large number of submissions[87] have raised concerns about the provision for active modes and public transport. These matters are addressed in the section 42A report of Ms Fraser.[88] I provide additional comments on urban design-related matters.

136. Submissions claim the Structure Plan will not shift demand and should provide an integrated plan for public transport and active modes, avoiding active mode severance.[89] Specifically, submissions seek improved paths to Cliff Road,[90] question how cyclists cross SH5 to Cashmere Drive[91] and identify the need for better links to the city and to Massey.[92]

137. For reasons I set out below, I do not agree with these submissions:

(a) Urban Connector streets form two circuits: one in the northern portion of the Structure Plan and one in the south. These routes – each of which includes a cross-gully link – organise existing and proposed local streets into a coherent movement system. The circuits provide efficient routes for public transport. Offering at least three new Public Transport routes, the Urban Connectors provide built-in flexibility including the ability to expand bus services as demand grows.

[87] Submission S14, S19, S20, S22, S28, S54, S62, S63, S95, S96, S98, FS2.
[88] Section 42A, Table 4, Points 21 and 22.
[89] S63, S95, FS2.
[90] S95, S96.
[91] S98.
[92] S14, S19, S20, S22, S28, S62, S95, S96, S98, FS2.

(b) Urban Connectors and Activity Streets make explicit provision for cyclists. This occurs as dedicated 1.8m cycle lanes within the carriageway or as a 3m shared path along one side of the street corridor. As low-speed environments, Local Streets accommodate cyclists and motorists within the carriageway.

(c) The Structure Plan includes a new shared path along the south side of Aokautere Drive between Johnstone Drive and Pacific Drive. The shared path intercepts gully trails within G10 and G11. Potential exists for an almost seamless connection from G10 across Johnstone Drive to the more expansive G1 (Figure 11). If this link is made, reserves provide off-road trails all the way from Aokautere Drive to the core of North Village.

Figure 11: Off-road trails in the northern portion of the Structure Plan

(d) The junction of Aokautere Drive and Pacific Drive is proposed to be signalised and a new pedestrian crossing is introduced on Aokautere Drive between Cashmere Drive and Johnstone Drive. In combination with the new shared path, these measures increase active mode connectivity across SH57.

(e) The Structure Plan establishes conditions for a pedestrian/cycle connection between Adderstone Reserve and Titoki Reserve. For active-mode commuters, a grade-separated link would deliver off-road travel between North Village, Cliff Road and other established pathways along the southern side of the river.

Topic 13: Gully crossings and gully-edge streets

138. Three submissions[93] have identified matters relating to access and development across and along the gullies. Support is provided for the "broad location" of the Gully 3 crossing,[94] though with flexibility sought on the exact alignment. Other submissions support the need for public enjoyment of the gullies and minimising housing backing onto these.[95] However, this support is tempered by S58 that objects to undeveloped frontage, seeking instead breaks in the built edge.

139. I note the support of submissions in favour of gully crossings (subject to flexibility in final alignment, which I agree with), and the preference for public enjoyment of gullies.

140. I do not agree with the submission related to undeveloped gully road frontage.[96] At the targeted density, the central portion of this promontory is three lots wide. If designed with a single central access road, this dimension would result in a large number of back lots. Back lots are undesirable because they undermine the relationship between public and private realms.

Figure 12: Johnstone Drive (left), Pacific Drive Stages 6-8 (right)

141. This can be seen towards the northern end of Johnstone Drive, where lots are three or four deep along private rights-of-way (Figure 12, left image). In such circumstances, key ingredients for a successful public-private interface are compromised. These include: a lack of street-fronting address; the degree of visual interest; the ease with which

[93] Submission S58, S64, S77.
[94] Submission 58.
[95] Submissions 64 and 77.
[96] Submission 58.

passive surveillance occurs; and the extent to which inhabitation is visible. Back lots also produce additional curb cuts and increase the proportion of the street frontage that is vehicle dominated. Under these circumstances, it is more difficult to place street trees and create a high-quality streetscape. A local example where this approach is generally avoided occurs at Pacific Drive Stages 6-8 (Figure 12 right image). Here, multiple streets are provided, including along the gully edge.

142. Between Gully 1 and Gully 3, the plateau's longitudinal streets are single-loaded (i.e. development to one side only) at intervals. This creates an intermittent gully edge condition along one side of the thoroughfare. S58 correctly identifies the unusual character of the street on the western edge of Gully 3. Unlike other longitudinal routes, this is single loaded for most of its length. However, the alternative is to have a single central street along the plateau. As well as creating back lots, this arrangement makes it difficult to incorporate a gully-edge street because a central street has a continuous depth of residential land along both street frontages.

143. Single-loaded gully-edge streets ensure that houses face the gullies. This orientation improves passive surveillance and helps to generate an appropriate degree of visual interest. As the largest and most centrally located of Aokautere's gullies, G3 deserves to have an extensive residential frontage.

144. The plateau in question splits into two promontories (D1 and D2) at its northern end. Here, the street pattern is more coherent if each promontory attaches to a separate longitudinal street and I recommend retaining the street pattern as proposed.

145. Finally, single-loaded gully-edge streets increase visual and physical connectivity between these thoroughfares and the gully system. Pedestrians, cyclists and motorists experience the gullies directly and have frequent opportunities to access gully trails.

Topic 14: Street layout and design

146. A number of submissions address the design and layout of streets. These matters are primarily addressed in the section 42A report of Ms Fraser. I comment only on those that have urban design (spatial) implications.[97] One submission[98] has raised a concern

[97] Submission S45, S32, S58, FS2.
[98] Submission 45.

about the provision of a 'boulevard' (Figure 13) within the 'South Village' area and wishes this to be replaced with a "normal street". The same submission also claims the Structure Plan has little external connectivity. I do not agree with either of these submission points.

Figure 13: South Village boulevard

147. South Village lacks conventional Local Centre attributes such as higher-density housing and non-residential functions. Instead, the area's distinct character derives from gridded streets and a more regular subdivision pattern than occurs on neighbouring plateaus. Straddling the extension of Pacific Drive, the boulevard creates a recognisable threshold between existing housing and South Village. Measured from Aokautere Drive, Pacific Drive is more than 2km long at this point. Over such a distance, it is important for the route to be punctuated with public open spaces or other local features. Currently, Adderstone Reserve, Pacific Drive Reserve and Peace Tree Reserve perform this function. If the Structure Plan is implemented, commercial buildings at North Village will add a further point of articulation. When the linear park is added to this sequence, the intervals between landmarks measure roughly 400-500m. If the linear park – or its equivalent – is excluded, the final section of Pacific Drive is closer to 700m long, and punctuation of the route becomes less effective.

148. The boulevard/linear park provides a green connection between the Turitea Valley escarpment and the nearest gully (12) reserve. Most of Aokautere's reserves are part of the gully system. Nominally, they have a north-south orientation and preserve fingers of open space between the built-up plateaus. South Village's linear park is unique in that it crosses a plateau and has an east-west orientation. Importantly, these attributes differentiate the park from the formally laid out wetland reserve at North

Village. Omitting the park would deprive the Structure Plan of a distinctive feature. It would also remove an ecological link between two of Aokautere's principal landscape features. I recommend retaining the proposed boulevard/linear park.

149. In terms of the submission that the plan offers little external connectivity, there are four connections to the external road network. In the north, Pacific Drive and Johnstone Drive intersect with Aokautere Drive (existing connections). In the south, proposed Peri-Urban Roads link the Pacific Drive extension to Valley Views Road and Turitea Road. These are located at the extremities of the suburban area where contribution to connectivity is greatest.

150. The proposed connection to Valley Views Road is circuitous and – in the short to medium-term – incorporates a strategically placed break in its carriageway. As a result, Valley Views Road is accessible to active modes but remains protected from through-traffic (as explained in the section 42A report of Ms Fraser). This arrangement limits connectivity (for vehicles) but contributes to the resilience of the whole movement network.

151. The proposed connection with Turitea Road meets near the Structure Plan's southern boundary. The relevant Peri-Urban Road passes through Waters land and provides access to proposed rural residential lots. Although this route is also circuitous, in my opinion, it adds further resilience to the network.

152. Additional external connectivity is provided by off-road trails. These include existing and potential links across Aokautere Drive to Titoki Reserve, Cliff Road and the river corridor.

153. Another submitter[99] is concerned that there is an insufficient number of cul-de-sacs. I disagree. To the contrary, I agree with the submitter[100] that supports a connected system and states the Structure Plan should discourage more cul-de-sacs.

154. Urban design best practice aligns with the view that joined-up street networks are preferred, and cul-de-sacs are used sparingly if at all.[101] Physical separation may foster

[99] Submission 32.
[100] Further Submission 2.
[101] The Smart Growth Manual, 2010, section 7.2 "Connected Thoroughfares"; The Next American Metropolis, 1993, page 64. Also New Zealand Urban Design Protocol, Connections.

a sense of place-based community at the micro level. However, with no through-movement, cul-de-sacs become semi-private enclaves with reduced opportunities for contact with the wider neighbourhood (Figure 14). In my opinion, long cul-de-sacs – such as those found in Aokautere – are not conducive to social contact.

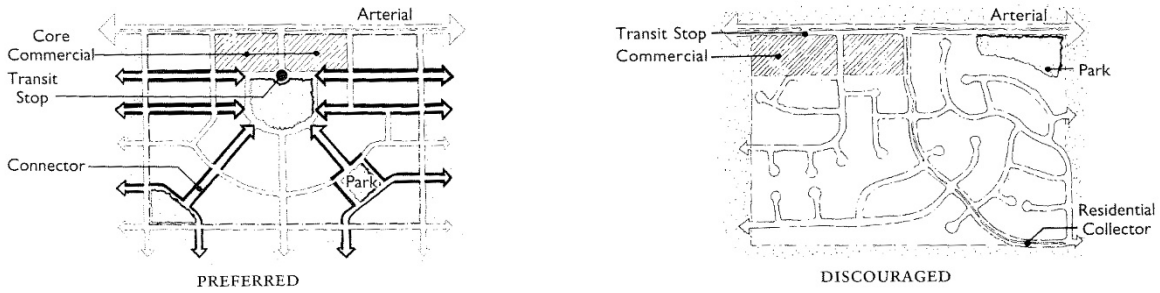


Figure 14: The Next American Metropolis – connected streets vs cul-de-sacs

155. Cul-de-sacs frequently belong to branching "tree-like" street layouts, which typically offer residents a single route between home and destination. This limits resilience and concentrates through-traffic onto a small number of connecting roads.

156. Further, turning areas at the ends of cul-de-sacs are typically dominated by curb-crossings and converging driveways. In these situations, it is difficult to achieve high-quality streetscape or a satisfactory public/private interface.

Topic 15: District Plan Provisions

157. Six submissions[102] have been made in both opposition to and support for the proposed PCG performance standards and assessment criteria. These are primarily addressed in the planning evidence of Ms Copplestone. I focus on any urban design aspects and outcomes of the various provisions and cross reference where helpful to earlier parts of my report, primarily at section H.

158. The proposed minimum housing density standard of 50 dwellings per hectare (50DPH) for housing within the Aokautere Neighbourhood Centre is opposed by S51. I have considered the implications of this standard within the specific centre environment and agree with the submission. As discussed earlier,[103] I recommend this standard is removed to recognise the potential that, in the short term, a low-scale (single storey)

[102] Submission S43, S51, S87, FS2, S103, S104.
[103] At paragraph 41.

centre may only be possible. This outcome should therefore be enabled within the provisions, along with the potential for a reduced amount of residential to upper levels.

