Proposed Pauatahanui Judgeford Structure Plan Technical Report

Prepared for Porirua City Council
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Executive Summary

This report provides the technical background and analysis that informed the development of the Structure Plan. The purpose of this Structure Plan is to guide future growth and development of the Pauatahanui Judgeford area for the next 30+ years, setting out the Council’s and community’s vision for the area. It has been developed through a collaborative process with the local community and key stakeholders. By itself it has no statutory effect and requires other statutory methods such as the District Plan to give effect to it. Changes to the District Plan are recommended to implement the Structure Plan.

The study area for the structure plan includes approximately 4600ha of primarily rural land located at the head of the Pauatahanui inlet. The extent of the Structure Plan study area is based on the Pauatahanui and Judgeford water catchment areas, but also includes the Ration Creek catchment as far west of the proposed Transmission Gully Expressway, and all land parcels which gain access from Flightys Road which do not have access from any other road. The residential zone to the immediate south-west of Pauatahanui village is excluded from the structure plan area.

A number of factors have determined the need for a Structure Plan. Strategic policy such as the Porirua Development Framework and the Wellington Regional Strategy has identified this area as suitable for accommodating rural lifestyle but also as an area requiring sensitive environmental management. Since 1995, there has been a notable increase in the subdivision of discretionary activity lots in the Rural Zone that are between 5 and 6ha in area. The pressure on this area for rural lifestyle living is expected to increase with the future development of the Transmission Gully Motorway.

KEY DRIVERS

Key drivers that have been considered in developing the Structure Plan included:

- **Landform:** The severely constrained nature of the area (landform, vegetation, streams, areas prone to flooding, earthquake fault lines) suggests a predominant rural or rural-residential use, ruling out residential activity at suburban densities or extensive industrial development.

- **Landscape values:** These are linked to physical, perceptual and associative aspects such as the distinct sequence of valleys and ridgelines, expansive views of the harbour and rural character and the network of heritage sites in the area. Development needs careful management to ensure these values are not compromised.

- **Sedimentation rates:** of the Pauatahanui Inlet are at alarming rates and as such any further development must ensure that there is a reduction of sediment inputs and pollutants and there is an increase in ecological restoration (increased plant cover, improvements in waterway habitats and species communities)

- **Strategies and plans:** Need to consider existing development patterns and local strategies and plans such as the Pauatahanui Village plan

- **Services:** No water and waste water reticulation exists in the area with no planned extension apart from limited provision to Pauatahanui Village meaning a minimum residential lot size of 3000m² is required for effective on-site waste water management for each dwelling in the rural area.

- **Accessibility:** With the development of Transmission Gully Motorway, the area will be within 20 minutes’ drive of most cities within the Wellington Region. Market analysis suggests a demand for approximately 350 rural-residential lots over the next 20 years, with a preferred lot size of about 2ha.

KEY INFLUENCES

The Structure Plan is a balancing of constraints and opportunities with incorporating feedback from the community. Key influences in developing the Structure Plan included:
• Landscape sensitivity (resulting from the physical, perceptual and associative aspects of landscape)
• Natural hazards (flooding, geotechnical)
• Ecology and ecosystems and in particular the sedimentation rates of the Pauatahanui Inlet
• Services (wastewater reticulation and treatment, water supply, network utilities and telecommunications)
• Storm water management
• Existing development patterns, including the Pauatahanui Village
• Community facilities
• Provision of open space and recreational areas
• Transportation and accessibility
• Heritage, archaeological and cultural sites

KEY FINDINGS

Key findings that were presented at the outset of the Structure Plan process included:
• The Porirua Harbour Strategy addresses sedimentation, pollution, loss of vegetation and habitat with an overall goal to reduce sediment input rates in the harbour by 50% by 2021.
• Market analysis suggests a demand for approximately 350 rural-residential lots over the next 20 years, with a preferred lot size of about 1ha.
• The severely constrained nature of the site (landform, vegetation, streams, areas prone to flooding, earthquake fault lines) suggests a predominant rural or rural-residential use, ruling out residential activity at suburban densities or extensive industrial development.
• The development of a logistics centre (cluster of transport, logistics and distribution enterprises on a single site) could be considered for this area given its strategic location following the construction of the Transmission Gully Motorway.
• No water and waste water reticulation exists in the area. A minimum residential lot size of 3000m² is required for on-site waste water management of the household.
• Landscape values in the Structure Plan area are linked to physical, perceptual and associative aspects such as the distinct sequence of valleys and ridgelines, expansive views of the harbour and rural character and the network of heritage sites in the area. Landscapes with particular significance under the RMA have been identified in the recent Landscape Study commissioned by Porirua City Council which will be finalised through key stakeholder and community consultation. The draft findings have identified ridgelines surrounding the Judgeford area and the backdrop to the harbour and the village as significant amenity landscapes as well as the extent of the coastal environment.
• A network of heritage sites and important transportation routes for both Maori and European with an acknowledged survey ‘gap’ in the Judgeford area.

An analysis of a range of constraints and opportunities were combined into one composite constraints map identifying areas with varying degrees of ability to accommodate further development. These range from the least constrained in the lower part of the catchment (green), moderately constrained (yellow) most constrained being generally very steep or visually prominent (red) and no build/buffer areas (black) (refer map below).

OPTIONS FOR FUTURE LAND USE AND SUBDIVISION

In response to consultation undertaken with stakeholders and the community in December 2011 and February 2012, four main options for future land use and subdivision were developed. These included:

Option 1: Status Quo

There would be no change to the current Porirua District Plan provisions. This option would result in no difference in the subdivision or development potential and retention of the existing pattern of Rural Zone and services.
Option 2: Allowing no further development
This option would involve amending the current District Plan provisions to prohibit (as far as possible) any further subdivision and development. This option would entail changing the Rural Zone to remove the right to subdivide further, effectively preventing further development.

Option 3: Allowing increased level of rural subdivision subject to revegetation/retirement of erosion prone land
This option would involve amending the District Plan to allow a moderate degree of intensification of rural land use and subdivision:

− Subdivision within the green areas with a minimum average lot size of 2ha, yellow areas with a minimum average lot size of 2.5ha and red areas with a minimum average lot size of 4ha all with a minimum lot size 1ha. The 1ha minimum would enable clustering of house sites depending on the topography of the land

− Subject to controls on building design and location requiring the planting of erosion prone land in native vegetation to prevent further sedimentation of the inlet.

This option also includes allowing some limited rural residential subdivision within easy walking distance on the hillside of Pauatahanui village.

Option 4: Allowing rural-residential subdivision on the lower parts of the Structure Plan area.
This option would involve amending the District Plan provisions to provide for greater rural lifestyle intensification but with a corresponding greater impact on the open rural character:

− Subdivision in the green areas with a minimum lot size of 3000m²

− Subdivision in the yellow areas with a minimum lot size of 2ha and an average lot size of 2.5ha

− Subdivision in the red area with a minimum lot size of 4ha with stricter design controls.

Other Options
Two add-on options were also considered which could be added to any of the above options. Add-on option A: Logistics centre, possibly with or without a regional recreational cluster.

Add-on option B: Judgeford Hamlet constituted clustered development at Judgeford with lots ranging in size from 3,000m² to 2.5ha with a mix of light industry and rural residential lots.

Following multi criteria analysis of the options, a preferred structure plan was developed based on Option 3.

Key features of the preferred options for inclusion in the Structure Plan are:

- Subdivision within the lower parts of the catchment with a minimum lot size of 1ha and a minimum average lot size of 2ha
- Subdivision within the moderately constrained hilly areas with a minimum lot size of 1ha and a minimum average lot size of 2.5ha
- Subdivision within the steep and highly visible areas (most constrained) with a minimum lot size of 1ha and a minimum average lot size of 4ha
- Any further subdivision of the catchment would be required to vegetate or retire areas erosion prone areas where this would have the most impact or provide a financial contribution to Council towards the cost of replanting on another site (likely to be further up the catchment)
- Judgeford hamlet at the intersection of SH58 and Moonshine Road providing for clustered development through a District Plan policy
• Investigate further the potential for a Logistics hub including whether or not there is demand for such a centre and if so exploring with the regional and city Council and landowners the suitability of a site within the study area
• Review of Pauatahanui Village zoning and potential future uses with limited rural residential development on the higher ground on the eastern side and allowing over the longer term limited conversion of residential to home occupations or boutique retail so long as the village character and scale is maintained. This further commercial and rural residential development would support existing and potentially increase the viability of further commercial and community facilities
• Future zoning of Lanes Flat Compound site post TGM construction to possibly include public reserve or recreation use or, light commercial or highway related service centre (fuel and food), other than retail and offices that detract from the CBD.

The largest open space opportunities are along the streams and waterways with opportunities to link the Regional Parks (Belmont and Battle Hill) with walking, cycling and bridleways as development takes place.

CHANGES TO THE DISTRICT PLAN

The Structure Plan is a non-statutory document and requires other statutory methods to give effect to it. Changes to the District Plan are recommended to implement the Structure Plan and include:

• Allowing further subdivision as outlined above with requirements for revegetation and fencing of erosion prone land. This includes steep land (>25 degree slope) streams and waterways
• Increased control on construction activities in relation to earthworks, building sites and new roads to reduce a significant source of sedimentation
• Increased compatibility requirements so accesses, sites and buildings blend in with the natural environment and visual character of the area.
• Site boundaries and roading infrastructure to follow the contours, natural geographic features and topography.
• Roading / driveway typologies to be designed and constructed so that they have minimal impact
• Archaeological assessments to be undertaken for any subdivision of land containing the WWII US Marine base
• Individual lots are landscaped and planted
• All fixed exterior lighting is directed away from adjacent sites and roads
• Buildings within individual lots are situated so that they are sited at least 30m from SH58 and 20m from all other road boundaries and existing external boundaries
• Residential dwellings are orientated to maximise solar gain and views
• Locate buildings on naturally occurring platforms and use balanced cut and fill
• Cluster buildings to provide for open space/rural/recreational activities and to minimise the need for new roads, accessways and services
• Restrict all earthworks within 20m of a water body (except for stream maintenance) and on slopes >28 degrees
• Provide for limited low-density rural residential development on the higher ground on the eastern side of Paekakariki Hill Road.

The above changes do not apply to the Judgeford Hills zone established as part of plan change 6 which will remain without any amendments.
NON REGULATORY METHODS

Non regulatory methods which will assist in giving effect to the structure plan include the development of a rural living guideline and continued public investment in Pauatahanui Village for smaller scale streetscape improvements, more street trees, small scale furniture, and entrance features on both ends of the Village and improvements to bus turning area, walking areas and car parking.

Refer below for composite constraints map identifying areas with varying degrees of ability to accommodate further development.
Porirua City Council
Pauatahanui Judgeford Structure Plan

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1 INTRODUCTION

The purpose of this Structure Plan is to guide future growth and development of the Pauatahanui Judgeford area. The Structure Plan is a non-statutory document and requires other statutory methods, such as the District Plan, to give effect to it. It is planned to undertake a review of the rural provisions of the District Plan following the adoption of this report and the Structure Plan maps in 2013.

This report accompanying the Structure Plan sets out the Council’s and Community’s vision for what sort of development should occur in the area over the next 30 years. It has been developed through a collaborative process involving Council officers, Ngati Toa, the local community, local business owners, and a number of key stakeholders including the New Zealand Transport Agency (NZTA), Greater Wellington Regional Council (GWRC) and the New Zealand Historic Places Trust (NZHPT).

The Porirua Development Framework adopted by Porirua City Council (PCC) identifies a need to prepare a Structure Plan to guide future development in the Pauatahanui Judgeford area. The key drivers for the initiation of this Structure Plan are:

- Rural lifestyle subdivision and development in the area has been intensifying in recent years;
- The Proposed Transmission Gully Motorway will add further pressure for land utilisation in the area;
- The sensitive receiving environment of Porirua Harbour needs careful management;
- Any new development needs to take into account the aspirations of the local community and be of a type and intensity that is appropriate for the area.

