

Plan Change 5

Structure Plan Document

June 2021

Ko te aaheinga
o te hanga he waahi ataahua he
waahi toiora ki Peacocke

Peacocke

Structure Plan

Weaving together a
new community



**Hamilton
City Council**
Te kaunihera o Kirikiriroa



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Peacocke Structure Plan

“Peacocke is an urban environment that encourages a sustainable and vibrant community that is well integrated and connected and responds positively to the natural environment”

Structure Plan Area

The Peacocke area comprises approximately 740 ha of rural land on the southern fringe of Hamilton. It is one of four significant growth cells in Hamilton and is the only area located in the south of Hamilton. It lies approximately 3 km south of the city's central city. The area is defined to the south-west and south-east by the city's boundary with Waipa District along Ohaupo Road, and Peacockes and Gainsford Roads. To the east and north-east the Peacocke area is defined by the Waikato River, and to the north-west by the Glenview and Fitzroy residential areas of the city.

In pre-European times the Peacocke area represents the southern lands of Ngaati Wairere and their related hapu Ngaati Koura, Ngaati Waenganui, Ngaati Ruru, Ngaati Ngamurikaitaua. Two other hapu Ngaati Kauwhata, Ngaati Koroki, also had land on the margins of the Peacocke area.

By the time Europeans first visited the area in the 1830s, Maaori had extensively settled the area. Many of these settlements were located on, or near the Waikato River, which served as a major transport and communication route. Tauranga waka (canoe landing places) were associated with riverside settlements.

Historically the gullies and river were important sites for Maori and large areas of land adjoining these features were inhabited. Both the river and gully have very strong historical associations for local iwi which can be recovered to some extent by restoring the physical environment.

In July 1863, the Crown's military forces crossed the Mangataawhiri River and war ensued with Waikato tribes and supporters of the Kiingitanga (King movement). In 1864 and 1865, military settlements, including Hamilton and Cambridge, were established. In 1865, by Orders in Council under the New Zealand Settlements Act 1863, the Crown unjustly confiscated approximately 1.2 million acres of Waikato-Tainui land from the Tainui iwi in order to punish them and gain control of the land, a large portion of this confiscated land was allocated to militia troops who had fought against the Maaori. This confiscation in 1863 (Raupatu) had the effect of separating iwi and hapu from their ancestral landscape.

The wider Peacocke area was subject to European occupation soon after the conclusion of the 1863–1864 invasion with survey of allotments for the settlement of members of the Waikato Militia. The general desirability of the Peacocke area is witnessed by the selection of it by General Galloway and Colonel de Quincy.

Key elements of the Structure Plan to be considered (see Section 8 for further details)

Development of the Structure Plan has considered the constraints and opportunities in the area. The following key elements have been explored to ensure sustainable development in the structure plan area.

Land use and activities – the Structure Plan identifies medium and high density residential land development areas taking into account the natural environment and providing open space facilities. The structure plan also identifies a local centre and a number of smaller neighbourhood centers throughout the Peacocke structure plan area.

Transport – The transport network focuses on prioritising public transport, pedestrians and cyclists by locating higher residential densities in close proximity to the proposed public transport network and the suburban centre and neighbourhood nodes. Peacocke will have a well-connected cycling and pedestrian network that joins key designations within Peacocke such as schools, sports parks and commercial centers as well as areas outside of Peacocke.

Open space and recreation – esplanade reserves along both the Waikato River and the Mangakootukutuku gully network, a sports field, a community parks, and a network of neighbourhood parks are to be provided in the structure plan area.

Natural environment and heritage – retention of permanent and intermittent streams is crucial and will help determine where roads, open space and residential development will be located. Significant Ecological Areas and riparian margins are to be enhanced while existing archaeological sites are to be protected and enhanced.

to provide habitat for indigenous fauna.

Infrastructure – Hamilton City Council has secured funding through the Housing Infrastructure Fund to construct key components of the bulk infrastructure, such as a new bridge over the Waikato River, wastewater infrastructure connecting Peacocke to the city's wastewater treatment plan, and key arterial transport networks which will open Peacocke up for development. Along with this an Integrated Catchment Management Plan has been developed to manage stormwater as a result of the effects of growth. The Structure plan also sets out a staging plan for the development of the Peacocke area over the next 30 years.

Land Use

A key urban design principle for Peacocke is well-connected and walkable residential areas. This means that residential neighbourhoods are linked well by local and collector roads, and via off-road walkway and cycleway links. The roading network itself should respond positively to the strong natural features such as the arms of the Mangakootukutuku Gully.

Residential Development

It is anticipated that residential development within Peacocke would take the form of mainly medium density residential development. The density of development has a strong impact on the appearance and functioning of an urban area. As a general principle it is considered that residential density levels should be higher in areas close (within a five minute walking distance) to commercial nodes, education facilities, sports parks and other major reserves such as the future esplanade reserves along the Waikato River and Mangakootukutuku Gully. Along with these areas higher density should also be located close to the public transport network.

Residential development is anticipated to be a combination of single dwelling units, duplexes, terrace housing and multi storey apartment buildings. Development fronting public space such as natural open space, parks and the river and gully network will need to ensure a public interface by the establishment of a local road or pedestrian/cycling network along this interface where possible.



1. *Only use cul-de-sacs where connectivity is constrained by topography*
2. *Roading providing a public edge to gully and the river*
3. *Higher density development located in appropriate locations to take advantage of amenity provided by the open space and gully areas*
4. *Gully as public reserve land creates a strong feature within the urban fabric*

Retail

The structure plan recognises the need to provide the day to day needs of the future community of Peacocke locally and within walking distance of the various residential areas and as such it is proposing to establish the following retail centres within Peacocke:

Local Centre

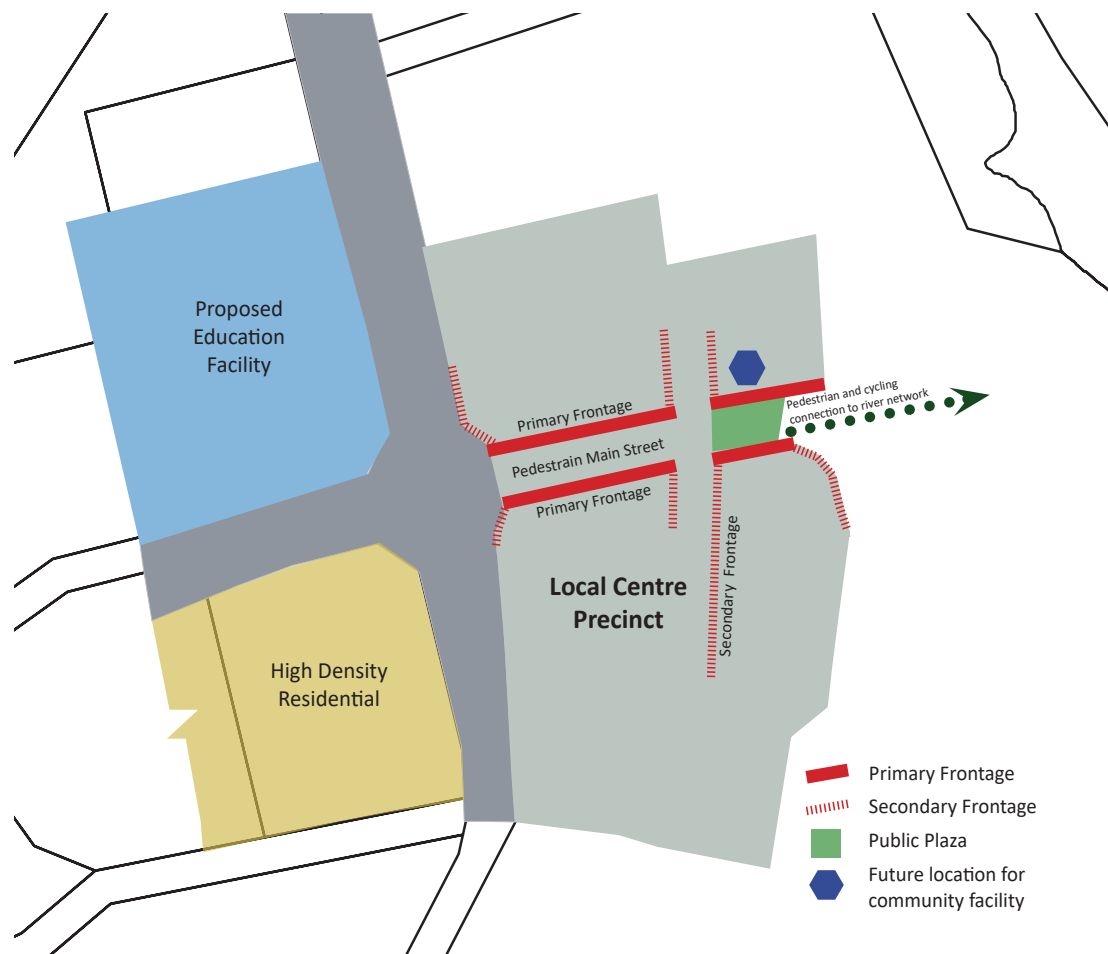
The Local Centre will also be the location for any future community facilities, public transport centre and the focus for the majority of commercial activities within Peacocke. The local centre shall be a street-based, mixed-use centre, based around attractive and well functioning public space and containing a mix of land uses and facilities that would be expected within a centre.

Neighbourhood Centres

Seven neighbourhood centres have been identified within the Peacocke structure plan area. The locations have been chosen to provide a wide distribution across the growth cell maximising the amount of residential land within a five minute walking distance of the centres. The location would enable

neighbourhood centres to be comprised of approximately three to seven stores in size and would provide good accessibility to the majority to the Peacocke area population.

Peacocke Local Centre Precinct Plan



Community Facilities

Community facilities such as a public library, passenger transport facilities, and other community facilities will be required to support this growing community over time. If and when required, these facilities will be developed within or close to the local centre or neighbourhood centres, to ensure they are easily accessible to the residential areas of Peacocke as well as help developed strong neighbourhoods. However the structure plan recognises that there are a number of community facilities on the edge that can service the needs of Peacocke in the short to medium term.

Libraries

Short to medium term, the demand for libraries in the south of the city is likely to be able to meet through the existing facilities in Glenview and cross the new bridge, in Hillcrest. Long term a library could form part of the new local centre in Peacocke.

Indoor Recreation

There are no current plans to provide for indoor recreation facilities in Peacocke in the short term and demand will need to be met through existing facilities. In the long term there may be opportunities to deliver a large indoor recreational centre as part of any school development or as part of land designated for the sports park.

Community Centres

There are no centres planned for the Peacocke area and therefore it is important that they are able to be established within Peacocke through provisions in the District.

Schools

Ministry of Education (MoE) are aiming to develop education facilities within the Peacocke area. MoE will be responsible for designating sites as required for schooling. Strong walking and cycling links will also need to be established to schools outside of Peacocke, in particular the development of pedestrian and cycling links to Melville Intermediate and High schools.

Transport Network

It is essential that transportation routes are designed to give priority to walking and cycling and facilitate a seamless web of direct and efficient passenger transport routes that are integrated with surrounding land use as well as the central city area and other key destinations of Hamilton.

The shape of the transport network within Peacocke will have an influence on uptake in walking, cycling or public transport use, which affects the efficiency of the wider network. The goal is to create a network that makes walking, cycling and public transport the easiest and most appealing choices. To do this the arterial and collector road will provide separated cycling and pedestrian facilities.

The alignment of the transport network is indicative and not intended to show exact alignments. Collector roads and key Local Roads in particular are shown conceptually to provide key linkages within and between different residential neighbourhoods. Their precise alignment will be largely determined as individual subdivisions are progressed.

The transport network will be staged as development progresses within Peacocke. The principles for the transport network are:

- Priorities residents of Peacocke's mobility and accessibility to places within Peacocke and to the rest of Hamilton, including employment areas
- Provide clear, safe and direct access for residents to community facilities, commercial areas, places of recreation and other neighbourhoods.
- Provides people with transport choices (is multi modal) by promoting PT and active modes, at expense of level of service (LOS) for private car if necessary.
- Maximise network efficiency for PT, buses, High Occupancy Vehicles (HOV) and active modes through design
- Flexible design to cater for evolution & steps changes in transport system

Peacocke Local Centre Transport Hub

The proposed public transport network structure includes a core Frequent service along the East/West Arterial and passing through the Peacocke local centre located on Peacockes Road. A second connector service also operates along Peacockes Road to the south.

It is important that the transport hub at the local centre be located on Peacockes Road within a block where these multiple routes can all utilise the same bus interchange, particularly for travel in the same direction to facilitate passengers transferring between services with as few steps as possible.

Parks and open space

To achieve a sustainable balance of land use activities it is important to ensure that a range of formal and informal recreational opportunities are provided to meet the diverse needs of the intended population of the Peacocke area.

The intent of the open space network within the structure plan is to provide places for activity and engagement, for peace and enjoyment, for freedom and relief from the built environment and an opportunity to connect with nature and heritage. It will contribute to the social, health, economic and environmental well-being of the future Peacocke community as well as the wider Hamilton community.

Major Sports Park

A major sports park of approximately 14ha has been identified within the Peacocke area which will contain a number of sports pitches (suitable for senior grade play, junior fields and training areas) which will provide for

the sporting need of the future population of Peacocke. This sports park will also include neighbourhood park function for the surrounding residential areas. Whilst it will primarily serve the local population, they will also form part of the city-wide network of sporting facilities.

Community Park

A Community Park is shown on the structure plan as future reserve. It will be a large multifunctional park that provides informal recreation, socialising and event space for the wider community and serve a neighbourhood park function as well. The final design, location and extent of the open space network will be determined at the detailed design stage, which accompanies subdivision.

Neighbourhood Park

Neighbourhood parks also provide a range of informal recreation facilities, including children's play areas. These will complement the range of facilities provided by the sports park and provide a smaller scale focal point for the local neighbourhoods. They are intended to serve a catchment area within a radius of approximately 500m. In order to provide appropriate levels of accessibility and an even distribution of recreational facilities, each neighbourhood should be provided with a park comprising approximately between 5000m² and 8000m² in size.

Natural Environment

The Peacocke Structure Plan needs to respond to the strong natural elements that are present, including the Mangakootukutuku Gully system, the Waikato River, and the rolling topography in the south.

While the urbanisation of the Peacocke area will transform the existing environment, it is essential the natural topography of the area informs the design of urban development, the extent of earthworks and land modification.

A number of key design principles have been established to ensure that development enhances the key natural element of the Peacocke area.

- The visual sensitivity of the Mangakootukutuku Gully network needs to be acknowledged. The heavily incised nature of the Mangakootukutuku Gully means it potentially has poor legibility and little visual relationship with the wider urban form, particularly if privatised and enclosed along its edges. To protect against this, an open space buffer running along the top of the banks, will allow the gully system to be legible and in turn provide definition to the surrounding urban form
- Conversely local roads should run along the gully edge in as many places as possible with houses on one side of the street only, or the gully edge be maintained as public reserve land
- It is inevitable that some roads will have to cross the gully arms to create a well-connected and integrated transport network. However, it is envisaged that collector and local roads should generally be routed around the gully arms to minimise modification of the landform and limit ecological damage

Retention Of Natural Landform

Development on sloping sites provides desirable vistas and over look, however contemporary residential development seeks level building sites and outdoor space. While some land form modification is an expected co-committing to the urbanisation process there are limitations on landform gradient that are suitable for this approach. The following principles should be considered when developing of sloping sites:

- Modification to land form is an anticipated co-committant with the shift from rural residential to residential development.
- Ecological reserves are fixed points within the existing landscape.
- Consider the extent of flat area required within a site. Utilising as much of the original slope profile can be relatively cost effective to achieve, and still create attractive lots.
- Minimise retaining walls in the front yard of lots to improve the amenity of streetscapes. Berms or sloping landscaped areas are preferable in front yards.

- A combination of batters and retaining walls located inter lot can be an effective device for absorbing vertical differences without being highly visible from the public domain.
- Gradients in excess of 20% are typically unsuitable for the contemporary residential development approach, and are likely to require specific design approaches for residential development.
- Steeper lots are likely to produce the need for high retaining walls. Consider reducing building platforms by building two or more storeys.
- Limit the range of retaining walls style within a development, especially where those retaining walls are seen from publicly accessible locations.
- Where larger scale subdivision is being undertaken by a developer it is preferred that the developer should undertake the bulk of the retaining work in a consistent style.

Indigenous Biodiversity

The Mangakootukutuku Gully and Waikato River margins comprise a mixture of indigenous and exotic vegetation. These areas provide important habitat for the nationally threatened long-tailed bat and many indigenous bird and fish species. Indigenous animals rely on this exotic habitat as essential components of their life cycles, for breeding or migration, or buffering waterways. This is because indigenous vegetation is so depleted within this landscape that the exotic-dominated habitat is the only habitat available, even if it is of marginal habitat quality.

Significant Natural Area:

Where there is existing data that the vegetation or habitat can be clearly delineated by a Significant Natural Area (SNA). Key habitat SNA for bats have been determined on the basis of known roost sites and/or known clearly defined habitats regularly used by bats for foraging or moving through the landscape. These areas will be zoned natural open space with a SNA overlay no development to occur in these area. The majority of SNAs are located within either the main body of the Mangakootukutuku Gully network or along the Waikato river

Bat Habitat Buffer: A buffer of 20m has been applied to the identified SNAs to prevent anthropogenic disturbance immediately adjacent to these habitats, and hence maintaining the function of these habitats for bats as the surrounding land use changes from rural to urban. The aims is for these areas to remain open space with limited land uses such as pedestrian and cycling paths as well as being potential location for recreational facilities such as childrens play grounds.

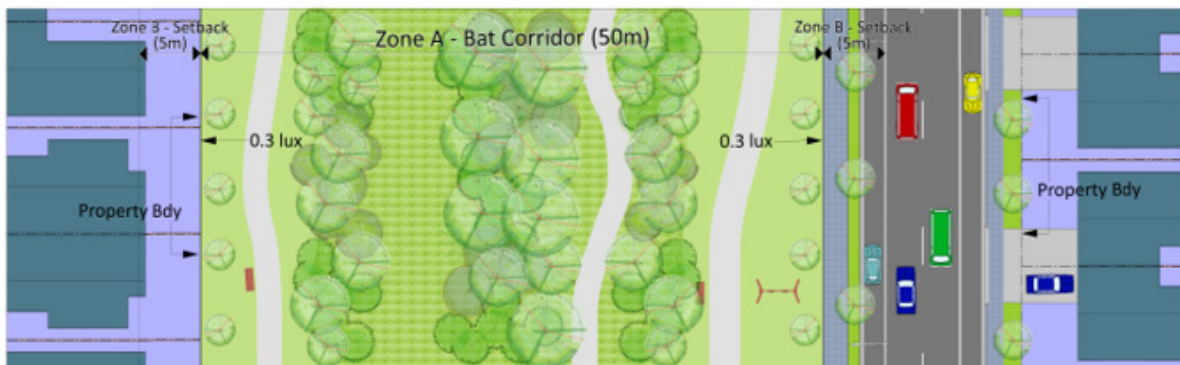
Development Setback: Along with the Bat Habitat Area a 5m development setback is proposed along the interface with the Bat Habitat Area. The setback aims to control any buildings and associated effects on the adjoining bat habitat areas.

Lighting Controls: Controls over lighting to protect the functional attributes of the habitats in relation to surrounding land use change from rural to urban. These controls relate to managing the impact lighting may have on the ability for the Bat Habitat Areas to remain dark spaces allowing bats to continue to use these areas as Peacocke urbanises.

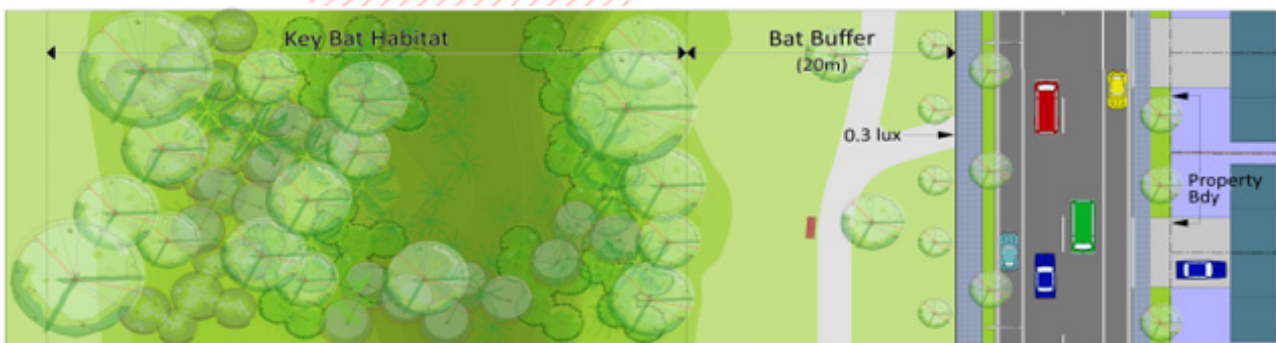
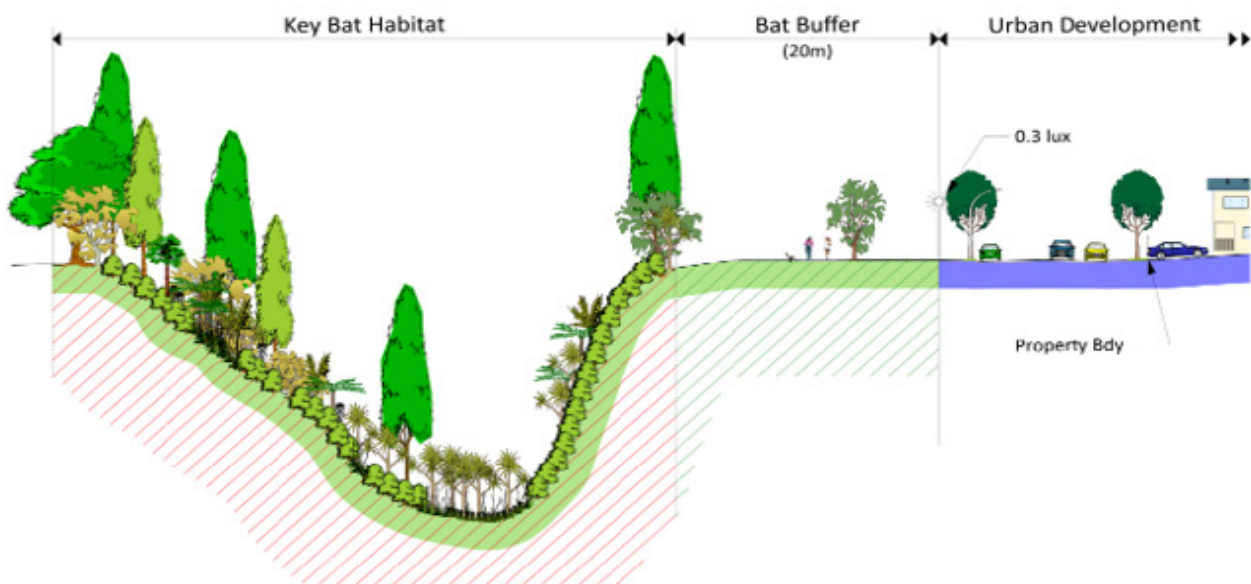
Bat Corridors

The focus of much of the habitat maintenance and restoration within Peacocke is the Mangakotukutuku Gully System and the western Waikato River bank. While the Waikato riverbank and large areas of the gully system have been identified as Significant Natural Area's and afforded proposed enhancement and protection from development, there remains portions of the gully system and vegetated areas that were not identified as SNA.

Although these fragmented areas currently present a depleted ecological environment, they form part of the ecological system and through habitat enhancement will, in conjunction with the SNA gully areas form a continuous ecological corridors. Once established the corridors would provide an extensive connected ecological network throughout the Peacocke area. These corridors will assist in supporting not only the long tailed bat, but other indigenous flora and fauna.



PROPOSED BAT CORRIDOR



KEY BAT HABITAT AND BAT BUFFER

Cultural Heritage

Over the years deforestation and farming activities have significantly modified the area, resulting in the loss or destruction of many of the historic cultural features. Historically the gullies and river were important sites for Maori and large areas of land adjoining these features were inhabited. There is a significant opportunity for the reserves network along the Waikato River and the Mangakotukutuku Gully to contribute to the cultural value of the area through the re-establishment of indigenous ecosystems of the Hamilton basin. Both the river and gully have very strong historical associations for local iwi which can be recovered to some extent by restoring the physical environment.

Naming of reserves and roads is a further way that both the Maaori history of the area and Pakeha history can be reflected and celebrated. The Whatukoruru Paa is located between two arms of the Mangakootukutuku Gully, the KairokirokiPaa site is located on Council-owned land adjacent to the Glenview Club on Peacockes Road, and the Nukuhau Paa which is located in the Stubbs Road area, all of which are significant culatural sites within the Peacocke area. Borrow pits and other archaeological features indicate both the river and gully were heavily occupied by Maaori. These site need to be recognised, protected and celebrated during then urbanisation of this area of these areas as well as educating the public of there historic importance to Hamilton.

Paa are a major component of the archaeological landscape within Peacocke. Surrounding the Peacocke Structure Plan area there are thirteen paa with three paa sites within the area of the structure plan or immediately outside the structure plan area.

Hazards

Two hazards have been identified in Peacocke through the development of the Integrate Catchment Management Plan, with the intention that they would trigger additional investigations and analysis, and not as strict no-build zones. These hazards relate to bank stability and land movement relating to seismic events. These setback are intended to guide development to be undertaken in a manner that would consider the potential risks surrounding slope stability.

Gully Stability Setback Area

A Bank Stability Setback Line is proposed to be the minimum development setback distance to prevent the gully system being damaged from land development activities. This setback Line may also prevent property and assets being located within a potential (non-earthquake) slip hazard areas without further geotechnical consideration.

Seismic Setback Area

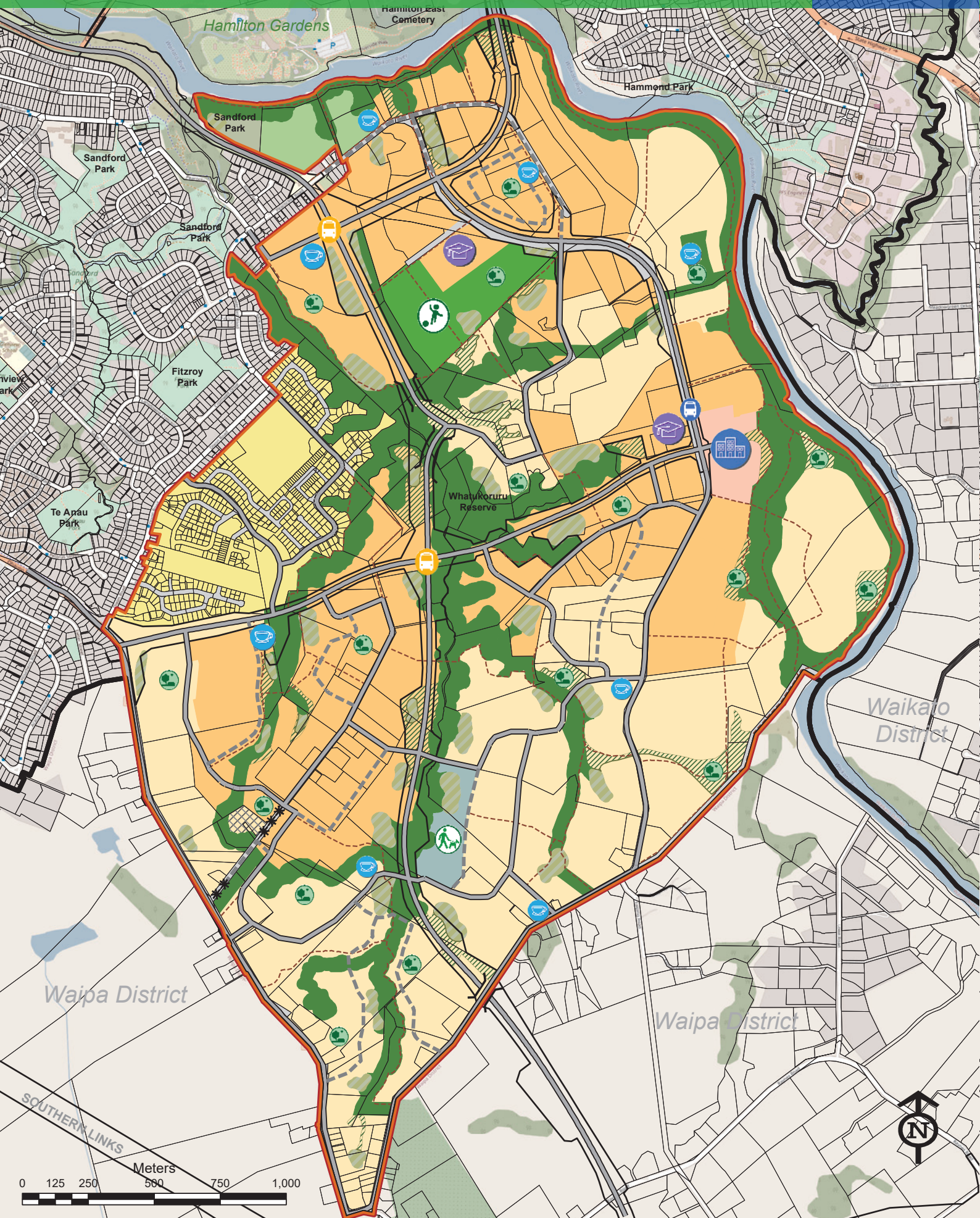
This Setback is proposed to indicate where a development is required to be designed to accommodate potential lateral land movement because of an ultimate limit state (ULS) seismic event.

Implementation and staging (see Section 9 for further details)

It is anticipated the structure plan area will provide approximately 7 500 new dwellings (depending on the density of development), over the next 30 years. Development will be built out in stages as the provision of infrastructure allows starting in the northern parts of Peacocke were bulk infrastructure is being constructed.

The development of the structure plan area is split into six phases. Some land is being developed already and it has been identified that up to 2 700 dwellings will be developed during the period from 2020 to 2030.

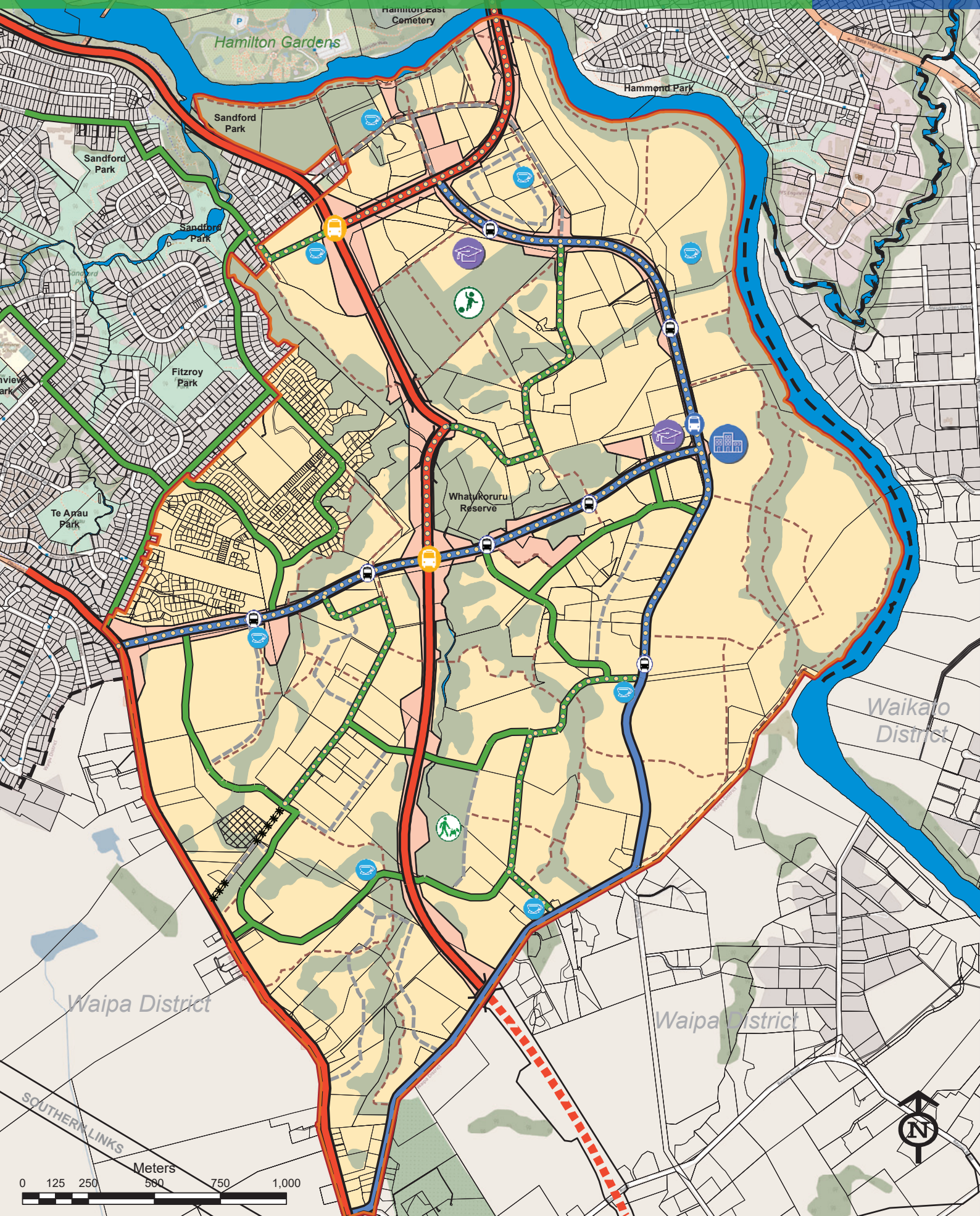
PEACOCKE STRUCTURE PLAN



Land Use

Proposed Peacocke High Density	Proposed Sports Park	Proposed Road Network	Proposed Public Transport Hub	Proposed Sports Park	Structure Plan Boundary
Proposed Peacocke Medium Density	Proposed Community Park	Proposed Key Local Road	Proposed Future Mass Transit Stop	Proposed Community Park	
Peacocke Stage 1A	Existing Natural Open Space	Proposed Cycleway/Walkway	Proposed Local Centre	Proposed Neighborhood Park	
Proposed Natural Open Space	Existing Wetlands	Proposed Road Stopping	Proposed Neighbourhood Centre	Proposed Education Facilities	
	Proposed Stormwater Wetland		Proposed Education Facilities	Transpower - Hamilton Communication Centre	

PEACOCKE STRUCTURE PLAN



Transport Network

Hamilton City Council
Te Kaitiaki o Kiriwhiri

- Major Arterial - Southern Links
- Major Arterial Transport Network
- Minor Arterial Transport Network
- Proposed Road Closure

- Indicative Collector Transport Network
- Indicative Key Local Transport Network
- Indicative Cycleway/Walkway Network
- Proposed Public Transport Route

- Proposed Public Transport Hub
- Key Public Transport Stops Locations
- Future Mass Transit Stop
- Transpower - Hamilton Communication Centre

- Local Centre
- Neighbourhood Centre
- Community Facilities
- Sports Park
- Community Park

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PEACOCKE STRUCTURE PLAN

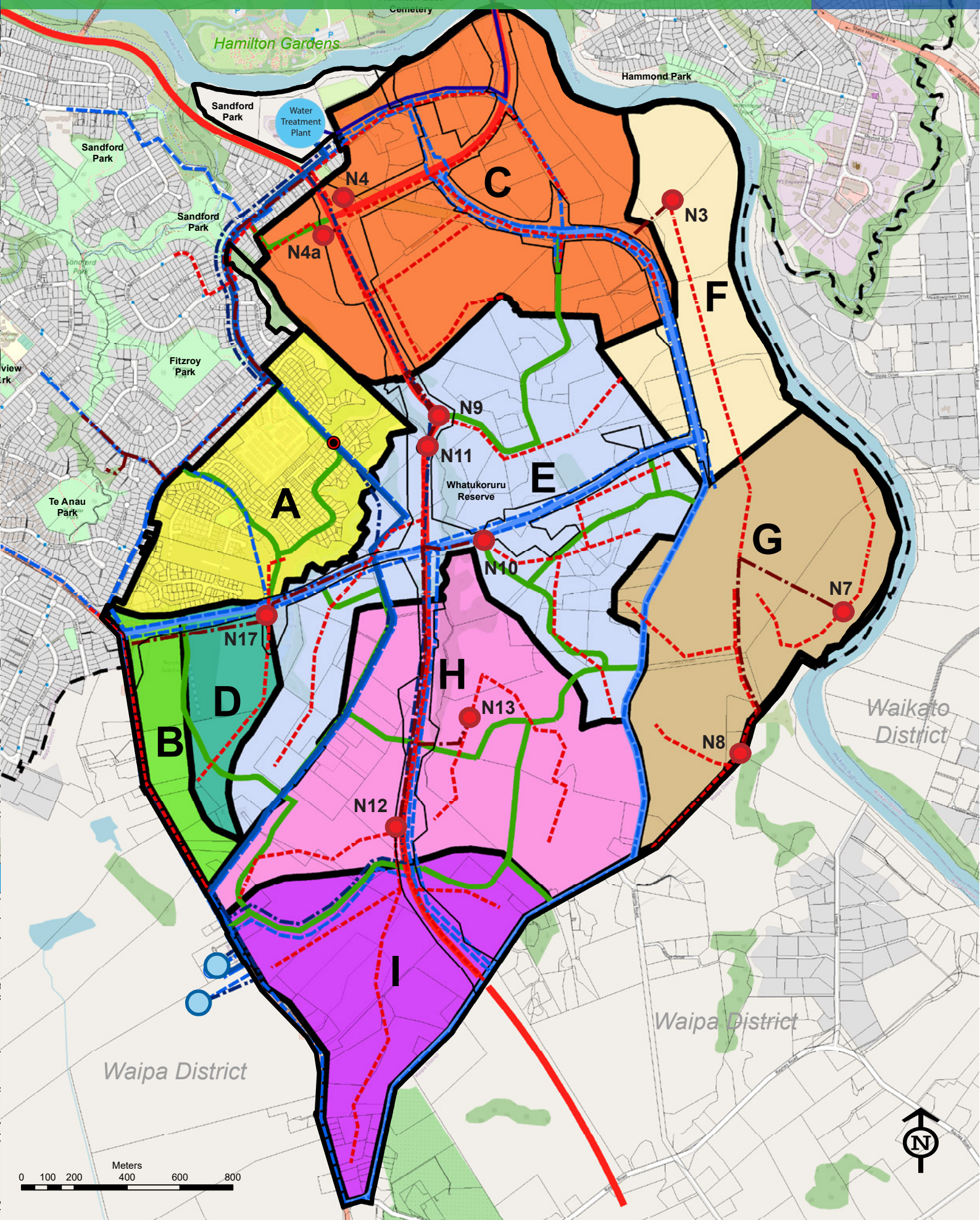


Natural Environment and Heritage

Hamilton City Council
Te Kaitiaki o Kiriwhiri

- | | | | |
|----------------------------|-----------------------------|---|--|
| Known Paa Sites | Proposed Bat Corridor | Proposed Stormwater Wetlands | Existing Wetlands |
| Known Archaeological Sites | Proposed Sports Park | Proposed Significant Natural Area (SNA) | Southern Links Designation |
| Significant Trees | Proposed Community Park | Proposed Significant Bat Habitat Area | Structure Plan Boundary |
| | Proposed Neighbourhood Park | Proposed Esplanade Reserve | Transpower - Hamilton Communication Centre |

PEACOCKE STRUCTURE PLAN



Staging Plan

Stage A	Stage D	Stage G	Wastewater Pump Station	Water Reservoir	Major Arterial Transport Network
Stage B	Stage E	Stage H	Wastewater - Gravity Sewer	Water - Supply Distribution Network	Minor Arterial Transport Network
Stage C	Stage F	Stage I	Wastewater - Pressure Sewer	Water - Reservoir Feed Lines	Collector Transport Network

1. Introduction

The purpose of this document is to outline the structure plan for Peacocke. It has been guided by a number of technical reports, community feedback received during the engagement process, and feedback from key stakeholders within the structure plan area.

