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Overview

This Northern Growth Area (NGA) Structure Plan provides a high level spatial plan, as well as a set of investigation and management actions to guide the area’s development for the next 20+ years.

It provides for some 1800 households in new residential and rural residential enclaves including a village centre. A framework of open space and ecological corridors will be connected by a network of streets, walking and cycling paths.

The location, density and form of development, as well as the provisions to manage stormwater, have been carefully considered in order to protect the ecological and landscape values of the Taupo Swamp, wetlands and Pauatahanui Inlet.
What is the Northern Growth Area Structure Plan?

The Structure Plan will guide the coordinated growth and development of the rural area north of Camborne and south of Pukerua Bay. The planning horizon for the Northern Growth Area (NGA) is from 2020 and beyond to recognise the long term time frames for development change. The Structure Plan is a non-statutory document that is intended to inform the review of the District Plan. Changes to the District Plan are identified in the Structure Plan’s implementation steps.

A number of factors have determined the need for a structure plan. Strategic policy such as the Porirua Development Framework (2009) and the Wellington Regional Strategy has identified this area as suitable for accommodating development but also as an area requiring sensitive environmental management.

Council also plans land supply for residential activities well in advance of demand to recognise the time it takes to coordinate services provision and District Plan changes. Although there are other areas being developed in the District currently, within 5 years there will be a need for further land to be available.

The timing for the development in the NGA is also related to the Transmission Gully Motorway being completed about 2021. It is not until then that the current highway can incorporate new intersections and provide for the traffic generated by development in the NGA.
Key Drivers and Issues

- **Landform**: The landform is mostly sloping, including some steeper land. The area is interspersed with gully systems within which there are steams and wetlands. The steeper areas are not suitable for residential development and suit larger lot rural residential development. The lower slopes can accommodate residential development where moderate earthworks provide for discrete development areas that maintain the primary gully systems as ecological open spaces.

- **Landscape & Biodiversity Values**: The values are physical, perceptual and associative such as the sequence of valleys and ridgelines, expansive views of the harbour, rural character and the network of heritage sites in the area (including Taupo Swamp - Outstanding Natural Feature). Values include the significant indigenous biodiversity. Development needs careful management to ensure these values are not compromised.

- **Distinctiveness**: The specific characteristics of the landscape suggest an urban form of discrete pockets of development of varying densities separated by open space, rather than total coverage of houses across the whole area.

- **Stormwater**: The Pauatahanui Inlet, Taupo Swamp and other wetlands in the catchment need to be protected from the effects of storm water and erosion sedimentation from urbanisation. The protection of these areas are key environmental outcomes for the development of the NGA and will require a catchment management approach to restrict downstream impacts from land uses and development.

- **Services**: No water and waste water reticulation exists in the area meaning a provision for new water storage as well as upgrades (already planned) to the Council waste water system (reticulation and treatment). Some rural residential land uses with larger lots will not need to be serviced.

- **Open Space**: There are opportunities for range of broad open spaces, ecological areas and local reserves with linkages for recreational, ecological, storm water management and movement by walking and cycling.

- **Movement**: The ability to develop the area ties into the opening of the Transmission Gully Motorway when new road connections can be made to the current highway. Access to the passenger rail system needs connections and park and ride facilities enhanced. Within the area cycling and walking paths can provide for recreational and commuting access within and externally to the wider existing urban areas.

- **Heritage**: Many of the archaeological and cultural sites are known, but there be others that are discovered in the land development process and these need to be provided for.

- **Local Facilities**: There are existing facilities in the context that the NGA residents can be expected to utilise and connections need to be facilitated. Within the new development area there is a need for a new primary school. Local centres may also be sustainable.
How does the Structure Plan relate to Porirua’s other planning documents?

The Structure Plan has been influenced by the Porirua Development Framework and Regional plans and strategies such as the Wellington Regional Strategy and the Regional Land Transport Strategy.

Implementation of the Structure Plan will be reliant on changes to the District Plan with management of new public infrastructure included in Council’s asset management plans. The diagram to the right shows these interrelationships.