1.1 Outline of Report

The Pauatahanui Judgeford Structure Plan Technical report is set out as follows:

1. Introduction - provides an overview of the existing Pauatahanui Judgeford area and an outline of the Structure Plan process.
2. Sets out the project objectives.
3. Provides a demographic profile overview and identifies future growth and demand for future landuses within the area.
4. Identifies the relevant regional and strategic and statutory planning framework that underpins and supports the development of the Pauatahanui Judgeford Structure Plan.
5. Identifies the constraints and opportunities associated with the Pauatahanui Judgeford area.
6. Provides a summary of the consultation undertaken on the development of the Structure Plan to date.
7. Assesses the options for the Pauatahanui Judgeford area
8. The preferred options are detailed.
9. Outlines Implementation/Proposed changes to the District Plan and non-regulatory methods

1.2 Pauatahanui Judgeford Structure Plan Area

Initially the extent of the Structure Plan study area included the Pauatahanui and Judgeford water catchment areas. This catchment provides a natural boundary when defining an area’s effect on surrounding environments, which is particularly important when considering the management of Porirua Harbour.

During the public consultation workshop on 6 Dec 2011, some residents felt that the Structure Plan area should be extended to the north to include the Ration Creek Catchment and the full length of Flightys Road. Following that meeting, consideration was given to these suggestions and as a result a Structure Plan area was expanded to include the Ration Creek catchment as far west of the proposed Transmission Gully Expressway, and all land parcels which gain access from Flightys Road which do not have access from any other road.

The adjoining Horokiri Catchment has not been included in the Structure Plan area for two reasons.

Firstly, Paekakariki Hill Road has comparatively high traffic volumes and traffic safety issues that need to be addressed before consideration is given to any further intensification of land uses in the area. To a large extent, the existing alignment, difficult land contours and potential land instability in the vicinity of Paekakariki Hill Road alignment would make road alignment improvements there very costly. Therefore achieving any meaningful reduction in the number and severity of motor vehicle accidents through road upgrading measures is likely to present funding difficulties. Furthermore, possible funding through district plan mechanisms (such as road upgrading contributions) may very well prove impractical, due to necessitating a potentially high amount of road upgrading contribution per new lot being created. In this regard, landscape and natural hazard constraints in the Horokiri catchment are likely to result in a relatively low yield of additional lots, thereby limiting the effective ability to rely upon road upgrading contributions from development to resolve the traffic safety issue.

Alternatively, any reduction in the number of motor vehicle accidents (and particular high severity crashes) on Paekakariki Hill Road depends upon the ability to significantly reduce two-way traffic volumes there. These issues may be able to be substantially resolved after the anticipated Transmission Gully Motorway has been constructed because the future motorway is anticipated to reduce traffic volumes on Paekakariki Hill Road by around 70 percent. In the meantime, the traffic safety issues in Paekakariki Hill Road alone make the question of significant potential further land subdivision and rural-residential intensification quite problematic in the balance of the Horokiri catchment.

Secondly, flood hazard modelling has not been undertaken for the Horokiri catchment, and this would be a separate exercise, which this structure plan project is not resourced for.

The western boundary of the extended area follows the alignment of the Transmission Gully motorway. The northern extent of the extended area has been set on the ridgeline.
to the north of the last houses of Flighty’s Road and the eastern boundary is aligned with the edge of the Whakatiki catchment through to its connection with the Pauatahanui Catchment.

The residential zone to the immediate south-west of Pauatahanui village was removed, as the area is already developed. The extent of the Structure Plan Area was also modified to be consistent with the Porirua City Council District boundary.

The extent of the Structure Plan study area is illustrated in Figure 1 below.

Figure 1: Extent of the Pauatahanui Judgeford Structure Plan Study Area

The landform of the Structure Plan area is in the form of a basin with a broad valley floor rising gradually from the Pauatahanui Inlet edge to rolling foothills and steeper upper slopes. An increase in rural residential development has occurred over the last 20 years.
within the lower foothills of the Structure Plan area, primarily concentrated around SH58 and local roads. Existing land uses within the Structure Plan area include rural lifestyle living and forestry.

In summary, the study area for the structure plan includes approximately 4600ha of primarily rural land located at the head of the Pauatahanui inlet. The Structure Plan area is held in 452 rural parcels of land ranging in size from 0.01 to 771ha. The average lot size within the area is 12.96ha. The Structure Plan area incorporates the Pauatahanui Village located at the head of the inlet and is divided by State Highway 58 (SH58) which forms a link from State Highway 1 (SH1) at Paremata and the Hutt Valley at Stokes Valley.

The Structure Plan area is currently mainly zoned 'Rural', under the Operative Porirua City District Plan (November 1999). There are two other zones within the area, namely: the 'Judgeford Hills Zone' at the southern end of Belmont Road, and small pockets of 'Open Space Zone' in the vicinity of Pauatahanui Stream.

The Judgeford Hills Zone was the result of a private plan change and at this stage it is proposed to leave the Judgeford Hills Zone as is, and not provide for changes to it as part of this Structure Plan (Refer zoning map below).

Figure 2: Current Porirua District Plan Zones
1.3 Structure Plan Process

The Pauatahanui Judgeford structure plan process commenced in October 2011. The process is set out below:

- **Stage 1:** Project initiation and familiarisation
- **Stage 2:** Workshop 1 (3 November 2011) – this was for information gathering and scoping issues, and was attended by Council officers, discipline specialists, and representatives from key stakeholders. The outcomes of the workshop were:
  - Identification and presentation of sources of information including existing reports and known issues.
  - Proposing an initial study area for further in-depth analysis
  - Scoped factors to be considered, and:
  - Defined the preliminary landscape framework.
- **Stage 3:** Preparation for Workshop 2 by each discipline
- **Stage 4:** Integrated Strategic Logic Workshop held over 3 days (6-8 December 2011). This involved
  - an evening public workshop (on 6 December 2011) scoping opportunities and issues of concern to the community in Pauatahanui and Judgeford in order to inform the development of future scenarios for the structure plan,
  - proposing and analysing a range of land use and subdivision development scenarios
  - an assessment of risks, mitigation and cost and benefit implications.
  - An assessment of the economic implications of the proposed development scenarios was also undertaken
  - A preferred future development and subdivision concept option was put forward for further development and subsequent consideration with the community.
  - A core integrated and strategic logic and vision for the area was proposed.
- **Stage 5:** Preparation of Preliminary Draft Structure Plan
- **Stage 6:** Workshop 3 – Interactive Community Planning Exercise held over 2 days (14 and 15 February 2012). The purpose of this workshop was to scope the preferred land use and development options identified in the previous workshop after a period of further research and refinement. It was considered that any resulting proposed Structure Plan and Action Plan should fully address all relevant issues to an optimal degree for stakeholders and the community and to ensure the agreed strategic intention remains intact. The workshop included an
interactive session with members of the local community on 14 February 2012, which provided valuable input and feedback. The preliminary draft of the structure plan was presented during this workshop.

- Stage 7: Drafting of a proposed Structure Plan and associated action plan taking into account the information obtained from the previous 6 steps. This includes preparation of all necessary material for the Council to consider prior to determining whether to publicly notify a proposed structure plan for formal submissions. This will also involve the consideration of submissions and approval process for Council adoption of a final structure plan and accompanying implementation programme. This report constitutes the early part of stage 7 with more formal feedback to be considered following its release in July 2012. As such it is likely that further changes will be made in response to written and verbal submissions.
2 PROJECT OBJECTIVES

2.1 Introduction

A number of factors have determined the need for a structure plan for the Pauatahanui Judgeford area including direction from strategic policy documents, pressure on the area for rural lifestyle living and the future development of the Transmission Gully Motorway. This section details the reasons for the development of a structure plan and sets out the project objectives which underpin the structure plan. The objectives have been developed to guide the preferred development option and assist in guiding the development of a future plan change to the Porirua District Plan. In essence, the objectives identify what the structure plan is seeking to achieve.

2.2 Background

This project has arisen for a number of reasons:

- Porirua's rural area is under pressure for change. A number of factors are combining to drive change away from traditional rural pastoral farming to peri-urban intensification, notably:
  - Since 1995, there has been a notable spike in the subdivision of discretionary activity lots in the Rural Zone that are between 5 and 6ha in area, with 26 such lots in 1995, and 153 such lots by 2009. All of these existing lots feature on-site provision of water supply and disposal of sewage and storm water. Over the same period the number of dwellings in the Rural Zone has doubled to over 400 (excluding the dwellings envisaged by the Judgeford Hills Zone), and the average capital value of property in the rural zone has increased from about $250,000 to $650,000.
  - The continued subdivision of small lots arguably reflects the desirability of lifestyle choice that the properties within the Rural Zone provide. Whilst the rate of subdivision has slowed since 2008 with the onset of the global economic recession, it is assumed that the general trend of further such subdivision will continue as the economy recovers. This trend is expected to intensify as progress is made on the development of the Transmission Gully Motorway (TGM) through the study area and accessibility is further enhanced. Construction of TGM is envisaged to commence in 2016 and be completed by 2021.
  - The reality of rural land productive potential in Porirua is limited. In terms of landcover, 55% of the rural area is pastoral (sheep, wool and cattle) grazing, with 24% in reverting 'feral' scrubland that has become too uneconomic to farm. Approximately 18% of the rural area is covered in pine plantation, and 1.5% is actual remnant indigenous vegetation. A further 1.5% is comprised of other land cover (including wetlands, gravel and rock). The rural area is 95% comprised of Class VI soils (in the NZLRI

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1 Average Capital Value for Rural Zone properties had increased to approximately $800,000 by the end of 2011.
soil classification system), with poor fertility and poor hydrology over much of the area.  

- Pastoral farming does not bring enough revenue to be economically self-sustaining in Porirua. Most, if not all, landowners in Porirua’s rural area supplement revenue from their small farm holdings with salaried work or other employment within the Greater Wellington metropolitan area. This is also driving pressure for landowners to be able to realise and/or unlock value from their rural property investment(s).

- The Porirua City District Plan was developed in the 1990s and took a simple approach to rural area development. The rural area initially contained a single Rural Zone subject to two objectives and associated policies aimed at preserving a contrast between the Rural Zone and other zones by encouraging primary production and maintenance of rural character. This can be summed up as amounting to seeking a ‘holding pattern’ with respect to rural area development. It does not reflect the pressure on the rural area for rural lifestyle development.

- In terms of its approach to subdivision and development, the District Plan Rural Zone controls for subdivision provide for lots 40ha and above as a controlled activity, and lots between 5ha and 40ha as a discretionary activity. Lots smaller than 5ha are a non-complying activity. All new buildings require resource consent.  For example: one dwelling per title with a minimum land area of 2,000 sq metres is a controlled activity (subject to controlled activity standards and terms). Farm buildings are subject to similar provisions. Furthermore, any earthworks exceeding 1,000 sq metres in the Rural Zone, require resource consent.

- The present District Plan was notified on 25 October 1994 and became operative on 13 October 1999. The amendments to date have been:
  - Plan Change 6, which introduced the Judgeford Hills Zone, was the result of a private plan change request, and which became operative on 5 December 2008. This zone is a 153ha site in the vicinity of Bradey and Belmont Roads and features provision for a structure planned development of 40 dwellings in several clusters of lots that are a minimum of 2,000 sq metres, none of which have been developed yet. These smaller lots would be interspersed with several larger 40ha lots.
  - Proposed Plan Change 7, which introduces provisions for the management of commercial-scale wind farms in the Rural Zone. This proposed plan change is presently under appeal, but continues to have effect as it was notified prior to the 2008 amendments to the Resource Management Act 1991. The appellants and respondent Council have agreed to defer resolution of the appeals pending further progress on the Council’s rural review programme, of which the Pauatahanui-Judgeford Structure Plan project forms a component.
  - Proposed Plan Change 8, which introduces some areas of Open Space Zone for publicly-owned reserve land. There are small amounts of this land within the study area.