Peacocke is part of the solution to Hamilton's growth challenge; this document sets out how the Peacocke area is intended to be developed over the next 30 years and how the Peacocke area will integrate into the wider Hamilton area.



1.1 Background

Peacocke has been identified as one of Hamilton's strategic growth cells for the last 30 years, having been brought into the city boundary in 1989. Since that time, the area has been maintained as a future growth area within the District Plan, with the latest version of the Peacocke Structure Plan developed in 2007.

A lot has changed over the past 13 years since the development of the current structure plan; as a result the existing structure plan is no longer fit for purpose in terms of delivering best practice when it comes to the creation of a new urban community.

The updating of the structure plan for the Peacocke growth cell aims to optimise the current infrastructure investment to enable the development of an attractive and sustainable community in Peacocke.

Ko te whakakitenga moo te whenua Peacocke - Ko te aaheinga o te hanga he waahi ataahua, he waahi toiora ki Peacocke.

Over the next 10 years, Peacocke is projected to deliver a third of Hamilton's medium-term housing needs and 26% of Hamilton's long-term housing needs, which equates to approximately 7500 dwellings.

The development of the structure plan relies on the delivery of the strategic infrastructure network, ensuring that sufficient capacity is available to service growth. Creating a sustainable community means there is a need to ensure the provision of community facilities and infrastructure, and commercial services, enabling local access and reducing reliance on the private motor vehicle for local trips.

The development of the structure plan also takes into account the requirements of the NPS on Fresh Water Management, NPS on Urban Development as well as the draft NPS on Indigenous Biodiversity. A unique aspect of the Peacocke area is its extensive gully network. The Mangakootukutuku Gully is home to New Zealand's only endemic land mammal, the pekapeka-tou-roa or long-tailed bat, which roosts and forages in the Peacocke area. The gully network also needs to be protected from the effects of development as it directly connects to the Waikato River.

The review and update of the structure plan is an important step in ensuring that Peacockes is developed to meet its vision. The Peacocke Structure Plan consists of six key parts:

- Provides a spatial context of the structure plan area;
- Outlines the strategic planning and policy framework within which the Peacocke area exists
- Considers existing or potential development issues;
- Constraints and opportunities;
- Sets out the development and design principles and structure plan elements and
- Establishes a staging plan for the development of the Peacocke area.

1.2 Objectives

The existing structure plan is over a decade old and no longer represents best practice thinking with regard to creating an attractive, livable and sustainable community. As such, there is a need to rethink the whole land use framework for Peacocke, with a strong emphasis on the work being design/spatially led.

This will consider possible increased densities, providing different housing typologies, the location of commercial centres, and much greater detail and guidance on how to enhance access to, and throughout, the Peacocke area. Ultimately, the purpose of the new Peacocke Structure Plan will be to guide changes to the associated land use planning provisions to give effect to the wider Peacocke Programme objectives.

The Peacocke Structure Plan will:

- Identify the optimum location for active reserves, roading and walking/cycling network, suburban and neighbourhood centres, community facilities, areas of density and community nodes.
- Introduce infrastructure staging and transport connections.
- Promote best practice in terms of urban development.

It will also:

- Provide a detailed examination of the opportunities and constraints relating to the land including its suitability for various activities, infrastructure provision, geotechnical issues and natural hazards.
- Identify, investigate and address the potential effects of urbanisation and development on natural and physical resources in the structure plan area and in neighbouring areas, particularly those that have been scheduled in the District Plan in relation to natural heritage, Mana Whenua, natural resources, historic heritage and special character.
- Explain how any adverse effects of land use and development are to be avoided, remedied or mitigated by proposed plan provisions.

The intended structure plan objectives include:

- Enhancing the environment, specifically in relation to water quality and biodiversity.
- Ensuring a high quality and connected open space network.
- Increasing public transport, cycling and walking modal shifts as set out in Access Hamilton.
- Developing a land use pattern that provides housing choice while creating accessible new communities.
- Ensuring landscape and urban design excellence.

1.3 Structure planning in the context of the plan change process

The District Plan (DP) promotes the preparation of structure plans as a precursor to plan changes and illustrates the pattern of land use and the transport and services network of a future development area.

Preparing a structure plan is one of the first steps in advancing the development of new urban areas. It identifies land uses such as residential, commercial, industrial and public open space and also shows information such as housing density. It also contains broad servicing details such as transport configuration and includes other important key infrastructure features such as the Three Waters networks.

The purpose of a structure plan is to plan for the future in an integrated manner by:

1. Outlining a vision for the future.
2. Setting out where growth can be accommodated and setting out a future land use pattern.
3. Providing for staged development.
4. Guiding infrastructure planning including transport corridors, Three Waters, community facilities and public open space.
5. Identifying the financial feasibility of the development from a Council, infrastructure provider and landowner perspective.

A structure plan has two main parts which must be incorporated into the District Plan:

1. Guiding principles, including objectives and policies specific to the Structure Plan area, and
2. Map(s) showing the intended pattern of development. This could include information on:
 - transport corridor general location and hierarchy
 - public reserves and links
 - areas for preservation, protection or restoration/enhancement
 - development intensities for residential or other activities, and
 - if appropriate, other matters as may be relevant to or significant for urban development in the area.

The maps or plans are at a high level and cover the structure plan area as a whole; they do not typically go into such detail as individual lot boundaries or the physical form of buildings and structures. Although a structure plan indicates future land uses, the provisions that manage land development will be embedded in the District Plan via the plan change process.

1.4 Development Challenges

Hamilton's current population is estimated to be 169,300. Hamilton is one of the fastest growing cities in New Zealand with a surge in population growth expected in the next 30 years. By 2025, estimates predict 184,000 people will be living in Hamilton, which will swell to 236,000 people by 2038.

Hamilton will need enough land for an extra 12,500 homes by 2028 and 31,900 by 2048 to accommodate the expected population increase. Hamilton is aiming to cater for growth through a mix of infill and greenfield development. The Peacocke Structure Plan is an important greenfield growth node.

With the amount of work that has been carried out since the last iteration of the structure plan, it is important that this information is considered and applied in a spatial manner to determine the level of growth that is able to be accommodated within the Peacocke area.

1.5 Housing Infrastructure Fund

With Hamilton City Council securing Housing Infrastructure Fund (HIF) investment, this has allowed the opening up of the Peacocke growth cell for development earlier than anticipated. The fact that the existing Peacocke Structure Plan is nearly 13 years old and that the HIF investment has brought forward the anticipated development of the area, as well as work also being undertaken to establish stormwater, biodiversity and ecology requirements, means that the structure plan now needs to be refreshed to guide development and to reflect the current environment and best practice.

1.6 Vision for Hamilton

What is considered to be best practice urban development has evolved since 2007 and the last version of the structure plan. The existing structure plan is not however entirely obsolete and provides a foundation for the continued improvement of Hamilton's urban environment.

Hamilton's elected members have established their vision for the city as a place that has a unique sense of place that connects and includes people and creates a vibrant community.

1.7 Population/Housing demands

Presently, growth within Hamilton is accommodated through development within both the greenfield areas as well as the infill of existing urban areas. For the 12 months ending March 2019, the development ratio is 52% infill and 48% greenfield. The ratio aligns with the increase in townhouses, flats and units, which are mostly built in infill areas. Townhouses, flats and units made up 48% or 749 of the new dwellings while apartments contributed an additional 4% or 59 of new dwellings. There was been a significant increase of 216 duplex dwellings over the past year, representing 10% of the total supply of dwellings. A total of 589 new detached houses were consented in 2019, a decline from the 815 peak in 2016. The detached houses represent 38% of the total dwellings consented. On an annual basis the number of consents in Hamilton increased by 35.8% compared with the same 12 month period a year ago. The number of consents in New Zealand increased by 5.8% over the same period.

As at 1 July 2019 there were 973 dwellings under construction in Hamilton. There were 206 more dwellings under construction compared to July 2018, which was 767. The Rototuna growth cell (Horsham Downs, Huntington, Flagstaff, Rototuna and Sylvester) in the north of Hamilton was the main focus for development. In total, there were 372 (38%) dwellings under construction in the area, with the suburbs of Sylvester and Horsham Downs having over a hundred dwellings under construction. Sylvester is the most active suburb with 156 dwellings under construction. Horsham Downs continues to be highly active with 139 dwellings being built.

Hamilton CBD (48) has the strongest infill construction, while most of the mature suburbs are less active than suburbs within the growth cells. However, the pockets of redevelopment occurring throughout the city, where lower capital value properties offering good development feasibility.

The Peacocke growth cell has been identified as an area that could address some of the housing needs. In 2017 it was identified to cater for a total of approximately 8,400 new homes with 3,750 of these new homes being provided by 2028. However, it has been established that the projected housing yield for Peacocke won't be achieved as a result of the need to accommodate additional non-residential activities such as roading, open space and community facilities, storm water management and the protection of biodiversity.

1.8 Biodiversity/ecology

The wider Peacocke area includes significant ecological features, namely the Waikato River, Mangakootukutuku Gully network and Hammond Park, all of which provide habitat for regionally significant flora and fauna. It is therefore important that urban development recognises and protects these natural features.

Identifying, protecting, maintaining and enhancing of natural resources will inform the development of the structure plan.

The proposed structure plan needs to demonstrate how proposed subdivision, use, and development will protect, maintain and enhance the values of the natural resources found within the Peacocke area.

1.9 Mangakootukutuku Integrated Catchment Management Plan

An Integrated Catchment Management Plan (ICMP) has been developed for the Mangakootukutuku Catchment. The Mangakootukutuku ICMP is a tool to help manage the form and function of Three Waters infrastructure in an integrated, effective, efficient, functional, safe and sustainable manner within the Mangakootukutuku Gully network.

The Mangakootukutuku ICMP predominantly focuses on managing the effects of urban development in the Mangakootukutuku catchment which covers the majority of the Peacocke area. The ICMP will inform the development of the Peacocke Structure Plan on how Three Waters will be managed within the Peacocke area.

1.10 Southern Links Designation

The Southern Links designation was notified in 2016 and was included in the Operative District Plan in 2018. In the development of the structure plan the alignment and purpose of the Southern Links Designation is not been considered for amendment. Currently the development of the Peacocke Strategic Transport network and waste water infrastructure is been facilitated by this designation. Any changes to the Southern Links designation would have to occur through a separate process annunciated by the Requiring Authority.

2. Community Engagement

The review of the Peacocke Structure Plan offered us the chance to create a community, with the community. Using feedback gathered during the community and key stakeholder engagement, as well as guidance from central Government.



2.1 Engagement Tactics

The purpose of the community engagement was to provide the opportunity for landowners in the Peacocke area, key stakeholders and the wider Hamilton community, to provide input into the review of the Peacocke Structure Plan. We wanted landowners to be involved early to make positive changes to the draft Plan before it is notified. The Peacocke Structure Plan should also reflect the wants and needs of Hamiltonians and ultimately create a community they want to live in.

The community was asked to feedback on housing style and density, transport connections (including walking, cycling and public transport), community spaces, natural environment and culture; selecting either “I think that’s a great idea!” or “I’m not sold on that idea” and space for any comments. A hard copy booklet was created to help tell the story of all the plans for the area, which was replicated on-line through Council’s Have your say.

An open day held at the Glenview Club was a highlight of the engagement period and attended by nearly 700 Hamiltonians. There was an obvious shift to a more positive conversation when compared to previous open days about the area, with the community’s questions focused around environmental work and locations of schools, supermarkets and other community facilities.

Key engagement tactics used included:

1. Hard copy engagement booklet – printed and distributed to Council offices and libraries.
2. Have your say web page.
3. Direct mail
 - Letter with booklet to landowners in the Peacocke Structure Plan area.
 - Email to key stakeholders.
 - Email to other stakeholders we have previously engaged with.
 - E-newsletter to people interested in Peacocke news.
 - Email to Southern Links community liaison group members.
4. Paid social media campaign across Facebook and Instagram.
5. Meetings and workshops with key stakeholders
6. Meetings with Glenview Community Centre and Hamilton East Neighbourhood House.
7. Newspaper advertising in community papers ahead of Open Day.
8. Flyer drop to surrounding neighbourhoods ahead of Open Day.
9. Open days
 - Steele Park Your Neighbourhood attended by approx. 500 people.
 - Peacocke Open Day at Glenview Club attended by 600-700 people.



10. HCC - Internal
 - Moorena Mail
 - Executive update
 - Posters in elevators and reception areas.
 - Pull up banners in reception.
11. Our Hamilton stories
 - Plan lays the foundation for sustainable community, 11 November 2020
 - Environment and community spaces led conversation at Peacocke Open Day, 2 December 2020
12. Media coverage
 - Waikato Times / Stuff.co.nz, 11 November 2020
 - Waikato News / Nzherald.co.nz, 18 November 2020
 - Waikato Times / Stuff.co.nz, 2 December 2020

2.2 Open Day

The Peacocke Structure Plan had a stand at the Steele Park Your Neighbourhood event which was attended by around 500 people. This included collateral outlining each theme, maps with magnets to demonstrate how things might fit in the new neighbourhood and engagement documents to hand out.

An open day held at the Glenview Club, on the 1st December 2020, specifically around the Peacocke programme, was well-attended by between 600-700 people. Commentary was predominantly positive and included questions around the environment, housing density, schooling and supermarkets and other community spaces.

2.3 HAVE YOUR SAY - Online Survey

A total of 166 submissions were received through Have your say, either through the on-line portal or through hard-copy feedback forms. 161 people provided their names and 162 people provided their email address.

2.4 Social Media

We reached more than 55,000 people through social media and more than 2,400 of those engaged with our posts across Facebook, Instagram, LinkedIn e.g. liked, commented, shared.

A paid advertising campaign through Facebook and Instagram reached more than 35,000 people alone, driving 1,201 unique users to our Have Your Say website. This is a high click through rate compared to previous campaigns.



The campaign saw a total of 74,727 impressions of which 35,384 were individual profiles – a massive audience reach for this budget and timeframe.

The ad for ‘putting a roof over our head’ was the highest engaging – driving 516 link clicks and reaching 17,068 individuals.

Table 1: Social Media engagement

Posts	Reach	Engagement	Comments	Reactions	Shares	Post Clicks
Facebook and Instagram campaign	35,384	N/A	54	121	15	1,408
8 December – video	3,867	101	0	13	0	NA
Event posting	1,739	50	0	7	NA	NA
18 Nov - Event posting	7,082	0	61	17	2	126
11 Nov – Our Hamilton story link	3,808	170	2	20	0	146
8 December – video LinkedIn	1,272	371		16	1	13
11 Nov – Our Hamilton story link	1,944	110	2	33	3	73
Total	55,096	2,400	119	227	21	1,766

2.5 Key themes from public engagement

We received 166 submissions through Have Your Say, either via the online portal or through hard copy feedback forms. We also received 8 submissions through emails or letters.

Majority of the respondents were from West area 6 and East area 6 (Bader, Deanwell, Fitzroy, Glenview, Melville, Peacocke, Hillcrest, Ruakura, Riverlea, Silverdale) which are surrounding suburbs. Majority of the respondents were also in the 25-45-year-old age bracket which is probably reflective of those looking for their first homes.

People were largely supportive of the elements we proposed. The number in brackets refers to percentage of people who selected “I think it is a great idea” for each of the element/topic described in the consultation document.

- Putting a roof over our heads (75%)
- Moving around our neighbourhood (80%)
- Creating awesome spaces to spend time in (80%)
- Looking after our environment (84%)
- Celebrating the bits that make us special (80%).



2.6 Peacocke Development CoDesign Research

CoDesign is one of the leading methods used around the world to engage with communities. This Design Thinking places people and the planet at the centre of the design process to ensure outcomes are desirable, financially viable, technologically feasible, and ecologically sustainable. Within Design Thinking it is acknowledged that in order to create a successful solution not only does the user need to be happy but the solution provider needs to be acceptable as well. As part of the research we included three key groups in our research:

Hamilton General Public.

We recruited a representative sample of twenty-one people from the Hamilton community. To capture data from the Hamilton general public we used two research methods:

- Online Survey/Questionnaire.
We used this method as a way of capturing a breadth of qualitative data and a limited amount of quantitative data. The survey predominantly focused on the more practical elements of urban lifestyles.
- In-Person Empathy Workshops.
We conducted two in-person empathy workshops. We used these workshops to gain a depth of qualitative data, focusing predominantly on the values that underpin behavior.

Peacocke Developers.

All with a stake in the Peacocke development, a mix of landowners, consultants, project managers, and building industry professionals, were chosen to represent the voice of Peacocke developers. After workshoping key interest areas, five semistructured phone interviews with the Peacocke developers were held.

Special Interest Groups & Government Departments.

Various local community groups with special interests, alongside teams from central government and other Waikato councils, were invited to participate in the research. Two empathy workshops with central government and special interest group stakeholders, focusing on their hopes for Peacocke, and any concerns they might have. 'Empathy Workshops' are a form of focus group that is more in-depth and interactive.

2.7 Key Stakeholder engagement

As part of the consultation on the structure plan a number of one- on-one meetings were held with Iwi partners, central government agencies, community groups and key land developers and land owners within Peacocke who have an interest in the development of Peacocke. The Key Stakeholders were:

- Department of Conservation
- Department of Education
- Kaainga Ora
- Waikato Regional Council
- Waka Kotahi NZ Transport Agency
- Riverlea Environmental Society
- Glenview Club
- Landowners
- Land developers

2.8 You spoke, we listened

Following the analysis and consideration of the community feedback, the structure plan has been revised. Not all matters raised through the consultation process have been agreed with and/or actioned by the council in the final structure plan.

The key features that are retained from the draft structure plan are:

- the use of medium density residential areas. The plan change that supports the the Structure Plan will define the residential zones that apply, according to zones set out in the National Planning Standards,
- the location of local and neighbourhood centres
- the indicative location of the transport network has been retained with minor changes to better support medium and high density development within Peacocke
- the identified areas proposed for future reserves including significant natural area

The key features that have changed from the draft structure plan are:

- the extent and location of the areas identified as high density residential areas as been amended to align with cadastral boundaries, key transport routes as well as topographical conditions.
- the refinement of the location of neighbourhood centres to better service the surroundings neighbourhoods
- the extent and location of the business land this includes the location of the neighbourhood centres as well as the extent and configuration of the Local Centre.
- the relocation of some potential parks and inclusion of indicative locations for new parks
- the identification of a community park in the south of Peacocke
- the location of proposed collector and key local roads has been refined.
- refinement of the area proposed for the protection bat habitat, including the establishment of bat corridors and the identification of Significant Natural Areas.

3 Vision and Key Objectives

“An urban environment that encourages a sustainable and vibrant community that is well integrated and connected and responds positively to the natural environment”



3.1 A Vision for the Hamilton Kirikiriroa

Hamilton City Council wishes to take a stronger and more visionary role in guiding the future development of Hamilton's built environment to ensure that it better reflects the aspirations of Hamilton's community.

Council understands that city design is not simply about the look of buildings. It is about integrating our urban form with our natural environment, and the manner in which buildings, streets, spaces, landscape, art, culture, and heritage contribute to making memorable places for people.

Council has determined that future development in Hamilton must align with the city's aspirations for a sustainable, quality urban environment as articulated in Hamilton's vision, and reflected in the aspirations of the Community Outcomes Programme.

Successful cities promote diversity and vitality, create a high quality and safe environment, improve opportunities for mobility, strengthen and support local communities, and offer opportunities for investment and facilitate economic prosperity.

The Council's vision for Hamilton describes a place where people will live, work and meet for entertainment and recreation; where there is a wide choice of things to do and of goods to buy; where ideas and information are exchanged, and where neighbourhoods are safer because they are populated by a lively mix of residents who use and 'own' their own streets.

The economic future of the city is reliant upon conditions that improve economic prospects by boosting employment, ensure that residents benefit from the creation of new jobs and the retention of existing jobs, and offer a lifestyle and vibrant environment which attracts and retains the best talent available.



3.2 Peacocke Vision

Quality development and good design is a fundamental part of the development of a new neighbourhood within Peacocke. The New Zealand Urban Design Protocol (Ministry for the Environment, 2005) issues the challenge for towns and cities to strive to lift the quality of urban design throughout New Zealand and change the way we view our urban environments. Along with the Vision for Hamilton Kirikiriroa which sets out the five long term aspirations for the city Vista is the Council's urban design strategy and has been developed to provide a design-led approach to the development of the city. Flowing from these documents the vision for the urban development of the Peacocke area was developed.

“Ko te whakakitenga moo te whenua Peacocke - Ko te aaheinga o te hanga he waahi ataahua, he waahi toiora ki Peacocke.

To enable the development of an attractive and sustainable community in Peacocke.

Peacocke becomes a livable, compact and accessible place with a mix of high-quality residential opportunities. It makes the most of its extensive Waikato River and Mangootukutuku gully frontage, is well connected to the wider Hamilton area, and respects the biodiversity, cultural and heritage values integral to its distinctive character.

The urbanisation of the Peacocke area must utilise high quality urban design principles to ensure its form and function are attuned to the context and to create a distinctive urban identity, whilst providing an attractive, safe and well-connected place to live, work and play. The future Peacocke should reflect natural features, protect important heritage features, cultural locations, ecological processes, physical characteristics, and promote the wellbeing of residents.

Key development principles:

Contextual design:

- Ensure that development considers the natural environment, built environments and how development fits into the surrounding area as part of the design solution. This will help to establish the quality of development wanted for the area.

Concentration:

- Enable the development of a range of typologies, enabling housing choice and a range of price points providing diversity in housing, catering for a range of occupants who require a range of housing sizes from one- and two-bedroom apartments to larger single dwellings.
- Create higher density walkable catchments, centred on public transport routes and activity nodes such as the local centre, neighbourhood centres and community facilities such as the sports park, and schools.

Accessibility and connectivity:

- Require subdivision to create a connected, legible, and permeable transport network that enables access through the structure plan, particularly for active modes, allowing local trips to be undertaken without reliance on a private vehicle
- Ensuring road frontages are not dominated by carparking, garaging and vehicle access.
- Subdivision is designed to respond to the gully network and areas of open space ensuring that where these are accessible to the public and they are visible and safe.

Legibility and identity:

- The block pattern and lot arrangement should create streets that are lined with buildings, with public frontages, directing back yards to be located to the rear of the site creating private outdoor living areas.
- Subdivision is designed to respond to the gully network and areas of open space ensuring that where these are accessible to the public and they are visible and safe.

Innovation:

- Encourage future development within Peacocke to be innovative and implement best practice methods.

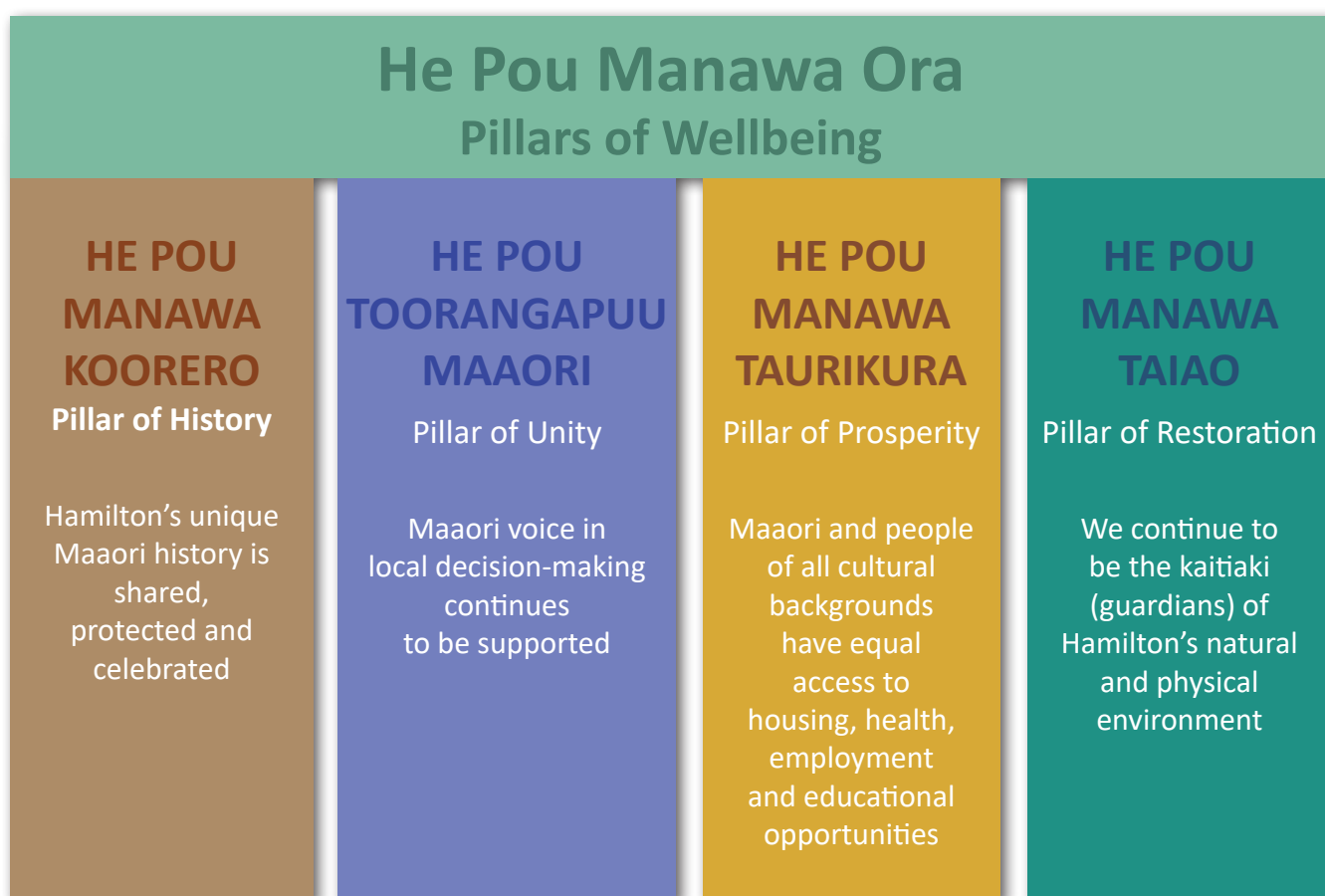
3.3 He Pou Manawa Ora – Pillars of Wellbeing

Outlines Hamilton City Council’s vision for a city that celebrates its whole history, including its unique Maaori heritage, natural environmental wonders and ensures everyone has a voice in developing its future.

The document recognises Maaori as key partners in determining Hamilton’s future and covers issues ranging from city artworks to Council policies. It aims to achieve better outcomes for Maaori and all Hamiltonians, while growing and developing a city where all people and all cultures, including Maaori, have the opportunity to thrive.

The Strategy is based on Treaty of Waitangi (Te Tiriti O Waitangi) principles of Partnership, Participation, Protection and Prosperity. These inform the Strategy’s four ‘pillars’ or ‘pou’ of wellbeing: History, Unity, Prosperity and Restoration.

The Strategy’s four pou aim to build a proud and inclusive city for the wellbeing of all its people, while recognising the special relationship that iwi and mana whenua have to Kirikiriroa/Hamilton.



3.4 Cultural Values Assessment

Waikato-Tainui and Mana Whenua seek to ensure that our values, principles, aspirations, Mana whakahaere and kaitiaki roles and responsibilities be reflected and incorporated into the structure plan. mana Whenua have a unique relationship with the land, waterways and wider environment and have a responsibility to protect our natural environment and our special relationship with it. The aspirations of Mana Whenua are setout in detail in the Cultural Values assessment prepared by Te Haa O Te Whenua O Kirikiriroa, which has been used to inform the Peacocke Structure Plan.

This Cultural Values Assessment identifies:

- The iwi and hapuu that exercise traditional Maaori authority over the Peacocke area, and organisations

that represent them.

- Statutory requirements relating to recognising and providing for, Maaori values and involving Maaori in decision-making.
- Identifies the effects of development of the Peacocke area on Mana Whenua cultural, ecological and social associations with the area.
- The types of measures that will be needed to avoid, remedy or mitigate the adverse effects of development of the Peacocke on Maaori cultural values and to promote the realisation of Mana Whenua aspirations for the area.
- Mana Whenua cultural, economic, social, economic aspirations for the Peacocke area.

3.5 Core Maaori Values

Core Maaori values have informed the development of earlier Maaori design principles. These process oriented principles have provided the foundation for, and underpin the application of, the outcome-oriented Te Aranga Maaori Design Principles.

- **Rangatiratanga:** The right to exercise authority and self-determination within one's own iwi / hapuu realm
- **Kaitiakitanga:** managing and conserving the environment as part of a reciprocal relationship, based on the Maaori world view that we as humans are part of the natural world
- **Manaakitanga:** the ethic of holistic hospitality whereby mana whenua have inherited obligations to be the best hosts they can be
- **Wairuatanga:** the immutable spiritual connection between people and their environments
- **Kotahitanga:** unity, cohesion and collaboration
- **Whanaungatanga:** a relationship through shared experiences and working together which provides people with a sense of belonging
- **Maatauranga:** Maaori / mana whenua knowledge and understanding

These core Maaori values are seen as underpinning and guiding the application of the seven Te Aranga Maaori Design Principles.

The key objective of the Principles is to enhance the protection, reinstatement, development and articulation of mana whenua cultural landscapes enabling all of us (mana whenua, mataawaka, tauiwi and manuhiri) to connect to and deepen our 'sense of place'.

The Principles seek to foster and guide both culturally appropriate design processes and design responses that enhance all of our appreciation of the natural, landscape and built environment.

The Principles are intended as an enabling strategic foundation for iwi/hapū to adopt, customise and further develop in response to local context. The principles also provide other stakeholders and the design community with a clearer picture as to how iwi/hapuu are likely to view, value and wish to participate in the design and development of the built environment within their ancestral rohe.

The use of the Principles is predicated on the development of high quality durable relationships being developed between iwi/hapuu, their mandated design professionals and local and central government. Robust relationships between these groups provide opportunities for unlocking a rich store of design potential that can be incorporated into the development of Peacocke.

Whakapapa

Maaori names are celebrated

Attributes:

- Recognises and celebrates the significance of mana whenua ancestral names within Peacocke
- Recognises ancestral names as entry points for exploring and honouring tuupuna, historical narratives and customary practises associated with development sites and their ability to enhance sense of place connections

Application with in Peacocke:

- Te Reo Maaori in Waikato-Tainui mita to be incorporated in the developments
- Mana whenua consultation and research on the use of correct ancestral names, including macrons
- Recognition of traditional place names through signage and wayfinding in developments within Peacocke
- Mana Whenua to play an active role in the naming of streets, reserves and facilities within Peacocke.

Taiao

The natural environment is protected, restored and / or enhanced

Attributes:

- Sustains and enhances the natural environment
- Local flora and fauna which are familiar and significant to mana whenua are key natural landscape elements within urban and/or modified areas
- Natural environments are protected, restored or enhanced to levels where sustainable mana whenua harvesting is possible

Application within Peacocke:

- Protecting, restoring and enhancing indigenous biodiversity, including restoring of ecosystems, habitat and wetlands, and establishing or enhancing ecological corridors within Peacocke.
- Planting of appropriate indigenous flora in public places, strategies to encourage native planting in private spaces
- Selecting plant and tree species as seasonal markers and attractors of native bird life
- Establishing and managing traditional food and cultural resource areas allowing for active kaitiakitanga
- Manage animal and plant pests within Peacocke
- Protecting, and enhancing the abundance of taonga species: tuna, whitebait species, smelt, piiharau (lamprey eels), kanae (mullet – yellow-eyed and grey), paatiki (flounder), koura (freshwater crayfish), and kaakahi (freshwater mussels) and rongoa native plants for long-term harvest.

Mana

The status of iwi and hapū as mana whenua is recognised and respected

Attributes:

- Recognises Te Tiriti o Waitangi / The Treaty of Waitangi and the Wai Ko Aotearoa Teenei framework for Treaty Partnerships in 21st Century Aotearoa New Zealand as the basis for all relationships pertaining to development
- Provides a platform for working relationships where Mana Whenua values, world views, tikanga, cultural narratives and visual identity can be appropriately expressed in the design environment
- High quality Treaty-based relationships are fundamental to the application of the other Te Aranga principles

Application within Peacocke:

- The development of high level Treaty-based relationships with Mana Whenua is essential prior to finalising design approaches and will maximise the opportunities for design outcomes
- Important to identify any primary mana whenua groups as well as wider Mana Whenua interests in any given development
- Measures to recognise and apply maatauranga Maaori in future developments
- Involvement of Mana Whenua in the development of Cultural Impact Assessment reports for future developments within Peacocke
- The appointment and resourcing of kaitiaki to monitor any adverse impacts of future developments in Peacocke on the Mana Whenua's cultural values set out in the Cultural Values Assessment.



Mauri Tu

Environmental health is protected, maintained and/or enhanced

Attributes:

- The wider development area and all elements and developments within the site are considered on the basis of protecting, maintaining or enhancing mauri
- The quality of wai, whenua, ngaahere and air are actively monitored
- Water, energy and material resources are conserved
- Community wellbeing is enhanced

Application within Peacocke:

- Daylighting, restoring and planting of waterways within Peacocke
- Contaminated areas of soil are remediated
- Roading, water and wastewater infrastructure to be planned and developed so as to minimise any impacts on the natural environment
- Rainwater collection systems, grey-water recycling systems and passive solar design opportunities are explored in the design process
- Hard landscape and building materials which are locally sourced and of high cultural value to mana whenua are explored in the design process

Mahi Toi

Iwi/hapuu narratives are captured and expressed creatively and appropriately

Attributes:

- Ancestral names, local tohu and iwi narratives are creatively reinscribed into the design environment including: landscape; infrastructure; architecture and public art
- Iwi/hapuu mandated design professionals and artists are appropriately engaged in such processes

Application within Peacocke:

- Mana Whenua assist in establishing design consortia which are equipped to translate iwi/hapuu cultural narratives into the design environment
- Civic/shared landscapes are created to reflect local iwi/hapuu identity and contribute to sense of place
- Iwi/hapuu narratives are reinscribed in the environment through public art and design
- The use of traditional names associated with the area for naming roads, parks, sub-catchments, facilities, sites of significance, waahi tapu

Tohu

Mana Whenua significant sites and cultural landmarks are acknowledged

Attributes:

- Acknowledges a Maaori world view of the wider significance of tohu/landmarks and their ability to inform the design of specific development sites
- Supports a process whereby significant sites can be identified, managed, protected and enhanced
- Celebrates local and wider unique cultural heritage and community characteristics that reinforce sense of place and identity

Application within Peacocke:

- Recognition of tohu, including waahi tapu, maunga, awa, puna, mahinga kai and ancestral kainga
- Creating, preserving and enhancing visual connections to significant sites within and surrounding Peacocke
- Wider cultural landmarks and associated narratives inform building/spatial orientation and general design responses
- The use of heritage trails, markers and interpretation boards
- Protecting, promoting, preserving and enhancing of waahi tapu and sites of significance to Mana Whenua in Peacocke and surorunds, including improved access to them
- Measures such as whakairo, waharoa, pataaka to commemorate waahi tapu and sites of significance
- Cultural ceremonies will be conducted as part of any development within the Peacocke
- Whakairo, public art or urban design that recognises or enhances Mana Whenua's relationship with the landscape
- Protecting, restoring or enhancing cultural activities, including access to areas for these purposes.



Ahi Kaa

Iwi/hapū have a living and enduring presence and are secure and valued within their rohe.

Attributes:

- Mana Whenua live, work and play within their own rohe
- Acknowledges the post-treaty of Waitangi settlement environment where iwi living presences can include customary, cultural and commercial dimensions
- Living iwi/hapuu presences and associated kaitiaki roles are resumed within urban areas

Application within Peacocke:

- Access to natural resources (weaving species, mahinga kai, waterways, etc) facilitates, mainting and/or enhancing mana whenua ahi kaa and kaitiakitanga
- Civic/iwi joint venture developments ensuring ahi kaa and sense of place relationships are enhanced
- Iwi/private sector joint venture developments enhancing employment and ahi kā relationships
- Partnering with Waikato-Tainui and Mana Whenua to develop affordable housing opportunities for their people and the wider community
- Facilities that support rites of passage, that is, testing oneself when growing up, for example, by jumping into or swimming across the Waikato River or undertaking waka journeys.



3.6 Green Star Communities Framework

The way the Peacocke growth cell is planned, designed and built has an enormous impact on the community's wellbeing and our environment and cities economy,.

Council plays an integral role in implementing and administering the planning controls, policies and programs that will ensure we 'get it right' for existing and future communities.

The Green Star Communities Framework aims to help guide and support Council's implement and manage the planning framework for the development of sustainable communities. The intention of the framework is to provide inspiration and to contribute to how a sustainable community within Peacocke is planned, designed, built, maintained and renewed.

Furthermore, the framework acknowledges that there are numerous existing tools and mechanisms being used by Hamilton City Council that aim to build sustainable communities within Hamilton. This framework does not replace them, but rather provides a broader context for the consideration of them in development and application.

Planning plays a major role in defining the character and development of communities from a structural perspective and the Green Star Communities framework serves to enhance that process and provide a mechanism to utilise best practice approaches to deliver sustainable outcomes.

How local governments can use Green Star – Communities

The following outlines some of the ways in which the Green Star – Communities national framework and rating tool can assist in delivering best practice developments in Peacocke and achieve better economic, social and environmental outcomes for the community.

Lead by example

Encourage future developments within Peacocke to provide improved livability, sustainability and economic outcomes by leading the way, with council's own operations, policies and projects.

Councils can use the framework and rating tool to set objectives and targets for policies, programs and development projects. By providing clear benchmarks and set clear expectations for the community and developers.

What is a community?

The following attributes are characteristics of a communities regardless of size and nature:

- **Infrastructure:** systems and services which supply our energy and water, manage our waste, communications, technology and provide for mobility
- **Buildings:** built form that accommodates activities associated with working, living and recreation, both public and private
- **Public realm:** areas accessible to the public
- **People:** those who may own, rent, occupy, visit, work, reside, recreate or interact in the area
- **Ecology:** biological systems within the environment
- **Economy:** systems supporting the production, exchange, distribution and consumption of goods and services
- **Governance:** rules, behaviours and structures that shape and influence communities
- **Services:** information and facilities that are available to people.

The Green Star framework is aspirational and visionary. It provides a high-level framework for structuring sustainability actions and idea for the development of Peacocke. It does so through five principles, which are:

Green Star Principles

Enhance Livability

Sustainable communities are livable. They are diverse, affordable, inclusive and healthy; they enhance social interaction and ownership, are safe and caring and improve people's well-being.

Create Opportunities for Economic Prosperity

Sustainable communities prosper. They encourage opportunities for business diversity, innovation and economic development that support local jobs for people in the region.

Foster Environmental Responsibility

Sustainable communities respect the environmental systems that support them. They protect and restore the natural environmental values of their bio-regions. They are less resource intensive. They promote infrastructure, transport and buildings that reduce their ecological footprint.