159. S43 is opposed to the 5.5m garage setback and seeks a greater 7m setback. I disagree with this submission. PCG requires garages to be set back at least 5.5m. This is marginally less than the 6m setback that applies generally in the Residential Zone[104] and encourages more of the site to be used for habitable space / quality outdoor space rather than vehicle-dominated space. The smaller dimension aligns with emerging MRZ provisions and 5.5m is considered sufficient to accommodate a parked vehicle without encroachment into the footpath or street.[105] If there is no garage, a 1.5m minimum front setback applies within the Aokautere Medium Density Village area of North Village. The smaller setback encourages dwellings to be located forward on their sites thereby producing larger rear yards where privacy and amenity are typically greater. Another consequence of the smaller setback is strong street-edge definition.

160. S43 supports limiting the front fence height along streets to 1m. This is proposed to be adjusted to 1.1m to achieve consistency with fence height standards in other residential plan change areas.[106] S43 also highlights an inconsistency related to fence height as drawn in the Structure Plan Street Cross-sections for Types Urban Connector 'B', 'E' and 'F'. I acknowledge this issue, which has been corrected. Fence heights and setback annotations on private property have been removed from the cross-sections. These drawings are intended to focus on the legal road component only. Any fence height or other controls relating to private property will be in the plan provisions only.

161. I note S51 supports the proposed increase in site coverage for Aokautere to 45% and also seeks "examination" of an extra 1m in building height at the Aokautere Neighbourhood Centre. I support this request in the form of the revised height standard (11m+1m) as addressed earlier in my report.[107] The submission also seeks an "adjusted height recession arrangement". It is not clear what adjustments the

[104] R10.6.1.1 Dwellings and Accessory Buildings Performance Standard (c) Separation Distances.
[105] B85 vehicle length is 4.91 (AS/NZS2890). PNCC Engineering standards for land development set a max car parking length of 5.4m.
[106] Hokowhitu Lagoon, Napier Road and Napier Road extension area (A maximum height of 1.1 metres applies except that solid fencing may be erected to 1.8 metres over not more than 1/3 of the frontage width, and No part of a solid fence above 1.1 metres in height shall be located within 1.8 metres of a driveway, except for gate posts relating to a fence of Open Construction. If the fence is of Open Construction, the fence must not exceed 1.8 metres in height).
[107] At paragraph 61.

submitter is seeking. I note that the proposed recession planes – including different front and rear planes – are necessary to accommodate compact development whilst considering amenity effects (sun and privacy) on adjoining sites. PCG provisions are designed to facilitate two and three-storey dwellings on modestly sized lots. I consider the proposed HIRB to be appropriate for these reasons and note that they also align with Council's emerging MRZ provisions.

162. One submission[108] is concerned about proposed heights of 2-3 storeys and would prefer to see single storey development that preserves "aesthetic value". I do not support this submission. Palmerston North's traditional residential fabric frequently combines one and two-storey houses. Modern construction techniques and contemporary architectural styles are such that new three-storey dwellings often approximate the heights of older two-storey houses. Street trees and other forms of vegetation can also approximate these dimensions. Under these circumstances, the difference in scale between two and three-storey dwellings is relatively modest. Uniform height is not a prerequisite for visual coherence. Certainly, it is possible to create cohesive neighbourhood character with this range of building heights.

163. The prescriptiveness of Local Centre provisions is a matter of concern of some submitters[109] and is addressed in the planning evidence of Ms Copplestone. I have revisited these provisions jointly with Ms Copplestone and have provided urban design advice on various Local Centre provisions (simplification of signage matters; adjustment to the wording of fascia/canopy signage; revision of shopfront figure 11.5A to better align with the provisions). This advice has been incorporated into the amendments proposed by Ms Copplestone.

164. Notwithstanding the changes proposed to simplify/clarify wording of specific Local Centre provisions, I support the general intention to provide clear direction through design controls for local centres. These places are focal points for the community, and it is essential that good design prevails, including the creation of attractive buildings as part of how we experience 'streetscape'. Supporting pedestrian amenity by creating attractive settings will underpin the success of a Local Centre. By way of example, I provide some photos below of what I consider to be less successful Local Centres in

[108] Submission S87.
[109] Submissions S51.

Palmerston North (Figure 15). These examples support better control of signage, fascia size, building design, window area, veranda design and shopfront design.


Highbury

Awapuni

Kelvin Grove

Cook Street

Albert Street

Figure 15: Local Centre developments in Palmerston North

165. Submissions[110] are also concerned about the prescriptiveness of the plan and provisions regarding the retirement village variation. I disagree with these submissions.

166. A retirement village can deliver a sizeable component of Aokautere's medium density housing. However, the full benefit of higher density will only be realised if the facility is integrated with the rest of North Village and the Aokautere Neighbourhood Centre. For this reason, design principles guide the retirement village's spatial structure towards a useful degree of connectivity with the Local Centre and surrounding street system.

167. Medium density housing provides a customer base for local shops and services. Without attractive walking routes to and from the retirement village, the Local Centre could lose almost 50% of its pedestrian catchment. For the residents of the retirement village, good active-mode connections to surrounding public parks and reserves increase amenity and foster healthy lifestyles.

168. Aokautere's street network would be much less permeable if the retirement village is an exclusive enclave. To avoid this outcome, there are at least five connections to the public street system, and the trajectory of a key North Village thoroughfare continues into the retirement facility as its principal gateway. A second route carries through the site as a Local Street. Permeability also depends on the legibility and attractiveness of the village's internal streets. For this reason, two streets are identified as transverse axes. These routes have a "civic" or communal character, which is more inviting to people who live outside the retirement complex.

[110] Submissions S51, S103, S104.

Topic 16: Promontories

169. A number of submissions[111] have raised a range of concerns related to development at the ends of plateaus described as promontories. Two of these submissions[112] relate to stormwater impacts that I do not address. I consider the submissions under several sub-topic headings below.

Visual, aesthetic and other amenity impacts

170. There are concerns that multi-unit development will threaten special character and the need to transition to rural residential. Submitters further note that 'affordable' units should be scattered to avoid stigma. I note in response:

(a) I have already addressed the recommendation to remove the requirement for these locations to provide medium density housing (via a minimum net density) although medium density will still be enabled through the plan.

(b) In these locations, multi-unit dwellings should not be equated with "affordable" housing. Promontory clusters will contain high-value housing owing to the exceptional views and open space amenity. The precedent provided in the Masterplan Report[113] indicates the level of quality anticipated. In my role as design reviewer for resource consent applications in Palmerston North (a role I have fulfilled since 2013 and that McIndoe Urban Ltd has provided since 2003), I am confident that the range of Assessment Criteria, if robustly applied, ensure high quality design outcomes.

(c) With changing lifestyles and demographic patterns, multi-unit housing is no longer associated with rental accommodation or lower socio-economic status. The proportion of multi-unit housing in Palmerston North generally is circa 14%[114] indicating acceptance of this type of development. Aokautere is a desirable suburb and historically, it has attracted households with higher-than-

[111] Submissions S30, S34, S36, S37, S38, S39 S41, S49, S53, S58, S65, S68, S74, S78, S80, S92, S98, FS3, FS4.
[112] Submissions S78, S80.
[113] At page 85.
[114] Paragraph 96.

average incomes.[115] There is no reason to think that future development – including medium density housing – will be any different within Aokatuere.

171. A number of other concerns regarding amenity effects have been raised, including: multi-storey housing on hilltops; seeking a deeper 15m setback; preferences for one and two storey dwellings; preference for large lots; a desire for no medium density housing in this location; loss of privacy, noise; loss of vegetation; views and sun blocked by [Moonshine Valley] vegetation for future residents on the plateaus.

172. A 15m setback[116] has been recommended by Mr Hudson in his section 42A report to be applied to specific areas along the Moonshine Valley boundary where overlooking effects might occur onto Moonshine Valley properties. This supports those submissions (e.g. S39, S65) seeking a deeper setback to mitigate effects.

173. At Aokautere, tongues of elevated land alternate with deep gullies. This arrangement produces intermittent built form rather than continuous development. The promontory ends are also separated by wide vegetated open spaces. The Structure Plan's eastern boundary (above Moonshine Valley) is significantly less built-up than its western boundary (above Turitea). Mr Hudson addresses effects on Moonshine Valley.

174. The promontory areas, if developed as multi-unit housing, represent a different concept of an urban-rural boundary from that of progressive reduction in density. The clusters create a definite edge that emphasises landform and the permanent nature of the interface. In comparison, progressive reduction in density blurs the boundary and may suggest that further expansion/subdivision will occur in the future. As an area of rural residential properties, Moonshine Valley already provides transitional density between urban and rural land. Additionally, the promontories' unbuilt eastern escarpments provide a clear expression of the distinction between urban and peri-urban conditions.

175. If developed as multi-unit housing (refer to the recommended 'variations' within Structure Plan Map 7A.4B), each housing cluster focuses on a shared open space, which creates a definite public destination at the ends of the plateaus. Here, a high degree of

[115] Masterplan Report pages 46, 48.
[116] Refer to the landscape and visual assessment evidence of Mr Hudson.

spatial containment contrasts with the expansiveness of the surrounding landscape. The two conditions can be experienced simultaneously because there are carefully placed gaps in the building frontage. So, despite the enclosure, there is an awareness of the gullies on either side of the promontory. In many cases, the visual connection is accompanied by physical access to the gully trail system.

176. Submissions claim that future residents will have blocked view and sun (e.g. S65, FS4) such that they will not be able to receive 3hrs sunshine over 50% of their area at midwinter. I do not support these submissions. Properties located within D1, D2, D3, D4 and those areas close to the boundary south of D4 are located on open high ground and are likely to receive more than 3hrs of sunlight at midwinter into front and rear spaces. I note that shade generated by vegetation / trees is not typically considered in resource consent applications[117] as vegetation can be removed at any time and casts a different type of shade. In terms of view, all properties on the promontories will benefit from extensive views out in multiple directions and will have considerable awareness of the adjoining gully systems. I do not support the submissions on this matter.

Distance from amenities

177. Submissions[118] are opposed to the plan change on the basis that it is too far from the CBD and is a remote location in the plan with no nearby school or public transport, preferring to locate medium density housing on Pacific Drive (S68).

178. I have previously addressed these matters[119] and note that I do not support the submissions. Medium density housing is usually co-located with public transport, shops and other community facilities. The majority of Aokautere's proposed multi-unit housing is located in the centre of the Structure Plan close to the proposed Aokautere Neighbourhood Centre, parks and public transport. Exceptional amenity can also result from direct visual and physical access to high-quality natural environments and recreational open spaces. With gullies on three sides and elevated views over the wider landscape, the promontories benefit from this second kind of amenity[120] and will be

[117] Based on my extensive experience of design review for PNCC / working with PNCC Consents team.
[118] Submissions S36, S39, S41, S49, S68, FS3, FS4.
[119] Refer to discussion under Topic 10 paragraphs 122-131.
[120] Also see a similar example of this approach in the Masterplan Report, page 85. This Wellington example is circa 1.3km from the nearest Local Centre and connected via bus route.

within 400-500m of proposed bus routes and circa 800m-1km from the Local Centre. This approach has most recently been established through the Mātangi (Whiskey Creek) plan change to the northern edge of the city (3.1km to the closest edge of the Inner Business Zone / 1.3km to the nearest primary school at Cloverlea).

179. I have addressed the submission regarding proximity to a primary school, which I agree would be preferable (but not essential) earlier in my report.[121]

Opportunity for additional medium density housing on Pacific Drive

180. I note my agreement with S68 that several large Institutional and Residential Zone parcels on Pacific Drive may be suitable for medium density housing. The land is close to public transport, as well as a range of shops and services at Summerhill. A primary school is also now proposed to be established on Ruapehu Drive.

181. Although SH57 presents an obstacle to walking, PCG proposes to enhance junctions with this road to accommodate residential growth and to address existing severance for active transport users. The Pacific Drive and Ruapehu Drive intersections will be redesigned to better accommodate pedestrians and cyclists. Furthermore, the local gully system extends across both sides of Aokautere Drive providing corridors for off-road north-south connections.