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2 These land cover figures have been summarised from Land Cover Database 2
3 This is in addition to Wellington Regional Soil Plan rules for earthworks on 'Erosion Prone Land', which for the whole of Porirua is any land with a ground slope greater than 28 degrees (Area 2 in the Regional Soil Plan).
• Porirua City Council has recognised various development pressures in the 2009 Porirua Development Framework (PDF). The PDF sets out a physical spatial planning framework for Porirua and prioritises various strategic actions for dealing with a range of future growth and development issues. The PDF Detailed Action Plan includes provision for responding to the issues of rural lifestyle subdivision and development and aims to develop a structure plan for Pauatahanui and Judgeford that is sustainable and best suits the needs of the region and the district.

• Residents of Pauatahanui, in conjunction with the Pauatahanui Residents Association, have produced a Pauatahanui Village Plan which sets forth desired community outcomes in terms of the environment and amenities of Pauatahanui.

• The Wellington Regional Strategy identifies Pauatahanui and Judgeford as one of the regional focus areas that are important to the successful implementation of the strategy as part of its focus on investment in good regional form. The strategy identifies a need in these areas to be proactive in managing environmental sensitivity and sustainability.

2.3 Project Objectives

The project objectives are as follows:

• To respond to the strategic study programme envisaged for the Pauatahanui Judgeford area in the Porirua Development Framework Detailed Action Plan, the Pauatahanui Village Plan and the Wellington Regional Strategy.

• To scope and consider a range of land use and development scenarios for the future of the area.

• To develop a preferred land use and development scenario which is broadly supported by key stakeholders and which includes; an assessment of risks, likely mitigation requirements, and cost and benefit implications.

• To prepare a Structure Plan that is able to:
  o Guide land use, development and subdivision within the Pauatahanui Judgeford area in a co-ordinated, efficient and sustainable manner.
  o Inform the preparation of Council’s long term infrastructure (water, wastewater, stormwater, transportation, green, and leisure and community facilities) asset management plans for the area.
  o Inform the funding of development of such assets.
  o Inform the review of the Porirua City District Plan.
  o Inform actions to give effect to aspirations in the Pauatahanui Village Plan.

• To prepare an implementation programme for delivering the Structure Plan.

• To enable the Council to meet its obligations under relevant legislation, including the Reserves Act 1977, the Resource Management Act 1991, the Local Government Act 2002, and the Land Transport Management Act 2003.
3 STRATEGIC CONTEXT AND GROWTH PROJECTIONS

3.1 Introduction

There are a number of relevant regional and district strategies, frameworks and plans which provide direction for the accommodation and management of growth as well as providing guidance for decisions on projects to enhance the Porirua City Centre, improving the health of the harbour and its tributaries and providing a framework for planning and decision making on matters concerning the Pauatahanui Village. The strategic documents which are relevant to the preparation of the structure plan include:

- The Wellington Regional Strategy (2007)
- The Porirua Development Framework
- Porirua City CBD Revitalisation Plan (2009)
- Porirua Harbour and Catchment Strategy and Action plan (2012)
- Pauatahanui Village Plan (2009)

This section provides a review of these documents in relation to the structure plan. The demographic and economic growth projections for Wellington and Porirua have been examined in detail in the \textit{Land use activity demand and supply analysis} by McDermott Miller Ltd (Appendix B). This section provides a summary of the findings of this analysis including a demand and supply profile of the rural residential market and demographic and economic growth projections for Wellington and Porirua and possible commercial and industrial threats and opportunities arising from the Transmission Gully Motorway.

3.2 Regional and District Strategies and Frameworks

The Wellington Regional Strategy, 2007

The Wellington Regional Strategy (WRS) is a growth strategy that has been developed by the regions nine territorial authorities, in conjunction with central government and the regions business, education, research and voluntary sector interests. The strategy has an economic focus, albeit with spatial ‘regional urban form’ implications relating to:

- Urban and rural growth
- Rural lifestyle
- Open space
- Environmental management
- Role of regional centres
- Integration of transport and land use

The Strategy identifies high level outcomes for strategic regional economic growth and it recognises that the region offers excellent opportunity for rural residential living and the benefits of making such lifestyle options available in certain areas. The Strategy also notes that there are potential threats from such development, like potentially taking quality soils out of rural production, or threatening sensitive ecosystems or significant
landscapes. The strategy identifies eight focus areas for regional growth which are particularly important to the successful implementation of the strategy and these are shown on the following map.

Figure 3: Regional Focus Areas. Source: Wellington Regional Strategy (2007)

The Pauatahanui Judgeford area is identified as an area that is likely to come under development pressure or which represents an opportunity. The Pauatahanui area is described as being important because ‘it is close to the proposed Transmission Gully Motorway and State Highway 58 interchange. This creates pressure for development that
could undermine the regions quality of life objectives, especially given the ecological importance of the Pauatahanui Inlet.’

The regional strategy document sets out actions for the successful implementation of the strategy, one of which is for the Porirua City Council to complete a structure plan for Pauatahanui recognising environmental sensitivities of the area in the near future. The WRS review was completed in June 2011 and is currently being refreshed. There is currently no proposal to change the regional urban form part of the Strategy.

The Porirua Development Framework

The Porirua Development Framework identifies potential rural residential growth areas in Pauatahanui; one is in the Judgeford area (not including Lanes Flat) and the other is to the north of SH58, encompassing land around Flightys and Mulhern Road.

It also identifies two possible industrial/growth areas, located around the SH58/Transmission Gully interchange and at Judgeford on both sides of SH58. The framework document notes:

These are areas that may or may not be suited for very long term strategic industrial/business development purposes. However, they are identified as they may have one or more characteristics that may possibly make them suitable as future industrial/business growth areas...Council accepts that it is entirely conceivable that due to the area’s environmental sensitivity and infrastructure constraints, the outcome of any such structure planning exercise could be one that entirely discounts the possibility of this area being used as an active industrial/business development growth area.
Porirua City CBD Revitalisation Plan, October 2009

The Porirua City CBD Revitalisation Plan incorporates ideas and recommendations to guide the Council’s decisions on projects to enhance the city centre. The Council set about creating a City Centre Revitalisation Plan in response to concerns raised by local businesses and the community, which included business viability, unflattering architecture, lack of internal connections and low perceptions of safety. In the broader context, the revitalisation plan sits within and is consistent with the Wellington Regional Strategy. The document includes artists’ impressions, timeframes and prioritisation of work in various sub areas. The plan sets out a vision and actions aimed at rejuvenating the economic activity and overall experience of the city centre. It is a long-term project rolling out initiatives over a 25+ year period. The relevance for this Structure Plan is that the CBD should continue to be the major shopping centre of the city and any shift of retailing away from established areas such as next to Transmission Gully Motorway in the study area could have significant adverse effects on the vitality and vibrancy of the CBD.

Porirua Harbour and Catchment Strategy and Action Plan March 2012

The Porirua Harbour and Catchment Strategy and Action Plan provides a framework to guide the future activities of agencies, industry, developers and the general community. The document lists and describes activities that the different agencies are committed to completing or achieving over the next 10 years, towards improving the health of the harbour and its tributaries.

The vision set out in the strategy is “a healthy catchment, waterways and harbour, enjoyed and valued by the community.”

Loss of vegetation, urban development and modifications to the harbour edge and streams have resulted in the loss of important intertidal spawning, nursery and feeding grounds for marine life. Many of the cultural resources of the harbour have been lost or are unusable. Recreational activities such as swimming, waka ama, sailing, rowing, kayaking, windsurfing and speed boating are also affected by the excessive sediment build-up in the harbour and poor water quality. Further development and Porirua City’s own growth within Porirua basin could further affect the health of the harbour.

The agencies involved have agreed that their actions and involvement will be guided by the following principles:

- Integrated management of harbour and catchment resources;
- Priority given to restoring, conserving and enhancing the catchment, waterways and estuary values;
- Environmental sustainability;
- Evidence-based decision-making and management;
- Effective community, business and agency involvement and stewardship;
- Recognise the special relationship of mana whenua Ngati Toa Rangatir with the harbour.

Extensive research about the health of Porirua Harbour has identified three key issues facing the harbour: excessive sedimentation rates, pollution and ecological degradation.
• Excessive sedimentation rates: The current sedimentation rates in the Pauatahanui Inlet are significantly more than the healthy 1mm per year. The primary source of excessive sedimentation in Porirua Harbour is from terrestrial sources. Terrestrial sediment originates from erosion prone rural land, stream bank erosion, and development earthworks.

• Pollution levels: Heavy metals, pesticide residue, excess nutrients, vehicle emissions and pathogens make a number of locations in the harbour unsuitable for swimming and other contact with the harbour.

• Degraded ecology: Sedimentation, pollution and direct harbour edge modification have significantly destroyed areas of the original estuary habitat and reduced critical sub-tidal, inter-tidal and harbour edge ecologies. Ecological surveys show that if we reduce and better manage the impacts of human development in the catchment then improvements in the ecological health of the estuary are possible.

The Strategy sets in place three key objectives and a number of targets;

• Reduce sediment rates through improved land management and land use practices, catchment protection and re-vegetation and where possible localised management of marine sand banks and improved harbour flushings. The interim target to 2021 is for a 50% reduction in current sediment inputs from all tributary streams and the long term target is for a 1mm per year average rate by 2031.

• Reduce pollution input by reducing faecal inputs, capping nitrogen inputs, reducing toxicant inputs, and additional litter management. A significant reduction in toxicants from the Porirua Stream is noted as a particular target.

• Ecological restoration through estuary re-vegetation and stream bank re-vegetation and habitat enhancement. One of the targets in the strategy is riparian plant cover over the majority of the length of streams.

The strategy sets out a programme of activities to achieve its objectives. The actions which are of particular relevance to this structure plan and can be facilitated through the structure plan include:

• Develop and implement a prioritised whole-of-catchment re-vegetation plan;

• Promote re-vegetation.

Public consultation on a draft strategy and adoption of amendments by the Councils and the Runanga was completed late last year. The final Porirua Harbour and Catchment Strategy and Action Plan was released on 24 April 2012.

**Pauatahanui Inlet Action Plan August 2000**

The intention of the Vision and implementation of the Pauatahanui Inlet Action Plan is to achieve better environmental outcomes. The vision of the action plan is:

“Enhance the quality of the environment by protecting the integrity of existing ecosystems and by restoring degraded ecosystems wherever possible

Enable people to enjoy recreational activities and to undertake economic activities without compromising the reasonably foreseeable needs of present and future generations.”
This can only be achieved by management agencies and the community working together.”

The action plan is organised around 8 themes and for each theme, the most significant issues are identified and possible actions to address the issues are listed. The 8 themes are: research/information, inlet ecology/hydrology, Pauatahanui Inlet Catchment, harbour activities, roading, potential conflicts, management and education.

Pauatahanui Village Plan 2009

The Pauatahanui Village Plan is intended to provide a framework for planning and decision making on matters concerning development and maintenance of the village, and to some extent the surrounding area. The Village Plan provides a guide for the Porirua City Council and local community groups.

The Village Plan sets out the four fundamental components that must be protected and enhanced in any future development affecting the area. These components are:

- An estuary which is an area of national significance;
- A history which is of national importance and unique to Porirua City;
- A rural buffer zone which contains the village and, together with the estuary, defines its boundary;
- A commercial centre providing a range of small-scale, specialist services which meet the day-to-day needs of residents, local and from surrounding areas, as well as increasing numbers of recreational visitors.