Embrace Design Excellence

Sustainable communities are places for people. They are desirable, accessible and adaptable. They have their own distinct character and identity and evolve overtime.

Demonstrate Visionary Leadership and Strong Governance

Sustainable communities are characterised by leadership and strong governance frameworks that are transparent, accountable and adaptable. They enable active partnerships to build capacity and achieve a shared vision and deliver stakeholder benefit

4. Local Context

Understanding the context of the Peacocke location is key to ensuring a high quality urban environment is realised. By taking into account and responding to the various spatial influences in the area, it will ensure the structure plan is fit for purpose, considers important environmental factors and delivers a desirable outcome that integrates into and supports the surrounding areas.



4.1 Local Context

City Context

The Peacocke area comprises approximately 740 ha of rural land on the southern fringe of Hamilton. It lies approximately 3 km south of the city's central city and is broadly oval in shape, extending approximately 4.5 km from north to south and 3 km east to west. The area is defined to the south-west and south-east by the city's boundary with Waipa District along Ohaupo Road, and Peacockes and Gainsford Roads. To the east and north-east the Peacocke area is defined by the Waikato River, and to the north-west by Glenview and Fitzroy.

The area is divided into two by the Mangakootukutuku Gully, which runs roughly north-south down the centre of the area. The south-western side is separated from Peacockes Road and the Waikato River by the Mangakootukutuku Gully and is served by Hall, Waterford and Dixon Roads. There is a legal road reserve linking Hall Road with Dixon Road across an arm of the gully but it has not been developed.

There is limited lifestyle block development in the Weston Lea Drive, Hall Road and Peacockes Lane area and these areas have a more closely settled and intimate character as a result. This contrasts with the more rolling open country to the south where land remains in larger farm holdings with a characteristic open pastoral character and a sparser distribution of buildings.

The Hamilton City Water Treatment Plant is located in the northern part of the area. This plant provides the water supply to the city and is a key infrastructure asset.

There are two principal land uses adjacent to the structure plan area. To the north-west and south-west are a range of rural land uses within the Waipa District. To the east on the opposite side of the Waikato River is Tamahere, which is an area characterised by lifestyle block development.

The Waipa District Plan identifies the adjoining land as being predominantly rural zoned although there is an area of rural-residential zoned land in the Faiping Road area in the south east. A Special Landscape Character Area also adjoins the city boundary along Ohaupo Road, which is a planning framework aimed at maintaining the particular amenity and landscape characteristics of that area. This area is an attractive pastoral landscape and includes views to the peat lakes and across the farming landscape towards Pirongia. This is a more restrictive regime that manages the location and size of buildings and has additional controls over land use.

The Peacocke growth cell is currently zoned as Peacocke Special Character Area, with some council reserve land and land along the river frontage being zoned as Natural Open Space.

Regional Context

The Peacocke area is one of four significant growth cells in Hamilton and is the only area in the south of Hamilton. It is located in an area of strategic importance to Hamilton and the wider Waikato Region, in terms of its proximity to the city centre (3.5 km along a direct route of Cobham Drive from the northern end of Peacocke), as well as the Hamilton Airport, Cambridge and Te Awamutu in the south (Figure 1).

With the proposed Southern Links Transport Network connecting Te Awamutu and the Hamilton Airport with the Hamilton central city, Peacocke has been identified as a significant gateway and growth area for Hamilton.

Ohaupo Road (SH3), the current major arterial link to the airport and areas south of the city, forms the southwestern boundary to the Peacocke growth cell. With the construction of the Southern Links Transport Network through Peacocke, the existing function of Ohaupo Road as a state highway will be downgraded. The Hamilton Airport is located to the south of the Peacocke study area within Waipa District.

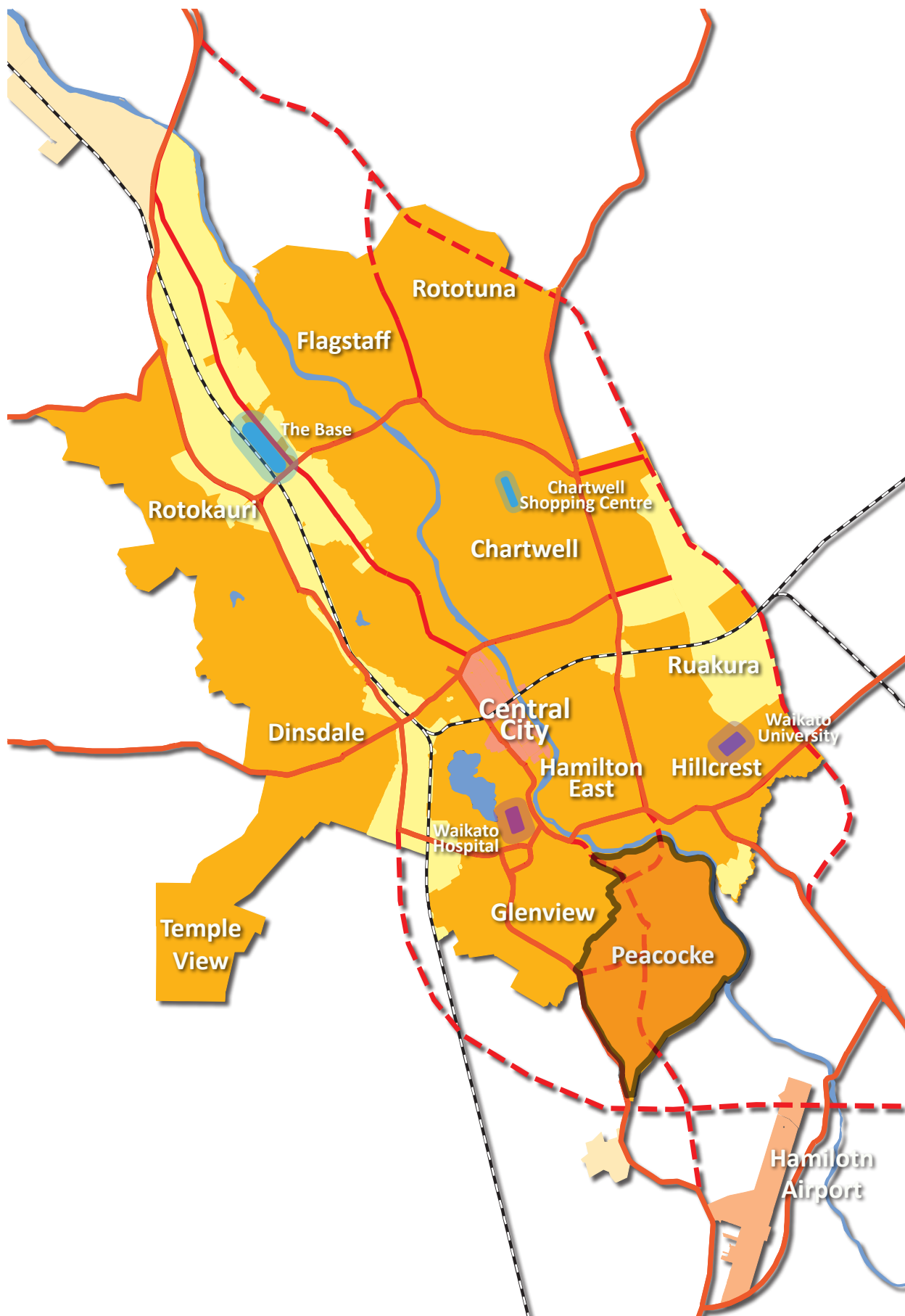


Figure 1: City Context

KEY:

- | | | | | | |
|---|--------------------------------------|---|------------------------------|---|--------------------|
|  | Strategic Transport Network |  | Industrial/Employment areas |  | Waikato Hospital |
|  | Proposed Strategic Transport Network |  | Regional Centre/Central City |  | Waikato University |
|  | Railway Line |  | Sub Regional Centres | | |

4.2 History

Pre-European History

In pre-european times the Peacocke area represents the southern lands of Ngaati Wairere and their related hapu Ngaati Koura, Ngaati Waenganui, Ngaati Ruru, Ngaati Ngamurikaitaua. Two other hapu Ngaati Kauwhata, Ngaati Koroki also had land on the margins of the Peacocke area .

The area was originally occupied by the Nga Iwi people – a Polynesian people who came to New Zealand before the arrival of Tainui. Under the leadership of the renowned war lord, Hotumauea, Ngaati Koura defeated the Nga Iwi people and drove them from the area, thereby claiming it for Ngaati Koura. Ngaati Koura subsequently became famous for their cultivations of this fertile land. Pre-European settlement, there were times of peace and times of conflict. In times of conflict, it was common for tribes to send war parties to invade other areas to settle old scores, take prisoners as slaves, or to take control of the area and its resources. Consequently, the settlements were usually centered on fortified paa built in strategic positions, such as on steep-sided promontories on riverbanks or gullies, which could be fortified with a minimum of construction, and easily defended.

By the time Europeans first visited the area in the 1830s, Maaori had extensively settled the area. Many of these settlements were located on, or near the Waikato River, which served as a major transport and communication route. Tauranga waka (canoe landing places) were associated with riverside settlements. Walking trails provided overland access to other settlements and mahinga kai (resource harvesting areas). The New Zealand Archaeological Association has recorded of a number of paa sites within the Peacocke Structure Plan area and many more along the Waikato River corridor both upstream and downstream of Peacocke.

There were also a number of Taupa (cultivations) sites along the banks and terraces of the Waikato River within the Peacocke area, used for growing traditional crops such as Kumara, Taro, Uwhe (yams) and Hue (gourds). Later after the arrival of Europeans in the area, imported crops such as maize, potato and tobacco were grown for supply to the Auckland markets.

Many of the geomorphic land features in the area, such as gullies, streams, swamps, ridges and river terraces were used by pre-european Maaori to mark their tribal boundaries. A number of settlements or villages (Paa, Papakainga, Marae) and burial grounds (Urupaa) and burial caves (Rua Koiwi) were established in the Peacocke area. There is additional evidence of agricultural features and occupational sites such as paa site. Within Peacocke the Whatukoruru Paa and Kairokiroki Paa are the only surviving paa sites within Peacocke. These sites are two of the best preserved large paa site in Hamilton and are sites worthy of preservation.

European Settlement

After about 1830, European missionaries and traders began to visit Kirikiriroa (Hamilton) and other Maaori settlements in the Waikato. After 1840, tourists began to visit Kirikiriroa. They included European hunters and others keen to see the progress of agriculture, European style education and missionary endeavour. Prior to the military settlement of the 1860s, early European settlement in the Waikato was generally confined to flax traders and mission stations at Matamata, Te Awamutu, Raglan and Kaitotehe.

Waikato Maaori adopted European technology and farming methods introduced by missionaries and other settlers. The growing European settler population in Auckland provided a ready market for food produced in the Waikato. During the “golden years” that lasted for around 15 years between the early 1840s to the mid-1850s, many Waikato-Tainui hapuu prospered. The hapuu had extensive cultivations of kumara, potato, corn and wheat that they processed in their own mills and traded for goods in Auckland, Tauranga and beyond.

In July 1863, the Crown’s military forces crossed the Mangataawhiri River and war ensued with Waikato tribes and supporters of the Kiingitanga (King movement). In 1864 and 1865, military settlements, including Hamilton and Cambridge, were established and in 1865, by orders in Council under the New Zealand Settlements Act 1863, the Crown unjustly confiscated approximately 1.2 million acres of Waikato-Tainui land from the Tainui iwi in order to punish them and gain control of the land. A large portion of this confiscated land was allocated to militia troops who had fought against the Maaori. This confiscation in 1863 (Raupatu) had the effect of

separating iwi and hapu from their ancestral landscape.

The establishment of the European settlement of Hamilton began with arrival of the first detachment of soldiers from the 4th Waikato Militia led by Captain William in 1864.

The wider Peacocke area was subject to European occupation soon after the conclusion of the 1863–1864 invasion with survey of allotments for the settlement of members of the Waikato Militia. The general desirability of the Peacocke area is witnessed by the selection of it by General Galloway and Colonel de Quincy. After the initial allotting parcels, it seems that the Peacocke area followed the pattern common elsewhere in the Waikato with the militia allocated land blocks where many of these changed hands rapidly in the 1860s and 1870s. They were eventually purchased by individuals who established larger homesteads, for example, Weston Lea, Korokanui and Glencoe (Figure 2).

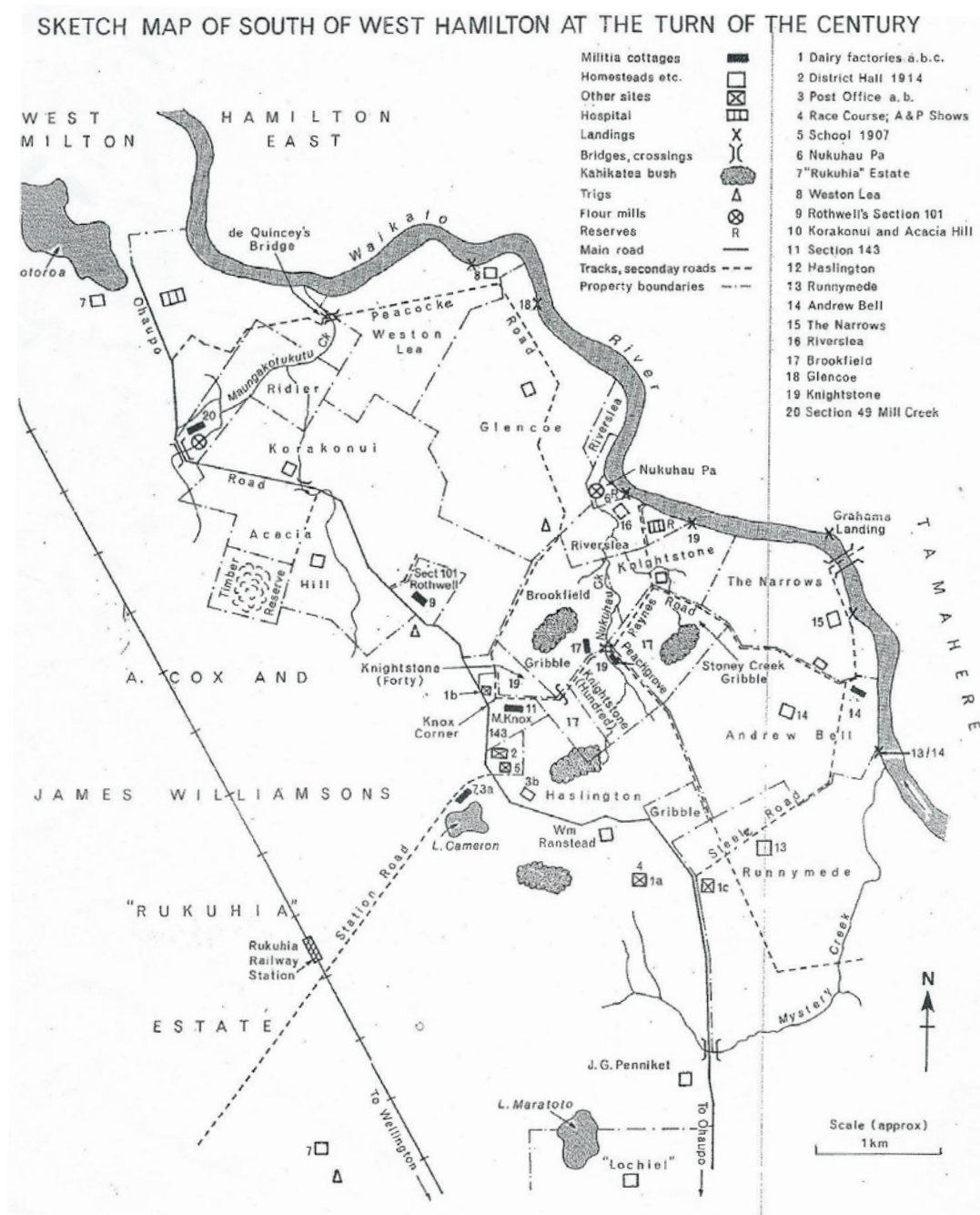


Figure 2: Sketch Map of south of west Hamilton at the turn of the century

4.3 Surrounding land uses

Residential

Density

The surrounding residential areas of Glenview, Fitzroy and Bader are generally made up of low-density single dwellings with an average lot size of 750m² with lot sizes ranging from 200m² for duplexes to over 1500m² for sites along the gully network. The average net dwelling density for the surrounding residential area is 14.4 units per ha, slightly higher than the density for the overall residential area for the city. Development within the General Residential Zone of Stage 1 of Peacocke has a much higher net density than the surrounding Glenview area with an average of 21.4 units per ha or an average lot size of approximately 460m².

Growth

A number of infill developments have occurred within the existing urban areas surrounding Peacocke, the majority of these being duplex developments where land areas have been reduced to approximately 200m² per dwelling unit.

A small portion of the greenfield growth has occurred within Stage 1 of Peacocke to date. Approximately 750 new residential dwellings have been constructed in stage 1 of Peacocke.

Proposed Development

The Amberfield development proposes to develop approximately 105 hectares of land adjoining the western bank of the Waikato River in Peacocke, for residential development. It will provide approximately 980 dwellings with standalone sections ranging from 400m² to as large as 700m² and a number of 200m² duplex sites. Land is also identified for a mixed use residential/ commercial centre that is anticipated to eventually accommodate up to 12 000m² of retail/commercial uses.

A number of other developments have been anticipated within Stage 2 of Peacocke including:

- Northview subdivision located adjacent to the Dixon Road SH3 intersection upgrade, comprising approximately 250 lots in stage 1
- A proposed retirement village located along the Waikato River north of the proposed Amberfield development, comprising approximately 200 dwelling units.

In addition, several other land owners have indicated their intent to develop their land once infrastructure has been provided. Current and anticipated developments are not meeting the intended densities identified in the current District Plan, which will have an impact on the overall projected yield for the area.

Community

Schools

The southern area of Hamilton is serviced by one high school, Melville High School. While Hamilton Girls High School in the central city and Hillcrest High School and Hamilton Boys' High Schools located on the eastern side of the Waikato River are relatively close, they fall outside an ideal catchment for the Peacocke area.

Along with the high schools the southern part of Hamilton is serviced by nearby primary and intermediate schools including (See figure 3),

- Deanwell School
- St Pius
- Glenview Primary School
- Melville Primary School
- Melville Intermediate School.

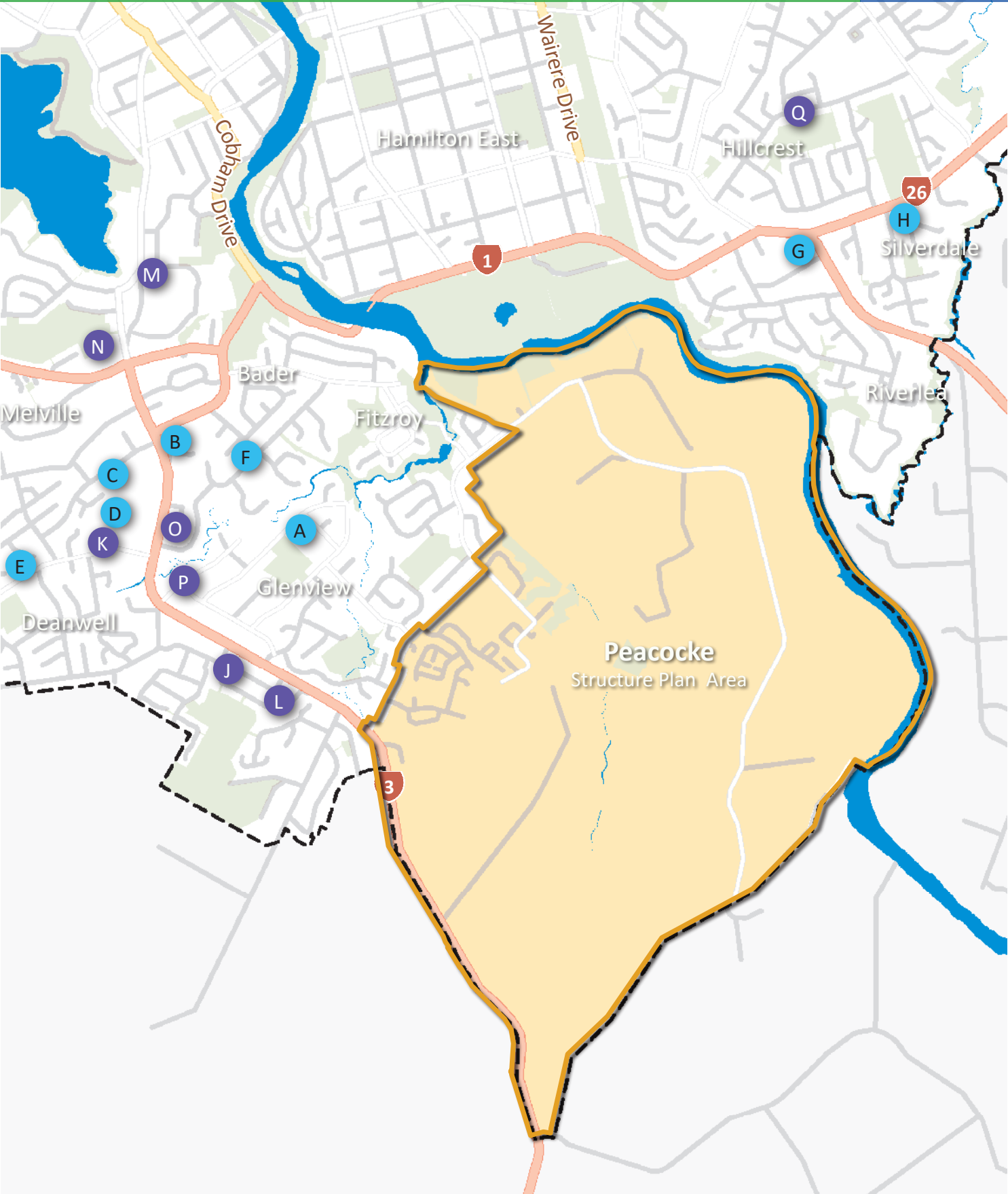


Figure 3: Existing Community Facilities

KEY:			
EDUCATION			
A	Glenview Primary School	E	Deanwell Primary School
B	Melville Primary School	F	St Pius School
C	Melville Intermediate School	G	Hillcrest Normal School
D	Melville High School	H	Berkdale Normal Middle School
COMMUNITY FACILITIES			
J	Glenview Library	N	Braemar Hospital
K	Gallagher Aquatic Centre	O	Glenview Medical Centre
L	Te Wananga o Aotearoa	P	Glenview Community Centre
M	Waikato Hospital	Q	Hillcrest Library

Primary schools have much smaller catchments than high schools similar to those of neighbourhood centres. As a result, there is a clear lack of education facilities on the edge of the urban areas of Hamilton especially in the south servicing the future growth cell of Peacocke.

Community Facilities

There are limited community facilities within the southern part of Hamilton (See figure 2) other than the Waikato Hospital and the University of Waikato which both services the wider region, are situated in southern parts of Hamilton and in close proximity to the Peacocke area. The proposed Southern Links Transport Network will improve accessibility to both these major institutions. There are medical and community facilities that service the local neighbourhoods, these being the Glenview Medical Centre on the corner of Ohaupo Road and Ulrich Avenue and the Glenview Community Centre on Tomin Road.

The Glenview Library, located in the Glenview suburban shopping centre, is the only library facility within the southwest part of Hamilton, while Hillcrest library is located in the north east across the new bridge; likewise, the Gallagher Aquatic Centre, located on Collins Road, is one of only two aquatic centres within Hamilton, the other being Waterworld in Te Rapa.

Open Space, Recreation and Sports Facilities

Hamilton Gardens, the Waikato River margins and the gully systems are major open space resources that can easily be drawn on by the Peacocke area for recreation, amenity values and ecological linkages.

Formal recreation areas or sports parks in the area, including Resthills Park in the west, and Hillcrest and Jensen Parks located in Hillcrest on the northern side of the Waikato River, are accessible to the Peacocke Area, but fall outside ideal catchment zones (See figure 4).

Te Anau, Fitzroy and Glenview Parks all provide the needs of the residential suburbs to the north of Peacocke. There may be some capacity to service the northwestern area of Peacocke. However, as infill in the existing residential areas of the city occur, any existing capacity will be needed to accommodate the increase in population in these areas.

Along with these large neighbourhood parks, a number of smaller parks are situated throughout the residential areas providing recreational amenity. Inuwai Street Park is the latest neighbourhood park to be developed within the southwestern suburbs of Hamilton. Situated in Stage 1 of Peacocke, the park provides neighbourhood amenity for the new dwellings being constructed within stage 1 of Peacocke.

Sandford Park is a large natural reserve developed in the Mangakootukutuku Gully network within Fitzroy and Bader and connects the residential areas to the Waikato River through a network of pedestrian and cycling paths. There is potential to integrate the Peacocke area into this network.

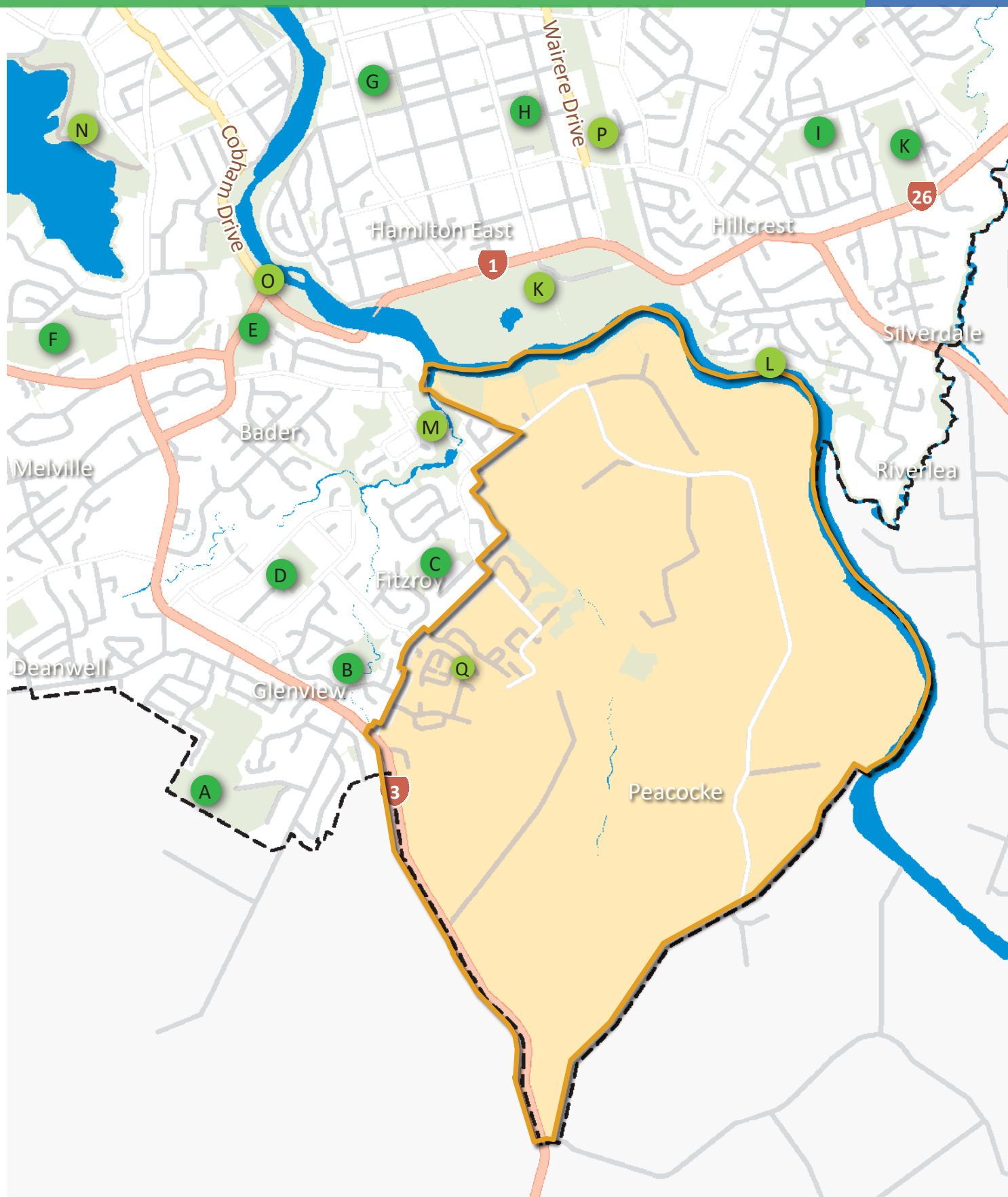


Figure 4: Existing Sports and Recreation Facilities

KEY:

Sports Facilities

- | | | | |
|-------------------------|------------------------|-------------------------|----------------------|
| A Resthills Park | D Glenview Park | G Steele Park | J Jensen Park |
| B Te Anau Park | E Melville Park | H Galloway Park | |
| C Fitzroy Park | F Gower Park | I Hillcrest Park | |

Recreation Facilities

- | | |
|---------------------------|-------------------------------|
| K Hamilton Gardens | N Hamilton Lake Domain |
| L Hammond Bush | O Tawa River Trail |
| M Sandford Park | P Eastern Townbelt |
| | Q Inuwai Park |

Retail and Commercial

There is a good coverage of regional, district and neighbourhood centres across Hamilton. The retail market within Hamilton operates under a hierarchical network, whereby different centres perform different roles and functions within the wider network, complementing each centre's respective provision.

The Central City is the historic per-eminence commercial, retail, civic, administrative, entertainment, transport and cultural hub of Hamilton. It services residents from across the city and wider region, visitors and is Hamilton's dominant commercial employment base. Smaller centres are located within the surrounding neighbourhoods and provide for weekly and day-to-day convenience retail and commercial service requirements for more frequently-purchased retail goods. The lifeblood of convenience-orientated suburban centres comes from residents within the immediate suburbs and 'drive by' traffic. Suburban centres are not well provided for across southern parts of Hamilton. The Glenview Suburban Centre is the only centre that services the south western area of the city and provides a limited service to the north western parts of Peacocke. There is a good distribution of smaller neighbourhood centres across the southern residential suburbs of Hamilton. However, there is an obvious lack of provision on the city limits, particularly on the southern edge of Glenview and Fitzroy.

The north area of Peacocke falls within the existing catchment of the nearby suburbs of Glenview, Fitzroy and Melville (See figure 5). However, much of the Peacocke area is further away from the central city and as such, these southern areas are not serviced by the existing commercial and retail centres. The proposed Southern Links Transport Network will provide better accessibility from the eastern areas of Peacocke to commercial and retail areas in the City Centre, Hamilton East, and Hillcrest in the north-east in the future.

Employment

Industrial activities in the south of the city have tended to concentrate along Greenwood Street/SH1 and the mainline railway. Along with the existing industrial area of the city, further industrial development has occurred in Te Rapa as part of the Rotokauri growth cell in the west, Ruakura to the east of the city, and around the Hamilton Airport in the south. Due to this industrial development and the proximity of the Peacocke area to the city centre, it is not envisaged that industrial and employment area will be required within the Peacocke area.

The development of the Southern Links transport network will provide a convenient connection to these areas of employment in the north of the Peacocke growth cell and to the industrial development around the airport.

The Riverlea industrial area on the eastern bank of the Waikato River is unlikely be a key source of employment due to its size and limited transport links from Peacocke. However, this industrial area will need to be considered when planning for residential development in Peacocke due to its possible impacts on visual amenity.

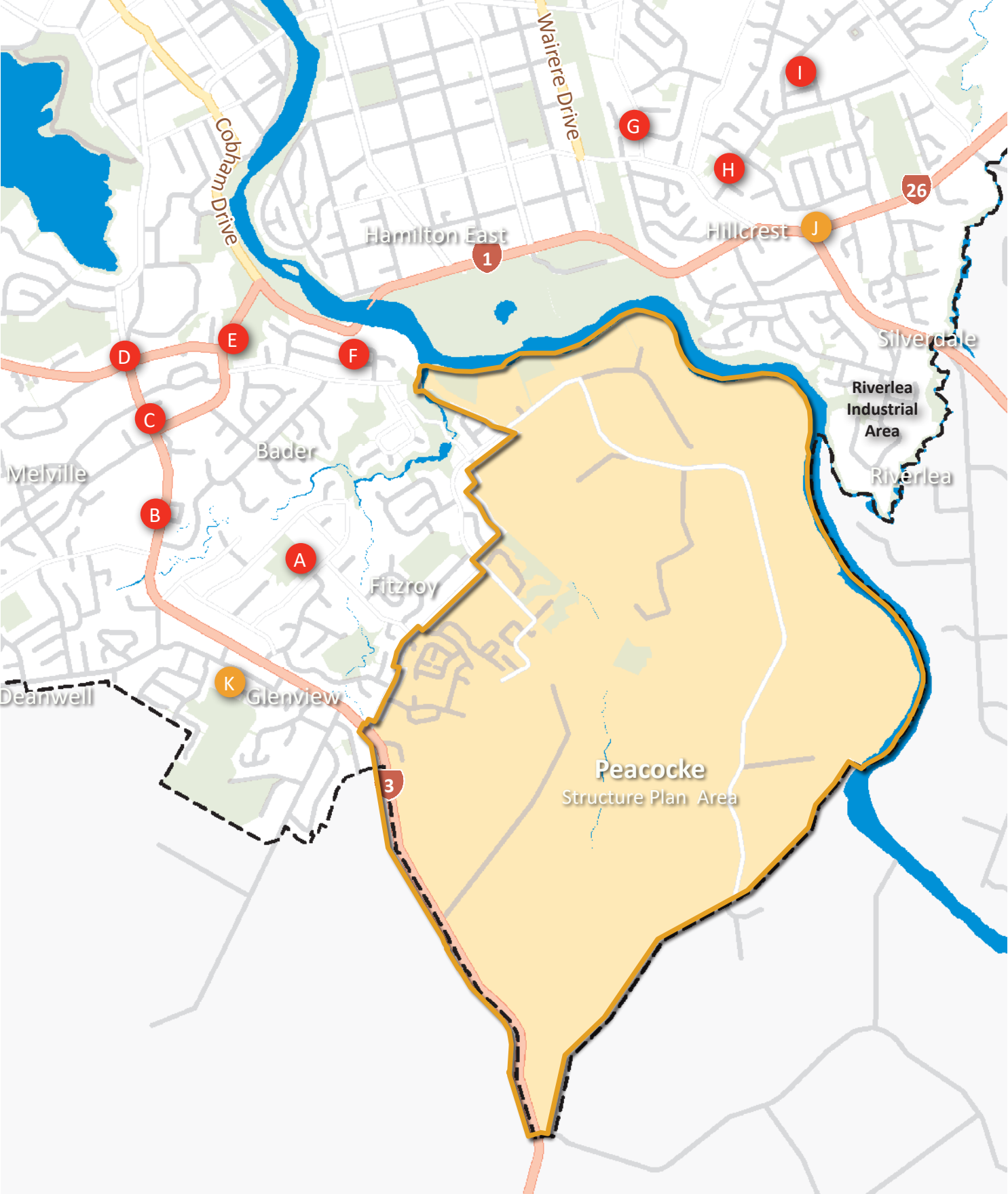


Figure 5: Existing Commercial Facilities

KEY:

Neighbourhood Centres

- | | | |
|------------------------------|------------------------------|-------------------------------|
| A Glenview Shops | D Melville Shops | G Cambridge Road Dairy |
| B Urilch Avenue Shops | E Bader Street Shops | H Hillcrest Shops |
| C Normandy Ave Shops | F Richmond Park Dairy | I Masters Ave Shops |

Sub-urban Centres

- | |
|------------------------------------|
| J Hillcrest Suburban Centre |
| K Glenview Suburban Centre |

4.4 Land form and features

The Peacocke area is part of the much larger Waikato Basin that encompasses the Hamilton urban area. This basin is a large-scale depression filled with sediments, mainly of alluvial origin but with some ash deposited by volcanic eruptions. The topography is generally flat, with some relief provided by low, rolling hills and ridges. There were once extensive peatlands and wetlands across the basin (Figure 6).

The Waikato River is the major natural feature within the basin and has physically shaped the surrounding landscape. The river has incised itself into the relatively soft sedimentaries, forming terraces along its course and resulting in a deeply-trenched channel often lined by steep-sided cliffs.

Tributaries of the river have created a series of heavily-incised gully systems across the Hamilton area. These gullies were originally formed by waterflows from the river that, through seepage from the extensive peat swamps, emerged as springs along the riverbank. The springs caused undermining and slips that led to the formation of gullies that quickly cut back towards their water source. Currently within the city there are six major gully systems, each of which has an outlet to the Waikato River.

The Peacocke area is bisected by the eastern arm of one of these systems, the Mangakootukutuku Gully, and has a 4.5km river frontage along the western bank of the Waikato River.

The gully has a major channel that extends approximately 3kms south of the river and naturally operates as the central stormwater disposal system for Peacocke, with an outlet directly into the river at Sandford Park, 500m south of Cobham Bridge.

There are a number of side arms to the main gully. There are three principal arms on the eastern side. The first two of these (Arms 1 & 2) cut back on a slightly north east alignment to the main gully, forking into smaller gullies halfway along their length and extending for around 400m in total length. The third eastern arm (Arm 3) meets the main gully almost at right angles and extends back inland for approximately 600m on a south east alignment.

There is one major side arm on the western side (Arm 4). This section extends south west for nearly a kilometre, bisecting the area between the main gully and the western structure plan boundary along Dixon Road.

A separate, much smaller gully system (Eastern Gully) extends directly southwards from the river for a distance of 1km, terminating at the northern end of Gainsford Road. This gully defines a naturally semi-circular river terrace that is the easternmost part of the structure plan area.

The northern half of the structure plan area, north of gully Arms 2 and 4, is generally flat, with three semi-circular

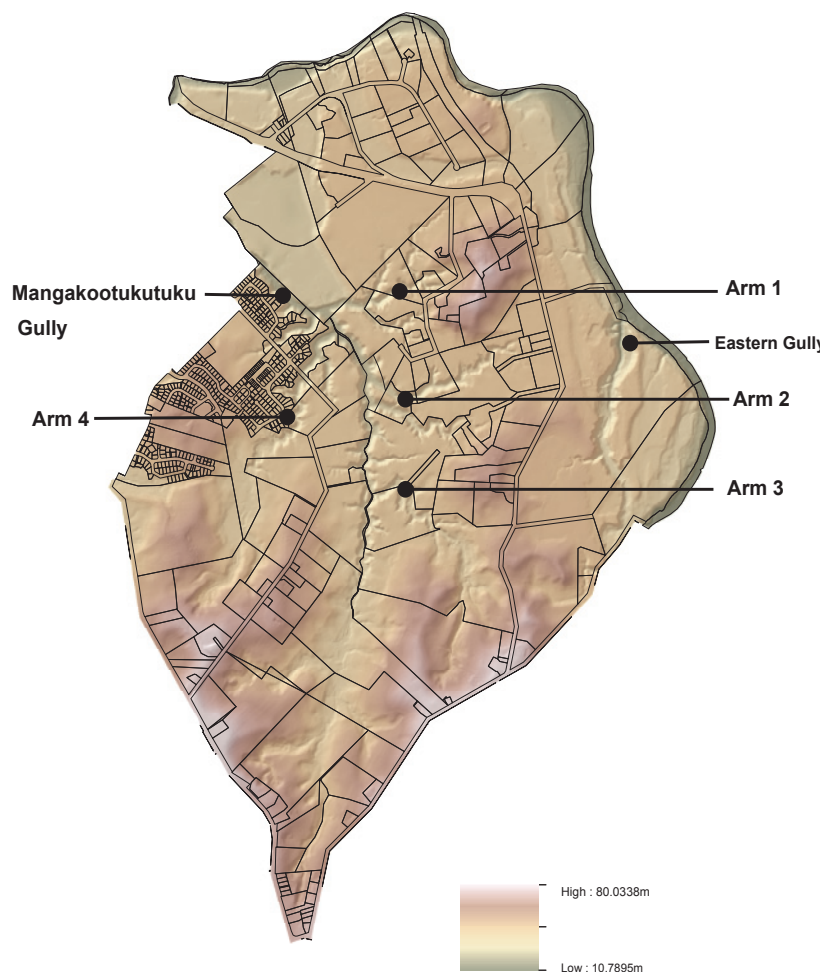


Figure 6: Major natural feature

river terraces marking prominent bends in the river. A localised knoll is located beside the sharp right- angle bend on Peacockes Road, directly to the east of Arm 1 of the gully. This high point reaches a height of more than 30m above the surrounding area.