Topic 17: Aokautere Neighbourhood Centre

182. Submissions both in support[122] of and opposition[123] to the proposed Local Centre (Aokatuere Neighbourhood Centre) have been noted. The proposed centre is seen as a mechanism to mitigate severance for residents who would otherwise need to cross SH57 to access the Summerhill centre. Support is also noted for the location of the Local Centre adjacent to proposed medium density housing.

183. Submissions in opposition are concerned about the feasibility of the Local Centre; car domination (that the central space should be treated as a village square with no urban

[121] At paragraphs 124, 125.
[122] Submissions S22, S43, S35.
[123] Submissions S43, S58, S64, S68, S73.

connector running through); inaccessibility (relocate fully to Pacific Drive / beyond walking distance / add a second centre); and limited retail offering.

184. I have previously commented on some of these matters[124] however they are primarily addressed in the evidence of Mr Cullen.

J. CONCLUSION

185. Aokautere PCG is underpinned by best practice in sustainable neighbourhood design and stitches together existing piecemeal housing into a coherent whole. A new Local Centre, mixed density housing, celebrated gully reserves and a quality, connected street network complete the wider Aokautere suburb.

186. PCG and the associated Structure Plan have been developed over a considerable period of time and by a multi-disciplinary team. This has allowed for robust testing and refinement of the plan.

187. The wide range of submissions have facilitated further analysis and assessment of the proposals and resulted in a number of positive changes that are set out at section H of this evidence. These changes have been subject to scrutiny by the expert team.

188. I continue to support PCG and the Structure Plan, subject to the changes I have recommended, in conjunction with Ms Copplestone.

Andrew Burns

15 September 2023

[124] Refer to Topic 10 of my evidence.

K. APPENDICES

- **Appendix A**: Aokautere Masterplanning Scenarios: MCA
- **Appendix B**: Aokautere Preferred Masterplan: MCA
- **Appendix C**: Proposed Height Diagram for Local Centre
- **Appendix D:** Proposed Height in Relation to Boundary (HIRB) Diagram

Appendix A: Aokautere Masterplanning Scenarios: MCA

Aokautere Masterplanning Scenarios: Comparative Assessment

The following tables provide a comparative evaluation of four masterplanning scenarios. Each scenario is considered in relation to a set of comprehensive assessment criteria that were developed as key issues emerging from an analysis of the project area, context and existing policy framework.

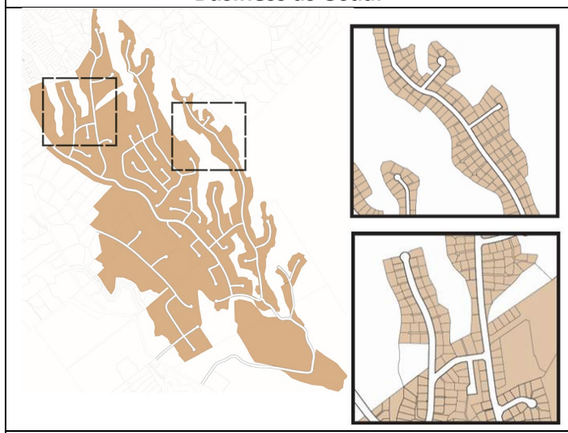
Scenario 1: 'Business as Usual': Continuation of current development approach promulgated by existing landowners/developers. Generally piecemeal development with little/no area-wide integrated planning. Generally, cul-de-sac layouts, reliance on long multi-lot private driveways, no gully crossings. Typical low-density suburban development only, repeated lot sizes and types. No local retail services or facilities.

Scenario 2 'Low-intensity Masterplan': Proposes very low (rural residential) development density to all rural areas within the plan boundary not currently zoned for residential activity. This approach results in low intensity to plateau areas and south of Atlantic Drive. Suburban areas proposed as per Scenario 1 with no gully-crossings and no local centre provision.

Scenario 3 'Conventional Masterplan': Premised on a traditional suburban layout comprehensively designed – large housing blocks with mixture of through-streets and cul-de-sac arrangements. No mixed density, no local centre or school provision. Access to centre of plateaus (limited gully-edge access) and few cross-gully links. Standard minimum lot sizes and minimal variation in street types.

Scenario 4 'Mixed-density Masterplan': A range of housing densities and types proposed and influenced by proximity to local centre retail, open space amenity and educational amenities. A network of streets that connect across gullies and along gully edges. Investment in public gully access, sustainable stormwater management and improved ecology.

Summary Assessment

SCENARIO 1 **Business as Usual**	**SCENARIO 2** **Low-Intensity Masterplan**	**SCENARIO 3** **Conventional Masterplan**	**SCENARIO 4** **Mixed-density Masterplan**
			
Capacity (estimate): 1081 dwellings (1006 resi; 75 rural resi.) No commercial/educ. Lots on land currently not zoned for resi or rural resi: 522 resi.	**Capacity** (estimate): 634 dwellings (443 resi; 191 rural resi.) No commercial/educ. Lots on land currently not zoned for resi or rural resi: 116 rural resi.	**Capacity** (estimate): 896 dwellings (821 resi; 75 rural resi.) No commercial/educ. Lots on land currently not zoned for resi or rural resi: 522 resi.	**Capacity** (estimate): 973 dwellings (898 resi; 75 rural resi.) 0.45Ha commercial site area, 1x 400 place new primary school (1.6Ha site area) Lots on land currently not zoned for resi or rural resi: 502 resi.
Total length of new road (estimate): 21.8km	**Total length of new road** (estimate): 19.6km	**Total length of new road** (estimate): 22.2km	**Total length of new road** (estimate): 25.9km
Key Positives: • Absence of cross-gully links reduces impacts of infrastructure on gully systems. • Large lots can deliver high on-site amenity. • Physical separation/lack of connectivity between suburban and rural resi. ensures firm boundaries exist between these different environments.	**Key Positives:** • Rural residential lots provide a degree of variation to otherwise homogenous layout. • Low density produces low impact relationship with gullies, farms and existing rural residential areas. • Absence of cross-gully links reduces impacts of infrastructure on gully systems. • Very large lots can deliver high on-site amenity.	**Key Positives:** • Moderate internal connectivity with gridded layout and new cross-gully link. • Single new cross-gully link reduces impacts of infrastructure on gully system. • Large lots can deliver high on-site amenity. • Lack of connectivity between suburban areas and Turitea valley results in firm boundaries between	**Key Positives:** • High internal connectivity produces good local access and encourages multi-modal movement. • Local service retail, school as a focus of community. • Graded density and mix of housing types. • Highest levels of housing yield/land utilisation. • Range of street types improves legibility/identity and encourages high-quality streetscape.

	• Physical separation/lack of connectivity between suburban and rural resi zones produce firm boundaries between these different environments. • Smallest amount of new road to be constructed.	these different environments. • Comprehensive planning enables sustainable stormwater management.	• Environmentally sustainable stormwater management. • Recognition of and response to local landscape.
Key Negatives: • Poor area-wide planning and lack of overall design control result in inefficient street infrastructure and less sustainable stormwater management. • Adhoc approach creates isolated housing pockets with few connections to their neighbours. • Lack of public access along gully edges results in less recognition of unique landscape qualities. • Tendency to promote multiple rear lots accessed off narrow private accessways. • Lack of variation in density and housing type promotes unbalanced demographic profile. • No provision of local, walkable services. • Risk of suburban intervention in natural gullies.	**Key Negatives:** • Incoherent street character outcomes with abrupt juxtaposition between suburban and lifestyle lots. • Lifestyle areas do not promote overlooking and safety of streets. • No provision for integrated area-wide stormwater management. • Adhoc approach creates isolated housing pockets with few connections to their neighbours. • Lack of public access along gully edges results in less recognition of unique landscape qualities. • Tendency to promote multiple rear lots accessed off narrow private accessways. • Lack of variation in density and housing type promotes unbalanced demographic profile. • No provision of local, walkable services. Rural resi. encourages vehicle dependency. • Risk of suburban intervention in natural gullies.	**Key Negatives:** • Provision of numerous cul-de-sacs reduces connectivity and discourage active modes. • Large blocks reduce accessibility. • Conventional planning approach fails to optimise stormwater management. • Limited public access along gully edges results in less recognition of unique landscape qualities. • Lack of variation in density and housing type promotes unbalanced demographic profile. • No provision of local, walkable services.	**Key Negatives:** • New access routes across/through gullies could have visual and ecological impacts. • Greater population may result in higher levels of car movement despite the availability of walkable local services. • Higher density cluster to plateau ends may create visual effects for adjoining existing areas. • Greatest length of new road to be constructed, cost and maintenance.

Assessment Topic & Criterion			SCENARIO 1 Business as Usual	SCENARIO 2 Low-intensity Masterplan	SCENARIO 3 Conventional Masterplan	SCENARIO 4 Mixed-density Masterplan
TOPIC 1: STRATEGIC DIRECTION						
1	**Strategic alignment**	Alignment with high-level policies & strategies: urban growth, water quality, protection of soils and biodiv.				
2	**Overall quality**	Best practice is applied; tailored to address local conditions. High standards of living.				
3	**Healthy communities**	Promotes community health and well-being through environmental design. Encourages active modes.				
4	**Development capacity**	Achieves desired development capacity with appropriate housing mix. Supports local centres.				
5	**Future proofing**	Allows for expansion beyond the plan area. Caters for public transport networks. Builds in flexibility.				
TOPIC 2: DEVELOPMENT STRUCTURE						
6	**Relationship with existing areas**	Integrates with existing housing areas. Complements Summerhill Centre. Promotes access to amenities				
		Integrates with existing rural residential areas and achieves compatible environments.				
7	**Connectivity**	Creates a single network of connected streets and permeable blocks across new and existing areas.				
		Establishes connections to Turitea Valley allowing residential-rural community access.				
8	**Accessible gullies**	Creates public accessibility along plateau edges to secure open and inviting relationships with gullies.				
9	**Character areas**	Differentiates character across Aokautere's neighbourhoods. Enhances identity and quality.				
10	**Local amenities**	Provides walkable local centre shops and education facilities. Supports these with appropriate density.				
TOPIC 3: STREETS, OPEN SPACES & LANDSCAPE						
11	**Distinctive identity**	Protects/enhances special landscape character. Expresses plateau-to-gully relationship.				
12	**Impact on landscapes**	Promotes natural character and ecology. Minimises impact of access on landform.				
13	**Legible street system**	Employs different street types to promote active modes and integrate with natural gully systems.				
		Orients dwellings towards street frontages to create attractive streetscapes with improved safety.				
14	**Sustainable water management.**	Establishes green and blue networks that embody water-sensitive design and promote biodiversity.				
15	**Open space provision**	Provides fit-for-purpose open spaces. Delivers recreation opportunities that meet user expectations.				
16	**Ecological benefits**	Integrates open space with natural gullies to deliver ecological outcomes for Aokautere & downstream				
		Maintains natural gully systems. Enhances local ecologies.				