The Village Plan sets out the actions which are required to protect and enhance the contribution of the village to the quality of life in Pauatahanui and to foster sustainable environmental, social and economic development. The actions required are:

- The provision of safe and pleasant walkways and cycleways to enable children to have more independence of movement and residents and visitors to be less reliant on motor vehicles to access the village;
- Actions to celebrate, protect and raise awareness of the unique environmental and historical qualities of the village and its surrounds;
- Appropriate and commercial development in the village centre;
- Facilities and services which protect the natural environment, enhance the physical environment and foster community interaction and pride;
- Ongoing and creative interaction between key council staff and the village community to ensure that the services provided by council are aligned with the aspirations of the community.

The Village Plan refers to a village contained by a rural buffer zone. This is an area of land that would be retained for rural and lifestyle use to form a protective ring around the village, ensuring the village remains a distinctive entity rather than becoming an extension of Whitby. To the east of the village the current District Plan does not provide for subdivision of less than 5 hectares except as a non-complying activity. To the west and north the village is similarly protected by the Wildlife reserve which is 80% owned by the Department of Conservation (DOC). The most important function of the buffer zone is to define the edge between Whitby and Pauatahanui Village. Lanes Flat forms the major
part of the buffer between the village and Whitby. The Pauatahanui residents consider it very important to retain this as a green area. Lanes Flat has historical associations with Pauatahanui Village and was originally known as Staces Flat after one of the earliest settlers and benefactors of Pauatahanui. Lanes Flat is also noted as being a flood plain for the estuary. The Village Plan recommends that Porirua City Council and the Pauatahanui Inlet Community Trust negotiate with the NZTA to preserve that part of Lanes Flat not required for Transmission Gully Motorway as a public space/reserve.

Various aspects were identified in the stage 2 phase of preparing the Village Plan in 2009 including suggestions for:

- Improved pathways
- Community focus area (notice board)
- Bus turning issues (near Pauatahanui School)
- Wildlife reserve entrance
- Improved services
- Local signage

The development of this Draft Structure Plan takes into account the fundamental components of the Pauatahanui Village and the necessary actions to protect and enhance the important qualities of the village. Village business owners and residents have had input into the draft structure plan through stakeholder meetings and a public meeting. Some residents wanted no further development in the village while others favoured more dwellings and/or more services and local employment, leading to greater diversity in the village. The aspirations of the village community that are outlined in the Village Plan have been built on in this draft structure plan with regard to future development of Pauatahanui Judgeford area allowing for some further residential and commercial development consistent with a rural village (refer 5.2 development options).

### 3.3 Land-use Activity Demand and Supply Analysis

The following provides a summary of the findings of the McDermott Miller Strategies Land-use Activity Demand and Supply Analysis Report (refer Appendix B)

McDermott Miller Limited, a strategy planning and economics consultancy, is part of the MWH consortium commissioned to assist Porirua City Council prepare the Pauatahanui-Judgeford Structure Plan. It has been asked to provide market demand/supply and economic advice during preparation of the Pauatahanui-Judgeford Structure Plan. Specifically, it was required to:

1. Provide a demand and supply profile of the rural-residential market in Wellington Region and Porirua.
2. Prepare projections of demographic and economic growth for Wellington Region and Porirua
3. Identify commercial/industrial development threats and opportunities arising from construction of the Transmission Gully motorway in the Pauatahanui-Judgeford area.
4. Derive population, household and employment changes in the Pauatahanui-Judgeford area under various scenarios of residential, industrial and commercial development.
Approach

Rural-Residential Activity

They built up a picture of ‘lifestyle’ values and preferences underlying rural-residential demand in the Wellington Region from a combination of published sources, specially ordered data, and qualitative survey of Wellington Regional real estate agents. An analysis of the distribution and financial value of rural residential lifestyle properties by TLA across the Wellington Region, in Porirua City, and in the Pauatahanui-Judgeford area, using a special data order from Quotable Value was undertaken. This yielded a statistical pattern of rural residential activity hitherto unavailable in Wellington Region.

They then estimated the household and population capacity of the Pauatahanui-Judgeford Study Area. A model that subdivides existing (2012) land parcels according to taking into account the minimum sizes allowed under each of the land suitability classifications (ie “Green Area”, “Yellow Area” and “Red Area”) was developed and applied. They then synthesised the rural-residential demand and supply analysis which gives a demand curve that indicates possible take up of newly developed rural residential properties in the Study Area, over a 20 year planning horizon.

Commercial and Industrial Activity

For Commercial and Industrial Activity they drew on various pieces of work including the following:


- The Industrial Land Project carried out by Wellington Regional Council as part of the Wellington Regional Strategy; refer: http://www.wrs.govt.nz/industrial-land/

- Select review of international and NZ development trends in transport and logistics centres.

Summary Findings 1: Rural Residential Development

Demand for Lifestyle Properties:

- Currently rural residential properties in Porirua take around 6 months to sell.
- There are mixed views whether demand will return to levels seen during the property peak of 2006/7. Some real estate agents think not, others think demand for lifestyle properties will always be high in buoyant economic times.
- Real estate agents indicate that a rural residential property of 2.0-2.5 hectares has the greatest level of demand, because (compared to a larger block) it does not require as much maintenance and purchase price is at a level that is affordable to a greater range of people.
• A Porirua agent made the following comment: “There is a shortage of the size of block people want. There are too many blocks at the 5 hectare size. There is a niche of people living close who would love the chance to buy a small sized lifestyle block.”

Supply of Rural Residential Properties:
• Total supply of “Lifestyle Improved” (Quotable Value’s term for “rural residential”) properties in Wellington Region was 6227 in 2011. This represented an increase of 20% since 2006, considerably above the 7% increase in total dwellings.
• Total supply of “Lifestyle Improved” properties in Porirua City was 352 in 2011, or a 5% of share of the Wellington Region total. This represented an increase of 19% since 2006, compared to a 6% increase in total dwellings.
• Estimated annual net increase in rural residential living in whole Wellington Region is 120 dwellings.
• Porirua’s current share of this annual growth is around 3%. On average, there are 4 new lifestyle properties per year in the city, of which 3 are in the Pauatahanui-Judgeford area.

Household and Population Capacity of Study Area:
• The system of classifying land in the study area as “Green” “Yellow”, “Red” or “Black” depending on the suitability of the land for purposes of further development as discussed elsewhere in the Structure Plan report.
• There are around 262 dwellings (estimated population 724) in the study area as of 2012. Of these, some 180 are on land parcels with at least some land classified “Green”.
• The minimum lot sizes in our “base case” analysis is 2 ha on Green Area land, 2.5 on Yellow Area land, and 5 ha on Red Area land.
• There is theoretical capacity for some 196 dwellings on future “Green Area” lots, and some 215 dwellings on “Yellow Area” lots giving a total capacity of 411 on lots classified as either “Green” or “Yellow”, or an increase of 196 from current 215.
• The increment on Green and Yellow land i.e. 196 means annual average sales of around 10 per year, or 8% of current regional demand.
• There is theoretical capacity for some 292 lots on lots entirely classified as “Red”, giving a total capacity of 703 i.e. 441 more than the current 262.
• High density development (Option 4, with a minimum lot size on Green Area land of 0.3 ha) is not realistic and is not sustainable by regional demand for rural residential living. Housing density under the option would be similar to suburban zones. Such development would be contrary to Porirua City Council’s Porirua Development Framework (2009) which identifies the “North of Camborne” area as the only Potential Urban Growth Area in the City.
• Option 3A has been selected in principle by the SP team as the preferred scenario, and therefore it is the only option we have analysed further in the interaction of supply and demand.

Interaction – Demand and Supply:
• Improved affordability - market demand for smaller blocks (2-2.5 ha) will be greater than present market demand in the area for 5 ha blocks.
• Market conditions will improve - demand generally likely to be higher as these subdivided properties will not come on the market for say 2 years by which time market conditions are expected to improve.
• Competitive advantages will favour Pauatahanui-Judgeford; location attractiveness will grow with Transmission Gully improving access to Wellington CBD.
• Taking demand factors into account, full development of the Green and Yellow areas could be achieved near the end of the 20 year planning horizon.
• Averaged over a 20-year planning horizon, the increment on Green and Yellow land of 196 means annual average sales of around 10 per year or 8% of current regional demand of 120.
• But development would not be at a steady rate. Under a scenario of rapid initial development and suppressed demand for blocks in the 2-2.5 ha range on both the supply and demand sides, development of such blocks could be running at around 24 per year over 2015-17. This represents some 20% of current regional demand, compared a share of only 2.5% at present.
• Under existing zoning provisions, there is already capacity in the Red area land for an additional 245 dwellings. Clearly, current demand for 5 ha properties is nothing like what would be required to absorb 245 new properties over a 20 period, in addition to the smaller properties on the Green and Yellow areas.

Summary Findings 2: Economic and Commercial Development Opportunities and Threats

Opportunity for a Logistics Centre at Judgeford:
• The Judgeford area is highlighted as a “Possible long-term industrial/business growth area” in Porirua City Council’s Porirua Development Framework (2009).
• The Pauatahanui–Judgeford area includes relative flat land (up to 180 ha) along SH58 that could be used for business/industrial activities, as it already is to a limited extent. Because of the location of the study area at the nexus (post Transmission Gully) of Wellington’s transport routes and the availability of regionally scarce flat land suitable for industrial development, a logistics centre is an appropriate activity for a portion of land in the Judgeford area.
• A Logistics Centre is a cluster of transport, logistics and distribution enterprises managed by a commercially neutral legal body. Facilities include warehouses, distribution centres, storage areas, offices, truck services, accommodation and catering services for drivers etc.
• Logistics Centres tend to locate near urban centres, close to motorways, ports and rail, but where there is low potential conflict with residences making round the clock operation possible.
• The Logistic centre would increase efficiency of freight industry in Wellington, including improved competitiveness of Port of Wellington by providing site for consolidation of goods prior to export, or to breakdown imports.
• Judgeford has a central location in Wellington Region, at the junction of both SH1 (Transmission Gully) and SH2 and equal proximity to the industrial/commercial activities in Porirua, Wellington City, Hutt Valley and Kapiti Coast.
• It will probably be possible to consolidate a site at the lower end of Logistics Centre range i.e. 40-60 ha; plus expansion potential over long term up to around 100 ha.

• Direct employment created by a Logistics Centre of some 50 ha at Judgeford employment could be of the order of 100-150 FTE jobs, depending on the range of ancillary services provided. Indirect economic and employment effects would be felt throughout the Wellington region from, inter alia, distribution efficiencies.

• A pre-feasibility study is needed to confirm the economic attractiveness and benefits to Porirua City and Wellington Region of a putative Logistics Centre in Judgeford, before it is formally provided for in the Porirua City District Plan. Accordingly, the Structure Plan discusses the urgency of undertaking further analysis to determine whether there is investment interest in a logistics centre in the Wellington Region generally and in the SP area in particular, and if so to undertake more detailed site investigations and consultation with the individual landowners. It is thought critical that this takes place before any "relaxation" of the subdivision rules.

Convenience Retailing only Required in Study Area:

• Porirua is well serviced by supermarkets. Close to Pauatahanui, the Whitby New World provides “top up” supermarket and convenience shopping to Whitby and current households in the study area.

• A new 3000m2 New World Supermarket is proposed for Whitby to replace the existing New World. If this receives resource consent, it will be more than sufficient to serve the emerging rural-residential community of Pauatahanui-Judgeford as well as Whitby’s 2900 households.