The southern half of the growth cell is more gently rolling, generally gaining in elevation towards the south, but bisected by a low-lying corridor through the centre that is an extension of the main gully channel.

This rolling hill country extends up to two ridges, one in the south east and one in the south west, that meet in the middle at an apex that is the southern most point of the structure plan area.

These ridgelines are not significant landscape features but do provide a degree of visual containment and definition to the southern boundary of the growth cell, with an attractive northerly aspect and elevation desirable for urban development.

4.5 Natural, landscape and visual character

Landscape character is a function of the landscape's visual expression. This includes elements that contribute to its appearance and the cultural modifications that have occurred upon it. The landscape and visual quality of the site is a function of a series of factors including intactness of visual and physical elements such as topography and vegetation cover, the degree of modification that has occurred, surrounding landscape elements and attributes. Further contributing factors include juxtaposition and coherence between landscape elements within the site and those of the surrounding area, as well as human attributes or values assigned to an area (Figure 7).

The land cover of the site is reflective of its location on the southern edge of Hamilton City and the transitional nature of the area; aside from an area of residential development in the north west, both existing and under construction, the majority of development within the site is lifestyle and farm blocks. Consequently, the area still retains extensive shelter belts and scattered clusters of specimen trees, set within a wider agriculture background. This includes a number of trees which have been identified as Significant within the District Plan. These are predominantly located within Stage 1, and in and around Glenview Club Park.

Steeper and less accessible areas throughout the site, such as the incised stream system and the river trench, contain adventitious vegetation and limited indigenous plant cover. Although the existing adventitious vegetation offers amenity at present, future enhancement of the gully system will greatly improve the amenity derived from these featured for surrounding development.

The landscape character of the site is heavily influenced by its landform which is expressed by two defining features; the Waikato River and the Mangakootukutuku Stream Gully system, and the generic rolling topography south of Hall Road.

On the eastern extent of the site, the western bank of the Waikato River Trench feature defines the land form with predominantly elevated flat river terraces, notwithstanding the delineating trench that creates the 'island' landform. This area offers high amenity values through views, proximity and access to the Waikato River and visual links to the wider adjacent landscapes. By contrast the Mangakootukutuku Stream Gully system, centrally located within the site, is a network of incised gullies which result in a more introspective and intimate feature. The gully system divides the containing landscape into discrete areas while allowing close proximity views into the gully network.

While the landform in the north of the site is generally flatter and gently undulating, the southern portion of the site exhibits a rolling topography which is generally more pronounced and elevated affording broader views over the site, and Hamilton City to the north. The undulating landform obscures the two landscape features within the broader context, enhancing their serendipity when revealed.

As the site is in the process of undergoing a shift of land use from rural to residential, much of the land cover

will change. While the process of urbanisation does have an effect on the land form, careful consideration of the approach to development will assist with the retention of the broader topographical character of the site. Consideration of factors such as lot size, shape and orientation to slope, building design and the location, height and extent of retaining walls and batter slopes, all contribute to the maintenance of this broader character.

The 2006 Boffa Miskell Landscape and Urban Design Assessment identifies clearly delineated and spatially distinct areas within the Peacocke area. Those areas identified are:

- The three semi-circular river terraces that are highly distinct forms strongly defined by a high degree of river frontage, and in the case of the easternmost promontory further defined by the eastern gully so as to have natural edges on all sides
- The localised knoll that defines the sharp right-angle bend in Peacockes Road
- The relatively enclosed and intimate area on the western side of the knoll, centered on Peacockes Lane and extending between Arms 1 and 2 of the main gully
- An area of relatively flat land south of Gully Arm 2 and with gully edges on three sides
- A similarly delineated area on the opposite side of the main gully, defined by the main gully channel in the east and Arm 4 in the west
- A low-lying area north of the main gully channel that forms a broadly rectangular area between the main gully channel, the built edge of Waterford Road, and a modified terrace scarp that separates it from Peacockes Road

All of these areas are defined by clearly delineated natural boundaries (river edge, gully edge or enclosing high points), and have good potential to become distinctive nodes or naturally defined neighbourhoods within the future urban form

There are few significant viewpoints to and from Peacocke. The key viewpoints are:

- From the southern ridgelines of Peacocke looking north across the city to the Kaimai Ranges and south across the rural plains of the Waipa District towards Pirongia.
- From Cobham Bridge, looking east down the river corridor to the northern river frontage of Peacocke.
- From the Hamilton gardens, cemetery and Hammond Park, looking south across the river to the northern edge of Peacocke.
- The entire river frontage generally, as viewed from Hillcrest suburbs, Riverlea and Tamahere in Waikato District.



The undulating topography in the southern areas of Peacocke.

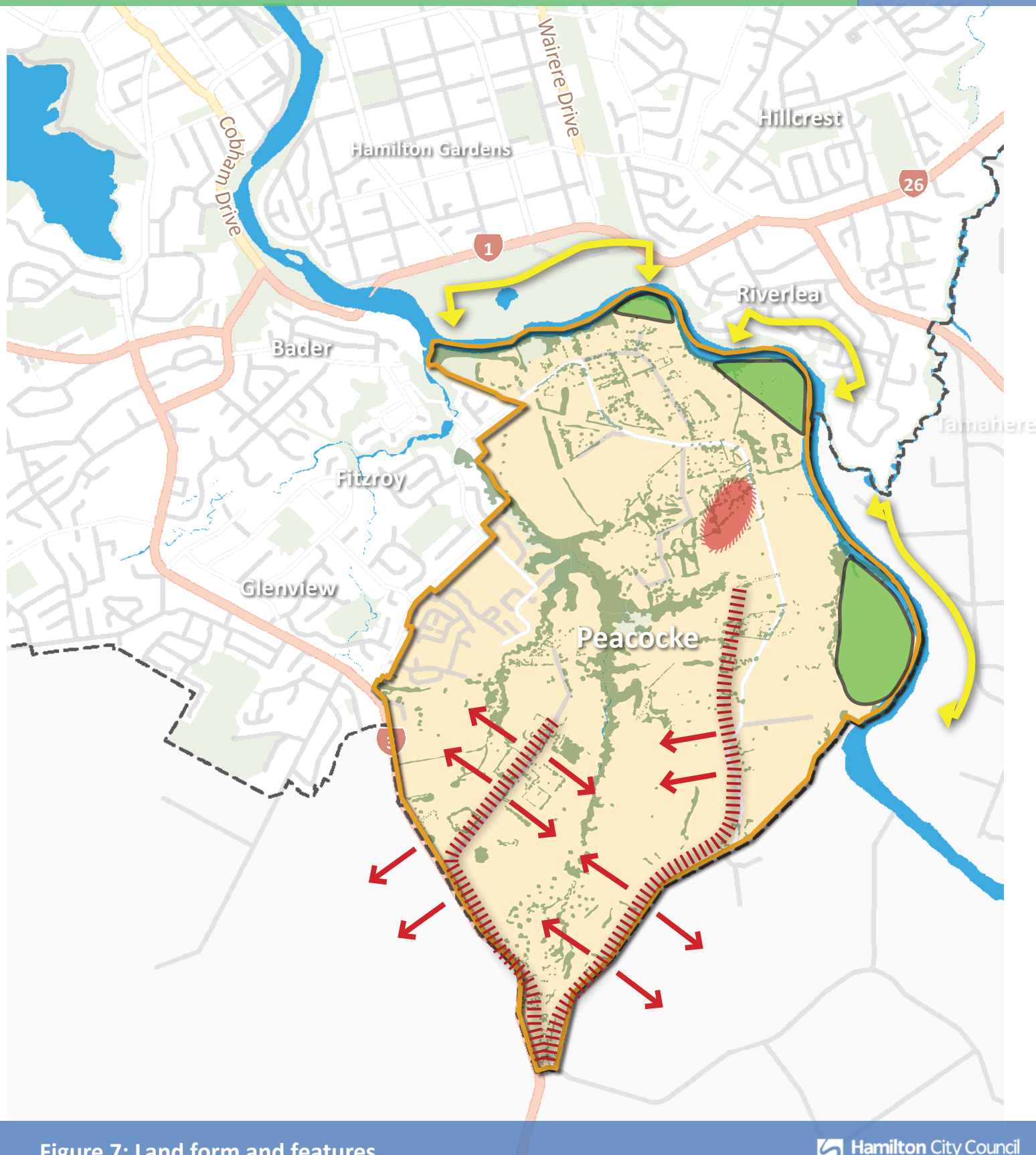


Figure 7: Land form and features

- Key Views
- River Terraces
- Views into Peacocke
- Ridgelines
- Localised Knoll

4.6 Existing Infrastructure

Transportation

The Peacocke area is peri-urban with a mix of lifestyle and rural properties. There is an existing road network through the structure plan, however these are reflective of the low density development and peri-urban nature of the area. Future development will result in a vastly different transport network.

The adjoining street network of Glenview, Fitzroy and Melville is typical of many suburban layouts from the past 40 years. These are characterised by a convoluted network of crescents and cul-de-sacs with a limited number of collector roads that the Peacocke area can integrate with.

The suburbs of Glenview and Fitzroy are generally disconnected from Melville, with limited connections between them. This means that the benefits gained from Melville's proximity to the city centre are not able to be fully realised. Better integration of these suburbs could have further flow on benefits for Peacocke. Bader Street, Peacockes Road, Dixon Road and, to a lesser extent, Splitt Avenue provide an opportunity for extending the grid system into the Peacocke Area.

Ohaupo, Hall and Peacocke Roads will be heavily depended upon to provide the local distributing function for the growth cell's collector and local street network. The existing bus routes servicing the established communities to the north of Peacocke could be extended into the Peacocke area to provide good public transport coverage.

The Southern Links Designation is a regionally significant roading corridor that bisects the structure plan area north/south and east/west creating four distinct cells. With the construction of the Southern Links transport network and the wider regional highway infrastructure the Peacocke area will be well integrated into the national and regional context, providing the local hierarchy functions effectively and will be able to utilise and benefit from this regional infrastructures (Figure 8).

The large roading corridors have the potential to sever the area, creating barriers to access throughout the area, particularly pedestrians and cyclists.

As is the case throughout Hamilton, the Waikato River provides a major barrier to movement along the whole eastern edge of the Peacocke growth cell, isolating it from eastern parts of Hamilton, particularly Hamilton Gardens, the Waikato University and Ruakura employment area. This will be alleviated with the completion of the Waikato River Crossing and the connection of the Peacocke arterial transport network with Cobham Drive and Wairere Drive which is currently going through the design/construction phase.

There are opportunities to integrate the Peacocke area with its rural hinterland in the south, although this is less critical given there are less community amenities to utilise. However, future connections, such as strengthening the link between Peacocke Road and Raynes Road could be considered to facilitate future urban expansion in the future as well as provide additional access to the Hamilton Airport and employment in the south.

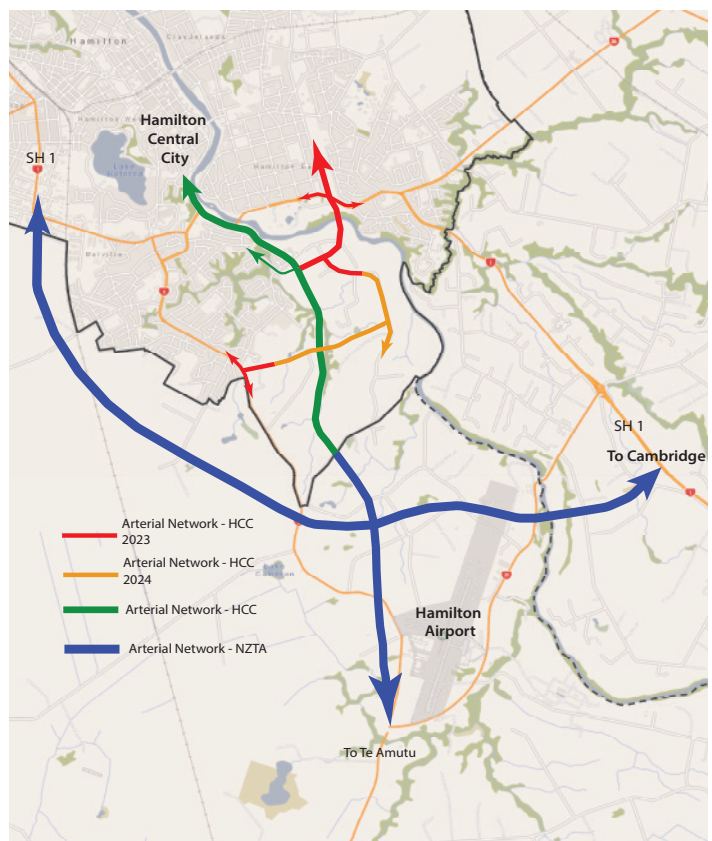


Figure 8: Southern Links Transport Network

PEACOCKE STRUCTURE PLAN

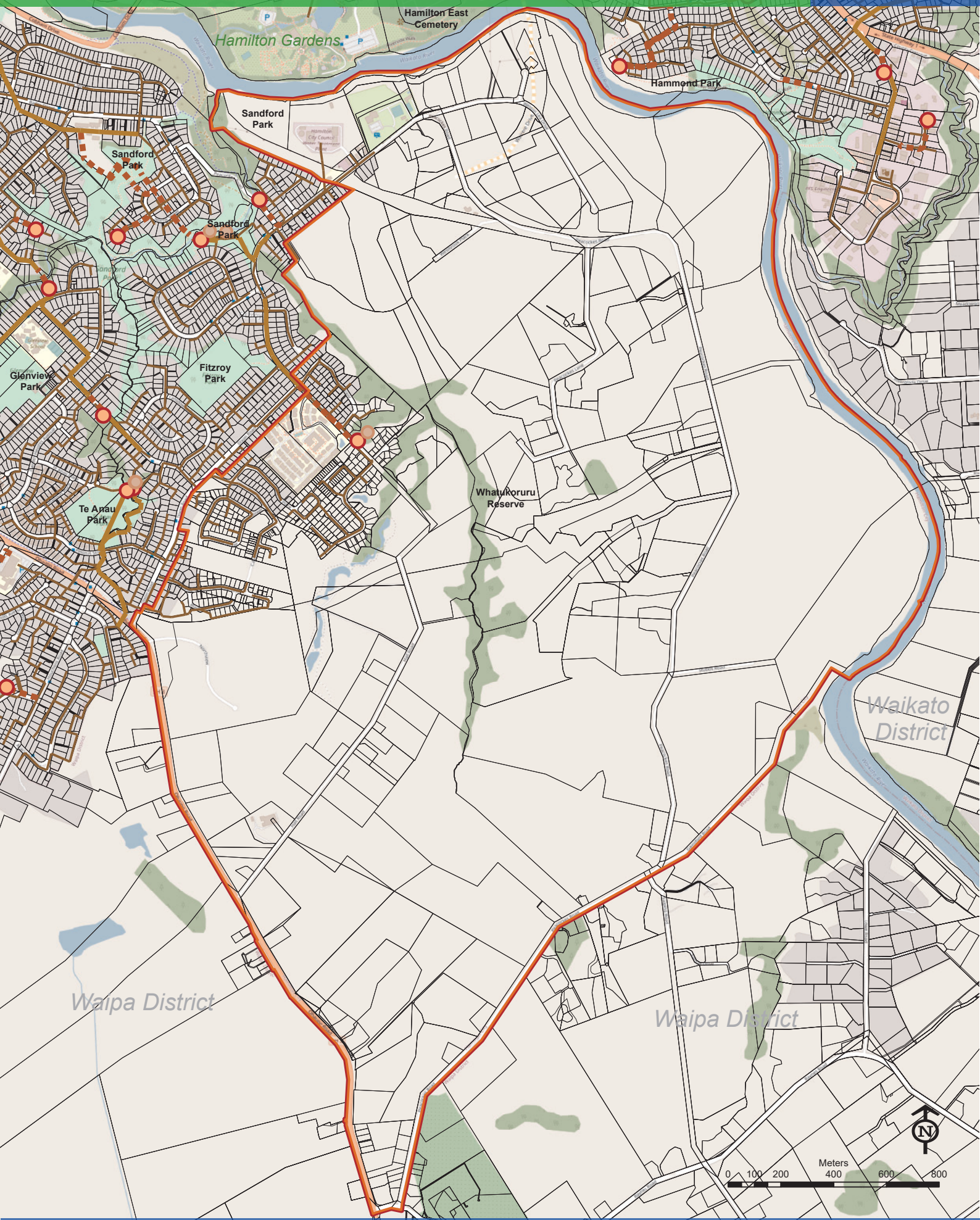


Figure 9: Infrastructure - Existing Wastewater

- Rising Main
 ● Wastewater Storage Unit
- Service Main
 ● Wastewater Pump Station
- Trunk Main

The Te Awa walking and cycling network located along the Waikato River margin should also be continued through into the Peacocke Area with careful consideration given to routes traveling along, under or over major transport infrastructure as well as known archaeological sites.



Te Awa walking and cycling network located along the Waikato River provides the opportunity to connect the Peacocke area to the wider Hamilton.

Wastewater

Council's Bulk Interceptor system comprises of three interceptors within this general area of the City and the connection points to these are:

- The Western Interceptor, potential connection at Lorne Street Pump Station
- The Eastern Interceptor, potential connection at Clyde Street
- The Far Eastern Interceptor, potential connection near Crosby Road

The Hamilton City wastewater system currently services the Glenview, Fitzroy and Peacocke Stage 1 areas through a combination of pump stations, rising mains and gravity mains which discharge to the Western Interceptor. The interceptor flows to a lift pump station at Dinsdale, and then runs north under gravity to the Pukete Wastewater Treatment Plant (Figure 9).

Within the majority of the Peacocke area, wastewater is managed predominantly through on-site management devices such as septic tanks.

Modeling has shown some pipes in the catchment in both the existing and developed scenario are at or near capacity. Some pump stations and wastewater manholes in the catchment are known to overflow. More frequent overflows are generally caused by a lack of capacity, or by unintentional ingress of stormwater or groundwater into the wastewater network.

Water supply

The Waiora Water Treatment Plant is located on Peacockes Rd in the Peacocke structure plan area (Figure 10). The Water Treatment Plant provides water for all of Hamilton City. It pumps water directly into the reticulated network. For Peacocke this includes pumping water through the Hamilton South Filling Line which runs along Hall Road to the Hamilton South Reservoir. That reservoir, along with the treatment plant pump station provides pressure for the water network in Peacocke and surrounding suburbs. There are two small diameter (63mm) water mains supplying rural properties in the Peacocke area. These are not sufficient to supply any future development and would not be possible to provide for firefighting water supply through these mains as the existing network would not achieve the flow rates required.

PEACOCKE STRUCTURE PLAN

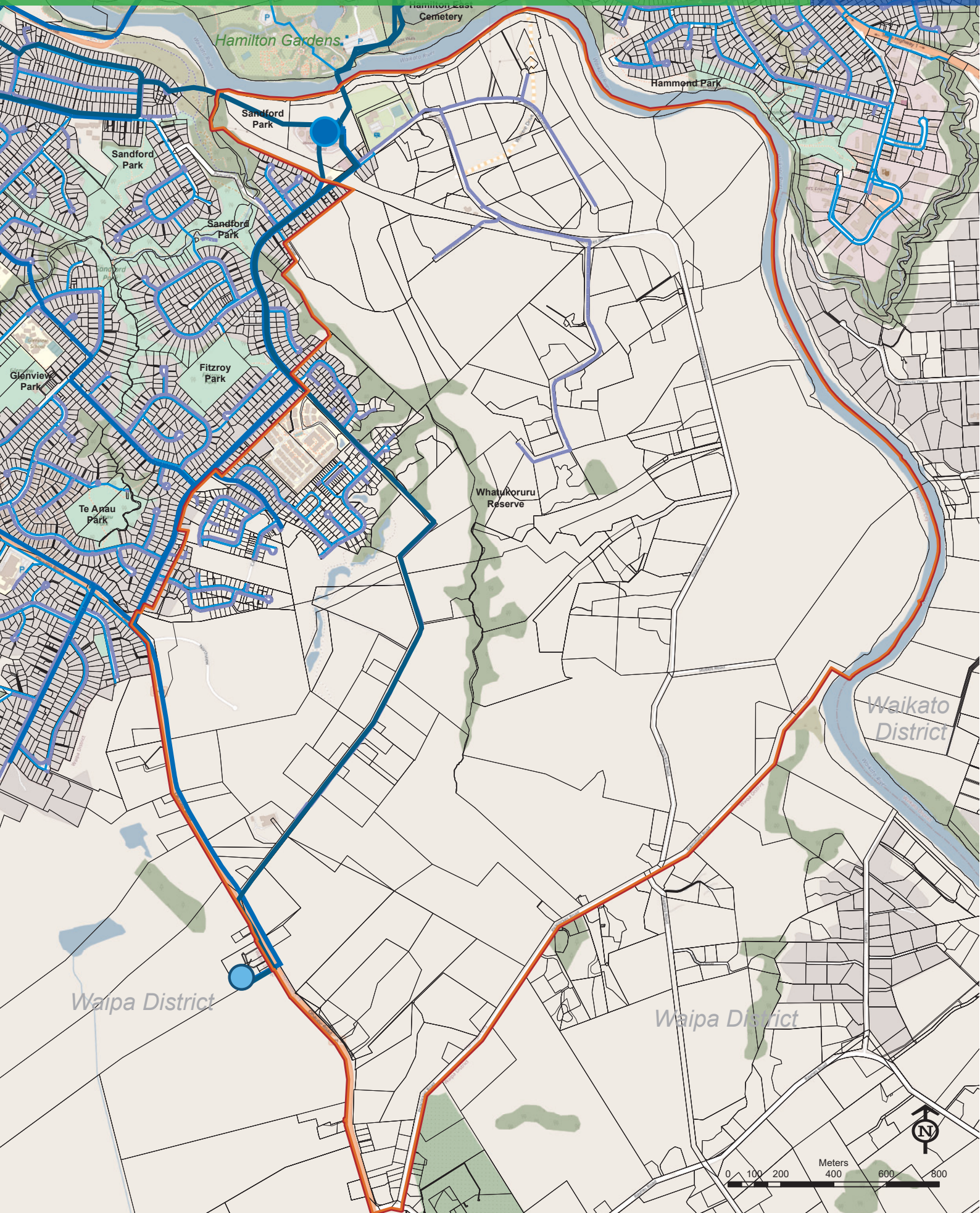


Figure 10: Infrastructure - Existing Water Supply

- Water Bulk Main - Hamilton South Filling Line
- Water Mian
- Water Rider Main
- Trunk Line
- Waiora Water Treatment Plant
- Hamilton South Reservoir.

Stormwater

The existing stormwater system consists of the Mangakootukutuku gully system, with reticulation in the developed areas of Glenview, Fitzroy and Bader, and farm/roadside drains in the Peacocke area (Figure 11). The Peacocke area is largely undeveloped, and has a lower existing flood risk due to the deeply incised gully system/proximity to the river.

Recent development east of Dixon Road in Stage 1 of Peacocke has included installation of the wetlands to support individual residential and retirement home developments.

Electricity

There is a WEL electricity substation located on the corner of Peacockes Road and Waiora Terrace within the Peacocke area. The substation supplies electricity to the Waiora Water Treatment Plant, Fitzroy, Melville and Peacocke areas and provides a back up supply to the Waikato Hospital.

Transpower has a facility located along Hall Road which both nationally and regionally significant as it is one of only two Communication Centres in the country and is critical to the operation of the national grid. The facility is not designated. Consideration will need to be had with regards to possible impact higher density development may have on this site.

There are potential adverse environmental effects on the natural environment, open space and residential zoned land if water supply and wastewater infrastructure cannot be provided for plan change area.

4.7 Hazards

A natural hazard is the result of natural processes that form, shape and alter the environment. Natural hazards are any atmospheric, earth or water-related occurrence that may adversely affect human life, property or the environment. They include earthquakes, tsunamis, erosion, volcanic and geothermal activity, landslips, subsidence, sedimentation, wind, drought, fire, and flooding.

The slopes and soil types of the Waikato Riverbank and Gully systems potentially make these areas more susceptible to land instability (erosion, land slips and subsidence). The Operative District Plan have controls within the Waikato Riverbank and Gully Hazard Area that establish setbacks for any new development. Some land uses have the effect of concentrating people into defined locations. Concentrating people in locations (e.g.. residential activities at urban densities) that may be subject to natural hazards creates a greater risk than if the land was used only for lower population density uses.



Steep banks along the Waikato River have been identified as having stability issues which need to be managed through development control setbacks

PEACOCKE STRUCTURE PLAN

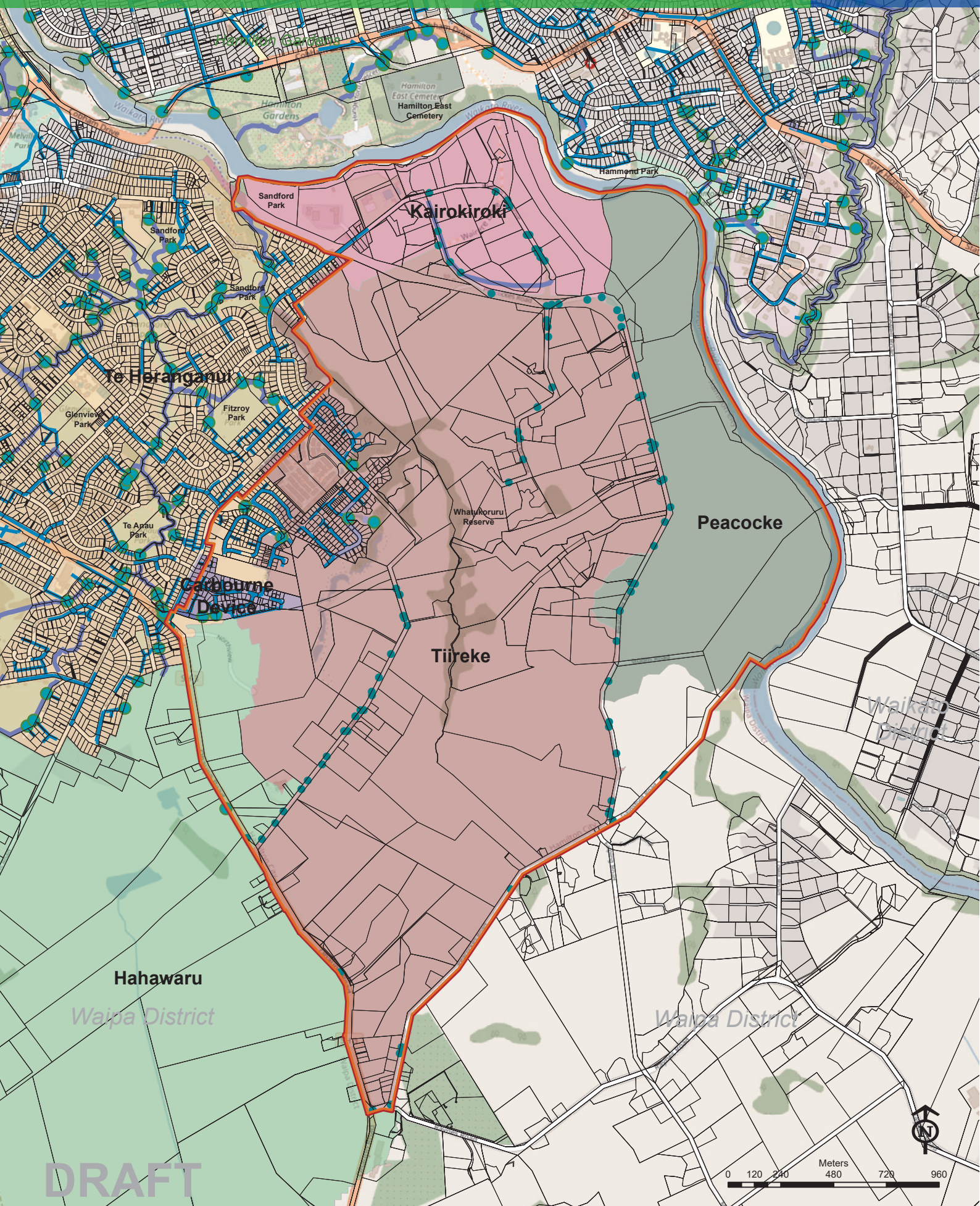


Figure 11: Infrastructure - Stormwater

5. Strategic Context

This section sets out the relevant statutory and non-statutory plans and strategies that must be considered in developing the Peacocke Structure Plan. Where relevant to the structure plan the key outcomes sought by each document are summarised.



5.1 Hamilton City Operative District Plan

The general direction of the Operative District Plan (ODP) is set out within Chapter 2- Strategic Framework, which aims to achieve a compact city and sustainable urban form, in alignment with the Waikato Regional Policy Statement (WRPS) and Future Proof.

The ODP is consistent with the city's strategic documents including Vista, Hamilton Urban Growth Strategy (HUGS), the WRPS, Access Hamilton and Future Proof, which seek a compact city where development is concentrated so land and infrastructure can be used efficiently.

The Peacocke Structure Plan will result in a plan change to the ODP; any changes will need to ensure consistency with the objectives of the strategic framework and the city-wide directives.

Background planning documents

The Peacocke area is currently managed through the Peacocke Structure Plan and Peacocke Special Character Area Zoning Provisions within the ODP.

2007 Structure Plan

The Peacocke Structure Plan promotes ideas regarding urban design, consideration around urban form, the transport network and the natural environment.

- Peacocke Structure Plan Vision
The current vision for the Peacocke area is that it will become a high quality urban environment that is based on urban design best practice, social wellbeing and environmental responsibility.

Figure 12: Operative District Plan - Zoning

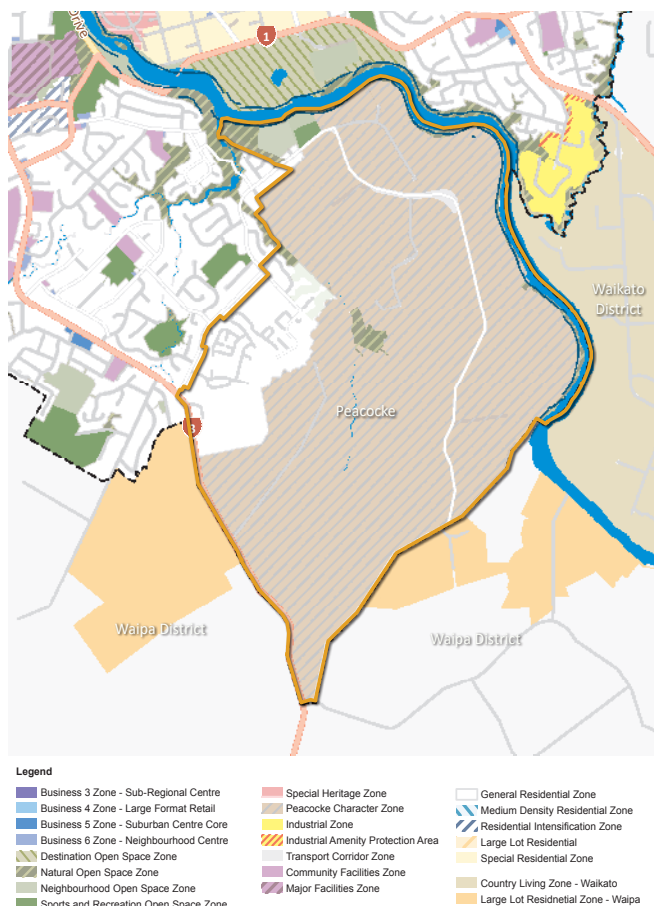
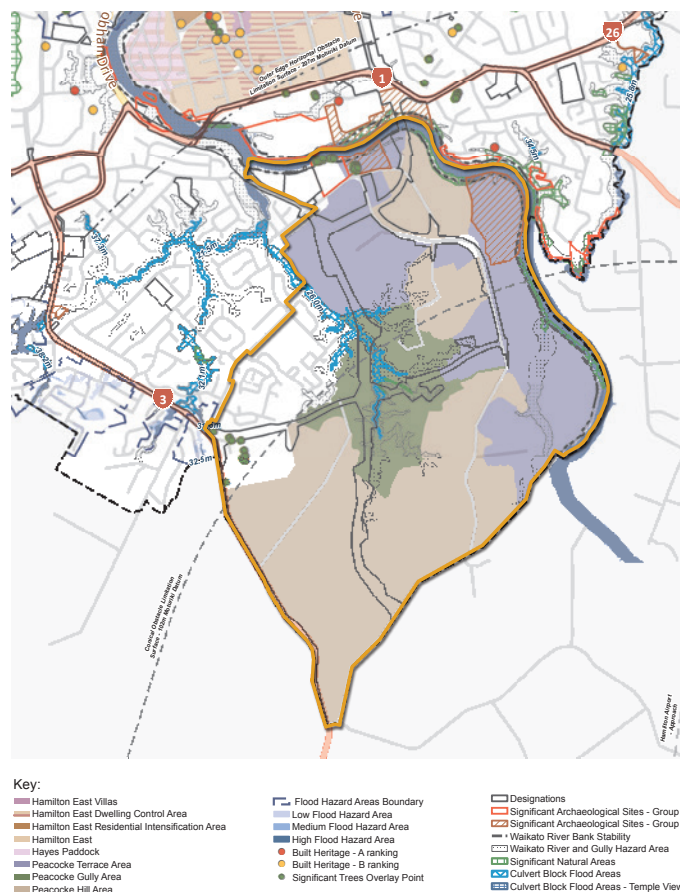


Figure 13: Operative District Plan - Feature



The current goal for Peacocke is that development will respond positively to its natural setting and built form to develop several well-connected neighbourhoods based on an urban development concept that respects and restores the area's natural environment.

The current structure plan aims to ensure that development responds to the strong landscape features including the Mangakootukutuku Gully system, the Waikato River Terrace areas and the Southern Hills area.

The structure plan also identifies three natural character areas that will guide future development of the Peacocke area:

Terrace Area: This area is located adjacent to the Waikato River edge and has a high level of amenity. High density residential development would benefit from locating in this area.

Gully Area: The environmentally sensitive area of the Mangakootukutuku Gully network runs through the centre of Peacocke. Because of the natural sensitivity of this area, lower urban densities are appropriate.

Hill Area: The undulating topography in the southern area of Peacocke is proposed for lower overall density (lot sizes of 1000m²+) with higher intensity arranged along the ridgeline. Steep slopes in this area should be kept in their natural form, through active planting with indigenous plants.

- **Peacocke Special Character Area Zoning and Provisions**
The Peacocke Character Zone provisions aim to establish a high quality urban environment that is based on the urban design principles outlined in the Peacocke Structure Plan and which recognises several specific natural character elements. A master plan approach has been developed to achieve this by ensuring that infrastructure provisions and staging are integrated with development while enabling flexibility and innovation in design.
- **Subdivision**
Chapter 23 - Subdivision of the ODP is essential for creating land parcels and allowing development to occur within Peacocke. Subdivision by itself is not a use of land; however, it often sets the platform for future development and land use.

The development and use of land and buildings can be facilitated by subdivision. As such, the purpose of Chapter 23 is to ensure that subdivision activities within the city are undertaken in a manner that supports the outcomes sought in the underlying zone. It is also to ensure the integrated management of the effects of the use, development or protection of land and associated natural and physical resources.

- **Master Plan Provisions**
The District Plan currently requires a Master Plan to accompany any subdivision application or in the Peacocke Character Zone for Fee Simple Subdivision where lots created are less than 2ha in the Terrace Area and less than 5000m² in the Gully and Hill Areas.

Master Plans shall be prepared by landowners in accordance with the neighbourhoods identified in the Peacocke Structure Plan. A Master Plan will also be required to include a subdivision concept plan, an analysis over all adjoining neighbourhoods to the subject site to ensure issues impacting on the development are understood and addressed.

5.2 Vision and Strategy for the Waikato River

The overarching purpose of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 is to restore and protect the health and wellbeing of the Waikato River for future generations. Under this Act the Waikato River includes the river's main stem, from Huka Falls to the Waikato River mouth, and all its tributaries.

Amongst other redress, the Act recognises the Vision and Strategy for the Waikato River (the Vision and Strategy) as the primary direction-setting document for the Waikato River and activities within its catchment affecting the Waikato River. The Vision and Strategy is deemed part of the Waikato Regional Policy Statement, and regional and district plans are required to give effect to it.

The Vision for the Waikato River is:

“For a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.”

In order to realise the Vision, the following objectives will be pursued:

1. The restoration and protection of the health and wellbeing of the Waikato River.
2. The restoration and protection of the relationship of Waikato-Tainui with the Waikato River, including their economic, social, cultural, and spiritual relationships.
3. The restoration and protection of the relationship of Waikato River iwi according to their tikanga and kawa, with the Waikato River, including their economic, social, cultural and spiritual relationships.
4. The restoration and protection of the relationship of the Waikato region's communities with the Waikato River including their economic, social, cultural and spiritual relationships.
5. The integrated, holistic and coordinated approach to management of the natural, physical, cultural and historic resources of the Waikato River.
6. The adoption of a precautionary approach towards decisions that may result in significant adverse effects on the Waikato River, and in particular those effects that threaten serious or irreversible damage to the Waikato River.
7. The recognition and avoidance of adverse cumulative effects, and potential cumulative effects, of activities undertaken both on the Waikato River and within its catchments on the health and wellbeing of the Waikato River.
8. The recognition that the Waikato River is degraded and should not be required to absorb further degradation as a result of human activities.
9. The protection and enhancement of significant sites, fisheries, flora and fauna.
10. The recognition that the strategic importance of the Waikato River to New Zealand's social, cultural, environmental and economic wellbeing is subject to the restoration and protection of the health and wellbeing of the Waikato River.

11. The restoration of water quality within the Waikato River so that it is safe for people to swim in and take food from over its entire length.
12. The promotion of improved access to the Waikato River to better enable sporting, recreational, and cultural opportunities.
13. The application to the above of both maatauranga Maaori and latest available scientific methods.

The Vision and Strategy will need to be fully considered during the revision of the Peacocke Structure Plan and will be implemented through the District Plan provisions.

5.3 Environmental Plans

The iwi Environmental Plans set clear direction for the environmental outcomes the development of the Peacocke Structure Plan and associated plan change needs to help achieve. Planning documents must recognise the Waikato-Tainui Environmental Plan and Ngaati Hauaa – Environmental Management Plan in the same manner as would be required under the RMA.