Assessment Topic & Criterion			SCENARIO 1 Business as Usual	SCENARIO 2 Low-intensity Masterplan	SCENARIO 3 Conventional Masterplan	SCENARIO 4 Mixed-density Masterplan
TOPIC 1: STRATEGIC DIRECTION						
1	**Strategic alignment**	Alignment with high-level policies and strategies: urban growth capacity, fresh water quality, protection of productive soils and biodiversity.	Housing capacity exceeds city growth targets. Limited housing choices due to minimal variation in lot layout. Less adaptive for future growth. Lack of connectivity within and between communities from piecemeal layout. Distinctive rural vs urban character. *However,* fewer opportunities for public planting. Poor stormwater management and traditional piped stormwater does not recognise the interactions ki uta ki tai (from the mountains to the sea) between the terrestrial and freshwater environment. Potential further filling of gullies would degrade remaining gully habitat and ecosystem functionality, as well as the natural movement of water and potentially result in further loss of streams (gullies are recognised as biodiversity corridors by PNCC). Higher fragmentation of Class 3 soils (highly productive land) and potential reduction of options for future productive use.	Housing capacity does not meet city growth targets, with little variation in housing choice. Less adaptive for future growth. Lack of connectivity within and between communities from piecemeal layout. More rural character preserved and rural resi areas transition into natural gullies. Low impact on gully ecosystems and freshwater habitats due to higher proportion of rural resi. *However*, no enhancement of indigenous biodiversity, possibility of some filling of shallow gullies. Traditional piped stormwater in suburban development area does not recognise the interactions ki uta ki tai (from the mountains to the sea) between the terrestrial and freshwater environment. Low development density in rural areas reduces fragmentation of Class 3 soils (highly productive land).	Housing capacity exceeds city growth targets. Limited housing choices due to minimal variation in lot layout. Less adaptive for future growth. Comprehensively planned street layout achieves reasonable degree connectivity within and between communities. Distinctive rural vs. urban character, with opportunities for public planting. Traditional piped stormwater does not recognise the interactions ki uta ki tai (from the mountains to the sea) between the terrestrial and freshwater environment and has the potential to negatively affect freshwater ecosystem health. Not in line with PNCC's aim of taking a more naturalised and sustainable approach to managing stormwater. Higher fragmentation of Class 3 soils (highly productive land) and potential reduction of options for future productive use.	Housing capacity exceeds city growth targets. Mixed-density incorporates new forms of housing, providing choices for present and future communities by offering a range of dwelling types, and places to locate businesses. Provision of walkways and cycleways, as well as a connected network of streets supports connectedness between and within communities. Distinctive rural vs. urban character. Street landscape, open space and restoration of gullies provide a high quality green environment in developed areas. Gully crossings and higher density development have the potential to affect gully biodiversity and freshwater health. *However*, enhancement of gully systems through revegetation and water-sensitive design provide for the health of ecosystems and people. Freshwater is managed in an integrated way that considers the effects of the subdivision on receiving environments. Revegetation of gullies will add to existing habitat corridors in Palmerston North. Use of water-sensitive design provides a more sustainable approach to growth than traditional piped systems. Higher fragmentation of Class 3 soils (highly productive land) and potential reduction of options for future productive use.
2	**Overall quality**	Best practice is applied; tailored to address local conditions. High standards of living are achieved and housing choice is provided.	Uncoordinated, piecemeal planning. Low connectivity resulting in isolated neighbourhood outcomes.	Poorly coordinated outcomes due to abrupt transitions between suburban and rural residential areas, however connections provided.	Comprehensively planned layout with higher levels of integration than Scenarios 1 & 2.	Follows current best practice in subdivision design. Sets a new benchmark for housing developments in Palmerston

			Limited housing choice due to lot size and type replication. Multiple rear lots reduce legibility of streets and create lower levels of street amenity. Rural residential areas not connected to or planned in conjunction with suburban areas (no Pacific Drive-to-Turitea link). Monotonous housing environments. Little recognition of and response to local landscape qualities. Weak environmental/sustainable stormwater management.	*But*, undermines notions of contiguous character and identity resulting in ambiguity of place & streetscape. Low intensity plateaus do not optimise the high amenity value of the location for living. *However*, assists transition between development and natural landscapes and reduces visual effects on some neighbouring rural residential e.g Moonshine Valley. Low quality of suburban layouts assumed as per Scenario 1 but on-site amenity meets PNCC stnds. Rural resi produces high standard of living for smaller number of residents.	However minimal gully crossings reduce accessibility for residents and disconnect plateau areas from each other. Tendency to create cul-de-sacs rather than connected streets. Standard lot size with minimal variation in dwelling type reduces housing choice and produces monotonous environments. Improved recognition of and response to local landscape qualities due to comprehensive planning. Acceptable levels of sustainable stormwater management due to comprehensive planning.	North. A high level of area-wide integration providing connected and accessible neighbourhoods. Local service retail, school and open spaces as focal points in the development. Variation in density and character in relation to local centre and high amenity locations. Choices in housing encourages a mixed demographic. Potential for high streetscape quality and open space amenity. Recognition of and response to local landscape qualities. Environmentally sustainable stormwater management.
3	**Healthy communities**	Promotes community health and well-being through environmental design. Encourages active modes.	Disconnected street layout reduces walkability and choice. Lack of new local services/centre generates additional vehicle trips Fails to provide new local school. Fails to optimise access to natural open space systems; reduces recreational opportunities.	Disconnected street layout reduces walkability and choice. Lower density rural resi lots encourage vehicle dependency. Lack of new local services/centre generates additional vehicle trips. Fails to provide new local school. Fails to optimise access to natural open space systems; reduces recreational opportunities. Fewer families living in proximity to natural landscapes – this is sub-optimal where adjoining suburban housing areas exist. Large rural resi lots produce high degree of private amenity for relatively few residents. But fewer benefits accrue to the public domain, e.g. public access to gullies is limited. Reduced connectivity and absence of local centre means fewer social contacts based on propinquity.	Acceptable levels of street connectivity results in better walkability than Scenarios 1 & 2. However, blocks are larger and less permeable, and some cul-de-sacs occur. Uniformly low residential density and lack of non-resi activities (including local centre) reduces walkability and generates additional vehicle trips. No new local school provision. Widespread access to gully systems improves recreational opportunities and promotes investment in the public domain.	Interconnected street network and high-quality streetscape will create an environment attractive to pedestrians. Walkable local centre retail and school. Layout provides for access to recreational routes through gullies. New routes with no constraints on connection. Ecology / connection with water enhanced through integrating wetlands and raingardens into streets and open spaces.
4	**Development capacity**	Achieves desired development capacity / city-wide growth targets with appropriate housing mix that promotes demographic diversity. Supports new and existing local centres. *At Aokautere PNCC expects approximately 400 new dwellings beyond that in land already zoned.*	Exceeds city growth targets. Increases housing yield beyond that available within existing resi/rural resi zoned areas. *However*, overall housing mix is limited and promotes a suburban monoculture where the	Does not meet city growth targets re housing yield beyond areas already zoned resi/rural resi. Overall mix is limited and delivers mono-cultural communities. *However*, rural resi lots perhaps offer some (small) mix variation.	Exceeds city growth targets. Increases housing yield beyond that available within existing resi/rural resi zoned areas. *However*, overall housing mix is limited and promotes a suburban monoculture where the	Exceeds city growth targets re housing yield beyond areas already zoned resi/rural resi. Housing mix is achieved through variation in density / lot size, encouraging semi-detached, terraced and some apartment development typologies.

			demographic profile of residents is likely to be narrow. Summerhill retail catchment increases, but no additional local centre (retail/education) provided.	Summerhill retail catchment increases, but no additional local centre (retail/education) provided.	demographic profile of residents is likely to be narrow. Summerhill retail catchment increases, but low-density suburban development does not support additional local centre(s).	Higher densities clustered around new local centre retail and school supporting walkable outcomes.
5	**Future proofing**	Allows for expansion beyond the plan area. Caters for public transport networks. Builds in flexibility and resilience.	Expansion beyond the plan area generally limited due to landform. Ad-hoc planning fails to anticipate the bigger picture with poorly coordinated planning. Piecemeal layouts do not allow for connections into any future growth. Absence of integrated plan undermines ability to introduce Public transport. Area-wide stormwater strategies not considered. Uniform density/lot type/dwelling type means development is less adaptable e.g. less responsive to shifts in demographics and housing demand. Small / minimal lot sizes do not easily allow for intensification.	Expansion beyond the plan area generally limited due to landform. Ad-hoc planning fails to anticipate the bigger picture with poorly coordinated planning. Piecemeal layouts do not allow for connections into any future growth. Absence of integrated plan [and lower rural densities] undermines ability to introduce Public transport. Area-wide stormwater strategies not considered. However rural resi lots provide vastly improved on-site stormwater attenuation. Difficult to systematically intensify development at later date. Locks in low density development for future generations.	Expansion beyond the plan area is generally limited by landform. *However*, opportunity may exist for further development to the east and northeast. Comprehensively planned street layout could accommodate future connections to these areas. Street layout could accommodate a public transport (bus) loop. *However*, low suburban density may not provide an adequate catchment for such a service. Uniform density/lot type/ dwelling type means development is less adaptable e.g. less responsive to shifts in demographics and housing demand. Small/minimal lot sizes do not easily allow intensification.	Expansion beyond the plan area generally limited due to landform but opportunity may exist for areas to the E/NE. Comprehensively planned layout with connected street system of different types (arterials/local streets) offers ability to anticipate and connect into future growth. Public transport (bus) loop provided accessing the majority of the development. Some capacity to vary lot/dwelling mix at later date in response to changing demand.
TOPIC 2: DEVELOPMENT STRUCTURE						
6	**Relationship with existing areas**	Integrates with existing housing areas. Complements Summerhill Centre. Promotes access to local and city-wide amenities.	Reduced physical connectivity. New areas will connect with Pacific Drive, though low-level integration with adjoining housing and no cross-gully links. Planning is piecemeal based on ownership boundaries. No coordination with adjoining landowners. New population will support Summerhill shops re increased patronage however these are likely to require vehicle-based trips. Less refined street hierarchy produces more monotonous public domain. Matches prevailing development pattern and existing neighbourhood character.	Reduced physical connectivity. New areas will connect with Pacific Drive, though low-level integration with adjoining housing and no cross-gully links. Poor (abrupt) relationships between existing suburban and new rural resi areas. Planning remains somewhat piecemeal based on ownership boundaries. No coordination with adjoining landowners. Lower population offers less support for Summerhill shops and vehicle-based trips increased. Less refined street hierarchy produces more monotonous public domain.	Layout establishes some street connections with existing suburban areas. *However*, the street network does not provide sufficient cross-gully links to optimise access to local and city-wide amenities. Traditional blocks avoid multiple rear lots. Prevalence of street-facing dwellings improves the street environment and increases engagement between public and private realms. Consistent street orientation of dwellings increases continuity between housing areas. Use of standard housing types creates a more integrated visual character. Larger residential population will increase patronage at Summerhill shops. *However*, visits to Summerhill will increase the number of vehicle trips.	Layout establishes street connections with existing suburban areas wherever possible. Positive street fronting lots promotes street quality and continuity between housing areas. A central location and provision for small-scale local service retail ensures the new centre will complement and not compete with the Summerhill Centre. Links into Pacific Dr. and Johnstone Dr. facilitated by cross-gully routes promotes access to wide amenities. Stronger place-based identities result from combination of gridded and curvilinear streets. More refined street hierarchy produces greater variety in public domain.