• Projected households in the Study Area will not require major new retail development in the study area. Provision of new, or extension of existing, convenience retailing is sufficient relative to expected demand. Convenience shopping needs can be served by the Pauatahanui General Store, and possibly a future convenience store at Judgeford.

• Urbanism Plus has examined the case for Large Format Retailing in the Study Area and in its view LFR should not be provided for in the Structure Plan. McDermott Miller concurs with this view.

• While we previously thought DIY retailing might pose a hard to control uncontrollable threat, to putative rural-residential “lifestyle” activity in the Pauatahanui-Judgeford area, the February 2012 announcement of a Mitre 10 Mega Store in central Porirua has obviated this. In our view, this would be a superior outcome for Porirua, as such the store will strengthen the retail attraction of Central Porirua. It will help Porirua City centre maintain its competitive position in the face of proposed retail development in the north of Wellington City.

3.4 Summary

The market analysis suggests a demand for approximately 350 rural residential lots over the next 20 years, with a preferred lot size of approximately 2ha. Strategic policy, specifically the Porirua Development Framework and the Wellington Regional Strategy, has identified the Pauatahanui Judgeford area as suitable for accommodating rural
lifestyle development. These strategies as well as other key documents such as the Pauatahanui Village Plan and the Harbour Strategy and Action Plan also highlight the need for sensitive environmental management of the area.
4 STATUTORY CONTEXT

4.1 Introduction

The Pauatahanui Judgeford Structure Plan is intended to inform any proposed plan change(s) to rezone land in the Pauatahanui-Judgeford area. A summary of legislation and the relevant policy and plans which inform the development of the structure plan is provided below.

4.2 The Resource Management Act (1991)

The Structure Plan is intended to inform any proposed plan change(s) to rezone land in the Pauatahanui Judgeford Area. The sections of the RMA which have particular relevance are Part 2 (Purpose and Principles), Section 74 (Matters to be considered by a local authority for plan changes) and the First Schedule.

The purpose of the RMA as set out in Section 5 is to “promote sustainable management of natural and physical resources”. The Structure Plan aims to be consistent with the purpose of the Act by allowing for environmental effects to be managed in an integrated manner.

Consideration has been given to Part 2 of the RMA throughout the development of the Structure Plan through the identification of constraints and opportunities, consultation and analysing a range of development options. A full analysis of the environmental effects will occur following further community consultation and as part of the District Plan change process.

4.3 Regional Policy Statement and Strategies

4.3.1 Proposed Regional Policy Statement 2009

The Proposed Wellington Regional Policy Statement (RPS) identifies the regionally significant issues around the management of the regions natural and physical resources and sets out what needs to be achieved in the form of objectives and a policy framework for achieving the objectives. The following sections are most relevant to the development of the Structure Plan:

- Coastal environment (Section 3.2) – seeks to protect the natural character, habitats and features in the coastal environment and maintain or enhance the quality of coastal waters.
- Freshwater (Section 3.4) – the regions rivers, lakes and wetlands support healthy functioning ecosystems.
- Historic heritage (Section 3.5) – seeks to identify and protect historic heritage from inappropriate modification, use and development
- Indigenous ecosystems (Section 3.6) – promotes the maintenance and restoration of indigenous ecosystems and habitats with significant biodiversity value.
- Landscape (section 3.7) – seeks to protect, maintain and enhance the values of outstanding natural landscapes and significant amenity landscapes.
• Natural hazards (Section 3.8) – Risks and consequences to people and property from natural hazards, climate change are reduced and activities do not increase the risks of natural hazard events.

• Regional form, design and function (Section 3.9) – Promotes a compact, well designed and sustainable regional form where urban development takes place in existing urban areas, or where beyond urban areas, development reinforces the regions existing urban form. Also promotes strategically planned rural development, a range of housing, integrated land use and transport, and efficient use of existing infrastructure (including transport network infrastructure).

• Resource management with tangata whenua (Section 3.10) – promotes local authorities and iwi authorities to work together for the sustainable management of the regions environment.

The objectives of the Proposed RPS have been considered and are reflected in the Structure Plan, specifically:

• The structure plan looks at options to improve the water quality of the Pauatahanui Inlet by reducing sedimentation through compulsory planting and or retirement of land for regeneration purposes.

• Buffer areas are proposed adjacent to watercourses to protect those ecosystems from the adverse effects of subdivision and development and provide ecological linkages.

• Site of significance for their historic heritage values will continue to be protected from inappropriate modification, use and development through existing district plan provisions. For areas which are known to historic heritage value but which are not recorded, a heritage assessment will be required as part of any development proposal e.g. on the site of the US Marine WWII base in and around the Judgeford Golf Course.

• Areas of significant indigenous vegetation will continue to be protected under the District Plan and QEII and Conservation covenants.

• A landscape assessment has been undertaken as part of the Structure Plan and development within those areas identified as being of significant landscape value will be carefully controlled under the structure plan recommendations for changes to the District Plan.

• The areas subject to natural hazard events within the structure plan area will be ‘no go’ areas for development.

• The area is identified as a regional focus area and of critical importance to the achievement of a well-designed and compact urban form and any development will provide for a range of housing choice not generally found within existing urban areas.

• Consultation with iwi will be ongoing throughout any proposed plan change(s) which follow the structure plan process.
4.3.2 The Wellington Regional Transport Strategy (2010 – 2040)

The Wellington Regional Transport Strategy (RTS) provides an overall context for investment in the regions transport network. The vision for the strategy is ‘to deliver an integrated land transport network that supports the region’s people and prosperity in a way that is economically, environmentally and socially sustainable.’ The objectives of the RTS are:

- Assist economic and regional development;
- Improve access, mobility and reliability;
- Protect and promote public health;
- Ensure environmental sustainability;
- Ensure that the Regional Land Transport Programme is affordable for the regional community.

The RTS identifies a number of pressures and issues for the regional transport network. A number of policies are then set out in the RTS document to address these issues and pressures. The following are of particular relevance to the development of the Structure Plan:

- Increasing travel demand due to population and economic growth, increasing car ownership and a growing expectation of mobility and convenience.
- Strengthening east west connections. More efficient connections between key freight and employment destinations such as Hutt Valley and Porirua is important to the region. Improvements to State Highway 58 have been identified in the Hutt Corridor Plan.
- Environmental impacts including the need to be proactive concerning transport-channelled stormwater and sediments into sensitive receiving environments such as Porirua Harbour (including Pauatahanui inlet).
- Integration of Transport and land use planning. The RTS aims to support the growth and land use aspirations of the Wellington Regional Strategy and Regional Policy Statement.

4.4 District Plan and Long Term Plan

4.4.1 Operative Porirua District Plan 1999

The Porirua District Plan was made operative on 1 November 1999. It defines a number of management directions and objectives of relevance to this structure planning process including:

- Rural Zone – seeks to manage activities in the Rural Zone to avoid, remedy or mitigate adverse effects on the environment including effects on ecosystems and the character of the Rural Zone.
- Subdivision – promotes a pattern of land ownership which enhances the opportunities for the sustainable management of resources. The plan seeks to protect the long-term potential of the rural land resource by controlling subdivision which does not directly contribute to the long term sustainable management of the rural resource.
- Transport – seeks to provide a safe and efficient transportation network without creating adverse environmental effects.
- Heritage – seeks to protect significant heritage features in the district.
- Landscape and ecology – promotes the management of landscape and ecological systems in a sustainable manner including protecting the visual and ecological character of the Rural Zone, areas of significant indigenous vegetation.
- Coastal environment – seeks to protect and enhance the values of the coast and minimise the adverse effects of buildings and activities on the coastal margin.
- Natural hazards – seeks to minimise the adverse effects of earthquakes on the community, and avoid or mitigate the adverse effects of flood hazards on the wellbeing and safety of the community.
- Financial contributions – seeks to ensure that fair and reasonable costs are met by the developer through the financial contributions process.

The Council has initiated a Rural Area review of the District Plan. The programme is structured into six broad sub-programmes based on key issues concerning the Rural Area. The key broad programmes are landscapes, wind farms, rural lifestyle, Pauatahanui Judgeford Change Area, primary production and rural industry and future urban growth. Each project is expected to include initial strategic investigation and the development of discussion documents for consultation. A best practice review of the wind farms component of the Rural Area Review has been completed and a change to the district plan to include provisions relating to wind farms in the Rural Zone has been undertaken. The plan change is pending the resolution of an appeal.

The objectives of the Porirua District Plan have been reflected in the Structure Plan, specifically:
- The Structure Plan will ensure that activities do not detract from the rural character and quality of the Pauatahanui Judgeford area and should manage activities such as earthworks and vegetation clearance to minimise adverse environmental effects.
- The Structure Plan will enable via the District Plan the creation of allotments of a size and shape suitable for their intended use, and that does not result in a pattern of land development which could cause uneconomic demand on infrastructural and community services.
- The Structure Plan has taken into account any effects of land use and development options on the efficiency and safety of the transportation network. New development should make best use of existing and proposed transport network.
- The Structure Plan has identified significant heritage features and any potential impacts of development options on historic heritage values.
- The Structure Plan has identified significant ecological and landscape features and has recommended protecting these areas from development.
• The Structure Plan has sought to manage the effects of activities to mitigate the effects of silt runoff and any other adverse effects on the coastal environment and coastal marine area.

• The structure plan has identified the natural hazards within the structure plan area and has identified no go development areas.

**Plan Change 6 – Judgeford Hills Zone**

The land within the Judgeford Hills Zone covers approximately 146ha of rural land at the end of Bradey Road, Pauatahanui. The zone allows the creation of up to 40 houses within four separate clusters. The zone creates areas for environmental protection and restoration and the balance land will remain as farmland. As the plan change was recently approved and adopted there are no intentions to include any further recommended changes to the subdivision provisions as part of this Structure Plan process.

**4.4.2 Long Term Plan 2012**

The Long Term Plan (LTP) sets out what Council plans to do during the next 10 years. The Council is currently reviewing the Long Term Plan for 2012 – 2022 and intends to adopt it as a draft in March 2012 and as Final in June 2012.

In the LTP (2009 – 2019) capital expenditure has been set aside for Pauatahanui Village development projects including Pauatahanui Village Centre Improvements. Funds have also been set aside for Transmission Gully link roads, Porirua Harbour and Catchment Management (including Pauatahanui Inlet), and the Pauatahanui Pathway around the edge of the Pauatahanui Inlet. It is envisaged that these works will take place over the next 10 years.

**4.5 Summary**

The above analysis provides the regional and district context for the development of the Pauatahanui Judgeford Structure Plan. It also sets out key relationships between the relevant regional and local planning documents. The Structure Plan has been developed taking into account the key principles from the framework identified and discussed above.

Refer below for diagram showing inter relationships with the Structure Plan, the District Plan and other plans (Regional Plan, Asset Plans, Long Term Plan) and the legislation driving these plans and strategies.
Relationship diagram for PJ Structure Plan with statutory plans and policies

Legend
- Key relevant statutes
- PCC planning documents

Direction of Causality

Land Transport Management Act 2003
- Government Policy Statement
- National Land Transport Strategy
- Wellington Regional Land Transport Strategy
- Wellington Regional Land Transport Programme
- PCC Transportation Strategy

Wellington Regional Strategy
- PCC Porirua Development Framework

Local Government Act 2002
- PCC Long Term Plan
- PCC Asset Plans

Resource Management Act 1991
- National Policy Statements
- Wellington Regional Policy Statement
- Regional Plans
- PCC District Plan
5 DESIGN ISSUES AND DEVELOPMENT CONSTRAINTS

5.1 Introduction

This section describes how development constraints and opportunities for the Structure Plan area were identified and considered.