Waikato-Tainui Environmental Plan

In addition to the objectives in the Vision and Strategy, the Waikato-Tainui Environmental Plan - Tai Tumu Tai Paru Tai Ao (the Plan) was developed from the long-term development approach called Whakatupuranga 2050, which is the blueprint for cultural, social and economic advancement for Waikato-Tainui. The key strategic objectives of the Plan include tribal identity and integrity, with the Plan “designed to enhance Waikato-Tainui participation in resource and environmental management. The overarching purpose of the Plan is to provide a map or pathway that will return the Waikato-Tainui rohe (region) to the modern-day equivalent of the environmental state that it was in when Kiingi Taawhiao composed his maimai aroha”.

The objectives and policies contained in the Waikato-Tainui Environmental Plan are articulated generally, and a full assessment of these objectives and policies will need to be undertaken against the proposed Peacocke Structure plan.

Ngaati Hauaa – Environmental Management Plan 2018

This plan identifies the values of Ngaati Hauaa and sets out their aspirations as well as articulating their position in relation to their taiao environment. In brief, Ngaati Hauaa aspires to restore the environment's mauri and to be able to swim in, and drink and gather food from, the rivers and streams in their tribal area, which includes the Mangakootukutuku Stream.

The tribe aims for more sustainable land use, development and management to provide for population growth without compromising the productive capacity of the environment. It wishes to be involved in catchment management, planning and decision-making.

5.4 National Policy Statement for Highly Productive Land

The National Policy Statement for Highly Productive Land (NPS-HPL) will direct how councils are required to consider the availability of productive land for primary production. Land is a precious taonga and its use needs to be considered for future generations. The purpose of the NPS is not the absolute protection of productive land, but the careful management of this valuable resource.

5.5 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management (NPS-FM) sets out the objectives and policies for freshwater management under the RMA. It recognises the national significance of fresh water and Te Mana o te Wai (the mana of the water). The key directive is to protect the life-supporting capacity of fresh water and any associated ecosystems by managing the use of fresh water. The NPS on Freshwater will need to be considered in developing both planning provisions and a structure plan for Peacocke.

5.6 Draft National Policy Statement for Indigenous Biodiversity 2020

The Draft National Policy Statement on Indigenous Biodiversity (NPS-IB) sets out the objective and policies to manage natural and physical resources so as to maintain indigenous biodiversity within New Zealand under the Resource Management Act 1991.

5.7 National Policy Statement on Urban Development 2020

National Policy Statement on Urban Development (NPS-UD) replaces the current NPS on Urban Development Capacity (NPS-UDC) approved in 2016. The key policy shifts include stronger emphasis on intensification and creating functional urban environments by removing some of the current constraints to development. With it comes a requirement for local authorities to implement directions within prescribed time frames and undertake associated monitoring activities.

5.8 Future Proof

The Future Proof Strategy and Implementation Plan is the collaboration between Hamilton City Council, Waikato Regional Council, Waipa District Council, Waikato District Council and Tangata Whenua for the development of a sub-regional growth strategy covering the areas of the three territorial authorities and the region covered by the Waikato Regional Council. Other key organisations involved in the strategy include the New Zealand Transport Agency and Matamata Piako District Council. The Strategy emerged as a result of concerns about the lack of collaboration and leadership in the management of growth across Hamilton City, Waipa District and Waikato District's territorial boundaries. It was adopted in 2009 and now has statutory effect through the Waikato Regional Policy Statement.

5.9 Hamilton to Auckland Plan

The purpose of the Hamilton to Auckland Plan is to develop an integrated spatial plan and establish an ongoing growth management partnership for the transport corridor which:

- accelerates identified transformational opportunities
- outlines key housing, employment, social, environmental and network infrastructure priorities for the corridor over the next 30 years to successfully accommodate growth and also address levels of service, remedial or renewal needs, and
- identifies planning, development, infrastructure, mitigation and restoration works required, and funding and legislative projects partners may take in the short term for implementation of a long-term vision.

5.10 Waikato Regional Policy Statement

The Waikato Regional Policy Statement (WRPS) provides an overview of resource management issues in the Waikato region, and the ways in which integrated management of the region's natural and physical resources will be achieved. There are a number of relevant sections of the WRPS that need to be considered in developing the structure plan. Objective 3.12 and Section 6 relate to the built environment and seek to ensure that development of the built environment occurs in an integrated, sustainable and planned manner which

enables positive environmental, social and cultural outcomes. This includes protecting long-term benefits of regionally-significant infrastructure, minimising land use conflicts and minimising potential for reverse sensitivity.

The District Plan is required to give effect to the WRPS as per s75 of the RMA and therefore will need to be addressed in detail through the development of the structure plan.

5.11 Hamilton Urban Growth Strategy 2010 (HUGS)

HUGS is the Council's spatial vision for the city, providing a more localised interpretation of the Future Proof principles.

In 2009, HUGS predicted Hamilton's baseline population to increase from approximately 140,000 to 225,000 by 2041. To accommodate that growth, it is estimated that the city requires an additional 36,000 new homes. It is assumed that 50% of projected growth will be accommodated within the existing areas of the city through intensification and infill. The remaining demand would be provided in identified greenfield areas within the city's limits. HUGS envisages that this greenfield demand will be met through the Rototuna, Peacocke, Ruakura and Rotokauri growth areas.

In the long-term, HUGS identified residential growth will be prioritised in the Peacocke area rather than in the remainder of the Rotokauri structure plan area. Both of these areas are likely to be developed at some point in the future and have had structure plans developed to ensure development is undertaken in a managed way and provide good urban design outcomes.

5.12 Access Hamilton

Hamilton's transport network enables everyone to connect to people and places in safe, accessible and smart ways. To improve the health and wellbeing of Hamiltonians by ensuring the transport network supports good travel choices that are safe, easy and connected.

These outcomes will need to inform the development of the Peacocke transport network, ensuring that it is safe, well connected and provides ample modal choice for people to access places of work, education and recreation.

5.13 Regional Transport Strategy – 2018 Update

An update to the 2015 Regional Land Transport Plan has been developed for the region by the Waikato Regional Transport Committee, which sets out how it is intended to develop the region's land transport system over the next 30 years. It also identifies proposed regional transport activities for investment (local and central government) over the next six years.

5.14 Hamilton City Long Term Plan (LTP)

Hamilton is one of the fastest growing cities in New Zealand; it is currently a city of 165,000 people and, in ten years, is expected to have a population of over 187,600 people. This growth has the potential to provide great economic, social and cultural benefits to the people of Hamilton. However, it also brings challenges as there is increased demand for core services, infrastructure and community facilities.

The 2021-31 10-Year Plan identifies these challenges and aims to embrace the opportunities that growth Presents.

5.15 Integrated catchment management plan

It is important that as urban development occurs, potential impacts are understood and there is a clear plan of

what infrastructure is required to enable and support growth. ICMPs outline how stormwater, wastewater and water will be managed in different catchments, with a particular focus on stormwater. They help the Council make better decisions about land use, water resources and infrastructure.

The Mangakootukutuku Integrated Catchment Management Plan covers the structure plan area and is currently being prepared. The development of the structure plan will need to incorporate outcomes of this plan.

5.16 Southern Links Designation

The Southern Links transport network was designated in 2016 and sets out the key arterial transport corridors in the southern areas of Hamilton, including transport network alignment within Waipa District and Waikato District. The designation bisects the Peacocke area from north to south as well as east to west. The designation restricts development within the corridor and limits the ability to connect to the network. The development of the Peacocke Structure Plan will need to take this designation into account as a fixed feature within the structure plan area.

5.17 Other Council Plans and strategies

- Vista
- Hamilton Bike Plan
- Heritage Plan
- Hamilton City Open Space Plan
- Neighbourhood and Amenity Reserve Management Plan
- Open Space Provision Policy

6. Opportunities and Constraints

A number of technical reports have been prepared to support the development of the Peacocke Structure Plan. These reports identify any potential environmental effects and ways they can be managed if required.



6.1 Heritage and Cultural

The Operative District Plan recognises the relationship between tangata whenua and the whenua awa, moana, maunga, taiao katoa (land, waterways, ocean, and mountains) and wider environment is acknowledged. These objectives and policies seek to ensure that the values, principles, aspirations, roles and responsibilities and the place of tangata whenua are reflected and incorporated into strategy, governance and implementation of the District Plan. The policies envisage involvement of tangata whenua in managing the use, development, and protection of their ancestral taonga.

The Peacocke Structure Plan; through its objectives and policies identifies the need to protect culturally significant sites or features; respect known paa sites, borrows pits and other cultural associations with waterways and the land, protecting these sites through the creation of reserves or sensitively integrating these features into new developments for the benefit of all. Cultural features can be preserved through retaining familiar landmarks and also by non-physical means, such as place names.

A Cultural Values Assessment (CVA) has been prepared by Te Haa o te Whenua o Kirikiriroa (THaWK) for the Peacocke area. The purpose of a CVA is important in articulating cultural and environmental values of tangata whenua. It helps to understand how the future development of Peacocke might impact on these values and how parties might work together to address and mitigate issues. It provides evidence that meaningful engagement has taken place and also assists the council to meet its statutory obligations under the RMA.

By the time Europeans first visited the area in the 1830s, Maaori had extensively settled the area. Many of these settlements were located on, or near the Waikato River, which served as a major transport and communication route. Tauranga waka (canoe landing places) were associated with riverside settlements. Walking trails provided overland access to other settlements and mahinga kai (resource harvesting areas).

Artifact find sites and Maaori place names are further evidence of tangata whenua use of the catchment. More artifacts, koiwi (human remains), urupaa (burial grounds), borrow pits and modified soils may be discovered as the Mangakootukutuku catchment is developed.

The archaeological assessment of Peacocke has identified two paa in the area along with 20 horticultural sites of varying sizes, an urupaa, and a number of artifact associated findspots within the Peacocke Structure Plan area. Three 19th Century homestead sites have also been identified with a possible reference to a fourth. All of the sites, particularly those relating Maaori occupation, have wider associative values in relation to sites outside the Peacocke Structure Plan area. The most common site class are horticultural sites that form part of the Waikato Horticultural Complex, which is a particular form of adaptation of Polynesian horticultural practice to temperate New Zealand that forms a distinct form of intensified agricultural practice of significance within the New Zealand context also within the context of the study of these practices across Oceania.

Within the Peacocke structure plan area there are no historic buildings or structures listed in the Operative District Plan nor are there any building or structures that currently meet the criteria to be scheduled in the Operative District Plan.

Opportunities

- Ensures the aspirations of the Manu Whenua are recognised and considered when developing Peacocke
- Identify and protect sites of significance for Tangata Whenua that are not currently identified in the district plan.
- The identification of these sites will help to continue to tell the story of the area.

Constraints

- The archaeological and cultural sites in the district plan represent known constraints to development.
- The protection of archaeological and cultural sites could result in the loss of developable land.
- The preservation known borrow pits should be sufficiently extensive to preserve representative areas of Maaori-made soils and borrow pits to facilitate an understanding of their place within the landscape and also the scale of the enterprise. Preservation of isolated borrow pits, because they represent only the quarry element of the complex, will not render a meaningful outcome.
- Developers are required to undertake additional works to ensure they address the requirements of the Cultural Values Assessment and the Heritage New Zealand Pouhere Taonga Act 2014

6.2 Integrated Catchment Management Plan

An Integrated Catchment Management Plans (ICMP) is a tool to help manage the form and function of Three Waters infrastructure in an integrated, effective, efficient, functional, safe and sustainable manner.

An ICMP has been developed for the Mangakootukutuku Catchment. The purpose of the Mangakootukutuku ICMP is to:

- To provide guidance to developers, District Plan regulators, Regional Council regulators, and Asset Managers, on how water, wastewater and stormwater (three waters) in the Mangakootukutuku catchment will be managed in an integrated way and in accordance with proposed new land uses that occur with development. This includes provision of conceptual network service plans and flood hazard maps.
- To ensure that three waters networks in the catchment can accommodate growth while avoiding, remedying or mitigating adverse effects that can occur from land use change. This includes effects of flooding and erosion, ad-hoc stormwater discharges and unreasonable increase in water demand and wastewater generation.
- To ensure that existing three water networks are not compromised and any future networks to accommodate growth complies with RMA requirements, Hamilton Urban Growth Strategy (HUGS), and HCC's Level of Service, HCC's Comprehensive stormwater Discharge Consent and water conservation and demand management objective.
- Help achieve the Vision and Strategy for the Waikato River. (See Schedule 2 of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010.)
- To include consideration of the reuse of stormwater and greywater to reduce demand of water, minimise wastewater generation and minimise need for three water infrastructures.

The Mangakootukutuku ICMP predominantly focuses on managing the effects of urban development in the Mangakootukutuku catchment which covers the majority of the Peacocke area. The ICMP will inform the development of the Peacocke Structure Plan on how three waters will be managed within the Peacocke area.

It is important that as urban development occurs, potential impacts are understood and there is a clear plan of what infrastructure is required to enable and support growth. How stormwater is managed within the Peacocke Structure Plan area has a direct impact on the land available for development and in turn the overall yield of Peacocke.

Potable water

The main water treatment plant for Hamilton is situated to the north west of the Peacocke Structure Plan area. The plant produces water at an average head of 70m for transmission around Hamilton. Depending on the head loss through the main pipe to Peacocke and given the completion of the filling main into the existing Hamilton South Reservoir, the maximum contour for supply to the development would be 50mRL. Based on this Peacocke is servicable from the existing Hamilton South reservoir through a new bulk infrastructure being installed as part of the development of the Southern Links Transport network.

Waste water

In developing the current Peacocke Structure Plan the wastewater disposal options for servicing the area was that the wastewater from the majority of the Peacocke area would need to be discharged to the Far Eastern Interceptor near Crosby Road. The preference for waste water from the Peacocke area to be discharged to the Far Eastern Interceptor is due to capacity within the Western Interceptor. The Western Interceptor has had notable new development connections to it and, even with some duplication in recent years, it does not have the capacity to cope with the additional flow from the a fully developed Peacocke area. The connection to the Far Eastern Interceptor is expected to occur in 2023 with the completeion of the new brigde over the waikato river and new wastewater connection to Crosby Road.

Approximately 800 lots in Stage 1 of Peacocke in the Dixon Road area, have been connect into the Western Interceptor as the infrastructure required to connect to the Far Eastern Interceptor was too significant and cost prohibitive for this early stage of development.

The pumping of wastewater from the Peacocke to the Far Eastern Interceptor would require a large Transfer

Pump Station in the northern area of Peacocke, near the water treatment plant. It is envisaged that a stage approached to the installation of the waste water network within Peacocke will occur.

All interceptors discharge to Council's wastewater treatment plant at the northern side of Hamilton. Therefore, all wastewater from the Peacocke area will be treated at the wastewater treatment plant and discharged to its consented outfall.

A co-ordinated approach to the provision of three waters infrastructure will be required across the plan change area as development progresses.

Stormwater Wetlands

The ICMP also identifies the location of stormwater wetlands for the treatment of stormwater discharge from urban development including the local roading network. The identified stormwater devices manage urban development effects the Mangakootukutuku Gully network.

Device sizing will be finalised at the resource consenting stage. The location of these wetlands are shown indicatively on the structure plan and it is anticipated that there will be some flexibility provided to rationalise sub-catchment boundaries at the time of development, or adjust layouts to integrate into development planning so long as this does not result in the splitting of sub-catchments.

Opportunities

- Ensure development within Peacocke achieves the vision and strategy for the Waikato River
- Ensures the three water network can accommodate development within Peacocke
- Provides the developers with a clear blue print for the development and the management of the three water networks within Peacocke
- The development of stormwater wetlands that also serve as areas of amenity and contribute to the overall green network within Peacocke
- Ensure an integrated stormwater management system

Constraints

- Potential to impact on the developable area for some land owners by requiring the development of wetlands with identified locations
- Requires land owners to work together to provide stormwater solutions for individual catchments

6.3 Natural Hazards

As part of the IMCP, Hydrology and geo-technical investigations have been undertaken. The Peacocke area is intersected by the Mangakootukutuku Gully Network, which is defined by steep slopes with associated risks of instability. These are currently managed through district plan provisions that spatially identify hazardous areas and require buildings to be set back from those identified hazards.

As part of the ICMP investigations of the site, a geo-technical assessment was undertaken and land that was considered geo-technically hazardous was identified. The identified areas are considered unsuitable for development. These areas were typically evident in association with gullies and river bank areas. (It is noted that many of the areas overlap with the ecologically significant areas).

Further a seismic buffer was identified and is also shown on Figure 14 Geo-technical Constraints. This buffer captures a more extensive area of the site that extends beyond the visible extent of the river bank and gully system. This buffer does not preclude the potential for development but any development within it may be subject to geotechnical validation and may require specific design to proceed.

Figure 14 also shows areas where slopes are greater than 12 degrees, and areas covered by bank stability and seismic setback areas. This is generally focused on the main gully arms, however is also spread throughout the Peacocke area. Areas with steeper slopes will be required to be addressed through land development to ensure the associated hazards are appropriately managed.

As part of the ICMP work is being undertaken to establish suitable setbacks along the Mangakootukutuku Gully to limit the risks associated with bank stability. This work will also influence the residential densities with these areas.



Mangakootukutuku Gully Network, which is defined by steep slopes with associated risks of instability

Contaminated Land

Hamilton City Council maintains a Hazardous Activities and Industries Lists (HAIL) database and GIS layer. HAIL sites may have had historic or current activities taking place which create a risk to the health of humans or the environment. HAIL sites that are developed are managed under the NES, which is primarily concerned with Human Health.

There is an old fly ash landfill located at the north end of Hall Rd identified on the HAIL database. It has been specifically identified in the ICMP as it may be leaching contaminants into the watercourse. Other sites may be generating groundwater or surface water contaminants but have not been specifically identified here. Further investigation of individual development sites will need to be undertaken at time of consent.

Opportunities

- Identify potential areas of risk
- Ensure the safety of home owner and occupiers in the event of a seismic event.

Constraints

- Potential to impact on the land available for development by requiring a setback from gully edge to limit risks.
- Require additional engineering design when building houses to mitigate bank stability and seismic risks.
- Known HAIL sites will need to be addressed at time of consent add additional cost to any development

6.4 Ecology and biodiversity

The Mangakootukutuku catchment is one of the largest gully systems within the Hamilton City boundary and a key feature of the Peacocke Structure Plan area. This extensive gully system has arms spreading through the areas of Melville, Glenview, Fitzroy and Peacocke. The catchment has been identified by several regional studies for its ecological values.

Within these streams and gully systems in Hamilton's Urban environment a number of indigenous species are found, included the shortfin eel, longfin eel, banded kōkopu, giant kōkopu, inanga, common smelt, common bully, and torrentfish. Exotic species found in these areas included koi carp, gambusia, catfish, and indeterminate trout. Many of the indigenous species found are rare or in decline and their presence in these urban environments lends great value to these gully systems. A 2007 survey of Mangakootukutuku Gully had a high level of diversity with 13 species of mayflies, stoneflies and caddisflies found. It was suggested that the high species diversity for an urban area was due to the large number of vegetated gullies with riparian cover, which increases habitat complexity.

New Zealand's Long-Tailed Bat is an endemic mammal that has persisted in Hamilton City, despite its disappearance from other cities in New Zealand. These bats are seriously threatened by habitat loss and predation. Pockets of bats have been identified in the southern area of Hamilton, particularly in Manganoa Gully, Mangakootukutuku Gully, Hammond Bush and surrounding areas. Bats play an important role in ecosystems as aerial insectivores. Studies have shown that populations of bats roosting outside the city use the gully systems of Hamilton to migrate to the Waikato River. This is an indicator of the importance of these gully systems for wildlife corridors in Hamilton City.

The wider Peacocke area includes significant ecological features, namely the Waikato River, Mangakootukutuku Gully and Hammond Park; all of which provide habitat for regionally significant flora and fauna. It is therefore important that urban development recognises and protects these natural features. They are also a vital part of the city's walkway and drainage systems. Over the years as the urban settlement expands, the gully's natural features became degraded and a large proportion of their native flora and fauna have been lost.

The Operative District Plan identifies a number of Significant Natural Areas (SNA) based primarily on the presence of indigenous vegetation within the peacocke area. However, this did not assess ecological significance of these areas against the suite of ecological significance criteria as set out in the Waikato Regional Policy Statement (WRPS). Most notably, many sites had not been assessed against criteria relating to significant habitat for fauna.

Vegetation Stands of indigenous vegetation shown as SNA in the Operative District Plan, as well as Hammond Bush, should be considered to be significant indigenous vegetation given that these are some of the very few remaining stands of bush of natural origin within the Peacocke area.

As a consequence of the recent work undertaken as part of the development of the structure plan additional areas of indigenous vegetation or habitats for indigenous fauna have been identified as being ecologically significant in terms of triggered relevant criteria of section 11A of the WRPS. These areas cover approximately 120ha, with the majority of this area will likely to be zoned open space and identified as SNA.



The wider Peacocke area includes significant ecological features, namely the Waikato River, Mangakootukutuku Gully and Hammond Park; all of which provide habitat for regionally significant flora and fauna

Opportunities

- Retain key areas of vegetation which are a feature of the area and may provide habitat and foraging areas for long-tail bats.
- Improve the quality of stormwater runoff as the area transitions from rural to urban whilst managing runoff to ensure natural drainage patterns are maintained.
- Identify areas of natural resources to be protected from development ensuring the retention of environmental/ecological character and improve biodiversity.
- Identify additional SNA in accordance with the criteria established in the RPS to ensure a complete connected green network.
- Provide passage for fish when crossing streams and gullies.
- Minimise habitat fragmentation through the connection of the gully network and the Waikato River

Constraints

- Known and potential bat roosting and foraging sites are habitat of indigenous fauna and will need to be retained and protected impacting on the development of the area.
- Gullies and their associated streams will need to be protected from the effects of development.
- Developers will be required to undertake additional ecological monitoring prior to development which may add additional costs and time.

6.5 Transport

The structure plan area is currently served by a number of local roads. The road network is not extensive as it serves the relatively large landholdings of the area. Hall Road, Ohaupo Road, Dixon Road and Waterford Road provide property access in the western portion of the study area, while Peacockes Road is the primary transportation corridor in the eastern portion of Peacocke. Ohaupo Road (State Highway 3) currently serves as the key arterial route into the south of the city and is located on the western edge of the Peacocke structure plan area.

The new Southern Links Transport Network will provide a more direct and high-speed connection between the Peacocke area and the central city and hospital in the north and the airport in the south. At the city end, the route is a direct extension of Cobham Drive from its current end point at Cobham Bridge. From here the route traverses the Peacocke area in a generally north-south alignment. To the south this route will connect with the New Zealand Transport Agency's portion of the Southern Links Transport Network immediately to the south of Peacocke which provides direct connections via Kahikatea Drive in the west and the Waikato Expressway in the east, as well as connecting with the existing SH3 route south to the airport and Te Awamutu. Currently Peacocke is not serviced by the city's Public Transport network, however as development occurs it is envisaged that a Public Transport service will service the Peacocke area.

In addition, the Southern Links Transport Network will connect with the Wairere Drive, a major north eastern arterial route running up the eastern side of the city provide a direct connection between Peacocke and the eastern suburbs of the city.

Opportunities

- Establish an integrated transport network that encourages model shift.
- Focus on creating walkable and cyclable communities
- Utilise the road network to create safe public spaces that are easily to access and have active edges.
- Connect back into Hamilton's wider strategic transport network through the Southern Links Designation.
- Extend the Hamilton Bus Network into the Peacocke Structure Plan.
- Connect the Peacocke walking and cycling network into regional network such as the Te Awa River Trail.

Constraints

- Southern Links designation represents a potential constraint to creating accessible communities and providing safe crossing locations throughout the designation will be important.
- Will require adjoining land owners to work together to ensure an integrated transport network
- The provision of a separated cycling and walking network will require consideration when providing vehicle access to residential sites

6.6 Land Tenure

Land ownership within Peacocke ranges from smaller lifestyle blocks along Peacocke Lane, Hall Road and Western Lea Drive to large landholding in the east along the Waikato River and in the southern and western areas of Peacocke. The exception being the area around Raynes Road in the most southern corner of the structure plan area which is an enclave of smaller lifestyle developments. Currently most of the land within Peacocke area is controlled by a small number of land owners with the majority of this land is still being used for agricultural purposes.

Under the current structure plan provisions, any urban development within Peacocke is required to develop a master plan that addresses a number of urban design and infrastructure issues. Any master plan is required to cover a relatively large area and, in some cases, more than one land owner. This is particularly relevant to areas where smaller lifestyle development has occurred. The requirement for land owners to collaborate when developing a master plan creates complexity potentially resulting in additional cost for developers. This approach may discourage the development of specific areas as the process becomes too complex, particularly for land owners with smaller land holdings.

There are several large landowners within Peacocke who have interest in its development. A number of these land owners have indicated that they are intending to develop their land for urban purposes. As part of the development of the structure plan, consultation will be undertaken with these land owners

Opportunities

- The ability for large land owner to master plan their land to ensure a well design development
- Allow the provision of a wider range of housing typologies and densities

Constraints

- The development of smaller land holding will in most cases result in a single housing typology
- Has the potential to create development based around the cu-de-sac with limited connectivity to surrounding land parcels
- Makes it hard for landowners to work together to get good urban design outcomes.

7. Demand and Yield

Hamilton had an estimated 57,000 dwellings in 2017 and a projected increase in demand for nearly 5,000 additional dwellings over the short term. Over the medium term, Hamilton is projected to have demand for an additional 11,000 dwellings, which implies an average annual growth rate of 2.0% over the medium term, for Hamilton as a whole.

Peacocke is estimated to have a yield of approximately 7600 dwelling when full developed.



Over the long term, the demand for additional dwellings in Hamilton is expected to total around 32,000. This translates into an average annual growth rate of 1.6%, lower than the growth rate over the medium term (2.0%) as the rate of growth is projected to slow through time.

As seen in Table 1, demand for attached dwellings (duplexes, town houses, terrace houses and apartments) in the short term (1,600) represents 28% of demand of total demand for housing. This increases over time to 30% in the medium term, and to 35% of total demand in the long term. Since 2010, the proportion of new consents issued for standalone houses has decreased from 85% to 36% in 2019. Townhouses, flats and units has increased from 15% in 2010 to 50% in 2019 which reflects a preference from developers to build townhouses and duplex homes.

7.1 Capacity

The Hamilton District Plan supports the Hamilton Urban Growth Strategy (HUGS) and Future Proof Strategy target which seeks to achieve around 50% of Hamilton's growth through the regeneration of existing parts of the city (intensification and infill), and 50% in greenfield areas of the city. Residential Intensification Zones (RIZ) and other rules within the District Plan allow a range of redevelopment and infill activity to occur. Supported by this enabling planning framework and supported by changing market dynamics, the distribution of growth has largely achieved this strategic target over the last decade.

Aligned with this strategic direction the existing housing capacity in Hamilton is available via the sequence of greenfield growth cells around the edges of the city and a large amount of infill and redevelopment capacity within the existing urban area. Redevelopment plays a larger potential role in commercially feasible capacity in Hamilton than Waipa and Waikato, as it is usually more feasible to undertake redevelopment in the city.

Table 2: Demand for attached dwellings within Hamilton

Demand by Housing Type	Short term 2021	Medium term 2026	Long term 2045
Demand for Standalone Dwellings	4, 190	9, 300	23, 770
Demand for Attached Dwellings	1, 600	3, 880	13, 010
Total Demand	5, 790	13, 180	36, 780

The availability of capacity in the long term will require alignment between land use, infrastructure and funding and will be dependent on the continued ability of Hamilton City to fund key infrastructure costs.

7.2 Current and future capacity

Within Hamilton's greenfield and infill areas, under current market conditions, there is commercially feasible development capacity in the short term (2021) for around 10,500 dwellings. This rises to close to 13,200

Table 3: Hamilton Housing Capacity

Capacity	Capacity – Current market (including redevelopment potential)			Capacity – Future projections (excluding redevelopment potential)		
	Short term 2021	Medium term 2026	Long term 2046	Short term 2021	Medium term 2026	Long term 2046
Current Capacity	10,540	13,180	17,990	11,447	20,908	49,037
Anticipated Capacity	-	2,500-3,000	3,000-4,500	-	2,500-3,000	3,000-4,300
Total	10,540	15,680-16180	20,990-22,490	11,447	23,408-23,908	52,037-53,337

dwelling in the medium term (to 2026) and to close to 18,000 in the long term (to 2046). The assessment of capacity under current market conditions includes a small margin of redevelopment which is feasible. The future projection of feasible capacity (which has conservatively excluded redevelopment) indicates development capacity in the short term (2021) of around 11,500 dwellings. This rises to close to 20,900 dwellings in the medium term (to 2026); and to close to 49,000 dwellings in the long term (to 2046).

7.3 Uptake

Monitoring of residential uptake in Hamilton confirms that available redevelopment and infill development opportunities are being taken up. Over the past 10 years 47% of consented dwellings were within the existing urban areas of the city, with the balance consented in the greenfield areas. The residential activity within the existing urban areas has included significant redevelopment of standalone houses into terrace or low-rise apartments (2-3 storeys) within the Residential intensification zone. Close to 400 duplexes have been constructed since 2014, when this activity was enabled under review of the Hamilton District Plan. These levels of uptake of infill and redevelopment opportunities in Hamilton suggest that actual demand for attached dwellings may be higher than modeled. The levels of residential redevelopment undertaken in Hamilton over the past few years is greater than the short-term levels of infill and redevelopment suggested by the modeled feasibility results for these types of development. This suggests that developers may be undertaking residential developments that have a different cost and profit structure to the modeled assumption (20% profit margin) and that the actual number of current feasible development opportunities in Hamilton is likely to be greater than the modeled results in the short term.

Table 4: Hamilton: feasible capacity by dwelling type

Max. Capacity (excluding redevelopment)	Short term 2021	Medium term 2026	Long term 2045
Maximum Capacity for Standalone dwellings	3,440	7,300	24,470
Maximum Capacity for Attached Dwellings if all Standalone dwelling opportunities taken up	6,350	11,610	21,780
Total Capacity (excluding redevelopment)	9,790	18,910	46,250

The results in Table 3 suggest that Hamilton's total capacity will be influenced by how capacity is taken up and how much redevelopment activity occurs. For example, if a standalone house is redeveloped into a duplex (two adjoining houses) rather than four town houses the net reduction in infill capacity will be two dwellings. In Hamilton's growing urban economy demand for standalone dwellings is expected to be greater than supply. It is expected that some of the demand for standalone dwellings will be met by other forms of attached dwellings as people make choices and trade-offs in cost and location about the type of dwellings they purchase or rent.

7.4 Anticipated capacity

Hamilton's 2018-28 LTP proposes to shift (and advance) some of the focus of infrastructure investment from the Rotokauri growth cell to the Peacocke growth cell to align with Hamilton's successful Housing Infrastructure Fund (HIF) bid. In the medium term, this change from the current level of assessed supply will likely advance housing supply in the region of 500 dwellings in the medium term with the potential to advance 1,500 more dwellings in the longer term. This anticipated net difference between the capacity enabled under the infrastructure funding timing in the 2015-2025 LTP and the 2018-2028 LTP is incorporated in the Hamilton capacity table (Table 3).

Overall, Hamilton has sufficient capacity to meet the demand for houses over the short and medium term. Assuming that additional housing development capacity will become feasible through time Hamilton is likely to have sufficient capacity over the long term. Hamilton has sufficient capacity to meet to the demand for

attached dwellings over the long term; however, the results of the modeling analysis suggest that there may be a shortfall of capacity for feasible standalone dwellings compared to demand in the short and medium term.

However, when considering the value distribution of dwellings, some shortfalls are projected to occur within the lower dwelling value bands within Hamilton, combined with surpluses within the upper value bands. By typology, in the short term, nearly three quarters of Hamilton's demand is for standalone dwellings. The share decreases through time as trade-offs are made based on price and location. A small shortfall of demand for standalone houses exists in the medium term.

7.5 Peacocke Yield

Several yield assessments have occurred to progress this structure plan, where the existing plan provisions were re-tested against several options, with a combination of attributes the preferred outcomes to inform further thinking for review of the structure plan.

This work identified that the existing overall structure plan would not achieve the yields or benefits originally identified for the whole area. As a result of this, further analysis and option testing for different urban forms, detailed yield analysis, and subsequent impacts on the financial and economic parameters of the detailed business case that underpinned the HIF loan agreement with the Government.

Additionally, the development of the Integrated Catchment Management Plan (ICMP) for the Peacocke area has further reduced the overall development yield in Peacocke.

NOTE 1: Dwelling density is the number of dwellings per hectare of developable area within a subdivision. The developable area includes roads and reserves, but excludes undevelopable areas (e.g. wetlands or geotechnically/topographically constrained areas) or major infrastructure corridors and large known land uses such as sports parks and education facilities.

Table 5: Peacocke Estimated Land Use Allocation

LAND USE	AREA
Total Area	745 ha

Existing and Planned Infrastructure

Strategic Roding Network	74 ha
Proposed Open Space	142.7 ha
Proposed Wetland Area	22.6 ha
School Sites	8.2 ha
Sports Fields	18.8 ha
Commercial	8.3 ha
Existing Roads	16.2 ha
Total	290.8 ha

Existing and Planned Development

Peacocke Stage 1	51 ha
Total	51 ha

Residential areas

Peacocke Medium Density Residential Zone	219.6 ha
Peacocke High density Residential Overlay Area	183.6 ha
Total	403.2 ha

Table 6: Estimated Dwelling Yield for Peacocke

PROPOSED YIELD RANGE			
Proposed ODP Yields	Average Lot Size	Dwelling Density ¹	
Medium Density Zone	450m ²	15	3 294
High Density Residential Overlay Area	240m ²	25	4 590
Total Yield			7 884

8. The Structure Plan

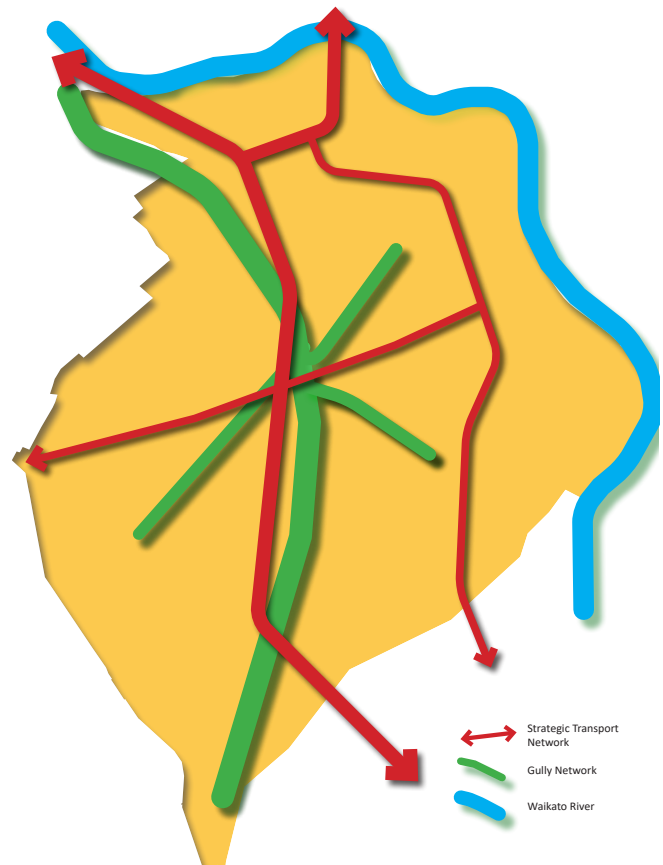
“Peacocke is an urban environment that encourages a sustainable and vibrant community that is well integrated and connected and responds positively to the natural environment”



Design Concept

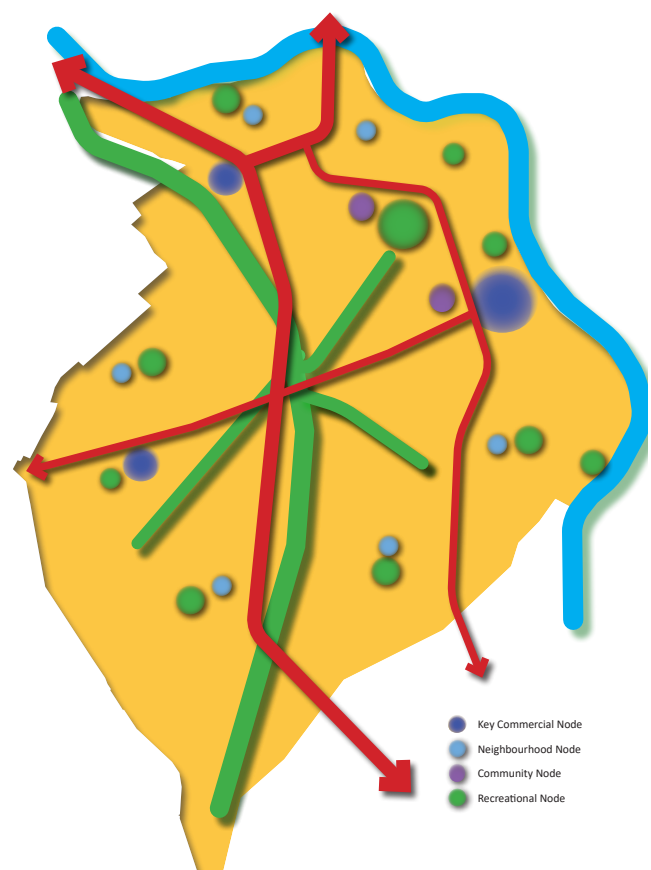
Key Constraints

- The Mangakootukutuku Gully network bisects the Peacocke area and has bank stability hazards associated with it.
- The Southern Links transport network creates severance issues for future urban development within Peacocke.
- The Peacocke area is a roosting and foraging area for the New Zealand Long Tail Bat, New Zealand's only native land mammal.



Focal Points

- There will be a network of commercial centres which will provide community focal points.
- Community facilities proposed for the area, should be well connected to their communities and able to be accessed easily and safely, with the opportunity to ride or walk.
- Areas of open space will provide opportunities for community gathering and passive and active recreation.



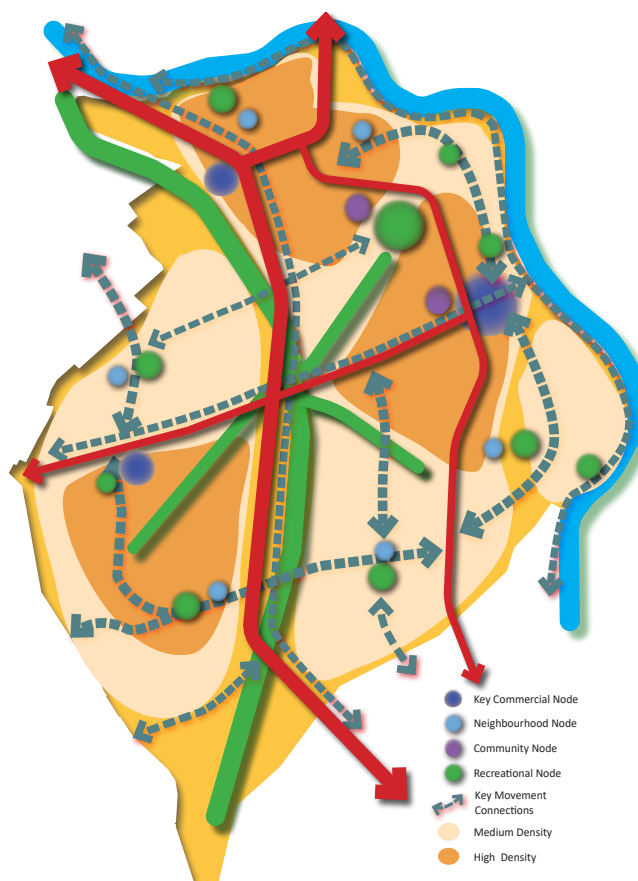
Connections

- The Peacocke area needs to be well connected to the surrounding area. It is important these connections provide pleasant and safe experiences for pedestrians and cyclists.
- It is important that urbanisation of the area creates a movement network that is permeable for pedestrians and cyclists, allowing them to reach focal points within Peacocke such as areas of open space, education facilities and commercial centres.
- The commercial centres network should be well connected to the neighbourhoods they service allowing easy access.
- Connections back to larger community facilities outside the Peacocke area should be clear and direct allowing them to serve as much of the Peacocke area as possible.
- Ensure the ecological connections are retained and protected



Density

- Create higher density walkable catchments, centred on public transport routes and activity nodes such as the local centre, neighbourhood centres and community facilities such as the sports park, and schools.
- Enable the development of a range of typologies, enabling housing choice and a range of price points providing diversity in housing, catering for a range of occupants who require a range of housing sizes from one- and two-bedroom apartments to larger single dwellings.
- Density will be required to respond to the context of the various locations of the structure plan and will be influenced by land use, such as commercial centres, public transport networks, areas of open space, and the topography which without significant earthworks can limit density.
- Areas of higher density should be serviced by areas of amenity and designed to encourage passive modes of movement such as walking and cycling.