The Northern Growth Area was identified in the Porirua Development Framework (2009) as a potential location for urban growth – shown in red.
Key Implementation Actions

Key actions to implement the Structure Plan include Council drafting a District Plan change to enable a mix of rural residential, residential densities, future local shops, open space networks and management areas of landscape and ecological values to be provided for. The main areas of residential development are: Pukerua Bay West, Camborne North, and New Village.

The plan change will provide a tiered spatial planning approach. The Structure Plan provides guidance to Comprehensive Development Plans (CDP) in which further detail of housing densities, roading networks, open spaces, protected areas, and services will be provided for. These would require approval of Council. Subdivision plans would be show details of lot boundaries, easements and cadastral information in accordance with the CDP.

The provision for stormwater management requires an integrated catchment management planning process. This will be undertaken when the CDP process is undertaken to guide the density of development and range of stormwater management methods that should be applied in each development area.

A new village area will, in time, provide for small local shops, open space reserve, shared with a new primary school. Provision for smaller lots and town houses around this central area are an opportunity.

There is capacity within the existing road network for development in the Camborne North Development area to proceed before the Transmission Gully Motorway is operational. Some land areas at the north of the NGA will be “deferred” from development until after 2031 as they are not expected to be required until after this time.

This document describes the Structure Plan elements. It sets out how the structure plan can be given effect to through changes to the district plan provisions and other non-statutory methods as well as the various stages of implementation.

The next step is to prepare a district plan change and associated design guide and Section 32 assessment. This will begin the more formal statutory process. At the same time, Council will continue to work on the other actions listed in the Structure Plan report.
Development Proposals

Most of the proposals for land use changes will require the Transmission Gully Motorway to be operative before they can be given effect to. Further planning and investigations are also required and these are identified in the Implementation section of this summary document.

The key proposals are:

A  Pukerua Bay West Development Area
B  New Village Development Area
C  Camborne North Development Area
D  Rural Residential Areas
E  Open Space Areas
F  Rural and Deferred Development Areas
The Northern Growth Area Structure Plan

Structure Plan Key

EXISTING
- NGA Study Area
- Existing SH1
- Existing Railway Line
- Existing Recreational Track
- Existing Railway Station
- Existing Local Road Network

PROPOSED
- Roads
- Recreational Track
- Village Neighbourhood Node
- Local Node
- Intersections

LANDUSES
- Rural
- Rural Residential
- Residential
- Vegetation/Wetland Area
- Existing Cemetery
- Taupo Swamp

The composite Northern Growth Area Structure Plan
A - Pukerua Bay West Development Area

Background

Enabling the extension south of the existing Pukerua Bay urban area enables increased utilisation of the amenities and infrastructure of the existing village and supports the upgrading of these. This includes school, shops, rail station, open spaces, churches, roading and other services. The Pukerua Bay West Development Area will connect into the end of Rawhiti Road.

However, it does require an increase in roading capacity to enable connectivity to the highway. Options include a new bridge across the rail corridor and/or upgrading the existing road network.

Key features include:

- Residential development which recognises the topography, stormwater management, and need for primary open space areas.
- Rules prohibit development on steep areas and guidelines for managing development to limit effects of earthworks.
- New road connection capacity to highway by either (a) a new bridge over the railway; or (b) an upgrade (widening) to Rawhiti Road and Teihana Road. There can be no development of this area until the current highway traffic diverts to the Transmission Gully Motorway.
- Primary open spaces set aside for managing stormwater and sedimentation to Taupo Swamp.
- Network of local reserve areas (2000m²) to be provided with within 600m of dwellings.
- New water supply reservoir.
- Connects to existing waste water main.
- Stormwater management onsite, in open spaces and in roads.
- Walking and cycling paths.

Refer to Structure Plan Key for annotations
B - New Village Development Area

Background

In considering the urban form of the Northern Growth Area, the desirability of maintaining some spatial distinction between the Pukerua Bay and Camborne suburbs was a planning principle. The concept of a new village allows for a new suburb to evolve with its own identity, including a name. Development of this area can commence after Transmission Gully Motorway is complete.