		Integrates with existing rural residential areas and achieves compatible environments wherever practicable.	Some compatibility is achieved through physical separation that maintains the independence of existing rural resi areas. Discourages further intensification of development in rural resi areas. *However*, lack of connectivity/poor integration reduces travel options and limits accessibility to local services. Continuation of small lot/large house development pattern produces familiar "sea of roofs" and leaves little room for on-site landscape especially mature trees. Less scope to use planting within public domain to compensate for lack of on-site landscape.	Some compatibility is achieved through physical separation that maintains the independence of existing rural resi areas. Discourages further intensification of development in rural resi areas. *However*, lack of connectivity/poor integration reduces travel options and limits accessibility to local services. New rural resi areas generally removed/disconnected from existing lifestyle lots. Local character is dominated by landscape rather than buildings. Greater visual continuity with existing rural residential areas.	Some compatibility is achieved through physical separation that maintains the independence of existing rural resi areas. Discourages further intensification of development in rural resi areas. *However*, lack of connectivity/poor integration reduces travel options and limits accessibility to local services. Continuation of small lot/large house development pattern produces familiar "sea of roofs" and leaves little room for on-site landscape. Comprehensive planning facilitates planting in streets and open spaces; comprehensive landscape treatment has potential to improve visual relationships with rural resi.	A high level of integration with the Turitea Valley (rural resi) area is achieved with new connecting streets. Character and topography changes between suburban and the Turitea Valley promote distinction between these environments and will discourage suburban development in rural resi areas. In some areas, less continuity with existing rural residential areas. Higher density clusters contrast with Moonshine Valley and may generate visual/overlooking issues – setbacks to manage effects.
7	**Connectivity**	Creates a single network of connected streets and permeable blocks across new and existing neighbourhood areas.	Layout provides some connections into existing pathways/streets. New networks poorly connected due to preference for cul-de-sac layouts. Lack of strategic connection between plateau areas (no gully links) results in reduced neighbourhood-scale permeability.	Layout provides some connections into existing pathways/streets. New networks poorly connected due to preference for cul-de-sac layouts. Lack of strategic connection between plateau areas (no gully links) results in reduced neighbourhood-scale permeability. Rural resi to plateaus and southern area will result in lower permeability / fewer streets and links.	Layout provides some connections into existing pathways/streets. New networks partly connected with through streets but still some occurrence of cul-de-sac layouts. Lack of strategic connections between plateau areas (few gully links) results in reduced neighbourhood-scale permeability. Links provided into southern Waters land from Atlantic/Pacific Drive but no direct links to Turitea.	The layout achieves a high degree of connectivity both within discrete neighbourhoods and between plateaus via cross-gully links. Layout links into existing pathways and cycle lanes, and to proposed reserves and open spaces. Layout integrates variation in response to landscape gully features. Isolated pockets of housing are avoided due to interconnections and cross-gully links. *But*, nature of landform restricts high levels of connectivity.
		Establishes connections to Turitea Valley allowing residential and rural communities to benefit from enhanced access.	No linkages provided with Turitea Valley. Status-quo maintained of isolated rural resi areas. Waters land extension is not connected into the suburban areas of Pacific Dr but only accessed off Turitea Rd.	Potential link with Turitea Valley due to likelihood of connecting with new southern rural resi areas. Also, new southern rural resi likely to connect into existing Pacific / Atlantic Dr. housing areas.	Potential link with Turitea Valley due to likely connection between Atlantic/Pacific Drive and rural resi on Waters land.	A new rural character road connection is provided from the extension of Pacific Drive down to Turitea Rd. New link also provided south to the Waters land rural resi extension.
8	**Accessible gullies**	Creates public accessibility along plateau edges to secure open and inviting relationships with gully systems.	Most access roads are located within the centres of plateaus rather than along gully edges. Housing backs onto gullies, producing a privatised edge and	Rural resi lots to plateaus require centrally located rural road removing public access along gully edges.	Most access roads are located within the centres of plateaus rather than along gully edges. Housing backs onto gullies, producing a privatised edge and	In general, the layout achieves public street accessibility along the gully edges at the interface with housing layouts to plateaus. This ensures a direct and positive relationship with the natural gully

			reduced public accessibility to the open space system. No new cross-gully connections. Further filling of shallow gullies may occur as evidenced to date.	Most access roads are located within the centres of plateaus rather than along gully edges. Housing backs onto gullies, producing a privatised edge and reduced public accessibility to the open space system. No new cross-gully connections.	reduced public accessibility to the open space system. Few new cross-gully connections.	systems and the recreational amenity they provide. Greater number of gully crossings provides more opportunity for direct experience of landform and associated natural vegetation. Linear parks continue open space network into street plan.
9	**Character areas**	Differentiates character across the Aokautere neighbourhood, enhancing identity, amenity, wayfinding and urban quality.	No spatial hierarchy or variation in density. Monotonous arrangements. Multiple cul-de-sac clusters that do not strategically connect with other streets or gullies offer low levels of identity and undifferentiated character. Large numbers of rear lots off private accessways reduce both wayfinding and street quality. No designated centre. Less variation in land use, density and building fabric. Lot/dwelling types less responsive to terrain. Greater likelihood of terrain modification. Less variation of private development in response to public open space e.g. street types.	Some character differentiation provided on plateaus due to rural resi 'ends'. Creates more rural character for plateaus. But this conflicts with suburban character of plateaus elsewhere. Some variation in density (minor). Monotonous arrangements. Multiple cul-de-sac clusters that do not strategically connect with other streets or gullies offer low levels of identity and undifferentiated character. Large numbers of rear lots off private accessways reduce both wayfinding and street quality. No designated centre. Less variation of private development in response to public open space and/or street types.	Uniform lot sizes and a reduced range of street types produce a more homogenous residential environment. Without local shops, schools, workplaces or other contributions to a mixed-use environment, it is difficult for Aokautere to be perceived as a destination with its own place-based identity. Reduced engagement between streets and gullies means that the public are less likely to experience the area's unique natural landscape.	A clear sense of spatial hierarchy is provided with identified character areas (north village, south village, crescent, promontory clusters etc.). While retaining continuity of Pacific Dr. to existing urban areas, a new/distinctive streetscape along gully edges is achieved. A visible natural gully landscape is created that will assist neighbourhood character.
10	**Local amenities**	Supports walkable local centre provision with appropriate density, housing mix and a range of local shops and educational facilities.	No provision of non-residential / local services / shops. Low density across the area less likely to support additional local centre(s). Limited housing mix through uniform lot size and type (does not anticipate multi-unit outcomes). No school provision.	No provision of non-residential / local services / shops. Low density across the area less likely to support additional local centre(s). Limited housing mix through uniform lot size and type (does not anticipate multi-unit outcomes). No school provision. Generous private open spaces (rural resi) off-set lack of public amenities.	Traditional housing layout at a low suburban density (circa 600sq.m lot sizes) provides little support for local retail and other non-residential activities. Plan makes no provision for a new school; however, given the comprehensive nature of the plan, a school could be included if the Ministry of Education purchases a site.	Gradation in housing density with higher density areas located around a well-positioned local centre and school (strategic access and PT) will create the conditions for a new centre to emerge. The extent of the centre will depend on demand and therefore even greater population density than that shown in scenario 4 would be beneficial (i.e. conversion of suburban lots to multi-unit). Local centre is well connected into a permeable street network and benefits from strategic through movement however not all housing areas are within walkable distance to the new centre.
TOPIC 3: STREETS, OPEN SPACES & LANDSCAPE						
11						

	Distinctive identity	Protects and enhances special landscape character of gullies and plateaus. Creates visually attractive settings that express plateau-to-gully relationships.	Assumes development mostly restricted to flat / plateau areas and avoids all naturally formed gully systems, however some ad-hoc filling of shallow gullies occurs. Development backs onto gullies and fails to create positive relationships between housing and natural gully landscapes. Visual settings are generally dominated by suburban development; development pattern does not optimise the visual qualities of gullies.	Local character is dominated (in rural resi areas) by landscape rather than buildings. However, private landscapes vary in character and a vestigial public domain means there is less capacity to coordinate overall place-based identity. Gully system is less visible from public domain. Dwellings are generally too far apart to cohere into wider built fabric. *However*, neighbouring houses are generally too close together to appear fully discrete.	A comprehensive layout of conventional housing results in the ability to protect the gullies' natural character from development. A single gully crossing means low impact on gully character. *However*, development generally backs onto gullies and fails to create positive relationships between housing and natural landscapes. Limited or no investment in new gully/wetland structures. Visual settings are generally dominated by suburban development; development pattern does not optimise the visual qualities of gullies.	No built development within natural gullies. Creation of new shallow gullies as amenity and stormwater features. Landscape quality of gullies improved with native planting and habitat creation. High visual quality and point of difference established by new gully-to-plateau relationships. Streetscapes not just defined by housing but include direct relationship to natural landscapes.
12	**Impact on landscapes**	Promotes natural character and ecology by minimising impact of access routes and gully crossings on landform.	Layouts do not provide street connections across gullies and therefore minimise impact. However, some ad-hoc intrusion and filling of shallow gullies occurs to provide access. Multiple rear lot boundaries along gully edges harder to control than managed public street edges. Poor stormwater mgmnt impacts on gullies' natural habitat.	Layouts do not provide street connections across gullies and therefore minimise impact. However, some ad-hoc intrusion and filling of shallow gullies may still occur. Multiple rear lot boundaries are harder to control than managed public street edges. *However*, the intrusion of private development into the gullies is limited by the low intensity of rural resi areas. Lower density of rural resi areas lowers the demand for accessibility and reduces the need for gully crossings. Low density rural resi areas permit improved stormwater retention; reduced peak flows have fewer impacts on gully habitats.	Limited new gully crossings (one) limits impact of roading on gullies. Comprehensively planned layout likely to ensure earthworks in gullies is avoided. Multiple rear lot boundaries along gully edges harder to control than managed public street edges. Traditional streets with piped stormwater / gully run-off and no investment in water-sensitive design likely to impact on gullies' habitat especially at peak flows.	Layout introduces multiple new links across gullies either via streets that run down/up gully landform or bridges across gullies. These will impact on natural character and habitats. However limited number of new crossings proposed and use of bridges rather than roads to steep gullies reduces impacts. Design of vented fords at gully bottoms allows water systems to continue. Detail design tbc. Comprehensive stormwater management enhances restoration of gullies' natural habitats.
13	**Legible street system**	Employs different street types to promote active modes and integrate with natural gully systems.	Poorly connected street layout; lack of integration between streets and natural landscape features. Low connectivity (e.g. cul-de-sacs) reduces the attractiveness of walking and cycling.	(As for Scenario 1) Poorly connected street layout; lack of integration between streets and natural landscape features. Low connectivity (e.g. cul-de-sacs) reduces the attractiveness of walking and cycling.	Street layout is comprehensively planned and achieves a reasonable degree of connectivity. Active modes are encouraged; however, the plan contains numerous cul-de-sacs that limit travel options.	A range of street typologies are provided that differentiate and support the various movement roles/functions of the network. Collector streets are positioned along gully edges to optimise access and visual/landscape benefits and provide for active modes.

					Restricted range of street types exhibits a preference for traditional vehicle-oriented suburban streets. Street design fails to optimise conditions for pedestrians and cyclists. Generally, streets are poorly integrated with the gully system, e.g. few streets are located along gully edges.	Arterial connections into/with Pacific Drive are created.
		Orients dwellings towards street frontages to create attractive streetscapes with high visual amenity and improved safety and better navigation.	Whilst dwellings front public streets there are a large number of lots provided off private accessways as rear lots. Rear lots are less visible to public movement and create low permeability due to deep block sizes. Increased number of cul-de-sacs produces greater sense of privatisation and diminished sense of public domain. CPTED is poor due to long cul-de-sacs that do not offer choice of escape / access.	Some dwellings front public streets however large number of dwellings provided off private accessways as rear lots. Rear lots are less visible to public movement and create low permeability due to deep block sizes. Rural resi areas further reduce safety of streets due to dwellings set well-back and often screened by vegetation.	A conventional subdivision layout that provides traditional residential streets/blocks with few rear lots or private accessways. The prevalence of street-facing houses improves wayfinding and enhances engagement between public and private realms. Blocks are larger (less permeable) than those in Scenario 4; as a result, Scenario 3 delivers reduced access and fewer pathway choices.	In general, the layout ensures lots / dwellings achieve a street frontage. Long driveways accessing multiple rear lots are avoided. Blocks are designed with dimensions that maintain street-fronts to lots with very few exceptions. Street safety and legibility is high due to regular overlooking and traditional housing-to-street patterns that are commonly understood. Without design guidance and control, narrow lots could produce frontages dominated by garage doors.
14	**Sustainable water management.**	Establishes green and blue networks that embody water-sensitive design and promote biodiversity and water quality. Ensures stormwater flows do not increase risk of downstream flooding.	Limited or no development of green/blue networks to promote sustainable stormwater systems except traditional piping and run-off. Habitat enhancement not addressed as part of water management. Some local attenuation ponds occur though are adhoc and do not consider area-wide water mgmnt. Downstream erosion already evident through peak flows due to lack of mgmnt and water quality not addressed.	Limited or no development of green/blue networks to promote sustainable stormwater systems except traditional piping and run-off. Habitat enhancement not addressed as part of water management. Some local pond/attenuation occurs. Downstream erosion already evident through peak flows due to lack of attenuation. However, higher proportion of rural resi on plateaus and elsewhere provides better on-site attenuation. Fewer roads, large lots and proportionately smaller building footprint mean more surface permeability and reduced run-off. Fewer piped/reticulated services.	Conventional residential development does not incorporate water-sensitive design but relies on traditional piped solutions that discharge into gullies. Comprehensive planning allows open spaces to be located where need for sustainable stormwater management; attenuation ponds are provided, and these help to address area-wide stormwater management issues. *However*, street design does not incorporate swales/raingarden technology.	Network of open space provides for effective management of stormwater (tbc through detail water mgmnt design). Combination of swales and raingardens integrated into streets and retention ponds provided along plateau/gully interfaces and design of gullies to attenuate water flow. *However*, higher development densities will also result in impermeable areas / roofs and therefore reduce biodiversity and risk of flooding.
15	**Open space provision**	Provides fit-for-purpose open spaces with accessible recreational outcomes that meet Council expectations. *PNCC anticipates:*	Assumed to achieve minimum flat playable open space provision.	Assumed to achieve minimum flat playable open space provision.	Assumed to achieve minimum flat playable open space provision.	Provision of flat open space: 2.5Ha distributed across 8 spaces that ensures all (suburban) housing is