As previously described, the Structure plan area has been defined with regard to the watershed drainage catchment of Pauatahanui Stream, and the catchment for the upper reaches of the Ration Creek Catchment that are accessible from Flightys Road bounded by the designation for Transmission Gully Motorway. This ensures that fundamental aspects of environmental management in the area can be coordinated with a logical frame of reference to the receiving environment of Porirua Harbour and the pattern of people movement in and out of the area.

Within this frame of reference, a series of lower order constraints and opportunities have been defined, relating to:

- Natural Hazard constraints
- Ecology and ecosystems
- The sensitivity of the landscape to change
- Transportation and accessibility
- Provision of essential infrastructure services
- Recreational opportunities
  - Heritage, archaeological and cultural sites

5.2 Natural Hazards

The Pauatahanui Judgeford Structure Plan Area is subject to a number of natural hazards, including:

- Flood hazards
- Seismic hazards including fault movement, ground shaking, earthquake induced slope failure, liquefaction and tsunami
- Slope instability/landslip
- Sea level rise

Pauatahanui Stream catchment and its tributary catchments are relatively short and steep and floods can occur very quickly after the onset of heavy rain. The Pauatahanui Stream flood hazard investigation was completed in 2005 which identified the 10 year and 100 year ARI flood extents and the overland flow and ponding hazard areas (see figures 5 and 6 below). Any rural subdivision would be required to provide flood free building sites (as required by s.106 of the RMA) and would need to be designed so that any displacement of flooding is retained on site. It is not envisaged that rural residential subdivision at 2-2.5ha densities if properly designed and managed will increase or worsen...
flooding within the catchment. There is sufficient room on all but one site to provide house sites out of the flood risk area.

Figure 5: Flood Extent (10 and 100yr ARI Flood Events. Source: Pauatahanui Stream Modelling, Connell Wagner (2005)
The extent of the area subject to coastal inundation (Figure 7) as a result of sea level rise is largely located in the area between the Pauatahanui Inlet, State Highway 58 and Paekakariki Hill Road. Any additional dwellings should not be allowed if there is any long term risk to inundation.
The Moonshine Fault (Figure 8), which has a recurrence interval of 11,150 years runs approximately north-east to south-west through the centre of the structure plan area. There are a number of splinter faults off the Moonshine Fault. Greater Wellington Regional Council data illustrates that the majority of the structure plan area has low susceptibility to earthquake induced slope failure. Greater Wellington Regional Council data also shows that the land adjacent to the Pauatahanui Inlet and Village has high ground shaking susceptibility and is within the tsunami evacuation zones. The areas subject to liquefaction (Figure 9) is largely confined to land adjacent to the Pauatahanui Stream and the lower extent of its tributaries and land close to the Pauatahanui Inlet.
Figure 8: Major Fault Traces. Source: Porirua City Council Pipeviewer (2011)
Figure 9: Liquefaction. Source: *Porirua City Council Pipeviewer (2011)*

While the Pauatahanui/Judgeford area lies amongst a very hilly area, the majority (74.28%) of the structure plan area contains land that is less than 25 degrees steep, and therefore less prone to erosion (Figure 10). However, as vegetation is also a significant factor in erosion prone land, with only 2.26% of the land being protected vegetation there is significant opportunity for the retirement of vegetated land to reduce potential sediment runoff; in particularly with riparian management which is covered in section 5.8 of this plan.

Figure 10: Erosion Susceptibility. Source: *Erosion Susceptibility and Analysis of Erosion Risks for Plantation Forestry, Ministry for the Environment (2011)*

The extent of natural hazards within the structure plan area is illustrated on the maps attached in Appendix D.

**5.3 Ecology, Topography and Watercourses**

The structure plan area is in a basin with a broad valley floor rising gradually from the inlet edge to rolling foothills and steeper upper slopes interspersed with ephemeral watercourses and streams.

The structure plan area lies within the Wellington Ecological District. The area is characterised by steep, strongly faulted hills and ranges with frequent NW gales, warm summers, and mild winters. The Wellington ED includes a range of soils derived from greywacke and loess on slopes, and areas of peaty and stony alluvial soils in the valleys.

The structure plan area was originally forested with podocarp forests (kahikatea, totara, matai) on the hills and miro-rimu/tawa forest at higher altitudes. Today the area is highly modified by farming. Indigenous forest, including regrowth areas make up @19% (765ha)
of the area while plantation forestry makes up a similar area at 18%. Over 50% of the area is in pasture. Refer table below for breakdown of vegetation types and areas.

<table>
<thead>
<tr>
<th>Vegetation</th>
<th>Area (Ha)</th>
<th>% of total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous Vegetation</td>
<td>310.4</td>
<td>7.6%</td>
</tr>
<tr>
<td>Manuka/Kanuka (Re-Growth Areas)</td>
<td>454.3</td>
<td>11.2%</td>
</tr>
<tr>
<td>Exotic/Pine</td>
<td>728.1</td>
<td>17.9%</td>
</tr>
<tr>
<td>Pasture</td>
<td>2369.2</td>
<td>58.2%</td>
</tr>
<tr>
<td>Gorse and Broom</td>
<td>122.3</td>
<td>3.0%</td>
</tr>
<tr>
<td>Other (estuarine, structures)</td>
<td>87.8</td>
<td>2.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4072.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

This data was extracted from the Land Cover Database 2 (LCDB2), provided by the Ministry for the Environment (released July 2004).

The Pauatahanui catchment is more open than most in Porirua District, a basin rather than a valley. The open hilltops of Belmont Regional Park dominate views from SH58 and from within the catchment, forming a distant backdrop to the southern edge of the wider Porirua basin. While there are small pockets of bush or scrub in gullies, the catchment is essentially a pastoral landscape, with scattered plantations of pines across steeper slopes.

The upper Ration Creek Catchment is tightly contained by steep valley sides in the mid catchment area with some flatter areas at the top. Some parts of the upper slopes and ridgelines of the catchment are visually prominent with few structures and limited formed access other than farm and forest tracks. The majority of this part of the catchment within the structure plan area is planted in Pine forest with remnant native vegetation located within the gullies. The rest of the catchment is in pasture.

The major watercourse within the area is the Pauatahanui Stream which generally follows SH58 through the area to the inlet. A buffer of 20m next to the streams has been identified on the constraints map to protect the riparian areas from development and to allow riparian planting and ecological corridors to be maintained/established.

The topography of the structure plan area was mapped and any land 25 degrees or greater was identified as a constraint because it is considered to be subject to erosion. This land largely corresponds with the ‘red’ or ‘not preferred’ area identified in the landscape assessment.

In May 2000 the Porirua City Council commissioned a survey of ecological sites in Porirua City and assessment of their management requirements. The Pauatahanui Judgeford Structure Plan area is located within Eco-Domain C: inland hills and basins which are described as having a highly seasonal rainfall, moderate to steep hillslopes and complex topography. A total of 171 ecological sites were identified, of which 31 are located within the structure plan area. The most sizeable of these ecological sites are the Upper Pauatahanui (Cecil) bush (109ha), the Pauatahanui Estuary Saltmarsh (47ha) and the Upper Harris Road Manuka Scrub (45ha). The majority of the ecological sites identified
within the structure plan area are either small forest remnants within farmland or other open spaces or unused reverted bush area. The remainder of the ecological sites are described as a sizable area of forest, coastal wetlands, riparian areas within farmland, or small natural areas (usually riparian) within forest plantations.
Figure 11: Pauatahanui and Upper Ration Creek Water Catchments and watercourses.
5.4 The Sensitivity of the Landscape to Change

Landscape matters relevant to the development of the structure plan were identified through an assessment of the key physical, perceptual and associative aspects of the study area.

The findings of the key physical, perceptual and associative aspects assessment along with a review of the Porirua City Council Draft Landscape Study were used to establish criteria to identify and map areas with differing levels of development constraints in terms of landscape.

For practical purposes four grades were distinguished; green (ok, preferred), yellow (ok, with some conditions), red (not preferred, many conditions) and black (no development). In broad terms the grades represent a transition from ‘everyday’ to very important or significant landscapes. They also give a measure of the number or range of development options that might be considered appropriate in each area (green – many, black – no build or highly controlled) and the risks posed by development. That is: how difficult it would be to avoid adverse effects on the physical, perceptual and associative aspects of landscape.

Figure 12: Ecological Sites. Source: Porirua City Council Ecological Sites Inventory (2001)
Green (least constrained, approximately 235ha)
‘Everyday’ landscapes that offer the greatest number of appropriate development options and potential to avoid adverse effects on landscape:

- Easy slopes along the valleys and the foothills (Landscape Study - Character Type 1)
- Moderate slopes (Landscape Study - Character Type 2) in close proximity to existing roads. That is: where the effects of earthworks required to establish access can be minimised and where new buildings would be located near existing would reduce adverse effects on open space

Yellow (moderately constrained, with some conditions, approximately 766 ha)

- Moderate slopes and rolling spurs (Landscape Study - Character Type 2) with potential access issues (more than 100m from a legal road).

  Note:
  - Planning approaches recommended in the Structure Plan recognise proximity to existing accessways and buildings could be used to reduce the conditions required for development in these areas
  - Additional development constraints are acknowledged where moderate slopes occur above the 140m contour line as servicing options become cost prohibitive

- Lowland areas with landmark or gateway qualities such as the Pauatahanui Gorge
- Suburban areas in the coastal environment (as identified in the Landscape Study) where natural character values need to be considered under the New Zealand Coastal Policy Statement (NZCPS) and Section 6a) of the RMA

Red (most constrained, possible development with many conditions, approximately 1821 ha)

- Steeper slopes (Landscape Study - Character Type 3)
- Rural areas in the coastal environment (as identified in the Landscape Study) where natural character values need to be considered under the NZCPS and Section 6a) of the RMA
- Significant amenity landscapes in the coastal environment and along the skyline of the Judgeford basin (as identified in the Landscape Study) with amenity values that need to be considered under Section 6a) and 7c) of the RMA
- Pauatahanui Village as a special character area with amenity and heritage values

  Note:
  - Planning approach recommendations in the Structure Plan also address the potential for enhanced environmental services (regeneration of indigenous vegetation) and specialist infrastructure development proposals such as wind farms and transmission lines in these areas.
Black (no development, approximately 1802 ha)

- Very important or significant landscapes and features; where appropriate development options are limited and adverse effects to physical, perceptual and associative aspects of landscape would be difficult to avoid.
- Areas of significant and protected indigenous vegetation as listed in the Porirua City Council ecosite and covenant register and/or protected by QEII covenant
- Wetland areas (Landscape Study - Character Type 5)
- Stream margins (including a 20m buffer), setbacks from faultlines (50m) and high voltage power lines (35m set back)
- Historic sites that are recognised in the District Plan (waahi tapu, heritage sites, heritage management areas and NZAA sites) Note: Planning approach recommendations in the Structure Plan also address the need to consider unsurveyed sites in the Judgeford area along SH58 and in the vicinity of the golf course.
- Public land
- Areas designated for development, in particular the Transmission Gully Road of National Significance
- Natural Hazard overlays

The final development constraints map which illustrates the extent of the green, yellow, red and black areas in the structure plan area is attached in Appendix D.

5.5 Transportation and Accessibility

This section outlines the issues relating to current and plans for future access to the local roads in the study area from state highway 58 (SH58). The work assumes that the Transmission Gully Motorway proposal will proceed and be completed as currently envisaged, which is within about ten years.

Background

At present there is one principal road in the study area, namely SH58 that is controlled and managed by the NZ Transport Agency (NZTA). The portion of SH58 residing in the study area from the Pauatahanui roundabout to about Pauatahanui No. 1 bridge is a two lane two way rural highway with an open road (100 km/h) posted speed limit. It is characterised by having a relatively high number of two lane bridges, is fairly windy but relatively flat, and has a relatively high traffic flow of about 14,000 vehicles per day (vpd) and exhibiting an urban arterial traffic flow profile during the week (refer the traffic flow profile figure below). The highway is designated as a Limited Access Road (LAR) and the NZTA have over the past several years imposed conditions to restrict detrimental development on properties adjoining SH58. A subway exists for the use of patrons at the Judgeford Golf Course which presently occupies both sides of the straight section of SH58 by Mulhern Road.