Key features include:

- An area for small centre shops around an open space ‘green’ for amenity. Shops become sustainable once development has occurred. Land can be set aside for this at the time of planning.

- A new primary school provides for new residents given limited capacity at existing schools. The school has an area of 2ha and open space ‘green’ an area of 1ha (shared with centre ‘green’).

- Density of development recognises topography, stormwater management, and need for primary open space areas. Higher densities will be encouraged where suitable.

- Rules restrict development on steeper areas and guidelines manage effects of earthworks. Setback development along existing State Highway 1 to avoid visibility from the road.

- New road connection to current highway once Transmission Gully Motorway becomes operative.

- Primary open spaces set aside for managing stormwater and sedimentation to Taupo Swamp.

- Network of local reserve areas (2000m²) to be provided within 600m of dwellings.

- New water supply reservoir and connects to existing waste water main.

- Stormwater management onsite, in open spaces and in roads.

- Walking and cycling paths, including connectivity to Plimmerton rail station.
B - New Village Development Area

Existing view from The Track area looking east across highway

Indicative Only: Only shows the village and not rural residential development
C - Camborne North Development Area

Background

Enabling the extension north of the existing Camborne urban area enables the increased utilisation by new residents of the amenities and infrastructure of the existing suburb and those of areas nearby such as Plimmerton. This includes schools, shops, rail station at Plimmerton, open spaces, churches, roading and other services.

The Camborne North Development Area will connect into Grays Road and current highway at James Street. There can only be limited development of this area until the current highway traffic diverts to the Transmission Gully Motorway.

Key features include:

- Density of development recognises topography, stormwater management, and need for primary open space areas. Higher densities will be encouraged where suitable.

- Rules restrict development on steeper areas and guidelines manage effects of earthworks. Setback development along existing State Highway 1 to avoid visibility from the road.

- New road connection to Grays Road (heavy vehicles restricted) and utilisation of existing James Street intersection. Limited development can occur prior to Transmission Gully Motorway becoming operative.

- Primary open spaces set aside for managing stormwater and sedimentation to Taupo Swamp.

- Network of local reserve areas (2000m²) to be provided within 600m of dwellings.

- New water supply reservoir and connects to existing waste water main.

- Stormwater management onsite, in open spaces and in roads.

- Walking and cycling paths, including connectivity to Plimmerton rail station
D - Rural Residential Areas

Background

There are existing rural lifestyle areas on the west side of the North Growth Area (Coroglen Rise for example). When the three main residential development areas are formed there will also be residual rural land that will no longer remain viable for farming purposes. This is typically steeper land which is unsuitable for standard residential use and some of it has important landscape values.

This land would be set aside for some further rural residential intensification, with building sites allowed where the slope allows and in accordance with development guidelines to manage landscape and effects of sedimentation from earthworks in exchange for protection of appropriate bush vegetation or establishment of new re-vegetation areas.

Key features include:

- Average density of 2-4 dwellings per hectare to recognise the topography, stormwater management and landscape values.
- Rules restrict development on steeper areas and guidelines for managing development in landscape areas and to limit effects of earthworks.
- New road connections from Residential Development Areas.
- Primary open spaces set aside for managing stormwater and sedimentation to Taupo Swamp.
- Opportunity to revegetate areas where landscape values by have a limited number of houses such as above inlet.
- Not required to be serviced – although some areas may be if desirable to manage ground water effects from septic tanks.
- Walking tracks as easements through rural residential and rural areas.
D - Rural Residential Area

Indicative Only: Shows revegetation of the escarpment

Houses above escarpment - shows revegetation
E - Open Space

Background

There are important ecological areas at Taupo Swamp and Pauatahanui Inlet which could be adversely affected by further urban development within their catchments. The quantity and quality of water from urban areas (from sedimentation during construction and contaminants) that runs off (stormwater) when it rains must be managed to maintain the health of the ecological areas. Management aims includes water quality, development integration with the landscape, recreational opportunities, as well as ecological diversity. Open space will be a key part of this management strategy.