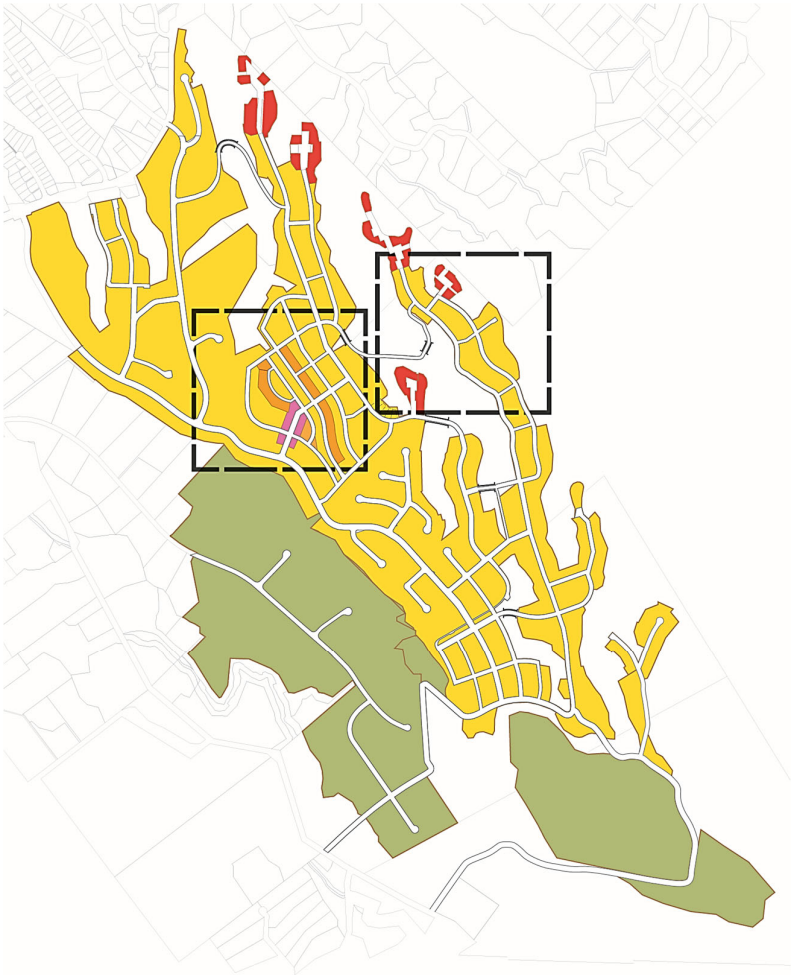
		• *2% of total land area as reserves* • *Min 40% as flat n'hood reserves* • *All reserves located within 500m of housing.* 392Ha requires 2% (7.8Ha) of open space of which 40% (3.1Ha) is required as flat playable reserves. The actual requirement could be considered to be lower given a large part of the 392Ha comprises 57Ha of rural residential areas where large lots provide ample on-site open space. In addition, the natural gullies and rural land amount to some 176.9Ha and therefore Aokautere as a whole is blessed with an abundancy of open space.	Spaces located on arterial routes though some likely to occur in cul-de-sacs and therefore less accessible. Lack of street access along gully edges reduces opportunity for accessible spaces in those gully-edge locations. Reserves have weak connections with gully system.	Most spaces are located on highly accessible arterial routes; however, some spaces are likely to occur in cul-de-sacs where access is limited. Higher proportion of rural resi lots reduces open space requirement. Lack of street access along gully edges reduces opportunity for accessible spaces in those gully-edge locations. Abundant private open space allows less investment in public open space system. Reserves have weak connections with gully system.	Most spaces are located on highly accessible arterial routes; however, some spaces are likely to occur in cul-de-sacs where access is limited. Limited street access along gully edges provides few opportunities to connect public reserves with the gully system.	located within 400m of an open space. Whilst this does not meet the required 3.1Ha, the balance of open space as gullies (176.9Ha) is considered to be more than adequate. All spaces have excellent arterial or collector route access and position in attractive locations next to natural landscape areas.
16	**Ecological benefits**	Integrates open space with natural gully systems to deliver ecological outcomes for Aokautere and its downstream environments.	Few open spaces located at plateau / gully interface and most spaces are contained by housing. Lack of streets along gully edges limits opportunity for n'hood spaces and gullies to co-locate.	Potentially enhanced ecological outcomes due to higher proportion of rural resi lots that offer better habitat opportunity, especially when located along gully edges. Some open spaces are located at plateau/gully interface. Other spaces are fully contained by streets and housing. Limited street access along gully edges provides few opportunities to connect local public reserves with the gully system. Predominance of private open space means diminished ability to coordinate landscape and ecological repair.	Comprehensive planning allows some (limited) provision for access along gully edges with associated opportunity for neighbourhood open spaces and gullies to co-locate. However, the majority of flat land is used for housing, and open spaces are generally not prioritised (i.e. open spaces do not generate the same 'value' as residential lots in a conventional development scenario).	Higher suburban densities generally result in more managed (playable) open spaces that have reduced ecological function. Majority of proposed neighbourhood open spaces are co-located with natural gullies. This is likely to augment ecological and stormwater functions and enhance recreational and visual amenity through connection with natural landscapes.
		Maintains and enhances ecology of natural gully systems by avoiding development and minimising earthworks in the gullies. Revegetation of gullies with native plant species enhances the natural gully systems.	Risk to integrity of gullies due to adhoc and occasionally unconsented earthworks as evidenced to date. However, potential to revegetate gullies exists though unlikely to occur without comprehensively planning and investment in gullies / vested as public realm reserves.	Assumes similar adhoc approach to development that may result in gully intervention. Adhoc approach restricts area-wide ecological repair/investment. Rural residential areas along plateaus and to the south provide very low intensity development that is more compatible with ecological outcomes.	Comprehensive planning avoids built intervention in gullies. *However,* traditional housing approaches are unlikely to incorporate investment in the revegetation of gullies.	Comprehensive planning avoids built intervention in gullies. Layout provides for enhanced habitat creation, revegetation and anticipates vesting of gullies as public asset. *But*, intervention of several new streets and bridges crossing gullies does not "avoid development".

Rating scale

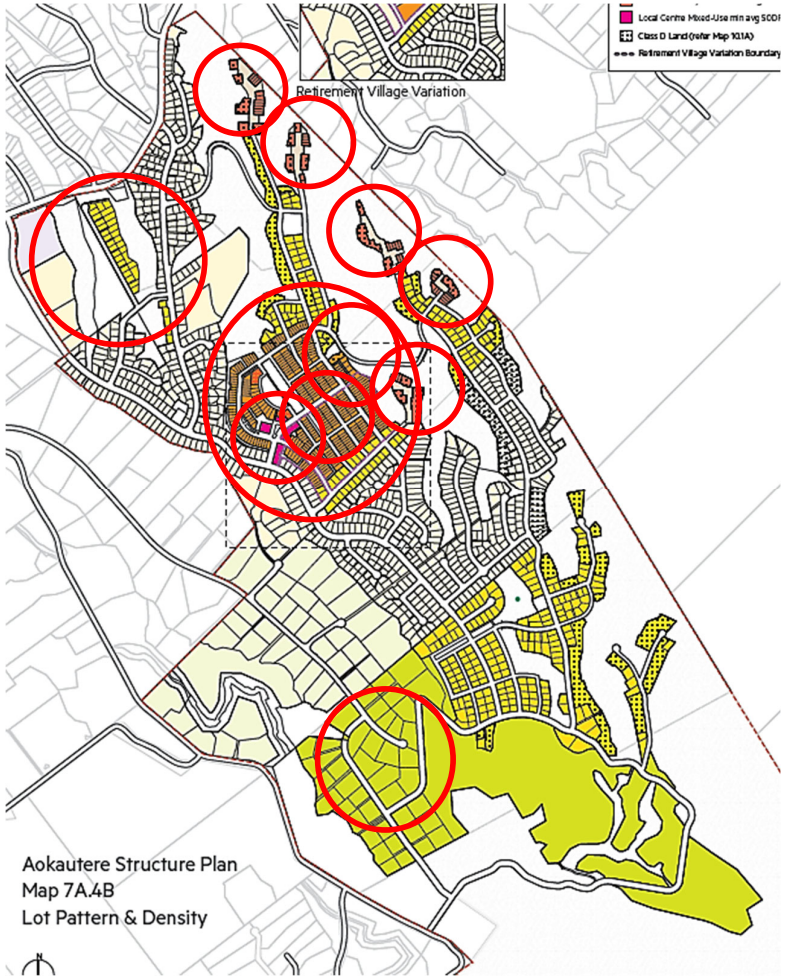
Fully supports/exceeds	
Supports in most regards	
Partial support of criteria	
Minor alignment only	
Does not support / undermines	

Assessment Topic & Criterion	Option 1a	Option 2	Option 3
1.0 STRATEGIC ALIGNMENT			
B1.1 Recognises Rangitāne as mana whenua.			
2.0 FEASIBILITY			
B2.1 Meets economic feasibility criteria.			
B2.2 Minimises risks associated with consenting process.			
B1.4 Contributes to a sustainable utility network.			
3.0 IDENTITY			
B3.1 Creates a strong place-based identity.			
B2.2 Responds to threshold between city/plains			
4.0 CONNECTIVITY			
B4.1 Ensures movement is safe, efficient, and enjoyable.			
B4.2 Produces good local network structure.			
B4.3 Encourages balanced mix of transport modes.			
5.0 GOOD NEIGHBOUR			
B5.1 Demonstrates good Urban Design at local level.			
B5.2 Supports high-quality public realm.			
B5.3 Delivers services equitably and effectively.			
6.0 ECOLOGY			
B6.1 Incorporates sustainable SW management practices.			
B6.2 Raises amenity value of ecological areas.			
7.0 HOUSING CHOICE			
B7.1 Provides volume, choice and flexibility.			