East of Whitby, there are currently eight side roads off SH58 that are controlled by the Porirua City Council, the eastern two of which are outside the study area. The most
important local road is Paekakariki Hill Road that passes through Pauatahanui Village between the roundabout at SH58 and the Tee intersection about 0.72 kilometres to the north at Grays Road.

![Figure 12: Existing roads in Pauatahanui Judgeford Structure Plan Area](image)

**Porirua City Council controlled local roads off SH58**

<table>
<thead>
<tr>
<th>Local road (route position)</th>
<th>Intersection form at SH58</th>
<th>Through or No exit road</th>
<th>Approx. AADT (PCC)</th>
<th>Road features</th>
<th>Dwelling capacity by area code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paekakariki Hill Rd (0/10.02)</td>
<td>3 leg roundabout</td>
<td>Through road to SH1 at Beach Rd, Paekakariki</td>
<td>7400 vpd (2250 N of Grays Road)</td>
<td>Village slow zone, hilly &amp; narrow N of Grays Road</td>
<td>10 (yellow) 29 (red) in study area</td>
</tr>
<tr>
<td>Bradey Road (0/9.35)</td>
<td>Priority Tee with right turn bay</td>
<td>No exit road</td>
<td>130 vpd</td>
<td>Reasonable geometry</td>
<td>16 (green) 1 (yellow)</td>
</tr>
<tr>
<td>Belmont Road (0/8.40)</td>
<td>Priority Tee with no right turn bay</td>
<td>No exit road</td>
<td>120 vpd</td>
<td>Narrow &amp; hilly</td>
<td>54 (green) 10 (yellow)</td>
</tr>
<tr>
<td>Flightys Road</td>
<td>Priority</td>
<td>No exit road</td>
<td>Flightys</td>
<td>Both narrow</td>
<td>Flightys Rd</td>
</tr>
</tbody>
</table>
Local road (route position) | Intersection form at SH58 | Through or No exit road | Approx. AADT (PCC) | Road features | Dwelling capacity by area code
--- | --- | --- | --- | --- | ---
(northern side) Murphys Road (southern side) (0/8.04) | crossroads - no right turn bays | No exit road | 490 vpd Murphys 220 vpd | & hilly; one-lane bridges on Flightys Rd | 70 (green) 23 (yellow) 24 (red) Murphys Rd 78 (green) 33 (yellow) 2 (red)
Mulhern Road (0/7.30) | Priority Tee with no right turn bay | No exit road | 250 vpd | Narrow, leads to new subdiv | 42 (green) 24 (yellow)
Moonshine Road (0/6.28) | Priority Tee with right turn bay | Through road to SH2 Moonshine Hill Road | 580 vpd (MWH about 1200) | Reasonable width to the Upper Hutt City boundary | 99 (green) 3 (yellow) 25 (red) *
Harris Road (0/4.75) | Priority Tee at end passing lane | No exit road (restricted) | (30) | Narrow, steep | 7 (green) 8 (red)

* The Moonshine Road values include Ahoroa Road, a short narrow & steep no exit road running off it.

Aside from Pauatahanui Village, as can be seen in the above table, presently traffic volumes along the local public roads are low or moderately low. The dwelling capacity which has been divided into the green/yellow/red land suitability colour codes includes the existing dwellings.

Currently there are around 180 dwellings in the green zone to which there was assessed less than 10% additional theoretical capacity (and thus little expected future traffic). The largest potential increase in capacity was for the yellow area (from 35 to 215 dwellings) which together with the limited amount of additional green area dwellings matched the theoretical additional capacity for the red area for the base case option 3A. With development of only the green and yellow areas, the theoretical increase over a 20-year planning horizon is about 10 dwellings per year or about 9% per year in the study area locality. However as the analysis of land use activity and supply has noted, the practical capacity and demand is likely to be lower. It can therefore be expected that there would overall only be potentially modest increases in traffic volumes on the local roads with an additional about ten extra motor vehicle local trips per year during the morning and evening peak traffic periods.

Note that at present, as there are no (no motor vehicle or walk/cycle/equestrian) connections between any of the local roads with each other, the extra local traffic will inevitably involve travel along SH58.

Currently both Grays Road and Paekakariki Hill Road are also used as “short-cuts” for traffic travelling between the Hutt Valley and the Kapiti Coast. However the construction
of the northern portion of the planned Transmission Gully Motorway just to the east of Paekakariki Road should attract most of such through traffic. Moonshine Road is an inconvenient long link to SH2 and is not used as a short cut although at times it is understood to be used by keen road cyclists as an alternative to SH58 / SH2.

**Road safety issues**

Currently, leaving aside Paekakariki Hill Road, despite the road geometry of the local side roads being relatively narrow with poor forward sight distances in places, due to the slow speed environment and low traffic volumes safety on them is not currently generally not a significant issue. This can be seen in the diagram below from NZTA’s Crash Analysis System (CAS), which shows the local crashes reported at the NZ Police since January 2001.

In the past ten year period (2002-2011 calendar years), no crashes were recorded on Flightys or Harris Roads and one non-injury crash on each of Bradey, Belmont, Murphy and Mulhern Roads. One minor-injury crash and one non-injury crash was recorded off-road. One serious (head on, loss control on curve) injury, one minor injury and six non-injury crashes were recorded along Moonshine Road (three non-injury for the past five years 2007-2011); all these crashes were head on or single vehicle loss control turning left.

Many crashes were recorded along Paekakariki Hill Road, but mainly on the open road portion north of Grays Road. For the past five years there were two minor injury and three non-injury crashes along the Village section including the intersection with Grays Road.

![Reported Police crashes on local PCC roads (within polygon): 2001 to 2012 year to date](image-url)
Reported Police crashes on state highways (within polygon): 2006 to 2012 year to date

Along SH58 in the past five years (2007-2011) no crashes were recorded at or within 50 metres of the Belmont or Mulheron Roads intersections, one hit animal non-injury crash was recorded at the Bradey Road intersection, one serious injury single vehicle loss of control crash was recorded 50 metres east of Harris Road, four minor injury crashes and one minor injury crashes were recorded at Flightys Road/Murphy Road crossroads, and one serious rear end injury, and five non-injury crashes recorded at or within 50 metres of the Moonshine Road intersection.

In addition two minor-injury and six non-injury crashes were recorded at the Paekakariki Hill Road roundabout. Based on the number of severe (fatal or serious) crashes, none of the intersections along SH58 in the study area can be considered as a high-risk intersection in terms of the observed crash history.

Along SH58 between the Moonshine Road and Bradey Road intersection there have been a number of mid-block crashes. From the figure there appears to be a concentration along the straight by the Judgeford Golf Course. Along the 1.0 kilometre length (0/6.90 - 7.90) for 2007-2011 there were two serious injury, four minor injury and seven non-injury crashes. Applying an average AADT of 13,850, this equates to an injury rate of 15.8 injury crashes per 100 million vehicle kilometres which is within the normal expected range and is not suggestive of a significant crash problem.
Typical weekly traffic profile along SH58 east of Pauatahanui

NZTA plans

During the structure plan workshops the NZ Transport Agency (NZTA) outlined the proposed Transmission Gully Motorway and its effects on the local area. Once constructed, by 2026 the project is estimated to result in a 20 percent increase in traffic along SH58 east of Transmission Gully and a 30 percent decrease along SH58 west of Transmission Gully. A decrease of over 70 percent is predicted along Paekakariki Hill Road that reverts to carrying local traffic only (there are about 40 homes currently along Paekakariki Hill Road).

The NZTA vision for SH58 is that it is retained as a two lane highway with passing lanes, median divides and access at major intersections or roundabouts. The NZTA expressed concerns about safety improvements along SH58, particularly the intersection of SH58 and Moonshine Road. SH58 is a Limited Access Road (LAR) and the NZTA is concerned about development resulting in more loading onto the intersections with SH58 and any new intersections that may be created. They do not support any new development off Mulhern and Belmont roads until significant safety improvements are made.

The NZTA noted that in the short term there are likely to be minor safety improvements made to the state highway and in the long term there are plans for two new roundabouts on SH58 at Flightys Road / Murphys Road and at Moonshine Road. However, these are not confirmed and if they were to go ahead it will be in the 15 – 20 year timeframe. The NZTA recognised that the roundabouts would provide significant improvements and could be brought forward with local developer and/or Council contributions.

The following projects within the vicinity of the area were outlined by The NZTA:
## NZTA Current Land Transport Programme projects for rural SH58

<table>
<thead>
<tr>
<th>Project</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petone to Grenada</td>
<td>Proceeding, funding for investigation and design committed. Construction 2019/20 – 2023/24</td>
</tr>
<tr>
<td>SH2/S8 grade separation</td>
<td>Design underway now</td>
</tr>
<tr>
<td></td>
<td>Construction 2015/18</td>
</tr>
<tr>
<td>Hayward substation curve realignment</td>
<td>Investigation 2012/13</td>
</tr>
<tr>
<td></td>
<td>Construction 2015/16</td>
</tr>
<tr>
<td>SH58 Mt Cecil Road to Harris Road safety improvements</td>
<td>Investigation 2013/15</td>
</tr>
<tr>
<td></td>
<td>Design 2014/16</td>
</tr>
<tr>
<td></td>
<td>Construction – next RLTP 2015/18</td>
</tr>
<tr>
<td>Hayward’s to Moonshine seal widening</td>
<td>10 – 15 years</td>
</tr>
<tr>
<td>Hayward’s summit to Moonshine Road median barrier</td>
<td>15 – 20 years</td>
</tr>
<tr>
<td>Flightys/Murphys and Moonshine Road roundabouts</td>
<td>15 – 20 years</td>
</tr>
<tr>
<td>Safety retrofit – Wellington</td>
<td>Construction 2012/15</td>
</tr>
<tr>
<td>Moonshine to Pauatahanui Minor safety Improvements</td>
<td>Developing a programme in 2012 to align with safer journeys</td>
</tr>
<tr>
<td>SH58 capacity (4-laning) investigations</td>
<td>Investigation proposed for 2012-15</td>
</tr>
</tbody>
</table>

### Assessment of the capacity of SH58 intersections with local roads

A specialist traffic survey was undertaken at the SH58 Tee intersection at Moonshine Road on Thursday 8 March from 3:30 to 5:00 pm. This was to confirm traffic volumes and type passing through the intersection during a mid-week afternoon peak traffic period.

The survey revealed that only one cyclist and two pedestrians were observed outside of the quarter hour period associated with the school bus stop. For the fifteen period from 3:40 to 3:55 pm there were ten light vehicles parked at the intersection, waiting to pick up passengers from the four (school) buses that stopped during this time. Two U-turns were observed along with a number of movements with the immediately adjacent driveway. Besides the many heavy vehicles observed along SH58, there were four car/caravans and a handful of trucks travelling along Moonshine Road.

For the 4-5 pm peak hour, the queuing delays for the turning movements were modest, with average delay of 12½, 9 & 7 seconds for the right turn out, left turn out & right turn in movements respectively, and respective 35, 45 & 15 vehicles per hour turning flows (also 15 vph for the left turn into Moonshine Road). Flows along Moonshine Road were...
reasonably steady; the surveyed flows suggest an average daily flow on the southern section of Moonshine Road of about 1200 vpd.