Key features include:

- Primary open spaces set aside that are typically gully systems that currently direct water by streams and as runoff to the Taupo Swamp and Inlet as well as other wetland areas in the lower catchment areas.

- Primary open space planted with native vegetation to provide habitat value, provide stormwater quality treatment and include walking/cycling paths to provide recreational opportunities.

- Public (Council) ownership and maintenance of primary open space, or some combination of private ownership and Council access for maintenance.

- Rules prohibit development of primary open spaces and guidelines for managing development that adjoins to limit effects of earthworks and ensure a positive interface between private property, buildings and public open space.

- Rural residential use above the Pauatahanui Inlet allows for retirement of the land from rural use and revegetation.

- Network of local reserve areas (2000m2) to be provided within 600m of dwellings.

- Rules require a certain amount of open space on each residential site to ensure that stormwater management is feasible.

Refer to Structure Plan Key for annotations
F - Rural and Deferred Development Areas

Background

Most of the land within the existing Northern Growth Area is currently rural and is farmed. It is proposed that on the west side of the growth area, apart from those areas identified for the Pukerua Bay West Development Area and existing rural residential areas that the currently rural land will continue to be rural. On the east side of the growth area most of the land in the southern half will change to residential or rural residential uses. The northern half of the growth area up to the boundary with the Pukerua Bay urban edge will remain rural, but with a “deferred” development recognition to allow for future long-term rezoning to suburban development beyond 2040.

Key features include:

- **Rural land remains to operate as currently** – some consideration as part of a Rural Plan Change to be undertaken by Council to subdivision standards, landscape management and development management in catchments to ecological areas.

- **Deferred zoning for areas which are not required for urban development at this time, but which are considered potentially suitable when demand for additional land occurs once the other Development Areas have been constructed.**

- **Potential for deferred zoned land to be developed sooner if sites are limited and/or developer invests in infrastructure rather than Council.**

- **Same suite of rules and design requirement would apply to deferred areas as the three proposed development areas – Pukerua Bay West, New Village and Camborne North.**

Refer to Structure Plan Key for annotations.
Objectives

The overall objective of the Porirua Northern Growth Area Structure Plan is to guide the sustainable, integrated and coordinated urban and rural development in the area over the next 20+ years.
Objective 1

Scale, form and intensity of development responds to the supporting capacity of the natural and physical resources, including infrastructure, landscape and ecological values.

Explanation

The development of land in the Northern Growth Area needs to recognise both the existing values within the context, as well as constraints in infrastructure capacity. The form of development needs to address the constraints and protect the values.

The constraints include the overloaded waste water system, lack of a current water storage, and an arterial roading system that has very limited ability to take additional traffic or new connections until such time as Transmission Gully Motorway becomes operative.

The existing values include landscape character (identified by the Porirua Landscape Management Strategy for Rural and Open Space Areas), eco sites such as Taupo Swamp, Pauatahanui Inlet and other wetlands and covenanted vegetation areas, as well as archaeological heritage sites.

Structure Plan Response

The Structure Plan guides growth and development of the Northern Growth Area by proposing a form that limits residential development to lower slopes. Density variations are encouraged provided there is no adverse effect on other objectives. Large open space areas separate development to discrete areas. This form and density of development also provides for the quality and quantity of runoff to be managed so as not to adversely affect the ecological values of the eco sites in the catchment.

A range of scenarios for urban form were identified in the Structure Plan formulation process and these were evaluated by stakeholders as to their ability to meet these elements of the objective.

Infrastructure upgrades will be required. Council has already planned for the bulk waste water system (including treatment) capacity to be increased. The roading system will continue to present a constraint until Transmission Gully Motorway is constructed in 2021. Water supply will be provided by new reservoirs.