8.1 Natural Environment

The development of Peacocke needs to respond to the strong natural elements that are present, including the Mangakootukutuku Gully system, the Waikato River, and the rolling topography in the south of Peacocke.

While the urbanisation of the Peacocke area will transform the existing environment, it is essential the natural topography of the area informs the design of urban development, the extent of earthworks and land modification.

The structure plan aims to create an interesting and distinctive urban form, based on the underlying land form. A number of key design principles have been established to ensure that development enhances the key natural element of the Peacocke area. These design principles are:

- The visual sensitivity of the Mangakootukutuku Gully network needs to be acknowledged. The heavily incised nature of the Mangakootukutuku Gully means it potentially has poor legibility and little visual relationship with the wider urban form, particularly if privatised and enclosed along its edges. To protect against this an open space buffer running along the top of the banks will allow the gully system to be legible and in turn provide definition to the surrounding urban form
- Conversely local roads should be encouraged to run along the gully edge in as many places as possible with houses on one side of the street only, allowing the gully edge to be maintained as public reserve land with a high level of public access.
- It is inevitable that some roads will have to cross the gully arms to create a well-connected and integrated transport network. However, it is envisaged that collector and local roads should generally be routed around the gully arms to minimise modification of the landform and limit ecological damage.

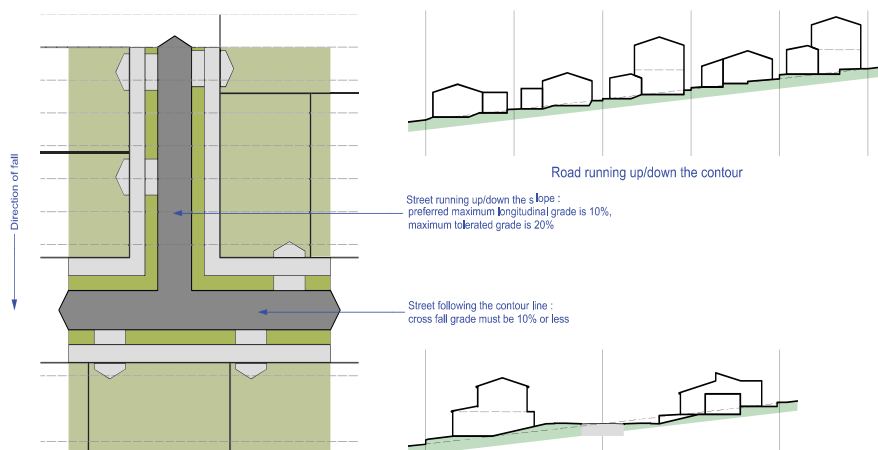
Retention Of Natural Landform

The Peacocke area contains extensive areas of gently undulating to rolling landform. Development on sloping sites provides desirable vistas and over look, however contemporary residential development seeks level building sites and outdoor space. While some land form modification is an expected co-committing to the urbanisation process, there are limitations on landform gradient that are suitable for this approach.

Gradients in excess of 10 degrees (20%) are typically unsuitable for the contemporary residential development approach, and will require alternate design approaches. These may include residential development such as stepped mid lot development, pole houses or more extensive guidance. Modification to land form is an anticipated co-committant with the shift from rural residential to medium density residential development within Peacocke, however the following guidance should be followed when developing Peacocke:

- Ecological reserves are fixed points within the existing landscape.
- Consider the extent of flat area required within a site. Utilising as much of the original slope profile can be relatively cost effective to achieve, and still create attractive lots.
- Minimise retaining walls in the front yard of lots to improve the amenity of streetscapes. Berms or sloping landscaped areas are preferable in front yards.
- A combination of batters and retaining walls located inter lot can be an effective device for absorbing vertical differences without being highly visible from the public domain.
- Gradients in excess of 20% are typically unsuitable for the contemporary residential development approach, and are likely to require specific design approaches for residential development.
- Steeper lots are likely to produce the need for high retaining walls. Consider reducing building platforms by building two or more storeys.
- Limit the range of retaining walls style within a development, especially where those retaining walls are seen from publicly accessible locations.
- Where larger scale subdivision is being undertaken by a developer it is preferred that the developer should undertake the bulk of the retaining work in a consistent style.

Figure 14: Streets should be designed to respond to the natural landform to minimize earthworks (Mensagh Graham - Peacocke Landscape assessment - 2021) .



The following recommendations are proposed to retain the natural landform within the Peacocke area;

- Ecological reserve areas should not be subject to land form modification or the adverse effects due to modification of surrounding landform.
- The existing general landform should be used to guide any landform modification by replicating the general orientation of topography in order to improve the integration of residential development with the site.
- Roading within the structure plan area should reflect the topography and features within the site.
- On sloping ground, lot orientation and size should be considered to reduce the extent of retaining required.
- Running lots along the contour requires less retaining than running across the contour.
- On sloping ground, extensive cutting to create building platforms should be avoided.
- Where retaining walls are required they should be no higher than 1.5 m tall. If taller retaining is required, it should be stepped with a minimum 0.5m space between them to allow for planting to break the apparent expanse of wall.
- No retaining wall or fence combination should be taller than 3m.



Figure 15: On sloping ground, lot orientation and size should be considered to reduce the extent of retaining required (Mensagh Graham - Peacocke Landscape assessment - 2021) .

Indigenous Biodiversity

The Mangakootukutuku Gully and Waikato River margins comprise a mixture of indigenous and exotic vegetation. These areas provide important habitat for the nationally threatened long-tailed bat and many indigenous bird and fish species. This habitat is often dominated by exotic vegetation such as willows or exotic pine species in gully, wetland, stream or river edge habitat. Indigenous animals rely on this exotic habitat as essential components of their life cycles, for breeding or migration, or buffering waterways. This is because indigenous vegetation is so depleted within this landscape that the exotic-dominated habitat is the only habitat available, even if it is of marginal habitat quality.

In regard to identifying specific habitats for long-tailed bats, including potential roost sites, migratory flyways and important foraging sites, research indicates that long-tailed bats are sensitive to anthropogenic disturbance, particularly light. Without appropriate mitigation to shield bat habitat from adjacent development, and to maintain dark corridors to facilitate movement through the Peacocke, bats may be excluded from the area due to light spill and other disturbance effects.

Currently bats are using the Peacocke area and adjacent Waikato River and the Mangakootukutuku Gully as dispersal corridors between core roosting and foraging habitats. Additionally, the vegetation linkages (largely comprising exotic shelterbelts and ornamental trees) are regularly used by bats to disperse between the Waikato River and the middle reaches of the eastern branch of the Mangakootukutuku Gully.

The identification and protection of ecological areas are important for minimising habitat fragmentation and allowing the bats to have continued access across the Peacocke area to key habitats within an urbanised landscape. As a result of this, the Peacocke Structure Plan includes a number of areas where it is envisioned that mitigation actions will be required to ensure bats are not excluded from using these Peacocke ecological areas post urbanisation.

Consequently, the protection of habitat for long-tailed bats have been categorised into the following types:



Figure 16: Key habitat SNA for bats have been determined on the basis of known roost sites and/or known clearly defined habitats regularly used by bats for foraging or moving through the landscape.

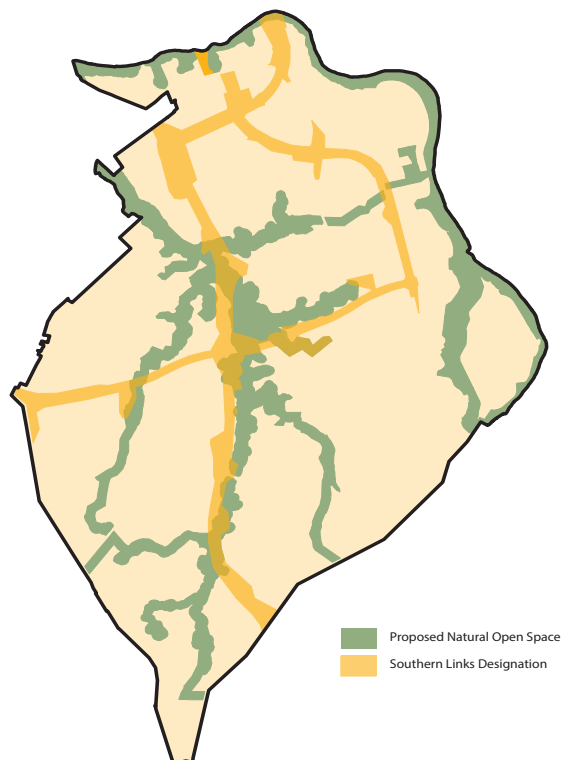


Figure 17: A bat habitat area has been established enable these areas to function as habitats for bats as the land use changes from rural to urban.

Significant Natural Area:

Where there is existing data that the vegetation or habitat can be clearly delineated by a Significant Natural Area (SNA). Key habitat SNA for bats have been determined on the basis of known roost sites and/or known clearly defined habitats regularly used by bats for foraging or moving through the landscape. These areas will be zoned natural open space with a SNA overlay no development to occur in these area. The majority of SNAs are located within either the main body of the Mangakootukutuku Gully network or along the Waikato river (Figure 16)

Bat Habitat Buffer: A buffer of 20m has been applied to the identified SNAs to prevent anthropogenic disturbance immediately adjacent to these habitats, and hence maintaining the function of these habitats for bats as the surrounding land use changes from rural to urban. The aims is for these areas to remain open space with limited land uses such as pedestrian a cycling paths, as well as being the potential locations for recreational facilities such as children's play grounds (Figure 17).

Development Setback: Along with the Bat Habitat Area a 5m development setback is proposed along the interface with the Bat Habitat Area. The setback aims to control any buildings and associated effects on the adjoining bat habitat areas.

Lighting Controls: Lighting controls aim to protect the functional attributes of the bat habitats in relation to surrounding land use change from rural to urban. These controls relate to managing the impact lighting may have on the ability for the Bat Habitat Areas to remain dark spaces allowing bats to continue to use these areas as Peacocke urbanises.

Corridors and buffer design

Internationally, several guidelines have been developed to assist in creating habitat for bats in urban areas. In the absence of specific research to guide protection and enhancement of habitat of long-tailed bats in urban areas, these have been drawn upon to provide recommendations to assess and management bat habits within the Peacocke Structure Plan Aarea. Figures below provides a schematic cross section of:

- how buffering of High value habitat features (such as the Waikato River and Mangakotukutuku Gully) can be designed to protect these key habitats as well as create foraging and commuting habitats (Figure 18); and
- the design of a corridor to link key bat habitats through urban areas, as well as create additional habitat (Figure 19).

It is proposed through the structure plan that high value bat habitat will be retained and enhanced as dark zones to retain connectivity and core habitat for bats in the Peacocke area. In terms of buffer and corridor habitat, for both enhancement of existing or recreation of new habitat areas, the most important general principle is that wide swathes of land are required to be set aside as bat habitat in order to retain a permeable and functioning landscape for long-tailed bats. Dark buffer zones may be used for hard and soft amenity landscaping, provided that this use does not compromise the functioning and maintenance of the high value bat habitat it protects.

Public use of buffer or corridor bat habitats need not be restricted as long as the structural and functional elements of these areas for bats are maintained, and could include amenity, community and green infrastructure activities, or constructed stormwater treatment wetlands. Larger private sections could also make up part of the buffer zones and corridors, provided the buffer principles can be achieved and long-term protection and maintenance of the bat habitat assured. Public uses within high value bat habitats may require further restrictions than for buffer zones and corridors to ensure functional habitat is protected, but could also include low-impact, unlit footpaths and cycle ways, which avoid any vegetation clearance that is important for bat habitat.

The structural characteristics of these areas are important for the bat's ability to use them. Ideally, the vegetation within these areas is mature and dense, and there is an inter-laced network of mature corridors

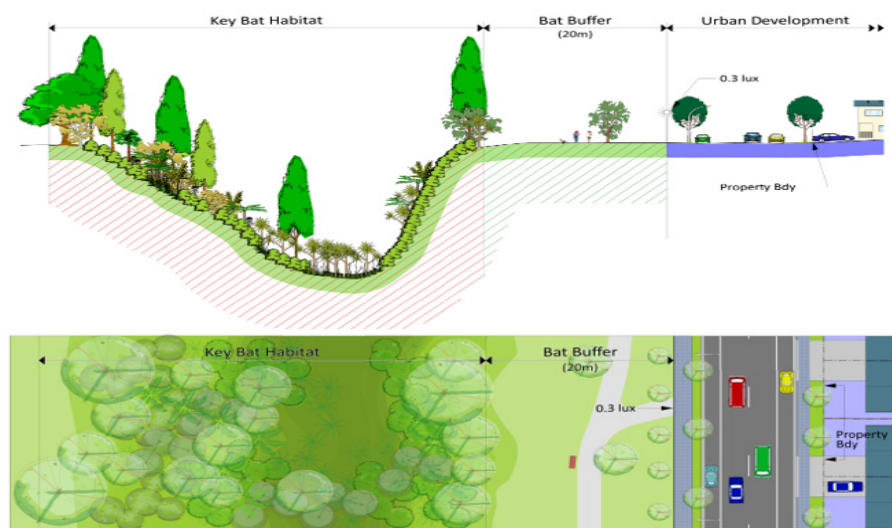


Figure 18: Examples of buffer bat habitat landscape features in urban development areas (4sight Long-tailed bat report, 2021).



Walkway along edge of significant natural area - Temple View, Hamilton.

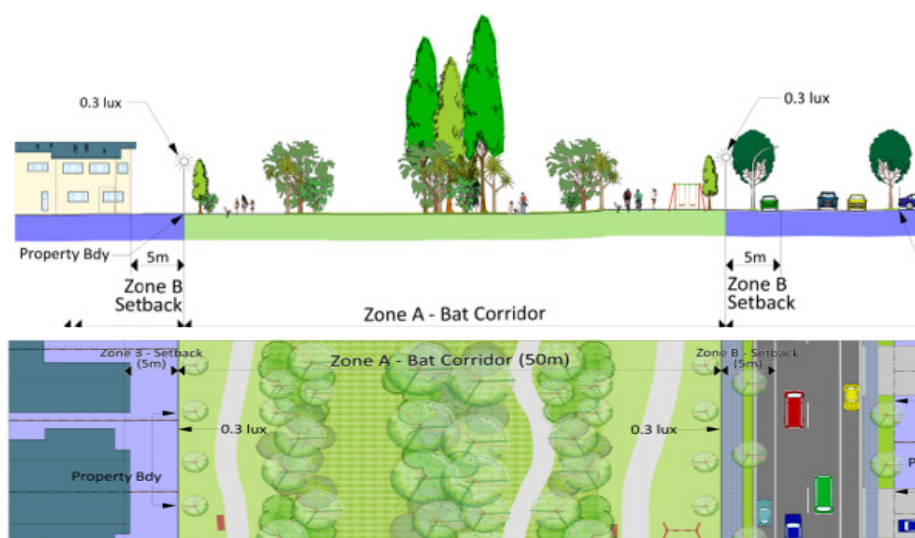


Figure 19: Examples of corridor bat habitat landscape features in urban development areas (4sight Long-tailed bat report, 2021).



Artists impression of a buffer area along a the gully network.

of trees, with open grass parkland, wetlands or low shrubland 'glades' interspersed between. With bespoke planting design and artificial lighting control measures, corridor width could be 50 m with 5 m building setback on either side. Meeting lighting standards is the primary purpose of the proposed 5m setback recommendations from buildings. For roads, the setback to achieve the 0.3 lux and the buffer or corridor edge may have to be wider than 5m to achieve the 0.3 lux boundary performance standard. As well as planting design, topography and adjacent land use are critical factors to consider when determining a suitable corridor width.

Buffer widths are dependent on the adjacent land use, including lighting controls and topography. A minimum width of 20 m from the edge of high value habitats, including buffer planting devoid of large infrastructure, such as buildings and roads would be likely be effective at maturity. A further set back of 5 m from the edge of this buffer to buildings is also recommended, giving a total effective buffer width of 25 m.

The creation of habitat with connectivity to existing bat habitats could increase foraging, commuting, and, in the long-term, roosting habitats available to the southern Hamilton bat population. This could include planting of farmland with insect-attracting native plant species and the establishment of vertically varied vegetation communities to create flyways to provide increased foraging and commuting opportunities. Areas that would

PEACOCKE STRUCTURE PLAN

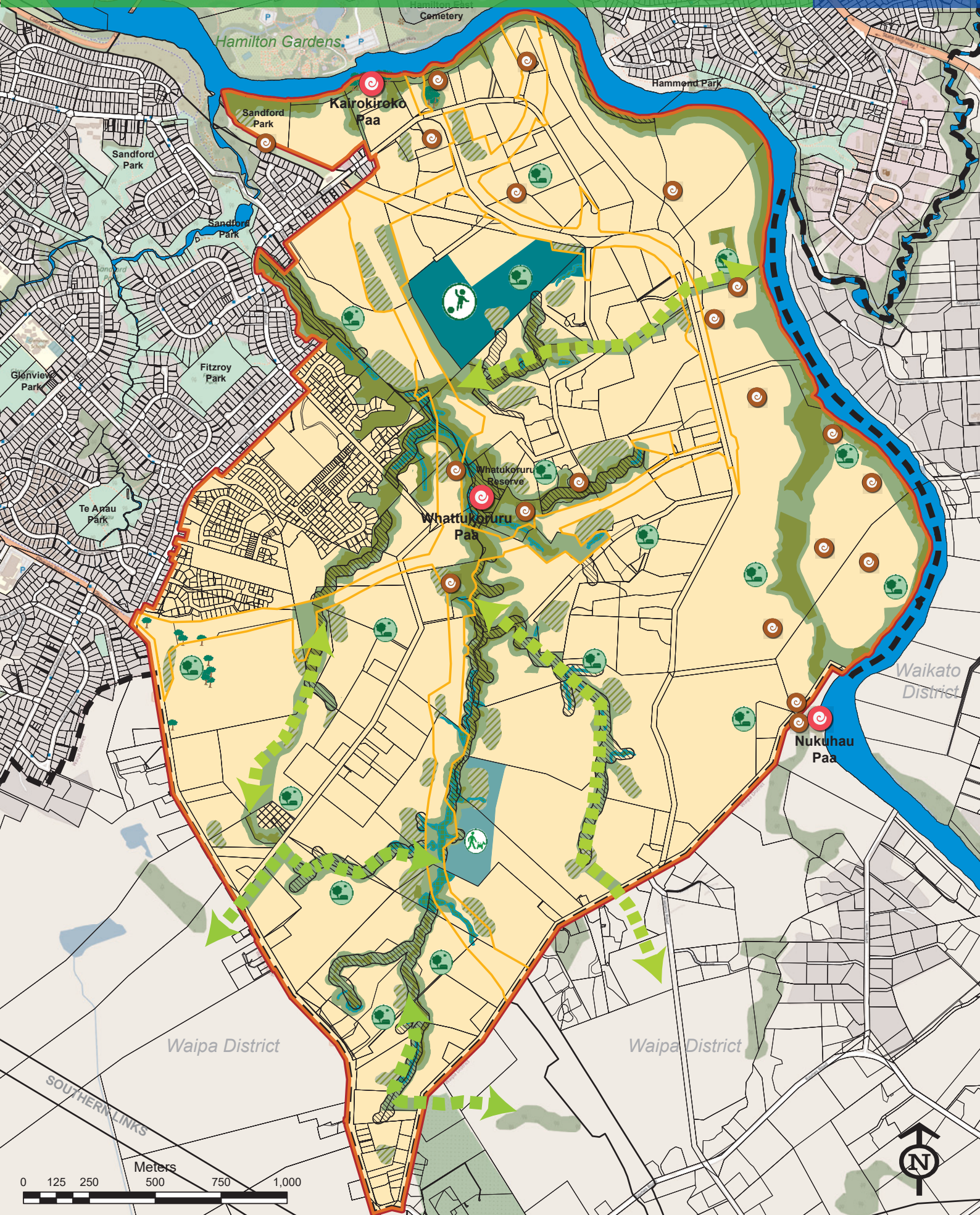


Figure 20: Natural Environment and Heritage

- | | | | |
|----------------------------|-----------------------------|---|--|
| Known Paa Sites | Proposed Bat Corridor | Proposed Stormwater Wetlands | Existing Wetlands |
| Known Archaeological Sites | Proposed Sports Park | Proposed Significant Natural Area (SNA) | Southern Links Designation |
| Significant Trees | Proposed Community Park | Proposed Significant Bat Habitat Area | Structure Plan Boundary |
| | Proposed Neighbourhood Park | Proposed Esplanade Reserve | Transpower - Hamilton Communication Centre |

provide best benefit for planting would be those that have natural edges such as ponds, wetlands, gullies, and riparian areas. A component of the plantings should include native and/or non-native tree species that are known to provide roosting features such as cavities when older (and preferably known to provide these features at a relatively young age). Success for these areas of created habitat would be that bats either start using these new areas for commuting and/or foraging or (if already using the area) increase their usage of these areas overtime.

In developing buffer and corridor design, the following key factors also require consideration:

- Fast growing, densely foliated vegetation planted in front of retained habitat to reduce light from the adjacent development;
- Bat sensitive lighting installed along roads and on the outside of dwellings adjacent to retained and enhanced habitat;
- Measures during the construction phase of urban development measures, such as lot deferrals, to ensure artificial light is not introduced adjacent to retained or re-created bat habitat until the vegetative buffers have grown sufficiently to meet the specified performance criteria; and
- Measures to maintain and replace the vegetated habitat features over time (effectively in perpetuity) in order to retain the structural features of the bat corridor and buffers.

If roads, footpaths and other infrastructure are to intersect corridors, measures will be required to minimise the habitat severance and associated ongoing effects, such as street lighting and traffic lights. Additionally, currently used corridors that have potential barriers such as roads, could be improved in similar ways.

The improvement or creation of corridors should include addition of carefully designed and maintained swaths of vegetation to ensure establishment of a dark corridor for commuting and additional habitat for foraging. As bats will fly over open ground and artificial structures when lighting is low and structural elements are in place, establishing dark areas for crossing roads or modifying public space lighting nearby to prevent flooding of light into potential bat commuting paths by careful tree planting is recommended. This should result in bats either beginning to use the created, or improved potential commuting corridors, or increase their use of them. Ultimately the effect should be bats expending less energy commuting or dispersing between roosting and foraging habitat patches when compared to previously used, less direct, commuting corridors, and in turn increasing overall population survival and fecundity.

In addition to habitat enhancement, the proposed bat corridors are also anticipated to provide an opportunity to facilitate bat

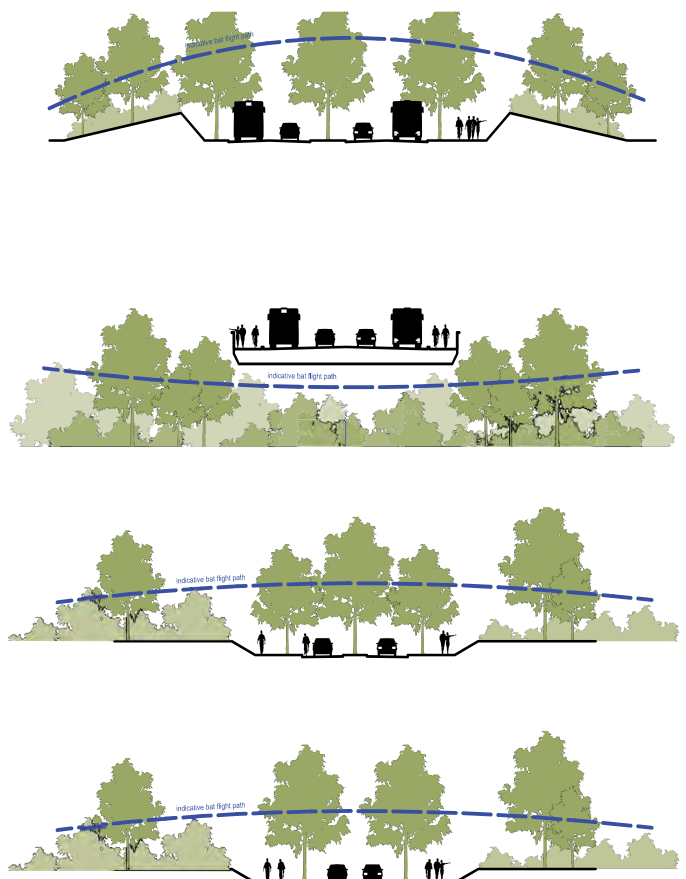


Figure 21: Where roads must pass through the proposed bat corridors they should include the development of Bat Hop Overs to ensure the long-tail bat can continue to use the corridors.

movement across the road network where the roads are at grade. (This is distinct from bridges where the elevated road way is located above the typical flight path of the bats). The provision of heavily vegetated corridors with over hanging tree canopies either side of the roadway, which reduce the gap between portions of the ecological corridor, are referred to as Bat Hop Overs (Figure 21). These are currently considered a viable option for supporting commuting, but would be subject to revision with further research.

1. Limit locating roads through bat corridor.
2. Where roads pass through the bat corridor;
 - Where roads are at grade create bat hop overs.
 - Elevate berms to enhance the hop over effect.
 - Consider split lanes with planted central islands.
3. Within re-vegetation areas, consider to both fast and slow growing tree species.
4. Consider the development of informational signage to heighten public awareness of potential conflict areas.
5. Within reserves and riparian areas, consider poison rather than fell unwanted trees where practicable, so as to provide potential roost trees for bats.
6. Any land form modification around SNA and the proposed bat corridor areas should maintain the hydrology to the areas.
7. Within the SNA and the proposed bat corridor areas any restoration and enhancement planting should be undertaken with eco-sourced vegetation.
8. Lighting used adjacent to SNA's and proposed bat corridors should be low output and avoid light spill.
9. Where bridge structures must pass through proposed bat corridors they should be above bat flight paths.
10. Where roads must pass through the proposed bat corridors they should include the development of Bat Hop Overs.

Lighting standards and design

If lighting at the property boundaries and road edges is kept below 0.3 lux (at any height), effects of artificial light spill on bat habitat will likely be minimal. Best international practice in terms of lighting controls is best summarised by the UK guidelines (Bat Conservation Trust and Institution of Lighting Professionals 2018), and is a useful benchmark for consideration when applying lighting standards for long-tailed bats in Peacocks. The 0.3 lux limit, at any height, at the development or road boundary with buffer or corridor bat habitat will in effect mean that no measurable artificial light will be observed within the existing core bat habitats or re-created bat habitats. In addition, the 'warmth' of emitted light is also an important factor to consider when considering artificial light next to bat habitats. In this regard, a temperature of 2700 K or less is considered optimal, although security or road lighting with timers set to short durations (no greater than a few minutes at a time), and with a temperature no greater than 3000 K may be acceptable in some situations. Architectural design should be considered for built structures adjacent to bat buffers to avoid lighting impacts.



Walkway located adjoining an SNA and stormwater wetland - Temple View, Hamilton

Stormwater Wetlands

The stormwater devices within Peacocke have been determined by the Mangakootukutuku ICMP. These stormwater devices are those new devices proposed within the Hahawaru, Tiireke or Kairokiroki Sub-catchments. The identified stormwater devices manage effects including hydrological changes which can cause erosive flows and flooding, and changes to water quality which can degrade the ecological function of the Mangakootukutuku Gully network.

Effects or requirements specific to the Mangakootukutuku Catchment are documented in the Mangakootukutuku ICMP. The most important of these are:

- that there was no variation in the Mangakootukutuku Stream system ecological values sufficient to require different or lower treatment in different locations.
- that the stormwater treatment train needs to provide retention to support baseflow in the stream.
- that the stormwater treatment train needs to meet best practice, while also proposing other improvements, studies and offsets to improve long term water quality outcomes.

Design parameters that greenfields stormwater devices in Mangakootukutuku catchment are required to meet to manage effects are also set out in the Mangakootukutuku ICMP. Key design parameters for all greenfields sub-catchments are summarised below:

- Water quality treatment;
- Support terrestrial ecological function where practicable through integration of stormwater devices with gully reserve, while preventing fish passage into devices;
- Provide opportunities for stormwater re-use in any locations where stormwater retention to ground is not required to sustain baseflow;
- Embed access and public amenity into stormwater device design where practicable; and
- Meet relevant design standards.

The stormwater devices shown in the structure plan are developed to a feasible concept stage, and have associated inflow and outflow hydrographs and information on how devices have been sized in the Mangakootukutuku ICMP documentation. Detailed device sizing must be carried out at the resource consenting stage. There is some flexibility provided in the Means of Compliance, set out in the ICMP to rationalise sub-catchment boundaries at the time of development, or adjust stormwater device layouts to integrate into development planning so long as this does not result in the splitting of sub-catchments, and meets all other requirements of the ICMP including design parameters.



The development of Stormwater devices should embed access and public amenity where practicable (Long Bay, Auckland)



Example of where access and public amenity has been incorporated into stormwater device design (Bormon Road, Flagstaff, Hamilton).



Providing amenity value to surrounding residential development as well as support ecological function. (Bormon Road, Flagstaff, Hamilton).

8.2 Cultural Heritage

An assessment of the Peacocke's cultural values and significance has been undertaken which identifies a long history of occupation by various hapu prior to European settlement.

Over the years deforestation and farming activities have significantly modified the Peacocke area, resulting in the loss or destruction of many of the historic cultural features.

Historically the gullies and river were important sites for Maaori and large areas of land adjoining these features were inhabited. There is a significant opportunity for the reserves network along the Waikato River and the Mangakotukutuku Gully to contribute to the cultural value of the area through the re-establishment of indigenous ecosystems of the Hamilton basin. Both the river and gully have very strong historical associations for local iwi which can be recovered to some extent by restoring the physical environment.

Naming of reserves and roads is a further way that history of the area can be reflected and celebrated. More detailed investigation into the cultural heritage values of individual areas is likely to be required prior to development occurring.

Paa sites are a major component of the archaeological landscape within Peacocke. Surrounding the Peacocke Structure Plan area there are thirteen paa with three paa sites within the area of the structure plan or immediately outside the structure plan area. These Paa are:

- **The Whatukoruru Paa** is located in the Managakootukutuku Valley with Hall Road to the West and Peacockes Lane to the East. The paa is surrounded on three sides by the gully and double ditch and bank style defences. It is classed as an "horticultural" Paa as borrow pits and modified Maaori-made garden soils have been found in the area around it. The Hamilton City Council recently returned ownership of Whatukoruru Paa to Waikato Tainui;
- **The Kairokiroki Paa** is located on the west bank of the Waikato River, between Wai Ora Terrace, Peacockes Road and the Waikato River. It is directly across the river from the Te Parapara Paa site in the Hamilton Gardens and the Managakootukutuku inlet into the Waikato River. The Paa site runs parallel to, but slightly elevated above, the River. At its eastern end it was protected and defended by a ditch and trench structure which is well preserved and visible today.

Muskets and other weapons have been found within the Paa site, wooden artifacts were found to the south of the Paa and musket balls close by in the Waikato River. A large burial ground (Urupaa) has also been recorded near to the Paa site.;

- **The Nukuhau Paa**, although not within the structure plan area, it is immediately outside the structure plan area and is likely to have direct historical links to sites within the Peacocke area, specifically horticultural sites. Nukuhau Paa was the most important and significant Paa in the area. It was not only a place where people lived, but was also a meeting place where waananga were held and Taua (warriors) from various Hapuu congregated prior to going into battle.

Pre-European Maori cultivation involved excavating soil from an area and spreading the excavated soil over the surrounding area. This was then fertilised with wood ash and other components and the crops planted in this surface layer of soil. The surface layer of soil is now referred to as a "modified soil" and the hole from which



*Example of a pou identifying and celebrating the importance of historic sites within Hamilton.
(Miropiko Paa site, Claudelands).*

the modified soil was excavated is a borrow pit. This soil excavation process was usually accompanied by pagan religious rituals that included burying a talisman (carved wooden or stone artefact) in the borrow pit. The Peacocke area was a major site of such pre-European Maori cultivation. Hence borrow pits and modified soils existed throughout the area with the largest concentrations along the river terraces and near major Paa and Papakainga sites.

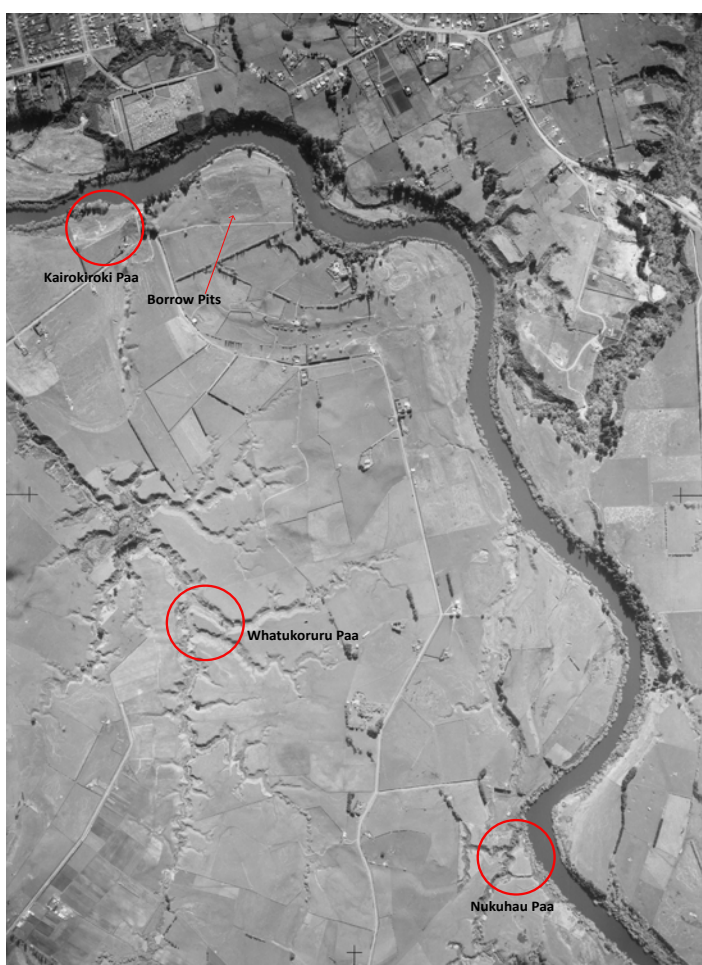
Borrow pits could still be seen on various properties within the Mangakootukutuku catchment (Peacocke) and along the river terraces of the area in aerial photos from 1943 and 1954. Many of these borrow pits have since been modified or filled in during development of subdivisions and allotments. However, extreme care must be taken during any future earthworks in the Peacocke area as these borrow pits, and the Taonga that are buried in them, may well become exposed during such works.

Artefact find sites and Maori place names are further evidence of Tangata Whenua's use of this catchment. More artefacts, Koiwi, Urupa, borrow pits, and modified soils may well be discovered as the peacocke area is developed.

No buildings within the area have been recognised to date for their historic or architectural value, and none are currently identified as having heritage status.

Hamilton City Council also has an established protocol that is used as a consent condition on subdivision and land use consents where large-scale earthworks are proposed.

Through these measure the structure plan and subsequent urban development should seek to integrate these features into the urban area and enable them to emerge as important and prominent sites that add distinctive and diversity to the urban form.



Location of known Paa sites on a 1947 aerial photograph of the Peacocke area.

8.3 Hazards

Two hazards have been identified in Peacocke through the development of the Integrate Catchment Management Plan, with the intention that they would trigger additional investigations and analysis, and not as strict no-build zones. These hazards relate to bank stability and land movement relating to seismic events. These setback are intended to guide development to be undertaken in a manner that would consider the potential risks surrounding slope stability.

Gully Stability Setback Area

A Bank Stability Setback Line is proposed to be the minimum development setback distance to prevent the gully system being damaged from land development activities. This setback Line may also prevent property and assets being located within a potential (non-earthquake) slip hazard areas without further geotechnical consideration. Though development being undertaken within this area would not be desirable, if it can be proven that the dwelling is able to withstand the predicted slope movement and that the stability of the gully slope is not lowered as a consequence of the development, then the objective of the setback line has been fulfilled.

Seismic Setback Area

This Setback is proposed to indicate where a development is required to be designed to accommodate potential lateral land movement because of an ultimate limit state (ULS) seismic event.

Development inside the Seismic Setback Line would require analysis to be undertaken based on specific and up to date site investigation data. The seismic setback requirement may be able to be by-passed if the analysis can prove that the site is not at risk of damaging lateral movements.

If the developer is unable to provide specific assessment for the site, then NZS 3604 type foundations cannot be approved within the secondary setback line.



Mangatootukutuu Gully arm network within Peacocke that require controls for bank stability and land movement relating to seismic events.