Appendix B: Aokautere Preferred Masterplan (modified mixed-density): MCA



SCENARIO 4 Mixed-density



Areas of change compared to 'Scenario 4'

PROPOSED Modified Mixed-Density

Assessment Topic & Criterion			SCENARIO 4 Mixed-density Masterplan	PROPOSED Modified Mixed-Density
TOPIC 1: STRATEGIC DIRECTION				
1	**Strategic alignment**	Alignment with high-level policies & strategies: urban growth, water quality, protection of soils and biodiv.		Increase to “fully supports”
2	**Overall quality**	Best practice is applied; tailored to address local conditions. High standards of living.		Reduce to “most regards”
3	**Healthy communities**	Promotes community health and well-being through environmental design. Encourages active modes.		No change
4	**Development capacity**	Achieves desired development capacity with appropriate housing mix. Supports local centres.		No change (cannot increase)
5	**Future proofing**	Allows for expansion beyond the plan area. Caters for public transport networks. Builds in flexibility.		No change
TOPIC 2: DEVELOPMENT STRUCTURE				
6	**Relationship with existing areas**	Integrates with existing housing areas. Complements Summerhill Centre. Promotes access to amenities		No change
		Integrates with existing rural residential areas and achieves compatible environments.		Increase to “fully supports”
7	**Connectivity**	Creates a single network of connected streets and permeable blocks across new and existing areas.		No change
		Establishes connections to Turitea Valley allowing residential-rural community access.		Reduce to “partial support”
8	**Accessible gullies**	Creates public accessibility along plateau edges to secure open and inviting relationships with gullies.		No change
9	**Character areas**	Differentiates character across Aokautere’s neighbourhoods. Enhances identity and quality.		Reduce to “most regards”
10	**Local amenities**	Provides walkable local centre shops and education facilities. Supports these with appropriate density.		No change
TOPIC 3: STREETS, OPEN SPACES & LANDSCAPE				
11	**Distinctive identity**	Protects/enhances special landscape character. Expresses plateau-to-gully relationship.		No change
12	**Impact on landscapes**	Promotes natural character and ecology. Minimises impact of access on landform.		No change
13	**Legible street system**	Employs different street types to promote active modes and integrate with natural gully systems.		No change
		Orients dwellings towards street frontages to create attractive streetscapes with improved safety.		No change
14	**Sustainable water management.**	Establishes green and blue networks that embody water-sensitive design and promote biodiversity.		No change
15	**Open space provision**	Provides fit-for-purpose open spaces. Delivers recreation opportunities that meet user expectations.		No change
16	**Ecological benefits**	Integrates open space with natural gullies to deliver ecological outcomes for Aokautere & downstream		No change
		Maintains natural gully systems. Enhances local ecologies.		No change

Fully supports/exceeds	
Supports in most regards	
Partial support of criteria	
Minor alignment only	
Does not support / undermines	

Assessment Topic & Criterion			SCENARIO 4 Mixed-density Masterplan	PROPOSED Modified Mixed-Density
TOPIC 1: STRATEGIC DIRECTION				
1	**Strategic alignment**	Alignment with high-level policies and strategies: urban growth capacity, fresh water quality, protection of productive soils and biodiversity.		Increase to “fully supports”
			Housing capacity exceeds city growth targets. Mixed-density incorporates new forms of housing, providing choices for present and future communities by offering a range of dwelling types, and places to locate businesses. Provision of walkways and cycleways, as well as a connected network of streets supports connectedness between and within communities. Distinctive rural vs. urban character. Street landscape, open space and restoration of gullies provide a high-quality green environment in developed areas. Gully crossings and higher density development have the potential to affect gully biodiversity and freshwater health. *However*, enhancement of gully systems through revegetation and water-sensitive design provides for the health of ecosystems and people. Freshwater is managed in an integrated way that considers the effects of the subdivision on receiving environments. Revegetation of gullies will add to existing habitat corridors in Palmerston North. Use of water-sensitive design provides a more sustainable approach to growth than traditional piped systems. Higher fragmentation of Class 3 soils (highly productive land) and potential reduction of options for future productive use.	Housing capacity exceeds city growth targets. Additional medium-density housing increases availability of compact dwellings and helps to accommodate growth. Mixed-density incorporates new forms of housing, providing choices for present and future communities by offering a range of dwelling types, and places to locate businesses. Provision of walkways and cycleways, as well as a connected network of streets supports connectedness between and within communities. Distinctive rural vs. urban character. Street landscape, open space and restoration of gullies provide a high-quality green environment in developed areas. Gully crossings and higher density development have the potential to affect gully biodiversity and freshwater health. *However*, enhancement of gully systems through revegetation and water-sensitive design provides for the health of ecosystems and people. Freshwater is managed in an integrated way that considers the effects of the subdivision on receiving environments. Revegetation of gullies will add to existing habitat corridors in Palmerston North. Use of water-sensitive design provides a more sustainable approach to growth than traditional piped systems. Higher fragmentation of Class 3 soils (highly productive land) and potential reduction of options for future productive use.

2	**Overall quality**	Best practice is applied; tailored to address local conditions. High standards of living are achieved and housing choice is provided.		Reduce to “most regards”
			Follows current best practice in subdivision design. Sets a new benchmark for housing developments in Palmerston North. A high level of area-wide integration providing connected and accessible neighbourhoods. Local-service retail, school and open spaces as focal points in the development. Variation in density and character in relation to local centre and high amenity locations. Choices in housing encourages a mixed demographic. Potential for high streetscape quality and open space amenity. Recognition of and response to local landscape qualities. Environmentally sustainable stormwater management.	Follows current best practice in subdivision design. “Form-Based Codes” approach is less evident. Density, lot size and dwelling type are less closely matched to individual streets and open spaces. Additional medium-density housing increases availability of compact dwellings. Retirement Village Variation provides further housing choice. Sets a new benchmark for housing developments in Palmerston North. A high level of area-wide integration providing connected and accessible neighbourhoods. Local-service retail and open spaces as focal points in the development. Variation in density and character in relation to local centre and potentially other high-amenity locations e.g., promontories. Choices in housing encourages a mixed demographic. Loss of medium-density promontory clusters reduces housing choice. Potential for high streetscape quality and open space amenity. Recognition of and response to local landscape qualities. Environmentally sustainable stormwater management.
3	**Healthy communities**	Promotes community health and well-being through environmental design. Encourages active modes.		No change
			Interconnected street network and high-quality streetscape will create an environment attractive to pedestrians. Walkable local centre retail and school. Layout provides for access to recreational routes through gullies. New routes with no constraints on connection. Ecology / connection with water enhanced through integrating wetlands and raingardens into streets and open spaces.	Interconnected street network and high-quality streetscape will create an environment attractive to pedestrians. Walkable local centre retail and possible retirement village. Layout provides for access to recreational routes through gullies. New routes with no constraints on connection. Ecology / connection with water enhanced through integrating wetlands and raingardens into streets and open spaces.

4	**Development capacity**	Achieves desired development capacity / city-wide growth targets with appropriate housing mix that promotes demographic diversity. Supports new and existing local centres. *At Aokautere PNCC expects approximately 400 new dwellings beyond that in land already zoned.*		No change (cannot increase)
			Exceeds city growth targets re housing yield beyond areas already zoned resi/rural resi. Housing mix is achieved through variation in density / lot size, encouraging semi-detached, terraced and some apartment development typologies. Higher densities clustered around new local centre retail and school supporting walkable outcomes.	Expanded medium-density housing increases yield, adds diversity and provides extra support to the local centre. Reduced severance on Aokautere Drive improves access to Summerhill shopping centre. Retirement village option increases demographic diversity. Loss of medium-density promontory clusters potentially reduces diversity.
5	**Future proofing**	Allows for expansion beyond the plan area. Caters for public transport networks. Builds in flexibility and resilience.		No change
			Expansion beyond the plan area generally limited due to landform but opportunity may exist for areas to the E/NE. Comprehensively planned layout with connected street system of different types (arterials/local streets) offers ability to anticipate and connect into future growth. Public transport (bus) loop provided accessing the majority of the development. Some capacity to vary lot/dwelling mix at later date in response to changing demand.	Expansion beyond the plan area generally limited due to landform but opportunity may exist for areas to the E/NE. Comprehensively planned layout with connected street system of different types (arterials/local streets) offers ability to anticipate and connect into future growth. Public transport (bus) loop provided accessing the majority of the development. Some capacity to vary lot/dwelling mix at later date in response to changing demand. Additional medium-density housing increases the viability of public transport.
TOPIC 2: DEVELOPMENT STRUCTURE				
6	**Relationship with existing areas**	Integrates with existing housing areas. Complements Summerhill Centre. Promotes access to local and city-wide amenities.		No change
			Layout establishes street connections with existing suburban areas wherever possible. Positive street-fronting lots promote street quality and continuity between housing areas. A central location and provision for small-scale local-service retail ensures the new centre will complement and not compete with the Summerhill Centre. Links into Pacific Dr. and Johnstone Dr. facilitated by cross-gully routes promote access to wide amenities. Stronger place-based identities result from combination of gridded and curvilinear streets. More	Layout establishes street connections with existing suburban areas wherever possible. Positive street-fronting lots promote street quality and continuity between housing areas. A central location and provision for small-scale local-service retail ensures the new centre will complement and not compete with the Summerhill Centre. Links into Pacific Dr. and Johnstone Dr. facilitated by cross-gully routes promote access to wide amenities. Stronger place-based identities result from combination of gridded and curvilinear streets. More

			refined street hierarchy produces greater variety in public domain.	refined street hierarchy produces greater variety in public domain. Reduced severance on Aokautere Drive improves access to Summerhill shopping centre. Fewer new lots on Abby Road extension means less impact on existing residents. Expanded medium-density housing has mid-block interface within existing suburban development. Expanded local centre has minor interface with existing suburban development. Plan does not include local primary school.
		Integrates with existing rural residential areas and achieves compatible environments wherever practicable.		Increase to “fully supports”
			A high level of integration with the Turitea Valley (rural resi) area is achieved with new connecting streets. Character and topography changes between suburban and the Turitea Valley promote distinction between these environments and will discourage suburban development in rural resi areas. In some areas, less continuity with existing rural residential areas. Higher density clusters contrast with Moonshine Valley and may generate visual impact issues.	New rural residential area extends existing Valley Views character. Integration with Valley Views (rural resi) area is achieved with new connecting Peri-Urban Roads. Change in character and topography between suburban housing and Valley Views promotes distinction between these two environments. Distinction also discourages suburban development in rural resi areas. Promontories are occupied by less visible low-density suburban housing. Medium-density housing is located centrally where it is visually remote from rural residential areas.
7	**Connectivity**	Creates a single network of connected streets and permeable blocks across new and existing neighbourhood areas.		No change
			The layout achieves a high degree of connectivity both within discrete neighbourhoods and between plateaus via cross-gully links. Movement network links into existing paths and cycle lanes as well as to proposed reserves and open spaces. Layout integrates variation in response to landscape gully features. Isolated pockets of housing are avoided due to interconnections and cross-gully links.	The layout achieves a high degree of connectivity within discrete neighbourhoods as well as between plateaus via cross-gully links. Movement network links to existing paths and cycle lanes as well as to proposed reserves and open spaces. Layout integrates variation in response to landscape gully features. Isolated pockets of housing are avoided due to interconnections and cross-gully links.

			However, landform prevents higher level of connectivity.	*However,* landform prevents higher level of connectivity. Increased connectivity in North Village with extension of regular street grid. Reduced connectivity with Retirement Village Variation.
		Establishes connections to Turitea Valley allowing residential and rural communities to benefit from enhanced access.		Reduce to "partial support"
			A new rural character road connection is provided from the extension of Pacific Drive down to Turitea Rd. Proposed link provided south via the Waters land rural resi extension.	No direct Peri-Urban Road from proposed extension of Pacific Drive to Turitea Road. Indirect access via Valley Views Road to/from the southern portion of the plan. Proposed link remains to the south via Waters land to Turitea Road.
8	**Accessible gullies**	Creates public accessibility along plateau edges to secure open and inviting relationships with gully systems.		No change
			In general, the layout achieves public street accessibility along the gully edges at the interface with housing layouts to plateaus. This ensures a direct and positive relationship with the natural gully systems and the recreational amenity they provide. Greater number of gully crossings provides more opportunity for direct experience of landform and associated natural vegetation. Linear parks continue open space network into street plan.	In general, the layout achieves public street accessibility along the gully edges at the interface with housing layouts to plateaus. This ensures a direct and positive relationship with the natural gully systems and the recreational amenity they provide. Gully crossings provide opportunity for direct experience of landform and associated natural vegetation. Linear parks continue open space network into street plan.
9	**Character areas**	Differentiates character across the Aokautere neighbourhood, enhancing identity, amenity, wayfinding and urban quality.		Reduce to "most regards"
			A clear sense of spatial hierarchy is provided with identified character areas (north village, south village, crescent, promontory clusters etc.). While retaining continuity of Pacific Dr. to existing urban areas, a new/distinctive streetscape along gully edges is achieved. A visible natural gully landscape is created that will assist neighbourhood character.	A clear sense of spatial hierarchy is provided with identified character areas (incl. north village, south village, plateaus, promontories). While retaining continuity of Pacific Dr. to existing urban areas, a new/distinctive streetscape along gully edges is achieved. A visible natural gully landscape is created that will assist neighbourhood character. Density, lot size and dwelling type are not matched to individual streets and open spaces. Plan contains a large area of undifferentiated medium-density housing.