Development feasibility testing has confirmed that there is an economically sustainable basis for the costs of services to be balanced with the value of new properties in the area.
Objective 2

Protection of the sensitive receiving environment and areas of significant indigenous biodiversity including Taupo Swamp (which is recognised as an outstanding Natural Feature), Pauatahanui Inlet and coastal marine area.

Explanation

Land uses and earthworks within Structure Plan area can have a significant impact on the ecology of the waterways, the Inlet and indigenous vegetation. Structures, accessways and roads if not sited or designed appropriately can change the rural character of the area.

Land which is attractive for development will usually be sited above the flood plain with great outlook/views and is therefore generally highly visible. Consequently the areas most at risk of losing their rural character through inappropriate development are often the areas with high landscape and rural amenity values.

Structure Plan Response

Steeper land and the primary gully systems that feed water to areas with important ecological values were identified as part of constraints mapping early in the Structure Plan preparation process and these were reviewed in consultation with stakeholders and the community.

The form of development has identified the primary gully systems as primary open space and these will both be retained to manage runoff water quality and quantity, but will also perform a role of landscape management by breaking up the urban form to discrete development areas. The primary open spaces will also be revegetated to provide wildlife habitat and amenity enhancements as well as to treat stormwater quality.

An integrated catchment management approach is to be applied which recognises the sensitivity of the catchment and the connection between land use development and downstream impacts.
Objective 3

Integrated land use and infrastructure development patterns with a network of connections for vehicles, cycles and pedestrians, and ensuring that links to the wider network are efficiently and safely developed.

Explanation

Planning for land use in combination with infrastructure means that the most efficient network of connections can be provided. This ensures that infrastructure is cost effective because pipe systems or roads can be built at the right size for the level of overall use and there is certainty for a connected up network between areas. It also means that Council can manage the orderly investment in services provision to match with the pace of development.

Alternatively, if one land area at a time is developed then it leads to a disconnected network and it is harder for people to move from one area to another as roads are not as connected. The lack of connected network discourages walking and cycling. For reticulating water supply or wastewater systems an incremental development process also limits the efficiency that can be achieved from a hierarchy of mains and smaller pipes as each area has to provide a stand-alone system.

Structure Plan Response

The structure planning process has been undertaken using an integrated approach including experts of various disciplines and with a range of stakeholder representatives of infrastructure, traffic and land use planning.

There has been an overall infrastructure development plan that is calibrated to the proposed yields of new residential uses. The infrastructure has been broadly costed at a level sufficient for the stage of the planning process to ensure an understanding of development economics and asset management plan provision by Council.

An indicative roading network has been identified in the structure plan that shows connections lengthwise through the main development areas and from these to the highway and which can be initiated when Transmission Gully Motorway is operational.

A hierarchy of walking and cycling paths are proposed and again a network approach has been taken. The need for connections from the development areas to the rail stations at Pukerua Bay and Plimmerton have been identified.
### Objective 4

**Future development complements the existing urban areas and does not detract from their special qualities or degrade their infrastructure.**

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**Explanation**

The existing urban areas and Pukerua Bay to the north, Camborne to the south and Plimmerton to the west present an opportunity to link to the current services and amenities provided there.

However, these areas have some constraints and a preferred land use and development scenario was chosen by undertaking a multi criteria analysis which included considering the constraints and opportunities within the area and feedback received from the local community on the various options considered.

The identity of these existing areas was also recognised as important and the potential by spreading new residential development from north to south across the whole Northern Growth Area would be for these communities and their extent to become less distinct.

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**Structure Plan Response**

The Structure Plan is based on a combination of the two preferred options which included the limited extension of the existing communities at Pukerua Bay and Camborne, as well as inserting a new discrete suburb area in what is described as a New Village.

The extension of the existing suburbs is limited and will not adversely affect existing infrastructure given the understanding of capacity. The New Village is a discrete area and will enable a relatively large new centre with its own identity to form.