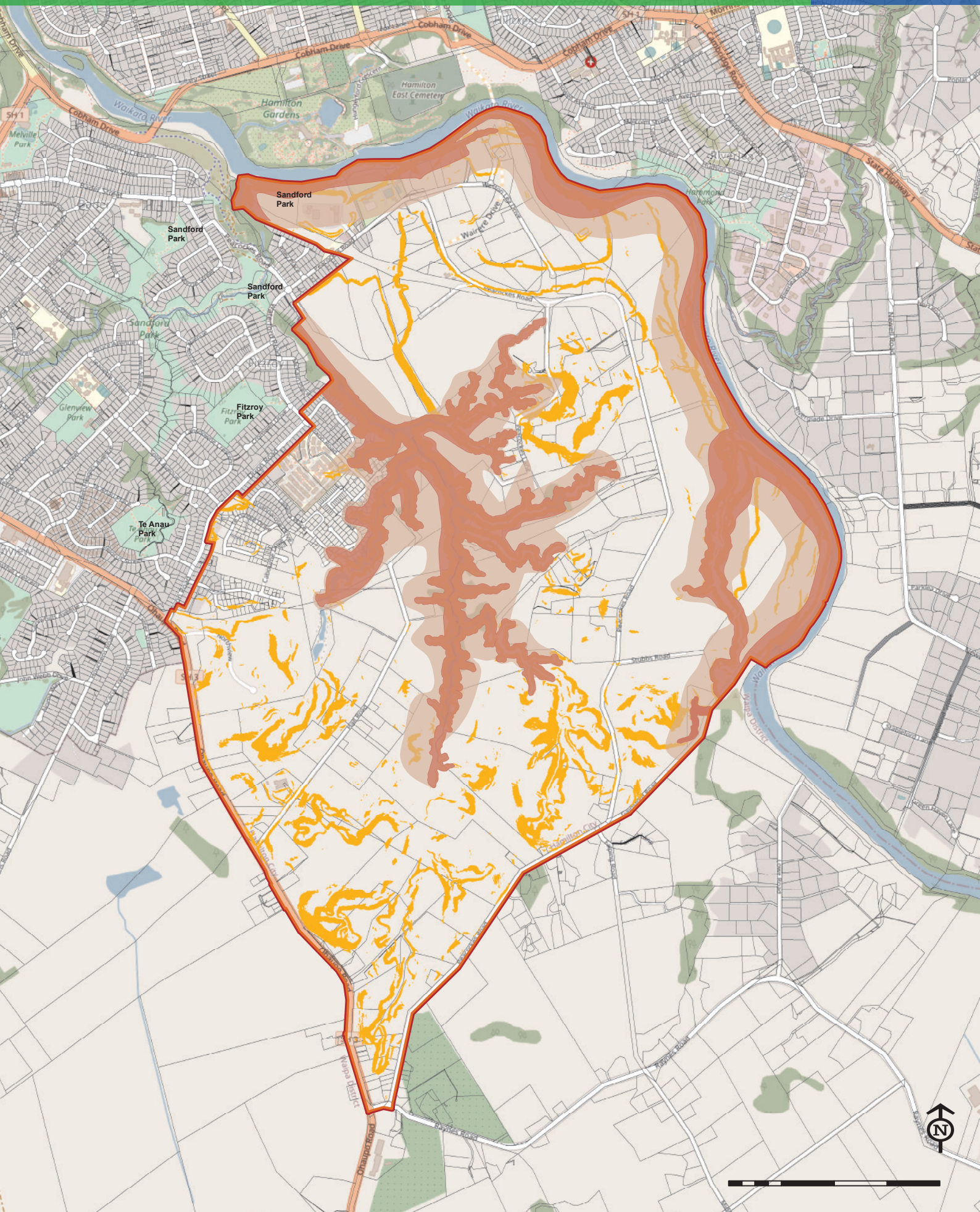


Figure 22: Hazards

- No parking
- Keep high amounts of visibility

8.4 Public Transport Network

The development of a conceptual Public Transport network by Waikato Regional Council has been based on the Structure plan indicative land use and transport network as well as the following design principles:

1. Ensure the road network supports fast and direct public transport routes that connect to activity centres including retail, employment and school activities. Deviations or indirect routes should be avoided where possible.
2. Ensure a connected road network that maximises the number of people within 400m of a potential bus stop. This requires side streets or pedestrian/cycling connections to be located at least every 400m with corresponding bus stops to maximise catchment areas perpendicular to public transport routes. The use of cul-de-sacs should be avoided.
3. Minimise road connections across the green network. The green network primarily follows gullies and natural features such as waterways. This can be excellent for recreation purposes, but the gradients and distances can act as a barrier for access to public transport.
4. Ensure road connections for future education facilities. Road connections need to ensure bus routes can service these education facilities with minimal diversions to support direct services to other destinations such as the CBD and University.

Delivering a public transport network means providing the most appropriate transport solution for the future Peacocke community while ensuring all services are connected to create an integrated network for the region.

Proposed Public Transport Network Structure

The proposed network structure provides a “blueprint” for public transport based on Peacocke being fully developed. The proposed network structure is shown in Figure 15 and includes the following key features:

1. Core network of frequent services connecting major population and activity centres with high capacity, high quality and direct services:
 - A frequent south/east services along the East/West Arterial serving Glenview Shops, Peacocke Town centre, future Peacockes Schools, Hillcrest Shops, University of Waikato to the future Ruakura employment area. The base frequency is every 15 minutes with connections to the existing network



at Glenview Shops and Hillcrest Shops.

- Bader St service with direct Connector services linking western Peacocke, potential future Peacocke Schools, Bader St, Waikato Hospital and CBD. The base frequency is every 15 minutes to the Peacocke Town Centre and providing a frequency of 30 minutes south of the local centre.
 - An indicative future Mass transit service along the north/south arterial transport network joining the central city in the north with the airport in the south with interchange facilities at the intersection with the East/West arterial transport network in the centre of Peacocke and the intersection with the arterial link road allocation connection to the core network of frequent services.
2. Supporting network of Connector services connecting key destinations and residential areas with high quality and direct services:
- Peacocke South service providing access to the southern end of Peacockes and improving access for areas within central Peacocke that are more remote from Frequent service corridors (e.g. due to terrain). The base frequency is every 30 minutes Mon-Sun to align with Connector service levels.

Peacocke Local Centre Public Transport Hub

The proposed public transport network includes a core Frequent service along the East/West Arterial and passing through the Peacocke Local Centre located on Peacockes Road. A second Connector service also operates along Peacockes Road to the south.

It is important that the Local Centre Public Transport Hub is located on Peacockes Road within a block where these multiple routes can all utilise the same bus stops, particularly for travel in the same direction to facilitate passengers transferring between services with as few steps as possible.

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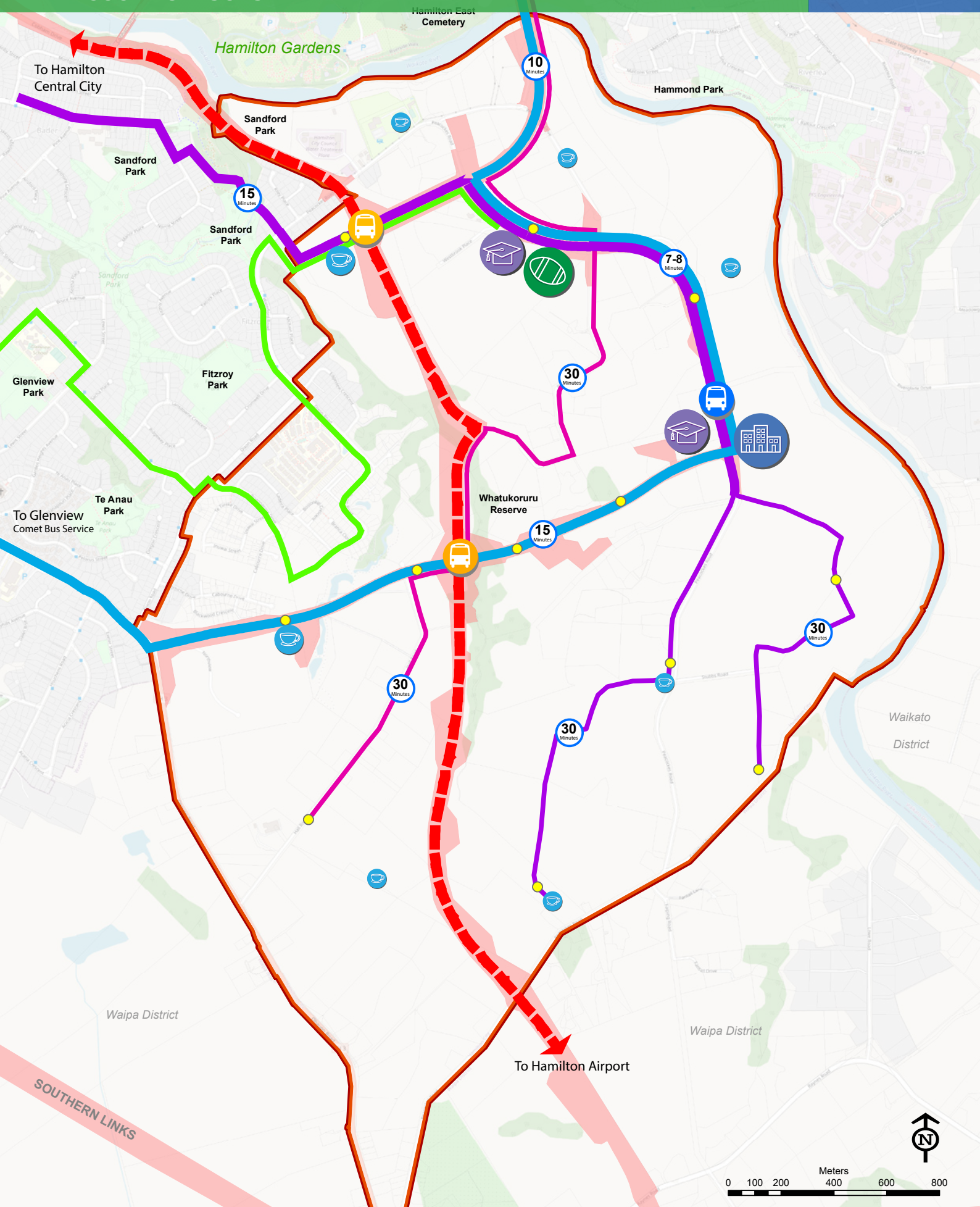


Figure 23 : Proposed Public Transport Network

- | | | | |
|-------------------------------|-------------------------------|--|--|
| Proposed Suburban Centre | Proposed Public Transport Hub | Peacocke - Transport Centre | Potential Future Mass Transit Route - Airport to CDB |
| Proposed Neighbourhood Centre | Key Public Transport Stops | Glenview - Peacocke - Hamilton East - Transport Centre | Indicative Cycleway/Walkway Network |
| Proposed Sports Park | Future Mass Transit Stop | Peacocke - Hamilton East | Proposed PT Network - service frequencies |
| Proposed Education Facility | | School Service | |

8.5 Transport Network

A fundamental urban design principle is the ease of movement to ensure well connected communities. It is essential that transportation routes are designed to give priority to walking and cycling and facilitate a seamless web of direct and efficient public transport routes that are integrated with surrounding land use and connects neighbourhoods with the Peacocke Local Centre as well as the central city area and other key destinations in Hamilton.

As a city, Hamilton has a Vision Zero goal for road safety –

“This means we will not accept the death of any person on our transport system. Design and deliver infrastructure that recognises humans are fallible and that when we make a mistake, we should not pay for it with our life” .

As a greenfield development area, there is no reason for the streets to be developed in the Peacocke area in a way that does not avoid loss of life or serious injury.

The Peacocke area is intended to be an accessible, multi-modal, walkable residential community, based around public transport, neighbourhood centres, local centres, and community facilities. The area will offer its residents access to quality connected open space, local commercial centres and community and recreation facilities to meet their local service needs.

In accordance with Vision Zero principles and recognising that a safe transport system is vital to the success of the Peacocke area and the wider city, streets will be designed to protect pedestrians, cyclists and other vulnerable road users, and prevent death and serious injuries for all road users. This will lead to a more vibrant, healthy urban environment.

As a result of this, streets and roads within the Peacocke area will be designed to create an environment which is survivable for all road users, including those who are most vulnerable. Appropriate speeds, limiting conflict points, and use of appropriate geometry in developing streets are all proven to provide safe urban streets. By adopting international best practice and taking an integrated and holistic approach to safety, risk of injury and death will be minimised, and vibrancy of the streets will be supported.

The shape of the transport network within Peacocke will have a influence in uptake in walking, cycling or public transport use, which affects the efficiency of the wider network. The goal in the planning of the Peacocke transport network is to create a network that makes walking, cycling and public transport the easiest and most appealing choices.

All transport networks shown on the Structure Plan are considered to be key linkages and future developments must show how these connections are to be provided and how future integration is to be ensured with surrounding land parcels to ensure that integrated and permeable development that avoids the use of Cul-de-sacs. The alignment of the transport network is indicative and not intended to show exact alignments. Collector roads and key Local Roads in particular are shown conceptually to provide key linkages within and between different residential neighbourhoods. Their precise alignment will be largely determined as individual subdivisions are progressed.

The transport network will be staged as development progresses within Peacocke. The principles for the transport network are:

- Prioritise residents of Peacocke’s mobility and accessibility to places within Peacocke and to the rest of Hamilton, including employment areas
- provide clear, safe and direct access for residents to community facilities, commercial areas, places of recreation and other neighbourhoods.
- provides people with transport choices (is multi modal) by promoting Public Transport and active modes, at expense of level of service (LOS) for private car if necessary.
- Maximise network efficiency for Public Transport, buses, High Occupancy Vehicles (HOV) and active modes through design
- Flexible design to cater for evolution & steps changes in transport system

Neighbourhoods

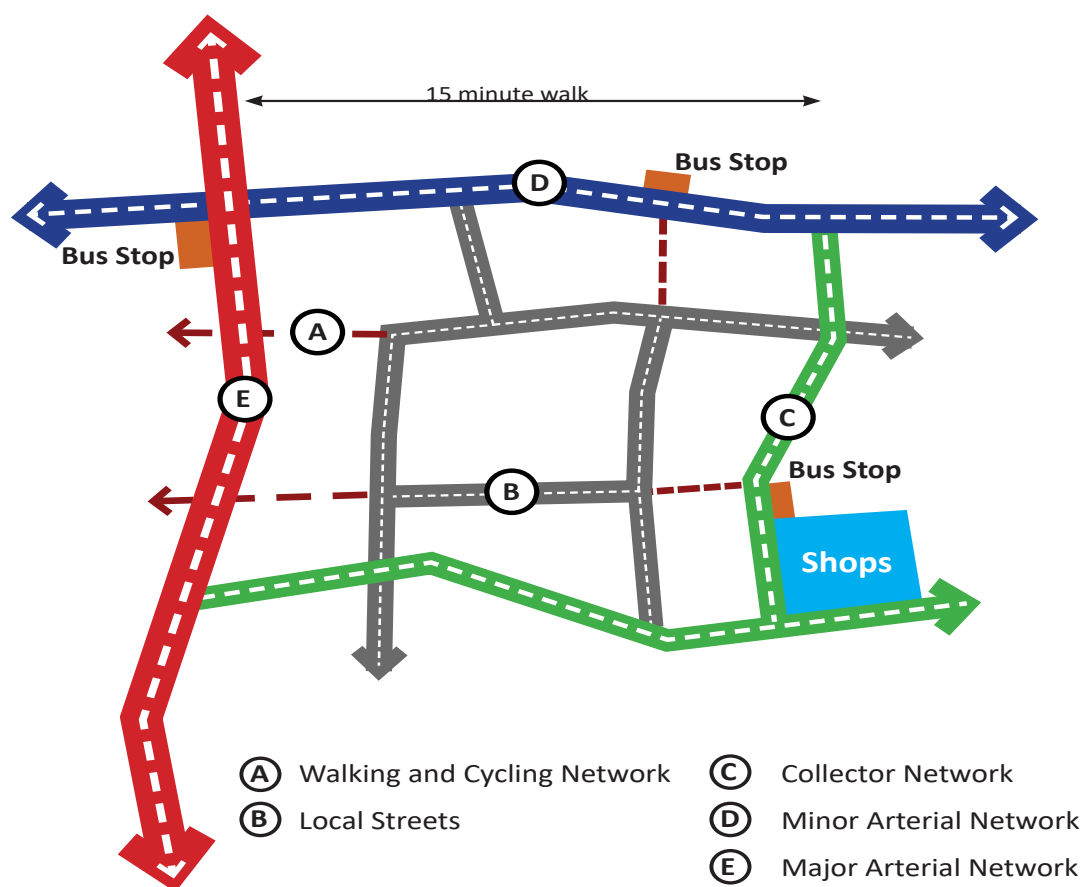
Neighbourhoods within Peacocke should aim to be low-traffic areas by developing the residential street network that discourages low occupancy vehicle traffic. Instead, buses, trucks, and other vehicles not destined for the neighbourhood use identified collector roads. However, residents should still be able to drive directly to and from their homes, arrange deliveries, and be accessed by emergency services. To build low speed neighbourhoods a number of different methods can be used, these being:

- Wider footpaths,
- Bollards,
- Planting, and
- Traffic calming measures to slow traffic down,

The aim of these interventions is to direct traffic onto collector roads, and encourage residents to make greater use of alternative modes such as walking, or cycling for short local trips. For this to work, the low-traffic area needs to be quite small and have easy access to local neighbourhood centres, which allows residents to walk or cycle from one side to the other in less than 15 minutes.

Low-traffic neighbourhoods are also most effective if they are part of an integrated, city-wide plan and network of connected low-traffic areas, so that people can cross easily between neighbourhoods to access key destinations, and in order to keep main arterial routes safe for all.

Figure 24: Low Traffic Neighbourhood



A Walkway and cycleway

To ensure a safe and convenient walkway/cycleway network it should be developed as a segregated network on high volume transport routes (i.e. separated from the carriageway), as well as ensure connectivity with the network along the edge of the Mangakootukutuku Gully and Waikato River corridor. The purpose of this integrated network is to promote walking and cycling as the key mode of movement within Peacocke and join key activities nodes in the most direct way.

Key Design Principles

- Separate walking and cycling where possible
- Provide facilities near destination such as commercial areas, bus stops and schools
- Short block lengths to create a permeable urban form that the most direct routes for cycling and walking



Segregated network that promotes a safe mode of movement between key nodes



Pedestrian and cycling network along the Mangakootukutuku Gully and Waikato River providing both recreational and commuter links within Peacocke

B Local road network

Local streets have low traffic volumes, as well as travel speeds of 10 to 30 km/h. They are largely residential streets with occasional commercial uses. These streets should have friction (trees, green infrastructure, parking, etc.) on either side of the street to slow speeds and allow for mix of traffic and cycling. Local streets are some of the most important street types, as this is where people live and play (Figure 25). Walking and cycling should be prioritised as the fundamental units of movement within the local road network by designing low traffic streets. The needs of a wide variety of people throughout their lifetime should be considered during the design of these streets (Universal Access provisions). Local streets should be multi-purpose streets that are a community asset. They are spaces used for gathering, play, and support the built form through the provision of amenity (street trees).

Key Design Principles

- Low speeds (<30 km/h)
- Distinctly marked entry treatments
- Fine-grained street design
- Provide amenity
- Controlled parking
- Short blocks



Local streets are where people live and play. Walking and cycling should be prioritised as the fundamental units of movement by designing low traffic streets (Richmond development, Auckland)



Local streets should have friction (trees, green infrastructure, parking, etc.) on either side to slow speeds and allow for mix of traffic and cycling (Richmond Development, Auckland)

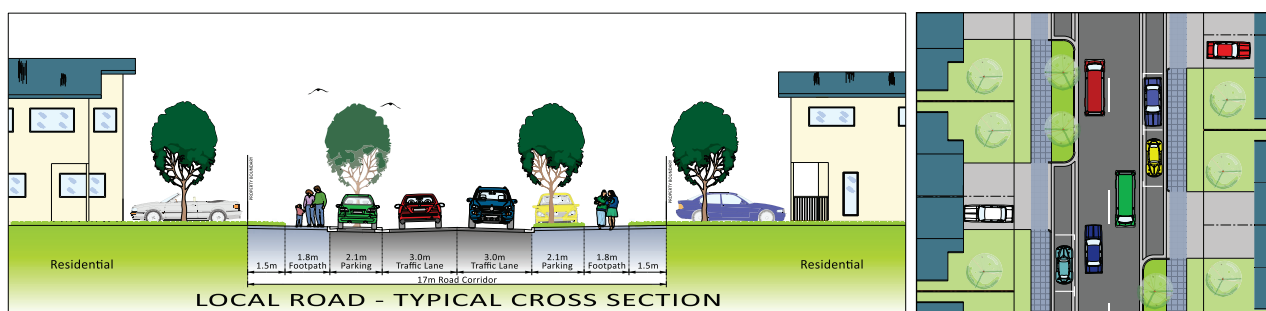
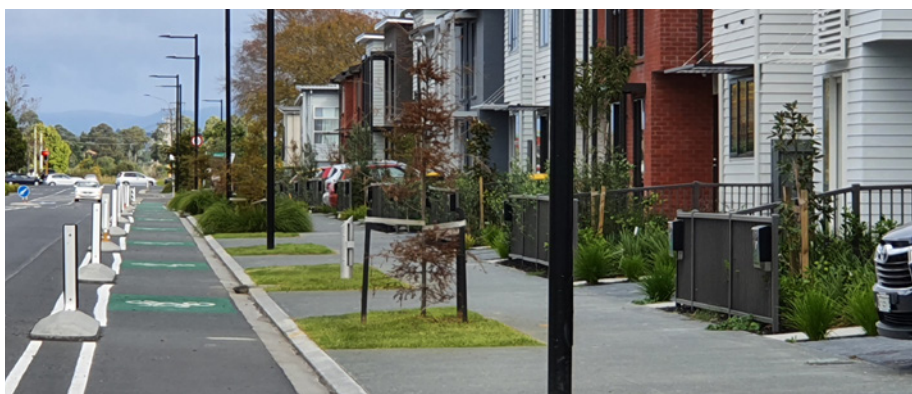


Figure 25: The needs of a wide variety of people throughout their lifetime should be considered during the design of these street (Universal Access provisions).

C Collector Transport Network

The collector network serves to connect local neighbourhoods together as well as linking neighbourhoods to the wider arterial road network.

Some flexibility is anticipated in the alignment of the collector streets network shown on the structure plan, however as the collector roads play a key role in providing for a public transport services as well as being part of a wider walking and cycling network, the ability to provide a direct and efficient connection between nodes will be an important design element when considering the collector road alignment. Cycling and walking facilities within the collector corridor should be separated to ensure a safe and efficient pedestrian and cycling network that promotes active modes of transport. Where separated cycle and walking facilities are provided along the collector network vehicle crossing should be minimised to avoid conflict between cyclists/pedestrian and vehicles crossing the cycling and walking network (Figure 26).



Cycling and walking facilities within the collector corridor should be separated to ensure a safe and efficient pedestrian and cycling network. (Whenuapai, Auckland)

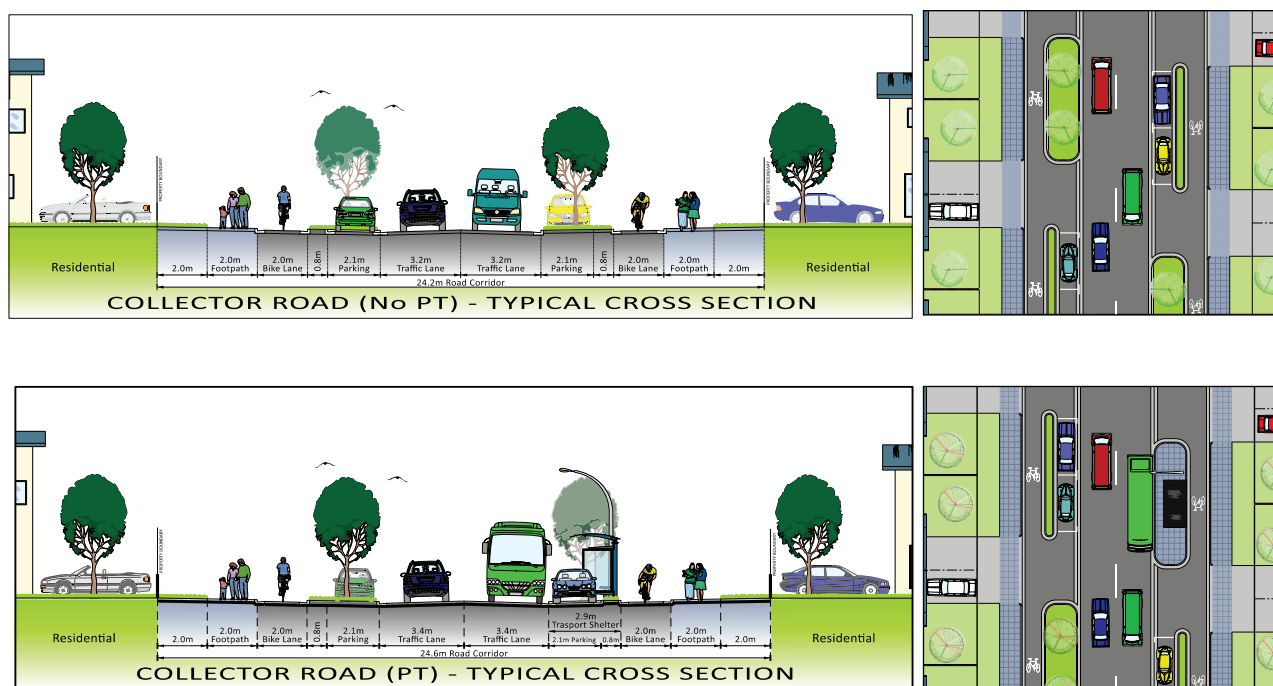


Figure 26: The collector network serves to connect local neighbourhoods together as well as linking neighbourhoods to the wider arterial roading network.

Where possible, the existing transport corridors should be used as future collectors as they provide good connectivity within the area and will help to define local neighbourhoods.

Key Design Principles

- Medium speed environment (<40 km/h).
- Defined on-street parking near centres
- Location of Public Transport routes
- Separated cycle facilities and pedestrian routes.
- Provide high level of amenity

D Minor Arterial Transport Network

The minor arterial network is characterised by high traffic volumes, with some limited destination types such as offices, shops and residences. Large volumes of mixed traffic are anticipated on these routes, including frequent public transport services. Public transport should be given priority. Safety of vulnerable users moving along and across the road should be ensured. Due to the high volumes of traffic on this network a separated cycling network need to be provided along with pedestrian facilities.

The Minor arterial transport joins the neighbourhoods within Peacocke to the local centre as well as key area outside of Peacocke.

Key Design Principles

- Higher speed environment (30-40 km/h in centres and with access limited, 50 km/h in other urban areas)
- Allow for a high level of intersection density to reduce speeds
- Separated cycle facilities and pedestrian routes.
- High frequency public transport service with priority
- Pedestrian crossings near bus stops and key land uses

E Major Arterial Transport Network

The arterial transport network, while connecting Peacocke to key destinations outside of Peacocke such as the central city, hospital, university and employment area, is part of a wider regional transport network that connects Hamilton to areas in the south such as Hamilton Airport and Te Awamutu.

The 'North-South' major arterial route which traverses through the central portion of Peacocke and links with Cobham Drive at the Cobham Bridge, will provide a direct route to the Central City and hospital. This route is identified as a possible mass transit route in the future joining the Hamilton airport in the south to the central city in the north.



Minor arterial routes location of high frequency bus services supporting high density residential development. (Hobsonville, Auckland)

This major arterial route along with the Mangkootukutuku Gully creates significant severance issues for the development of Peacocke. To minimise this impact for both vehicles and pedestrians access to and across the major arterial routes needs to be provided.

'Eastern Link' major arterial route which branches from the north-south route and crosses the Waikato River near Echo Bank Place linking with Cobham Drive and Wairere Drive, thus providing a direct route to the eastern side of the City.

Key Design Principles

- Highest speed environment (50, 60-80 km/h in peri-urban areas with no accesses)
- Good parallel routes for local traffic and cycling

PEACOCKE STRUCTURE PLAN

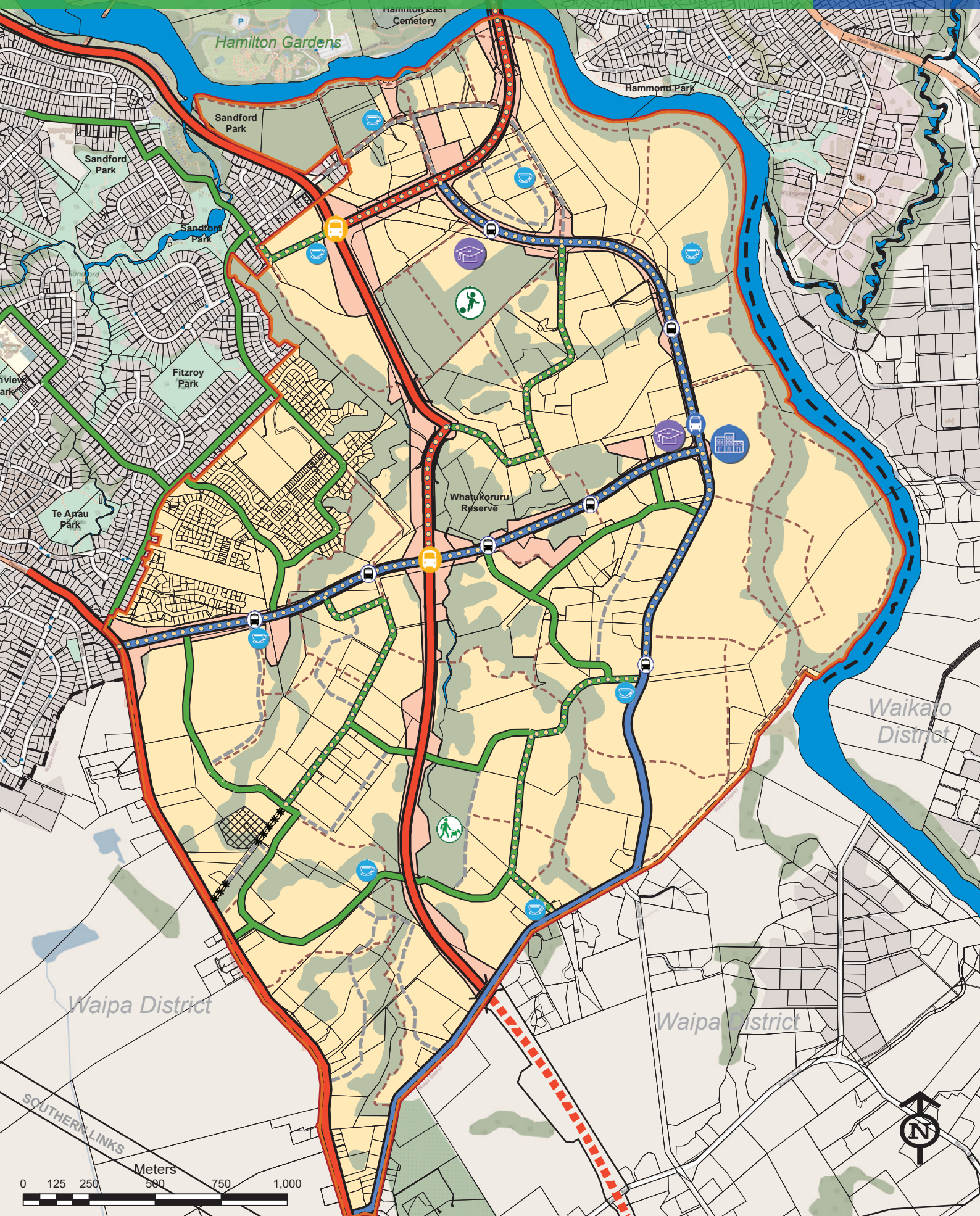


Figure 27: Transport Network

- Major Arterial - Southern Links
- Major Arterial Transport Network
- Minor Arterial Transport Network
- Proposed Road Closure

- Indicative Collector Transport Network
- Indicative Key Local Transport Network
- Indicative Cycleway/Walkway Network
- Proposed Public Transport Route

- Proposed Public Transport Hub
- Key Public Transport Stops Locations
- Future Mass Transit Stop
- Transpower - Hamilton Communication Centre

- Local Centre
- Neighbourhood Centre
- Community Facilities
- Sports Park
- Community Park

8.6 Land Use

A key urban design principle for Peacocke is well-connected and walkable residential areas. This means that individual residential neighbourhoods are linked well by local and collector roads, and via off-road walkway and cycleway links. The roading network itself should respond positively to the strong topographical features within each character area such as the arms of the Mangakootukutuku Gully.

Walkable neighbourhoods are also about creating attractive residential areas with legibility and clear linkages to key destinations such as the commercial/ community nodes where sports parks, schools and community facilities will be located. Residential densities should be increased around these nodes to concentrate more of the population within easy walking distance of key community infrastructure. In this manner an urban form is more likely to be generated that encourages walking and cycling and a reduced reliance on the private car.

Retail

The structure plan recognises the need to provide the day to day needs of the future community of Peacocke locally and within walking distance of the various residential areas.

Using estimated population yields in the Structure Plan Area, it was estimated that 31,200m² of retail floorspace that can be supported by a fully developed structure plan area in 2048. Some of this will be serviced within the Structure Plan Area, and the balance through existing centres in Hamilton. The local portion is proposed to be distributed as follows, at full build out of the growth cell:

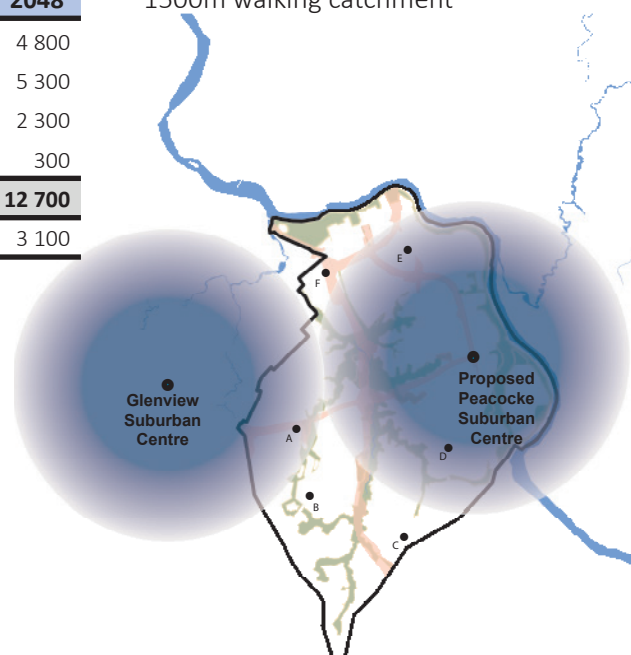
Local Centre

The Local Centre will also be the location for any future community facilities, public transport hub and the focus for the majority of commercial activities within Peacocke. A local centre of 11,900m² will be able to be supported by 2043, increasing to 12,700m² by 2048. The local centre would be able to accommodate at least one larger supermarket of 3,500m² to 4,500m², or alternatively two smaller supermarkets of around 2,500m² each. It is anticipated that the local centre will accommodate around 12,700m² of commercial Gross Floor Area (GFA). The local centre shall be a street-based, mixed-use centre, based around attractive and well functioning public space and containing a mix of land uses and facilities that would be expected within a conventional centre. The local centre's location on a transport route junction will ensure it is easily accessible to the entire growth cell.

Centre Type	2020	2023	2028	2033	2038	2043	2048
Local Centre	800	1 000	1 900	2 700	3 600	4 500	4 800
Supermarket	900	1 200	2 100	3 000	3 900	4 900	5 300
Services (Incl medical)	400	500	900	1300	1 700	2 100	2 300
Offices		100	100	200	200	300	300
Total Local Centre	2 000	2 800	5 000	7 200	9 400	11 900	12 700
Neighbourhood Centre	500	700	1 200	1 700	2 200	2 900	3 100

Local Centres

1500m walking catchment



Residential activity is a key component of the local centre. Higher density residential development, such as apartments should be encouraged within and beside the centre. It is anticipated that this will take the form of commercial activity at the ground floor with residential apartments above. The benefit of this is that it injects activity and 'life' into the centre outside of normal working hours, increasing activity and safety.

The location of the local centre has the potential to create a strong link to the Waikato River. The establishment of commercial activities focusing on hospitality and small boutique retail will encourage the use of the river esplanade and the river as a potential connection between Peacocke and the central city and other key destinations in the future.

Figure 29 Peacocke Local Centre Design Concept identifies spatially the design principles intended for the development of the local centre, within which design controls are imposed to ensure development creates an active front from within key locations of the centre as well as ensures that development enhances the interface between the urban development and adjacent public spaces while providing increased safety through passive surveillance.

The development of the Local Centre should take into account the following key design principles:

1. Orienting buildings to public spaces and transport corridors
2. Creating active frontages at street level, minimising blank walls
3. Establishing a finer grain, walkable environment
4. Locating parking and vehicle access as to not dominate the streetscape
5. Integrate centre with walking and biking connections and providing bike parking
6. Creating a high amenity interface with adjacent land uses
7. Where applicable, emphasizing street corners through building placement and design
8. Incorporating the principles of CPTED into design of buildings and spaces
9. Incorporating Inclusive Access into the design of buildings, streets and places.
10. Using architectural design and detail to create an interesting streetscape
11. Position vehicle parking and service areas to the rear of buildings
12. Minimising vehicle crossing within the centre



A - Active frontage facing the street or public space on the ground floor of a Local Centre with
B - Office and/or apartments above ground.



A - Fine grain retail activities on ground floor
B - Residential units above ground.
 (Long Bay, Auckland)



Retail Mix

Allows retail integrated through shared parking and pedestrian linkages. Integrate supermarket with smaller retail activities



Connected

Pedestrian focus allowing of ease of movement within centre.