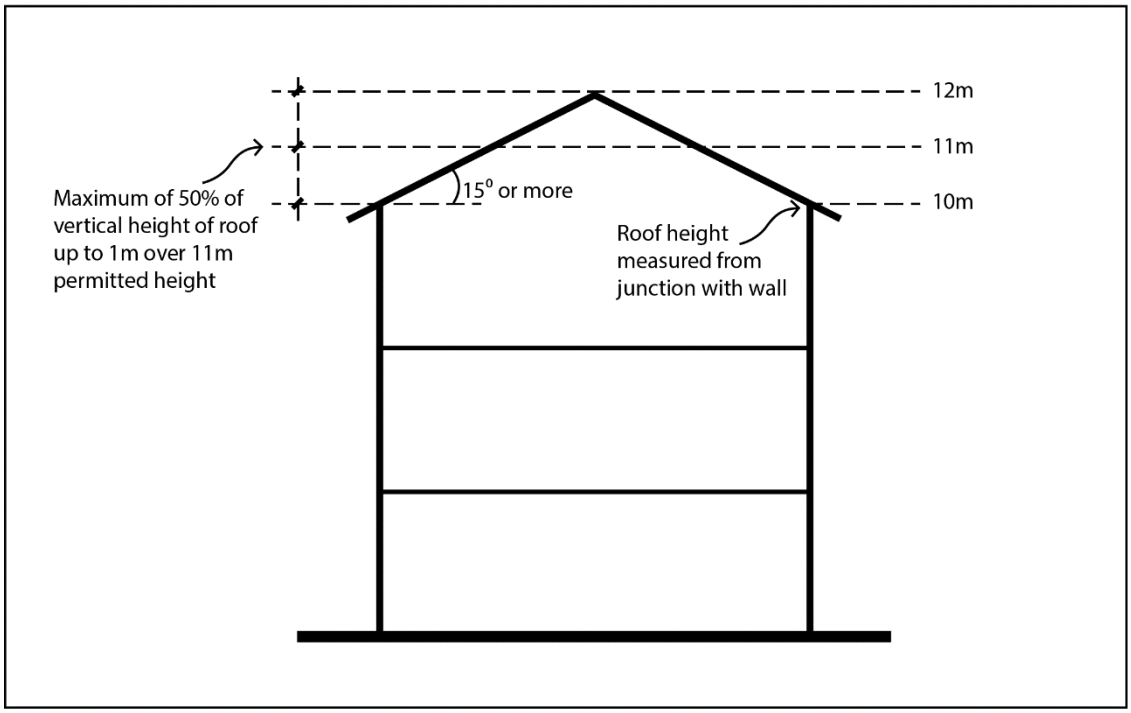
10	**Local amenities**	Supports walkable local centre provision with appropriate density, housing mix and a range of local shops and educational facilities.		No change
			Gradation in housing density with higher density areas located around a well-positioned local centre and school (strategic access and PT) will create the conditions for a new centre to emerge. The extent of the centre will depend on demand and therefore even greater population density than that shown in scenario 4 would be beneficial (i.e. conversion of suburban lots to multi-unit). Local centre is well connected into a permeable street network and benefits from strategic through movement however not all housing areas are within walkable distance to the new centre.	Gradation in housing density creates favourable conditions for a new local centre. Additional medium-density housing supports local centre. Local centre is well connected into a permeable street network and benefits from strategic through movement. Not all housing areas are within walkable distance to the new centre. Plan does not include local primary school.
TOPIC 3: STREETS, OPEN SPACES & LANDSCAPE				
11	**Distinctive identity**	Protects and enhances special landscape character of gullies and plateaus. Creates visually attractive settings that express plateau-to-gully relationships.		No change
			No built development within natural gullies. Creation of new shallow gullies as amenity and stormwater features. Landscape quality of gullies improved with native planting and habitat creation. High visual quality and point of difference established by new gully-to-plateau relationships. Streetscapes not just defined by housing but include direct relationship to natural landscapes.	No built development within natural gullies. Creation of new shallow gullies as amenity and stormwater features. Landscape quality of gullies improved with native planting and habitat creation. High visual quality and point of difference established by new gully-to-plateau relationships. Streetscapes not just defined by housing but include direct relationship to natural landscapes.
12	**Impact on landscapes**	Promotes natural character and ecology by minimising impact of access routes and gully crossings on landform.		No change
			Layout introduces multiple new links across gullies via rural character streets that run down/up gully landform. These will impact on natural character and habitats. However, the limited number of new crossings proposed reduces impacts. Design of road crossings and culverts at gully bottoms allows water systems to continue. Detail design tbc. Comprehensive stormwater management and revegetation enhances restoration of gullies' natural habitats.	Layout introduces multiple new links across gullies via rural character streets that run down/up gully landform. These will impact on natural character and habitats. However, the limited number of new crossings proposed reduces impacts. Design of road crossings and culverts at gully bottoms allows water systems to continue. Detail design tbc. Comprehensive stormwater management and revegetation enhances restoration of gullies' natural habitats.
13				No change

	Legible street system	Employs different street types to promote active modes and integrate with natural gully systems.	A range of street typologies are provided that differentiate and support the various movement roles/functions of the network. Collector streets are positioned along gully edges to optimise access and visual/landscape benefits and provide for active modes. Arterial connections into/with Pacific Drive are created.	A range of street typologies are provided that differentiate and support the various movement roles/functions of the network. Collector streets are positioned along gully edges to optimise access and visual/landscape benefits and provide for active modes. Arterial connections into/with Pacific Drive are created. Increased legibility in North Village with extension of regular street grid.
		Orients dwellings towards street frontages to create attractive streetscapes with high visual amenity and improved safety and better navigation.		No change
			In general, the layout ensures lots / dwellings achieve a street frontage. Long driveways accessing multiple rear lots are avoided. Blocks are designed with dimensions that maintain street-fronts to lots with very few exceptions. Street safety and legibility is high due to regular overlooking and traditional housing-to-street patterns that are commonly understood. Without design guidance and control, narrow lots could produce frontages dominated by garage doors.	In general, the layout ensures lots / dwellings achieve a street frontage. Long driveways accessing multiple rear lots are avoided. Blocks are designed with dimensions that maintain street-fronts to lots with very few exceptions. Additional back lots on Abby Drive extension. Street safety and legibility is high due to regular overlooking and traditional housing-to-street patterns that are commonly understood. Without design guidance and control, narrow lots could produce frontages dominated by garage doors.
14	**Sustainable water management.**	Establishes green and blue networks that embody water-sensitive design and promote biodiversity and water quality. Ensures stormwater flows do not increase risk of downstream flooding.		No change
			Network of open space provides for effective management of stormwater (tbc through detail water mgmnt design). Combination of swales and raingardens integrated into streets and retention ponds provided along plateau/gully interfaces and design of gullies to attenuate water flow. *However*, higher development densities will also result in impermeable areas / roofs and therefore reduce biodiversity and risk of flooding.	Network of open space provides for effective management of stormwater (tbc through detail water mgmnt design). Combination of swales and raingardens integrated into streets and retention ponds provided along plateau/gully interfaces and design of gullies to attenuate water flow. *However*, higher development densities will also result in impermeable areas / roofs and therefore reduce biodiversity and risk of flooding.

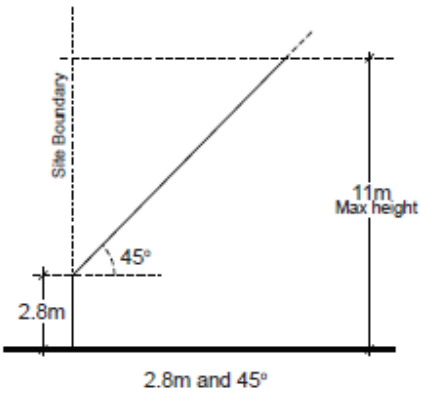
				Larger area of impervious surface with increase in medium-density housing at North Village. Smaller area of impervious surface with low-density housing on promontories.
15	**Open space provision**	Provides fit-for-purpose open spaces with accessible recreational outcomes that meet Council expectations. *PNCC anticipates:* • *2% of total land area as reserves* • *Min 40% as flat n'hood reserves* • *All reserves located within 500m of housing.* 392Ha requires 2% (7.8Ha) of open space of which 40% (3.1Ha) is required as flat playable reserves. The actual requirement could be considered to be lower given a large part of the 392Ha comprises 57Ha of rural residential areas where large lots provide ample on-site open space. In addition, the natural gullies and rural land amount to some 176.9Ha and therefore Aokautere as a whole is blessed with an abundancy of open space.		No change (cannot increase)
			Provision of flat open space: 2.5Ha distributed across 8 spaces that ensures all (suburban) housing is located within 400m of an open space. Whilst this does not meet the required 3.1Ha, the balance of open space as gullies (176.9Ha) is considered to be more than adequate. All spaces have excellent arterial or collector route access and position in attractive locations next to natural landscape areas.	Retention of Adderstone Reserve. Three new flat, playable reserves, all of which are accessible from Connector Roads and adjacent to natural landscape areas. Additional communal open space with Retirement Village Variation. Reduced length of wetlands reserve at North Village. Plan does not include local primary school. ***NOTE: COMMENTS NEED CHECKING***
16	**Ecological benefits**	Integrates open space with natural gully systems to deliver ecological outcomes for Aokautere and its downstream environments.		No change
			Higher suburban densities generally result in more managed (playable) open spaces that have reduced ecological function. Majority of proposed neighbourhood open spaces are co-located with natural gullies. This is likely to augment ecological and stormwater functions and enhance recreational and visual amenity through connection with natural landscapes.	Higher suburban densities generally result in more managed (playable) open spaces that have reduced ecological function. Majority of proposed neighbourhood open spaces are co-located with natural gullies. This is likely to augment ecological and stormwater functions and enhance recreational and visual amenity through connection with natural landscapes.
		Maintains and enhances ecology of natural gully systems by avoiding development and minimising earthworks in the gullies. Revegetation of gullies with native plant species enhances the natural gully systems.		No change
			Comprehensive planning avoids built intervention in gullies. Layout provides for enhanced habitat creation, revegetation and anticipates vesting of gullies as public asset. *However*, intervention of several new streets and bridges crossing gullies does not "avoid development".	Comprehensive planning avoids built intervention in gullies. Layout provides for enhanced habitat creation, revegetation and anticipates vesting of gullies as public asset. *However*, intervention of several new streets and bridges crossing gullies does not "avoid development".

Appendix C: Proposed Building Height Diagram for the Local Neighbourhood Centre

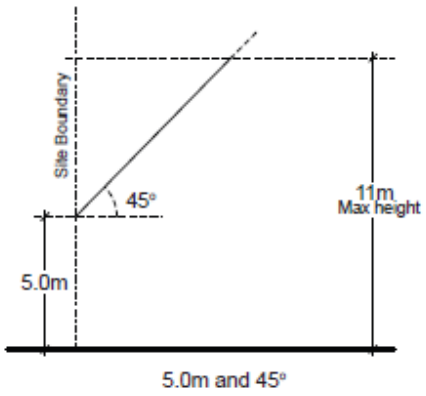
Building Height



Appendix D: HIRB Diagrams and Testing HIRB Outcomes



[HIRB AT REAR]



[HIRB AT FRONT]