The option of intensification in existing Plimmerton was not favoured given the inability to provide for residential supply with any certainty, and the traffic effects at the current highway. Increased development of Mana Esplanade for mixed use (residential and commercial uses) warrants further investigation in combination with the highway converting to a local road. However, it will remain a busy road which may limit options and there are increased risks of effects over time from sea level rise and liquefaction in seismic events which need to be considered.
Objective 5

Explanation

The Structure Plan provides the basis to inform changes to the District Plan to allow appropriate subdivision and development to take place and enables the Council to consider what infrastructure works should be included in the Long Term Plan.

The Structure Plan provide a basis on which to meet a project demand for housing and for the services to be designed to match. The Structure Plan is a non-statutory document and requires other statutory methods to give effect to it. The principles identified in the Structure Plan can be used to formulate provisions into appropriate statutory documents and Asset Management Plans.

Structure Plan Response

The Structure Plan provides the projected demand for residential uses to 2031 (some 1800 households). There is additional capacity in the Northern Growth Area to have additional residential development beyond 2031 and this is identified as deferred to recognise its potential for development in the longer term.

Densities may also be varied depending on the suitability of the land and the options for different household types and sizes.

The services needed for new residents will be provided from linkages to existing urban areas where services exist as well as new services in the Northern Growth Area.

A new school is proposed in the New Village, as well as a new local centre which will include provision of land and services such as open spaces and walking and cycling infrastructure to link facilities together.

Industrial development has been considered as an extension to or opposite Ulric Street. However, the suitability of this land is questionable given the flood hazard, its relatively constrained size, and its prominent visual position. A regional approach to industrial land location optimisation is advocated.
Objective 6

Support for development that is affordable and economic in the short and long term for both Council and the community.

Explanation

Structure planning provides a process by which to balance the supply of land for different forms of development with the provision of open spaces and infrastructure to ensure that the public costs are sustainable. It is a process which can also aim to provide a range of housing types through considering the form of development that will encourage different housing responses by developers.

Council’s asset plans and Long Term plans provide the basis by which Council’s investments are made in the public infrastructure of the city. The planning for the Northern Growth Area and the costs of infrastructure (open spaces, roads, water supply etc) provision will be factored into these plans. The financial contributions made by the development of the land in the Northern Growth Area will contribute to the funding of the infrastructure provision.

Structure Plan Response

The preparation of the Structure Plan has included consideration of the costs of development and its provision in Council’s asset plans. Consideration has been given to the timing of infrastructure investments and the benefits of new development contributing to the cost of upgrades to existing infrastructure that benefits the whole of the city.

The relationship between the public and private provision for some elements of the Structure Plan (such as open space) will require further evolution to ensure that the public needs are met whilst the costs are maintained at a sustainable level.
Implementation

Below are a set of actions considered necessary to give effect to the Structure Plan. It includes recommendations on the timing.

- Short means 0-2 years and would be expected to occur as part of the District Plan Change preparation and to ascertain PCC or other stakeholder positions to guide development planning.

- Medium means 2+ years and would be expected to be undertaken as part of development planning by developers and/or stakeholders, with some involvement by PCC. (Copy any changes in implementation table over from updated technical document)
<table>
<thead>
<tr>
<th>Ref#</th>
<th>Action STATUTORY PLANNING</th>
<th>Responsibility (primary and support)</th>
<th>Timing</th>
</tr>
</thead>
</table>
| SP1  | Review the District Plan for the Northern Growth Area with the anticipated changes:  
  • Application of the Rural Landscape Management areas  
  • Introduction of Northern Growth Area Structure Plan as a policy with its attendant provisions  
  • Introduction of a new tiered approach for subdivision/development in the Northern Growth Area  
  • Determine the Consenting Regime for approving a Comprehensive Development Plan in relation to Structure Plan and subsequent subdivision plans  
  • Prepare an example Comprehensive Development Plan content outline to guide the developer preparation regarding Council expectations for level of detail  
  • Application of targeted provisions to the Northern Growth Area relating to:  
    o Financial contributions  
    o Staging of development  
    o Density of development to open space ratio in development areas  
    o Planning for future centres  
    o Stormwater management  
    o Open space provisions  
    o Design Guidelines  
    o Walking and Cycling network standards  
    o Roading hierarchy and standards | PCC (Environmental Policy) | Short term |