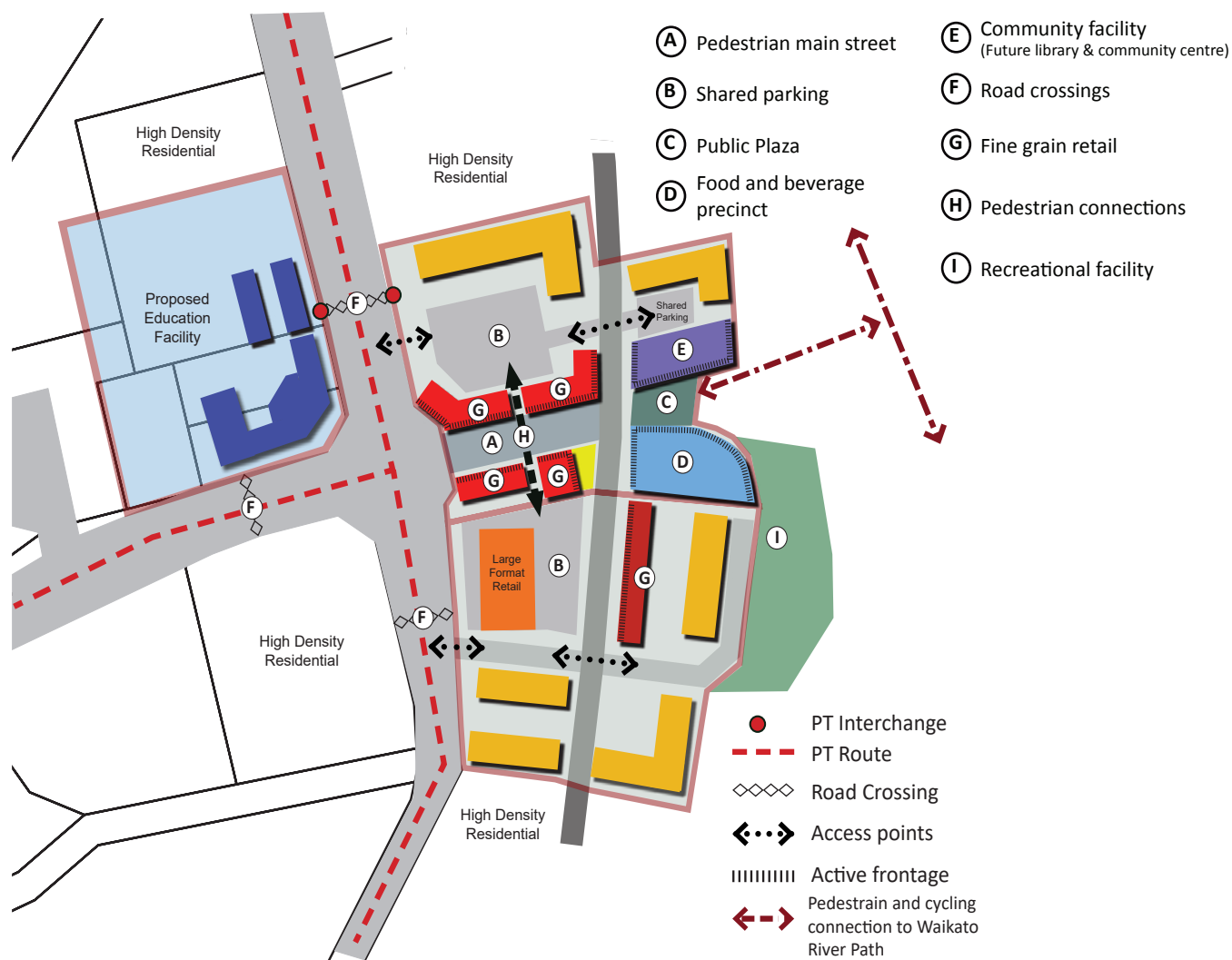
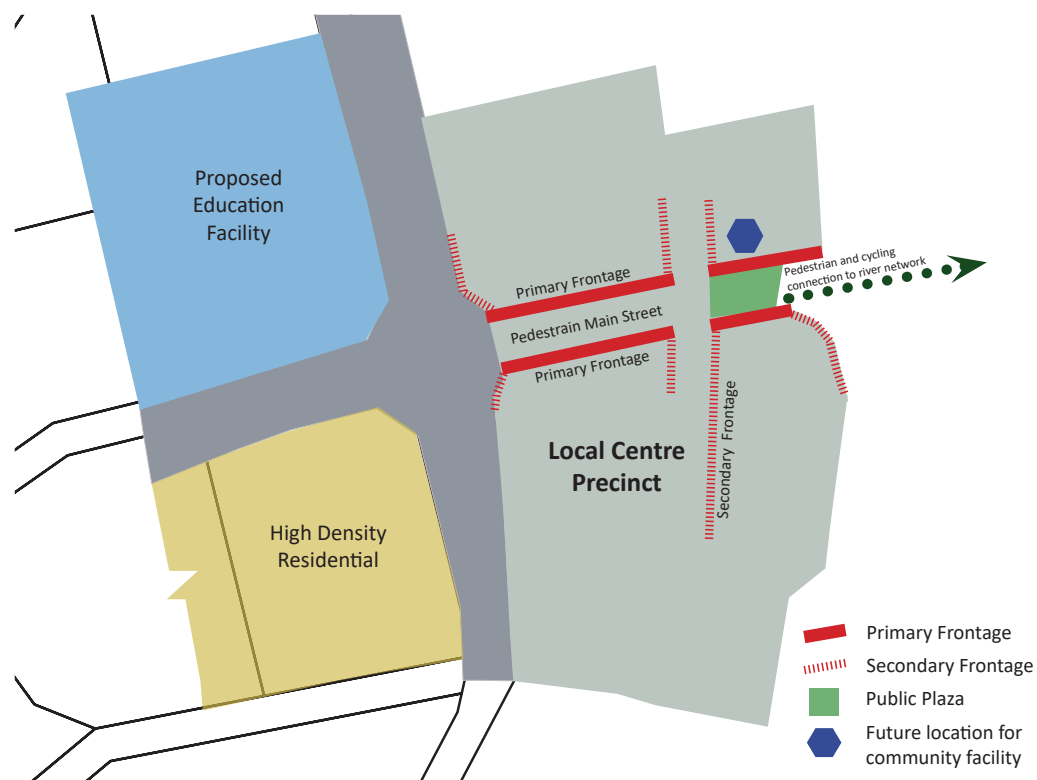
Legibility

Activate building frontages to encourage pedestrian movement and create a human scale.



Housing

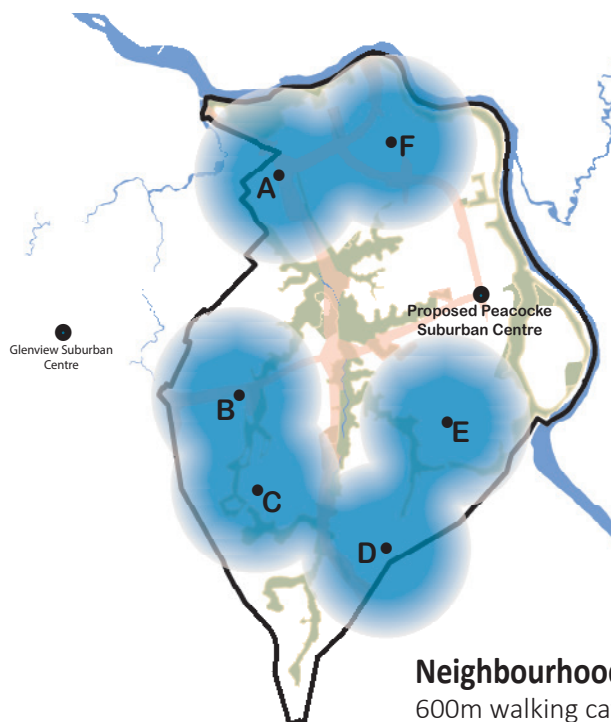
Centre supported by high density residential development and high frequency public transport service



Neighbourhood Centres

Seven neighbourhood centres providing approximately 2,600m² GFA between them, ranging from 300m²- 800m² of GFA have been identified within the Peacocke area. These are small in size and serve a local function only. The locations have been chosen to provide a wide distribution across the growth cell maximising the amount of residential land within a five minute walking distance of the centres. Location is important for neighbourhood centres, which depend on being highly accessible to their immediate catchments for their success and to adequately provide for community needs. The location would enable neighbourhood centres to be comprised of approximately three to seven stores in size and would provide good accessibility to the majority to the Peacocke area population.

The centres are strategically located to facilitate public transport and accessibility, and adjacent to neighbourhood parks or other open space. Residential accommodation can be located on the first floor to provide added surveillance and support vibrancy of the centres. Along with apartments being incorporated into the development of the site it is anticipated that there will be a higher concentration of residential development in close proximity to these centres to encourage walking and cycling and support the development of sustainable neighbourhood centres. The ground floor level should have active frontages facing the street, including extensive use of windows with facades designed to create visual interest and character.



Neighbourhood Centres
600m walking catchment



Neighbourhood centre providing retail services to surrounding residential community.

Community Facilities

Community facilities such as a public library, passenger transport facilities, and other community facilities will be required to support this growing community over time. If and when required, these facilities will be developed within or close to the local centre or neighbourhood centres identified, to ensure they are easily accessible to the residential areas of Peacocke as well as help developed strong neighbourhoods. However the structure plan recognises that there are a number of community faculties in the surrounding urban areas that can service the needs of Peacocke in the short to medium term.

Libraries

Short to medium term, the demand for libraries in the south of the city is likely to be able to be met through the existing facilities in Glenview and across the new bridge, in Hillcrest. These libraries have existing capacity and could be expanded to meet future demand. Long term a library could form part of the new local centre in Peacocke. The development of any community facility in the future should consider and recognise the cultural significance of the Peacocke area. It is important to provide clear and easy connections to the existing libraries from within the Peacocke.

Aquatic Centres

Gallagher Aquatic Centre (GAC) services South Hamilton and is not currently operating at capacity. Currently Hamilton is considered to be under serviced in terms of pools per head of population, however there is more demand in the north. The location of the GAC means that it will be able to service the Peacocke area.

Indoor Recreation

There are no current plans to provide for indoor recreation facilities in Peacocke in the short term and demand will need to be met through existing facilities. In the medium term, HCC is working with the University of Waikato to develop a new centre on the Hillcrest Campus. This will be relatively accessible from Peacocke, with the newly completed bridge over the Waikato River into Hamilton East.

No long term planning has been undertaken to provide a recreation centre in Peacocke, however there may be opportunities to deliver similar schemes to “The Peak” as part of any school development or as part of land designated for the sports park in the north of Peacocke.

Community Centres

There are three privately owned Community Centres in the Melville, Glenview area. There are no centres planned for the Peacocke area and therefore it is important that they are able to be established within Peacocke through the District Plan should there be a desire to. To ensure the development of strong community nodes and walkable neighbourhoods the location of these community centres should be linked to identified neighbourhood centres.

Schools

Ministry of Education (MoE) are aiming to develop education facilities within the Peacocke area; the location and size of these sites will need to be considered when developing a Public Transport network as well as a the cycling and walking network. MoE will be responsible for designating sites as required for schooling. Strong walking and cycling links will also need to be established to schools outside of Peacocke, in particular the development of pedestrian and cycling links should be established along Ohaupo Road linking Peacocke to Melville Intermediate and High schools.



Te Ao Marama Primary School, Hamilton

Parks and open space

In order to achieve a sustainable balance of land use activities it is important to ensure that a range of formal and informal recreational opportunities are provided to meet the diverse needs of the intended growing population of the Peacocke area.

The areas surrounding the Peacocke area are generally well serviced by public open space. It is also able to connect into the Waikato River margins and gully systems which provide recreational access to the north. A number of parks are located near the structure plan area to support growth, particularly in the early phases of development which are likely to be close to existing urban areas.

The intent of the opens space network within Peacocke is to provide places for activity and engagement, for peace and enjoyment, for freedom and relief from the built environment and an opportunity to connect with nature and heritage. It will contribute to the social, health, economic and environmental well-being of the future Peacocke community as well as the wider Hamilton community. The benefits of a well-planned and integrated open space network to the Peacocke community area among others:

- enable communities to thrive
Public open spaces help build community by offering a place where people can come together in events and gatherings or just relax. In open spaces we find a sense of peace and strong community spirit.
- provide opportunities for sport and recreation
Open spaces provide opportunities for sport and recreation. This may include both active recreation or passive recreation. Sport and recreation plays a positive role in individual's lives and within communities and lead to many long term benefits including health, social, environmental and cultural outcomes. Open spaces contribute to improved quality of life by providing opportunities for sport and recreation.
- create character and identity
Open space help to create the identity and character of our urban environment in particular the visual impact that helps soften the hard urban built form created by buildings and infrastructure such as roads. They improve visual beauty and livability.
- provide opportunities for learning
Open spaces provide opportunities for people to experience nature. People can learn from formal interpretation, community engagement programmes such as planting days and through brochures, signage or casual observation. School groups use open spaces for a broad range of environmental education activities.
- improve our environment
Open spaces play a vital role in maintaining the functioning of ecosystem services. Ecosystem services are the benefits people obtain from ecosystems. Open spaces contribute to this by filtering contaminants to provide cleaner water, supporting nutrient cycles and regulating and protecting property from flooding.



The opens space network provides places for activity and engagement, for peace and enjoyment, for freedom and relief from the surrounding built environment.

- Protect our natural heritage

Native biodiversity is the variety of indigenous biodiversity plant and animal species that belong in New Zealand, such as long-tailed bats and *astelia grandis*. The biodiversity of Hamilton City is special to our area and includes species of bats, fish, birds, insects, trees, shrubs and ferns. A large proportion of habitat for these species is within open spaces and it is therefore important that the native biodiversity in open spaces is protected and restored to natural levels wherever possible.

Open spaces provide a habitat for our unique biodiversity; plants and animals, including endangered indigenous species such as long-tailed bats. They conserve and restore our unique natural ecosystems, geological features and natural landscapes, including the Waikato River corridor and Hamilton's distinctive gully systems.

- celebrate culture and historic heritage
Open spaces protect sites of historic heritage. They provide a window to our past, giving recognition to and conserving cultural and history and often provide for commemoration, mourning and remembrance.
- open spaces are also part of our living culture
They increasingly have become the focal point for a range of community and multi-cultural activities including festivals, and special events such as weddings and birthdays. Open space supports creative pursuits including photography and painting, sites for modern art work installation and provides opportunities for facilities that support rites of passage.
- economic benefits
Open spaces bring economic benefits to Hamilton by making the area more attractive for investment, by providing attractions for tourists, providing sources of employment and by enhancing property values. Open spaces also offer free spaces for events and recreational activities.

Recreational facilities for the area, including the parks and reserves network need to meet multiple functions. Thus where possible:

- Neighbourhood reserves should be integrated with the gullies,
- Neighbourhood reserves should be integrated with Cultural and heritage sites and Significant Natural Areas,
- Sports parks may have natural areas, play lots and links to gullies,
- Riverside reserves will provide for walkways/cycle ways, may have nodes that serve as neighbourhood parks and will incorporate protection of natural areas,
- All parks will provide landscape amenity, and where possible will support environmental values, and
- Serve as stormwater peak flow detention basins.



Facilities that support rites of passage (Wellington Beach, Hamilton)

Major Sports Park

A major sports park of approximately 14ha has been identified within the Peacocke area which will contain a number of sports pitches (suitable for senior grade play, junior fields and training areas) which will provide for the sporting need of the future population of Peacocke. This sports park will also include neighbourhood park function for the surrounding residential areas. Whilst it will primarily serve the local population, they will also form part of the city-wide network of sporting facilities.

The need for a large, level, well- drained area that is accessible will be significant factors in determining the precise location. Hamilton City Council have identified the optimal location for this sports park and are now in the process of designation the site.

Together the sports park, neighbourhood parks and major features such as the gully network and river corridor will provide a network of recreational facilities catering for the diverse needs of the local community. These facilities will also make a significant contribution to the character and appearance of the area in line with the objectives and policies, creating public open space around key landscape features.



Neighbourhood park - Temple View, Hamilton

Community Park

Along with the development of a major sports park Peacocke will also require the development of a community park. The proposed community park is shown on the Structure Plan as Future Reserve. It will be a large multifunctional park of between 3ha to 5ha in size that provides informal recreation, socialising and event space for the wider community and serve a neighbourhood park function as well.

The final design, location and extent of the open space network will be determined at the detailed design stage, which accompanies subdivision. The provision of a community park is a matter to be pursued through Council's powers and functions within the Local Government Act 2002 to acquire land for district-wide recreational purposes.



Proposed higher densities areas will require easy access to neighbourhood park to compensate for the lost of on site amenity (Hare Puke Destination Play Ground, Hamilton)



Potential facilities located within community park, informal sports fields and informal recreation areas

Neighbourhood Park

Neighbourhood parks also provide a range of informal recreation facilities, including children's play areas. These will complement the range of facilities provided by the sports park and provide a smaller scale focal point for the local neighbourhoods. They are intended to serve a catchment area within a radius of approximately 500m. In order to provide appropriate levels of accessibility and an even distribution of recreational facilities, each neighbourhood should be provided with a park comprising approximately between 5000m² and 8000m² in size.

Where possible neighbourhood parks should incorporate existing natural features such as mature trees and be sited in prominent locations such as adjacent to neighbourhood centres where there is scope for passive surveillance, outlooks and a high degree of accessibility. They may also act as a transitional area between different activities. Neighbourhood parks will have an informal character with little built development. Like the active recreation sports park, they will be established within residential areas.

Criteria for the location of neighbourhood parks are:

- Distribution across the growth cell,
- Encourage walking and cycling,
- Respond to the local context and work with the existing landscape,
- Integrate CPTED principles into the development of the parks,
- Accessibility to a residential catchment,
- Topography,
- Ability to protect or enhance natural features, including the retention of mature trees,
- Ability to protect cultural and heritage values,
- Ability to foster positive neighbourhood identity and provide community focal points by locating near proposed neighbourhood centres,
- Ability to provide off-road linkages between residential neighbourhoods and facilities, and
- Ability to link areas of natural and ecological value.



Public open spaces help build community by offering a place where people can come together. (Inuwai Park Peacocke, Hamilton)

The exact location of neighbourhood parks will be determined in consultation with landowners at the time of subdivision, taking into account the criteria above and the local road layout.

The indicative riverside reserve network identified in the Peacocke Structure Plan is intended to create a continuous walking and cycling network along the river's edge. A number of areas of particular landscape and ecological value have been identified where the reserve has been widened. The desired outcome is a vegetated and accessible riverbank corridor that provides a buffer between urban development and the river while providing a pedestrian and cycling linkages between Peacocke and both the central city in the north and future development in the south.

The structure plan identifies the indicative location of neighbourhood parks to service the surrounding communities. However the final location and areas needed for reserves and recreational parks is largely dependent on the subdivision process. As a result, more detail on location and size of open space and recreational areas have been included in the Peacocke Structure Plan. Consideration also need to be had on proposed surrounding land uses. Proposed higher densities areas will require easy access to neighbourhood park to compensate for the loss of on site amenity.

Residential

It is anticipated that residential development within Peacocke would take the form of mainly medium density residential development with areas of higher density that takes advantage of the natural amenity found within Peacocke, namely the gully network and Waikato River.

To ensure a sustainable and walkable higher density development will be encouraged around the suburban and neighborhood centres and along the key transport routes to support a high frequency public transport service. Residential development will be a combination of single dwelling units, terrace housing and apartments. Development fronting public space such as natural open space, parks and the river and gully network will need to ensure a public interface by establishment of a local road or pedestrian/cycling network along this interface were possible. This will also improve public access to these areas as well as create a safe and usable open space network.



Medium density terrace/row housing with a strong interface with the street/public space. Garages set back behind the front setback of the dwelling to reduce dominance of garage and allow for second car that does not impact on the public foot path (A). windows (B) and low fences (C) to allow for seavilance of the adjoining public space. Dedicated areas for the storage of refuse integrated into the design of the residential units (D)

Density

The density of development has a strong impact on the appearance and functioning of an urban area. As a general principle it is considered that residential density levels should be higher in areas close (within a five minute walking distance) to commercial nodes, education facilities, sports parks and other major reserves such as the future esplanade reserves along the Waikato River and Mangatookutuku Gully. Along with these areas higher density should also be located close to the Public Transport Network. Areas less well served by easy access to Public Transport and in close proximity to commercial nodes would be considered less suitable for higher density.



Medium density terrace/row housing overlooking open space (Long Bay, Auckland)

The proposed density within Peacocke is based on minimum lot sizes of 300m² for the stand alone dwelling, and 250m² for the stand alone dwellings within the identified High Density Overlay Areas. The current General Residential zone framework within other areas of the city has resulted in fairly uniform lot sizes in the new growth areas of the city of between 400-800m² reflecting the trend towards larger footprint dwellings. The resulting density level is typically around 12-16 dwellings per hectare which by international standards is very low.



Medium density housing with pedestrian access to the public road (A) and vehicle access from a rear access land. Interface with the street is strengthened through the use of upper floor balconies (B), low front yard fences (C) and large windows facing the public space (D).

However the medium density zones found elsewhere in the city have resulted in an urban density level of between 25 and 40 dwellings per hectare which is proposed for Peacocke to enable the creation of a '20 minute city' that supports a sustainable community and public transport service. Different densities do provide opportunities to create diversity and choice for residents and can be used as an opportunity to reflect local landforms and characteristics. Good design can result in very well-functioning communities at higher levels of density.

Furthermore, to maintain a compact urban form for the city, support public transport and achieve a walkable city, it is essential that residential development in Peacocke is efficient in how land is utilised. A key aspect to this is that the density of residential development is higher than typical existing suburbs within Hamilton and aligns with medium density development found within other growth cells within the city.

The urban design strategy for Peacocke is based on varying housing densities across the growth cell driven by both urban design considerations and physical factors. Varying levels of density provide visual relief by changing the appearance of urban development in different areas, and providing opportunities to protect particular features of the area by enabling lower or higher densities in different areas and allow for areas to be set aside to protect the local ecosystem. The aim is to avoid a blanket of housing at the same density which limits the opportunity to add interest or diversity to an area.

The majority of the Peacocke growth cell will be residential in land use given the urban design strategy described above. Approximately 420 hectares of land is considered suitable for urban development with the majority of that destined for residential development of varying medium to high densities. It is recommended that a medium residential zoning is used that enables different outcomes and urban forms to be encouraged from the current General Residential Zone of the District Plan. This zoning should enable the provision of a range of lot sizes within Peacocke.



Example of higher density residential apartments proposed in the vicinity of the local centre (Long Bay, Auckland)



Net Density = Units per developable area



Medium density housing

This encourages diversity of housing types and provides a better platform for developers to tailor the subdivision to the particular land form and characteristics of the site. It is considered that an average density of between 20-30 dwellings per hectare should be encouraged within the medium density areas within Peacocke, and increased to an average of 40 dwellings per hectare to support the local centre and public transport service.

Subdivision should promote key urban design outcomes, and discourage other particular poor outcomes. An example of a principle that should be promoted is providing a public edge to gully and the river through local roads being located along the edge or through concentrating public reserves in such areas, and avoiding residential sections 'turning their back' and privatising the edges and not allowing residential areas to take advantage of the gully network for recreational and amenity values.

The development for the Peacocke area is based on promoting higher density residential development on land surrounding the proposed the centres, active recreation reserves, as well as along the key public transport routes, and medium densities in the remainder of Peacocke.

The higher density areas around the local and neighbourhood centres contribute in supporting those nodes by concentrating population within easy walking distance of community and commercial services. This has the effect of reducing reliance on the car within the Peacocke area, and supports public transport routes which is based on linking those nodes to areas outside of Peacocke. These centres therefore act as the activity nodes with parks and other community infrastructure focused at these locations.

Figure 30: Providing a public edge to the gully and the river



1. Only use cul-de-sacs where connectivity is constrained by topography
2. Roading providing a public edge to gully and the river
3. Higher density development located in appropriate locations to take advantage of amenity provided by the open space and gully areas
4. Gully as public reserve land creates a strong feature within the urban fabric

PEACOCKE STRUCTURE PLAN

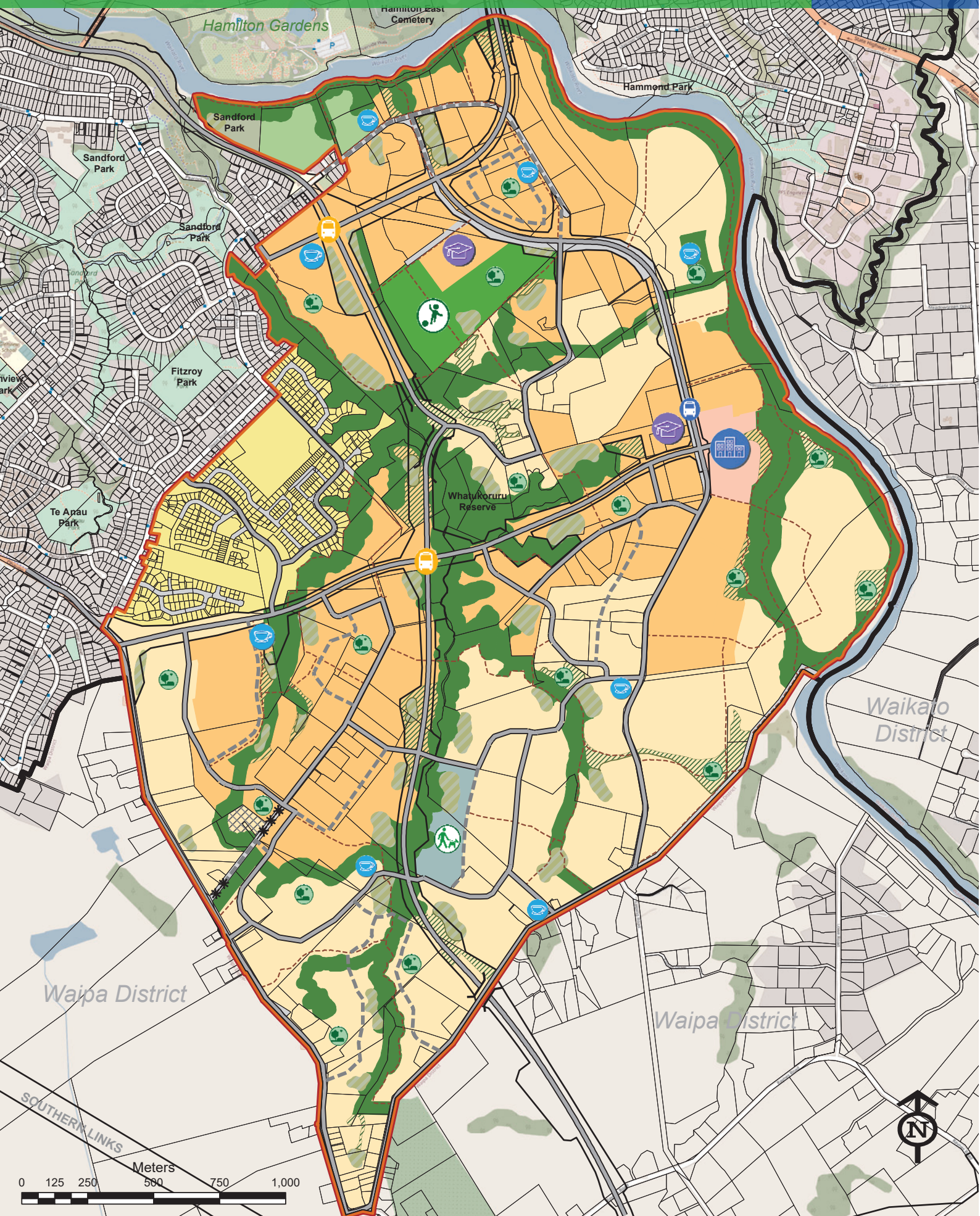


Figure 31: Land Use

- | | | | | | |
|----------------------------------|-----------------------------|---------------------------|--|-------------------------------|-------------------------|
| Proposed Peacocke High Density | Proposed Sports Park | Proposed Roadway Network | Proposed Public Transport Hub | Proposed Sports Park | Structure Plan Boundary |
| Proposed Peacocke Medium Density | Proposed Community Park | Proposed Key Local Road | Proposed Future Mass Transit Stop | Proposed Community Park | |
| Peacocke Stage 1A | Existing Natural Open Space | Proposed Cycleway/Walkway | Proposed Local Centre | Proposed Neighborhood Park | |
| Proposed Natural Open Space | Existing Wetlands | Proposed Road Stopping | Proposed Neighbourhood Centre | Proposed Education Facilities | |
| | Proposed Stormwater Wetland | | Transpower - Hamilton Communication Centre | | |

Higher density development on land adjacent to the recreation reserves takes advantage of the open space aspect of these reserves. By concentrating higher densities around open space it enables the open space to balance the larger buildings and more dense character typical of higher density areas, and enables those residents to have an open space resource within easy walking distance. Furthermore by concentrating a larger population within easy walking distance of the reserves, that population supports provision of better community services within that reserve.



By concentrating higher densities around open space it enables the open space to balance the larger buildings and more dense character typical of higher density areas. (Long Bay, Auckland)

Safety

Crime Prevention Through Environmental Design (CPTED) principles should be incorporated in all of the public and private realm developments. Much of CPTED is about creating urban environments where there is a strong sense of ownership by residents and users of particular areas, rather than creating spaces where a sense of ownership is unlikely. This principle needs to be fundamental in the design of public spaces like walkway and cycleway networks, road underpasses, active recreation reserves, and also a key assessment criteria of private developments such as residential subdivisions and commercial developments.

Avoidance of creating spaces that have poor natural surveillance, are poorly integrated with adjoining uses, do not make best use of sun or location in terms of orientation, and are generally not an attractive space that people feel drawn to. The focus of design should be creating spaces that people feel safe and happy to use by designing them to integrate well with surrounding uses and with good connectivity, to have good natural surveillance so people feel safe, are well orientated to make good use of sun and location, and do draw people to use them.



Create urban environments where there is a strong sense of ownership by residents and users of particular areas. Avoid creating spaces that have poor natural surveillance and poorly integrated with adjoining uses. (Hobsonville, Auckland)

9. Infrastructure and Staging

The Peacocke Structure Plan will be implemented over the next 30 years. Councils Long Term Plan 2021-31 sets out the funded infrastructure programme for the city. The infrastructure provisions for Peacocke detailed in the Long Term Plan is the next 10 years of new and upgraded transportation, wastewater, water, and stormwater management strategic networks for the area .



9.1. Indicative Infrastructural Development Programme

The development of Peacocke is anticipated to occur over the next 30 years. Councils ability to secure funding through then Housing Infrastructure Fund (HIF) along with Long Term Plan enables the provision of infrastructure to allow Peacocke to be development over this period. Once necessary bulk trunk infrastructure and transport network has been established joining Peacocke to the City's existing Infrastructure network development will start.

9.2 Housing Infrastructure Fund

The central Government HIF aims to assist high-growth councils to fund infrastructure necessary to open up new large areas for housing.

Hamilton successfully secured funding support from the HIF and subsidies from Waka Kotahi New Zealand Transport Agency. This allows for key strategic infrastructure to be provided to enable the Peacocke growth cell to be opened up for development.

The funding allows for the construction of the following strategic infrastructure projects:

- Wairere Drive Extension and a new bridge crossing the Waikato River,
- Cobham Drive / Wairere Drive intersection and over-bridge,
- Various wastewater pump stations and mains,
- A portion of urban upgrades to Peacocke Road
- Ohaupo Road / SH3 roundabout and East-west minor arterial road, as well as
- The purchase of land for most of the future north-south major arterial network

The implementation of these infrastructure projects will bring forward the timing of the first stages of urban development within the Peacocke growth cell to mid-2023. A staging programme has been developed to ensure urbanisation does not occur out of sequence with the delivery of key strategic infrastructure.

The staging of development in Peacocke starts in the north in the vicinity of the Water Treatment Plant and then proceeds in a southerly direction along Peacocke Road and in the west from the newly completed Ohaupo Road/SH3 and East/West minor arterial roundabout. Development shall occur in accordance with the infrastructure staging plan (Figure 32). This plan sets out the intended stages of development for Peacocke reflecting the sequenced delivery of strategic infrastructure.

9.3 Stage Plan (Figure 32)

Stage *	Preceding stage(s) required **	Strategic Infrastructure Required ***			
		Transportation	Wastewater	Water****	Stormwater
A					<ul style="list-style-type: none"> • Centralised stormwater management devices relevant to the sub-catchment(s) and Integrated Catchment Management Plan to be available
B		<ul style="list-style-type: none"> • East-west minor arterial (stage 1) and Ohaupo Road/SH3 roundabout 	<ul style="list-style-type: none"> • Mains extension along east-west minor arterial (stage 1) and Ohaupo Road/SH3 roundabout 	<ul style="list-style-type: none"> • Distribution mains extension along east-west minor arterial (stage 1) and Ohaupo Road/SH3 roundabout 	<ul style="list-style-type: none"> • Provision for overland flow paths

Stage *	Preceding stage(s) required **	Strategic Infrastructure Required ***			
		Transportation	Wastewater	Water****	Stormwater
C		<ul style="list-style-type: none"> Waikato River Bridge, Wairere Drive extension, to the north-south major arterial Peacocke Road urban upgrade to local standard north of intersection with Wairere Drive extension Peacocke Road urban upgrade to minor arterial standard south of intersection with Wairere Drive extension Weston Lea Drive urban upgrade New collector road linkage from Plateau Drive to Wairere Drive extension (for western catchment) 	<ul style="list-style-type: none"> N4 and N4a pump stations and connecting mains Fitzroy Diversion Waikato River Bridge and Transfer Main to far eastern interceptor at Gordonton Road, Wairere Drive, Crosby Road intersection. 	<ul style="list-style-type: none"> Distribution mains along Peacocke Road Distribution mains along Weston Lea Drive 	<ul style="list-style-type: none"> Centralised stormwater management devices relevant to the sub-catchment(s) and Integrated Catchment Management Plan to be available Provision for overland flow paths
	D	<ul style="list-style-type: none"> East-west minor arterial (stage 1) and Ohaupo Road/SH3 roundabout New collector road (if connecting to Hall Road then Hall Road urban upgrade to collector standard and upgrades to Hall Road/ SH3 intersection will also be required) 	<ul style="list-style-type: none"> N17 pump station N4 and N4a pump stations and connecting mains Fitzroy Diversion Waikato River Bridge and Transfer Main to far eastern interceptor at Gordonton Road, Wairere Drive, Crosby Road intersection. 	<ul style="list-style-type: none"> Distribution mains extension along east-west minor arterial (stage 1) and Ohaupo Road/ SH3 roundabout 	

Stage *	Preceding stage(s) required **	Strategic Infrastructure Required ***			
		Transportation	Wastewater	Water****	Stormwater
E	C	<ul style="list-style-type: none"> East-west minor arterial to Peacocke Road from Ohaupo Road/SH3 roundabout Peacocke Road urban upgrade to minor arterial standard (from Stage F) Hall Road urban upgrade to collector standard and connection to east-west minor arterial, and upgrades to Hall Road/ SH3 intersection Peacocke Lane urban upgrade to collector standard New collector road linkages in the south-eastern catchment 	<ul style="list-style-type: none"> Mains extension along north-south major arterial corridor and east-west minor arterial (stage 2) Diversion of flows from Stage D to Stage E network N9 (and N11 for the western catchment, and N10 for the south-eastern catchment) pump stations and connecting mains 	<ul style="list-style-type: none"> Distribution mains along Peacocke Road (from Stage F) Distribution mains along East-west minor arterial (stage 1 and 2) to Peacocke Road Distribution mains along Hall Road and connections to close the loop with Stage B and D mains 	<ul style="list-style-type: none"> Centralised stormwater management devices relevant to the sub-catchment(s) and Integrated Catchment Management Plan to be available Provision for overland flow paths
F	C	<ul style="list-style-type: none"> Peacocke Road urban upgrade to minor arterial standard New north-south collector road 	<ul style="list-style-type: none"> N3 pump station and connecting mains 	<ul style="list-style-type: none"> Distribution mains along Peacocke Road 	
G	C, F	<ul style="list-style-type: none"> Peacocke Road urban upgrade to minor arterial standard New collector road linkages 	<ul style="list-style-type: none"> N7 (for the eastern catchment) and N8 (for the southern catchment) pump stations and connecting mains 	<ul style="list-style-type: none"> Distribution mains along Peacocke Road 	

Stage *	Preceding stage(s) required **	Strategic Infrastructure Required ***			
		Transportation	Wastewater	Water****	Stormwater
H	C, E	<ul style="list-style-type: none"> North-south major arterial (full length) and Cobham Drive Bridge upgrading Peacocke Road urban upgrade to minor arterial standard (including from Stage F and G) New collector road linkages including linkages to Hall Road 	<ul style="list-style-type: none"> N12 (and N13 for the eastern catchment) pump stations and connecting mains 	<ul style="list-style-type: none"> Distribution mains along North-south major arterial Distribution mains along Peacocke Road Distribution mains along Hall Road 	<ul style="list-style-type: none"> Centralised stormwater management devices relevant to the sub-catchment(s) and Integrated Catchment Management Plan to be available Provision for overland flow paths
I	C, E, H	<ul style="list-style-type: none"> Peacocke Road urban upgrade to minor arterial standard (including from Stage F, G and H) New collector road linkages 	<ul style="list-style-type: none"> Connecting mains to N12 pump station 	<ul style="list-style-type: none"> Distribution mains completing loop along North-south major arterial, Hall Road, Peacocke Road and Ohaupo Road/ SH3 	

* Stage boundaries take into account a range of factors including existing contours, existing and planned water and wastewater network sub-catchments, and transportation infrastructure networks and connectivity.

** Strategic infrastructure from these preceding stages will be requiring, including relevant connections.

*** In addition, localised and on-lot infrastructure and connections will be required. This should generally not influence sequencing of other stages. The delivery of most strategic infrastructure is expected to be Council-led. However, some of the infrastructure identified, such as new and upgraded collector roads, stormwater infrastructure, and various pumpstations and distribution mains, are expected to be developer-delivered to Council specifications.

**** A new reservoir, and associated feed lines and connecting mains, and Water Treatment Plant upgrades (e.g. High-lift pumpstation) will be needed as the growth demands approaches the operational limits of the Hamilton South reservoir and plant.

PEACOCKE STRUCTURE PLAN

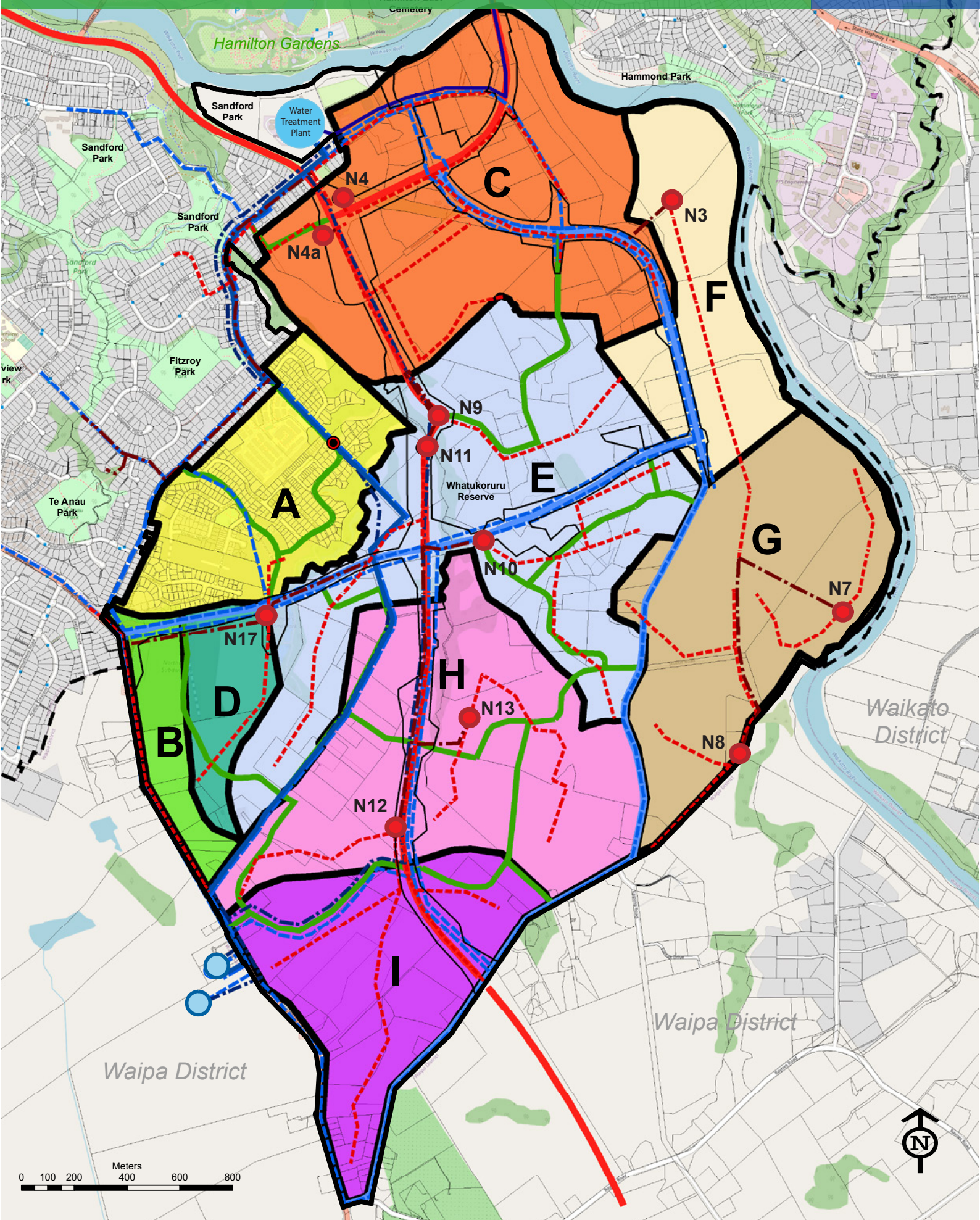
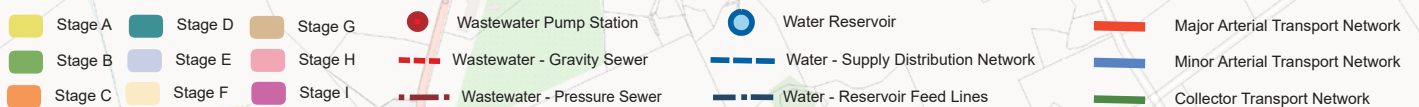


Figure 32: Staging Plan



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