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<table>
<thead>
<tr>
<th>SP2</th>
<th>Identify local centres at Comprehensive Development Plan stage and land set aside for future development</th>
<th>Developer</th>
<th>Medium term</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP3</td>
<td>Designate a site for a new primary school in conjunction with a new centre and shared use of open space provision (3ha combined – open space and school)</td>
<td>Ministry of Education and PCC</td>
<td>Medium term</td>
</tr>
<tr>
<td>SP4</td>
<td>Review the Regional Plan for the Taupo Swamp and Pauatahanui Inlet catchment to apply specific stormwater discharge requirements</td>
<td>Greater Wellington Regional Council</td>
<td>Short term</td>
</tr>
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</table>

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<thead>
<tr>
<th>Ref#</th>
<th>Action MOVEMENT NETWORK</th>
<th>Responsibility (primary and support)</th>
<th>Timing</th>
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<tbody>
<tr>
<td>MN1</td>
<td>Assess the capacity of the James Street/State Highway 1 intersection and at Grays Road to accommodate additional traffic from development in the North Camborne Development Area. This assessment is to determine the number of lots than can be created in the North Camborne Development Area that can access James Street/State Highway 1 intersection and/or Grays Road to provide for development prior to the opening of the Transmission Gully Motorway. Identify the measures required to discourage use of heavy vehicles and consider the capacity accordingly.</td>
<td>PCC (Roading)</td>
<td>Short term</td>
</tr>
<tr>
<td>MN2</td>
<td>Assess the capacity of the Rawhiti Road/Teihana Road West capacity, widening and intersection design to current State Highway 1 required to accommodate traffic from the Pukerua Bay South Development Area. Note this assessment is to consider the option as an alternative to a new bridge and road connection to the current State Highway 1 as shown on the Structure Plan. The use of current Teihana Road West/SH1 intersection for additional traffic will not be feasible until the opening of the Transmission Gully Motorway</td>
<td>Developer</td>
<td>Medium term</td>
</tr>
</tbody>
</table>

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| MN3 | Investigate the nature, configuration and design of Mana Esplanade (including bridge) following the opening of the Transmission Gully Motorway | PCC and NZTA | Short term |
| MN4 | Assess the impact of traffic from the Development Areas on SH58. NZTA has existing safety concerns on the SH58 route | PCC and NZTA | Medium term |
| MN5 | Investigate the location and design of new connection points from Development Areas to the current State Highway 1 following the opening of the Transmission Gully Motorway | PCC | Medium term |
| MN6 | Determine the location of the primary road system and confirm the corridors for these as part of the Comprehensive Development Plans to ensure connectivity to adjacent development areas | Developer and PCC | Medium term |
| MN7 | Investigate the options and costs for expanded Park and Ride facilities at the Plimmerton and Pukerua Bay Railway Stations | GWRC and PCC | Medium term |
| MN8 | Investigate the desired hierarchy for walking and cycling networks within the Northern Growth Area including a shared path, local road paths on and off the street, and tracks. Include in the investigation desired connections into existing networks beyond the Northern Growth Area including but not limited to provision for crossing current State Highway one to access the Plimmerton rail station as well as other facilities | PCC (Roading) | Medium term |

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### Wastewater

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Action WASTE WATER</th>
<th>Responsibility (primary and support)</th>
<th>Timing</th>
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<tbody>
<tr>
<td>WW1</td>
<td>Include the Development Areas and their development capacity into the wastewater trunk network masterplan.</td>
<td>PCC</td>
<td></td>
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</tbody>
</table>
### Stormwater

<table>
<thead>
<tr>
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<th>Responsibility (primary and support)</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW1</td>
<td>Develop a Catchment Management Plan for the development areas and their respective catchments to investigate stormwater area-wide control options within the catchment. These options would then guide the mix of measures that are appropriate to be used and the extent of these and to enable these to be provided for by developers in the CDP's</td>
<td>PCC</td>
<td>Medium term</td>
</tr>
<tr>
<td>SW2</td>
<td>Investigate stormwater area-wide control options within the catchment.</td>
<td>PCC</td>
<td>Medium term</td>
</tr>
<tr>
<td>SW3</td>
<td>Develop a strategy including suitable measures for stormwater management in the catchment that recognises the range of options as set out in 6.3.</td>
<td>PCC</td>
<td>Medium term</td>
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### Water Supply

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<thead>
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<th>Action</th>
<th>Responsibility (primary and support)</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS1</td>
<td>Liaise with GWRC regarding timing of upgrades to the bulk supply network including pipeline between Cleat St and Conclusion St in Whitby and bringing forward the proposed Belmont Rd booster pump station upgrade.</td>
<td>GWRC</td>
<td>Medium</td>
</tr>
</tbody>
</table>
### Open Space

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Action OPEN SPACE</th>
<th>Responsibility (primary and support)</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS2</td>
<td>Confirm locations and extent of land required for storage tanks and include these in Comprehensive Development plans as designated sites</td>
<td>PCC and developer</td>
<td>Medium</td>
</tr>
</tbody>
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<p>| OS1  | Identify location and extent of framework open spaces provided for in Comprehensive Development Plans with design including the interface with development and to provide for recreation amenity, stormwater management and ecological values | Developer                           | As and when development occurs |
| OS2  | Identify local purpose reserves (including playground, courts or other recreational needs provision) in Comprehensive Development Plans – see also SP3 in relation to school site – and include design for the interface with surrounding development and demonstrate satisfaction of standards | Developer                           | As and when development occurs |
| OS3  | Investigate and confirm the approach to open space and reserve acquisition, ownership and maintenance recognising the public interest and performance of network functions of some open space (such as for stormwater management), as well as considering the costs of land and its on-going maintenance | PCC                                 | Medium term             |
| OS4  | Determine the standards for local reserve provision (including the network expectations and facilities) within the Comprehensive Development Plans and at the time of subdivision | PCC                                 | Medium term             |
| OS5  | Determine the standards for the density of development and any requirements for open space to be maintained within a lot to address any stormwater management needs across the Northern Growth Area. | PCC                                 | Short term              |</p>
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<tr>
<th>Ref#</th>
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<th>Responsibility (primary and support)</th>
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<tr>
<td>GN1</td>
<td>Determine the standards and implementation options for the development of new neighbourhood centre (shops) in combination with open space and new primary school</td>
<td>PCC</td>
<td>Medium term</td>
</tr>
<tr>
<td>GN2</td>
<td>Determine the requirements for a new primary school and the basis on which the land area can be secured and sharing of facilities such as open space agreed</td>
<td>Ministry of Education and PCC</td>
<td>Medium term</td>
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<tr>
<td>GN3</td>
<td>Investigate the potential, in conjunction with the revocation of Mana Esplanade to a local road, the intensification potential for mixed use development within Mana and within Plimmerton for residential intensification. Investigations are to include consideration of the potential hazards in these lower laying areas, effects on character of existing urban areas, form of Mana Esplanade (e.g. parking, lane numbers and widths, cycle and walking, amenity improvements) recognising traffic volumes, and the economic feasibility of development including any commercial and residential combinations.</td>
<td>PCC (Environmental Policy) and NZTA</td>
<td>Short term</td>
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<tr>
<td>GN4</td>
<td>Establish protocols for the accidental discovery of archaeological sites and/or other mechanisms for the protection of heritage and cultural values within the Northern Growth Area.</td>
<td>PCC (Environmental Policy), Ngati Toa and Heritage NZ</td>
<td>Short term</td>
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<tr>
<td>GN5</td>
<td>Investigation as required the infrastructure costing for the Deferred Area when this in nearer to being needed</td>
<td>PCC or Developer</td>
<td>Long Term</td>
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