Along SH58 there were local peaks during the observed 1½ hour period for 4:15-4:30 pm and 4:45-5:00 pm; for the 4-5 pm peak hour the westbound and eastbound approach flows were about 780 and 685 (1455 two-way) vph respectively, consistent with the average Monday-Thursday values shown in the figure above.

In terms of predicting the medium term performance of the Moonshine Road intersection, it would appear that at certain times of the year, within 15-20 years the average delay for motorists turning right out of Moonshine Road could exceed one minute, depending on the extent to which drivers make use of the central acceleration lane (observed to be currently used by bus drivers but generally not by car drivers).

Given the current low volumes on Moonshine Road, the delay incurred by traffic turning right out would hardly increase from additional traffic arising from a modest increase in activity off Moonshine Road from further intensification as per the recommended preferred Structure Plan option. Thus, given that the flows along SH58 are basically the same as from the Pauatahanui roundabout to Haywards, the design life for the other Tee Give Way controlled intersections in the study area would be similar. If traffic growth along SH58 continues at the historical rate of 1½ to 2 percent per annum, then the delay for traffic turning right out of the side roads might exceed one minute during peak times within the next 15 years. The implication is that NZTA might be expected at that time to consider intersection upgrades irrespective of any additional flows on the side road, since the increased volume of traffic on SH58 and form of intersection layout would be the main influencing factor on delay.

Upgrade options

However there might be safety or planning reasons, rather than capacity or delays reasons, for intersections upgrades to be undertaken earlier than currently envisaged as a result of the extra side road traffic arising from rural-residential densification. The form of any intersection upgrade may also be influenced by other factors, including any need to cater for local residents along SH58 to safely undertake a U-turn were a median barrier installed for instance.

Presently there have been concerns raised about the Mulhern Road Tee intersection for which no upgrade has been included in the current plans by the NZTA. With increasing through traffic on SH58 it would be reasonable to consider local widening and install a right turn bay for traffic turning into Mulhern Road, especially if further development occurs off Mulhern Road. Mulhern Road is located about 500 metres west of the Pauatahanui No. 2 bridge but only 140 metres east of the Pauatahanui No. 3 bridge so only a nominal central acceleration lane like presently exists at Moonshine Road might be possible.

An alternative depending on the level of resulting land use activity might be to close off Mulhern Road and link to Moonshine Road via a new local access road linking the two southern ends.

Owing to the particular site circumstances, the latter option of providing an alternative link road to Mulhern Road would be preferable for any further significant development

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4 PCC RAMM database indicates a daily flow of about 580 vpd or about half that observed.
off Mulhern Road due to the high cost of widening SH58. In 2006 MWH prepared plans (in the 2006/07 minor safety projects) for installing a left turn bay to facilitate heavy vehicles turning left into Mulhern Road and mitigate some of the pavement damage being incurred by them. The presence of the deep drain running alongside the highway meant that it needed to be filled in and a large 750mm class ‘z’ pipe installed. Pavement strengthening was also necessary and there were complications with water supply and the actual road boundary being along the existing drain.

Widening on the opposite side, as would be necessary to install a right turn bay, is also problematic due to the power poles running alongside the highway and close proximity of the Judgeford Golf course and trees running alongside, coupled with the existing high crown along the highway centreline and drainage issues.

View of westbound approach to the Mulhern Road intersection shown on the right

Due to the prohibitive cost NZTA reaffirmed in April 2012 their intention not to proceed with any upgrading of the Mulhern Road intersection. NZTA considers that any need to do so due to development would have to be entirely undertaken at Porirua City Council’s expense, and have suggested then that this would require financial contributions for Council rather than development contributions.

Likewise the NZTA has indicated that the same situation would apply to Belmont Road, and possibly also to Bradey Road.

However the Bradey Road intersection is included in the Transmission Gully proposal area of works and its current layout (includes a right turn bay) should be acceptable for some additional development subject to further investigations. The Structure Plan does not envisage substantial development off Bradey Road other than that already approved as part of the Judgeford Hills development (which does not allow for any motor vehicle link road connecting with Belmont Road).
View of westbound approach to the Belmont Rd and Bradey Rd (shown on the right) intersections.

Belmont Road (which is not noted on Greater Wellington regional Council brochures as an access route to the Belmont Regional Park), is a low speed windy hilly road not currently suitable to further development without a link connecting Murphy’s Road once a roundabout has been built as per NZTA’s current long term intentions.

The NZTA has also indicated that they might consider the potential for installing a wire-rope median barrier along SH58 between Moonshine Road and the proposed SH58 / Transmission Gully roundabout subject to further investigation into the operation of SH58 post-Transmission Gully Motorway. NZTA has indicated that a median barrier would not necessarily be ruled out due to any current or future right turn bays but would of course be influenced by the need to provide safe and convenient turnaround facilities for access to and from local properties.

The potential provision of median barriers (and associated road widening) west of Moonshine Road would be in addition to NZTA’s existing longer term plans for a wire-rope median barrier east of a roundabout to be installed at Moonshine Road.

Walking and Cycling Facilities and local road upgrading

Presently outside of Pauatahanui Village there are no formal facilities for pedestrians, cyclists or equestrians, although warning signs are provided along some of the local roads to forewarn motorists of the potential presence of such vulnerable “active modes”. However as shown in Appendix D, as part of the preferred option for the Structure Plan it is suggested that some routes/links for active modes (walking/cycling/horse riding) be provided.

Currently Council has no major upgrading envisaged for any of the local roads but would continue to undertake minor improvements and regular maintenance activities on a business as usual (BAU) basis. It is most likely that Council would only contemplate any improvements in response to specific safety concerns and opportunities arising from any
development or other work in a location. Generally however, Council intends to maintain the current slow to moderately slow speed environment prevalent on the existing local roads in the study area. This includes retaining narrow carriageways. This has merit and is should be continued with.

A review of the existing road safety upgrade programme should however take place in relation to any further intensification of the area via a plan change. It is not expected that there will be a need to significantly increase the level of safety improvements and any additional costs (if any) should be included in development contributions to be paid for by developers/subdividers.

**Summary**

At present based on the above, while local residents have expressed concerns about safety and delays at some of the intersections along SH58, there is no significant safety or capacity problems evident occurring on the local roads or SH58.

Prior to the planned completion of the Transmission Gully Motorway in about ten years, it is unlikely that the NZ Transport Agency will undertake any major improvement projects along SH58. They are likely to continue to exercise their responsibilities to safely and efficiently manage the state highway principally via the Limited Access Roads planning processes.

The completion of Transmission Gully Motorway will result in a major reduction in traffic flows on Paekakariki Hill Road and an expected increase in traffic on SH58 to the east. The NZTA has indicatively planned to subsequently construct two roundabouts at the Flightys/Murphys Roads crossroads and at the Moonshine Hill Road Tee intersection in 15-20 years. However the preliminary assessment outlined above indicates that, depending on rise in SH58 traffic and associated level of acceptance of delays to side road traffic as well as the safety record, the roundabouts might be required earlier.

The development off Moonshine, Murphy’s, Bradey and Flighty’s would be acceptable under current conditions on the basis that in the long term roundabouts with SH58 will be installed. Development off Belmont and Mulhern Roads on the other hand would likely require providing a connection with Murphy’s and Moonshine Roads. Given the cost of building such roads however this is unlikely to occur in the short to medium term.
5.6 Infrastructural Services

This section outlines the approach to providing an improvement in the provision of essential infrastructural services to the study area.

Background

The key considerations outlined in the brief were considered throughout the Structure Planning process. It is worth acknowledging that the economic viability of the servicing options is dependent on the total lot numbers and development densities determined appropriate for the area. The Structure Planning process has determined a lot size from a number of drivers including but not limited to, landscape and visual, heritage and likely demand for rural residential lots. These lot densities greatly affect the likely servicing options. The serviceability constraints outlined in this section will determine the most cost effective way of servicing the new lots as opposed to having any determination on lot size.

There is no wastewater reticulation and very limited water reticulation in the wider Pauatahanui area. The capacity of the existing Porirua City Council water and wastewater infrastructure in the nearby suburbs of Whitby and Paremata is limited. In the case of the wastewater network, there are known capacity issues with the network in the Duck Creek area meaning that all options for wastewater conveyance and treatment of increased follows from development intensification of the Pauatahanui area need to be localised, i.e. confined to the wider Pauatahanui catchment.

As a parallel study to this Structure Planning exercise, Porirua City Council is considering options for wastewater reticulation within the Pauatahanui Village. One of the options considered for the village was a new pressure sewer system connecting around 28 lots and discharging to the pumping station at Joseph Banks Drive. With a coordinated timing of the pumping from the private wastewater pods the peak flows from the village can be buffered meaning that the effect on the already overloaded network can be minimised.

During the course of this Structure Planning exercise some discussion was had around the merits or otherwise of further land development in and around the Pauatahanui Village. This primarily consisted of a small amount of infill development including one or two additional commercial enterprises but mainly a small number of larger lots on the higher land surrounding the village (minimum lot size 1Ha).

The following sections provide an outline of the options considered to service the Structure Planning area should further intensification takes place.

Water Supply

When considering provision of potable water to the structure planning area, key considerations are:

(a) That each lot has access to secure and sustainable potable water complying with the quality criteria of the NZ Drinking Water Standards;

(b) That each lot has adequate availability of water supply for firefighting purposes;

(c) Standardisation of water reticulation and storage infrastructure for connectivity and operation;
(d) Reducing the incidence of publicly notifiable diseases originating in Porirua rural area.

It was determined that the potable water supply level of service provided to the development area could be any of the following:

(a) Private supply.

This would consist of each lot having a rainwater collection system and tank to hold the potable water supply. Each property would require access to additional water storage for fire fighting purposes.

(b) Restricted supply (fixed volume of water per day);

This would consist of each lot having a tank to hold the potable water supply. Each lot would be provided with a fixed volume of potable water by Porirua City Council. Each property would also require access to additional water storage for fire fighting purposes.

(c) Town Supply.

This would consist of a town supply consistent with the urbanised areas of Porirua City. Potable water supply and fire fighting supply would be stored in centralised reservoirs.

There are no hard constraints for the supply of potable water to the development area. The main constraints are around affordability of each level of service and Council's current policy which is to not supply rural properties with reticulated water supply except in special circumstances.

Should the level of service provided be a Town Supply or a Restricted Supply the water is expected to be fed from the Greater Wellington Regional Council (GWRC) wholesale water main that broadly follows SH58 through the study area.

Confirmation from GWRC has been received that there are no constraints on the quantity of water that could be taken from this main to supply the study area.

Given the elevation of the existing GWRC supply reservoirs, the highest elevation that could be gravity fed from this wholesale main is estimated to be approximately 130-140m. Any areas above this contour could still be supplied with water but would require additional conveyance and pumping costs.

This has not been considered a constraint for this study as intensification requiring full reticulation at these elevations was ruled out for other reasons i.e. visual amenity, steep slopes, distance from roads making development problematic.

Costs

The following table outlines the costs for each level of service and each development density considered:
## Water Supply Comparative Costs

<table>
<thead>
<tr>
<th></th>
<th>Town Supply</th>
<th>Restricted Water Supply with Cluster Fire Fighting</th>
<th>Restricted Water Supply with on-site Fire Fighting</th>
<th>Private supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contribution (000's)</td>
<td>Yearly maintenance</td>
<td>Contribution (000's)</td>
<td>Yearly maintenance</td>
</tr>
<tr>
<td>Medium density urban, 300-600m² (11DU/ha)</td>
<td>$8</td>
<td>$71</td>
<td>$19</td>
<td>$571</td>
</tr>
<tr>
<td>Low density urban, 1,000-2,000m² (5DU/ha)</td>
<td>$15</td>
<td>$71</td>
<td>$22</td>
<td>$571</td>
</tr>
<tr>
<td>High density Rural-Residential, 2,000-5,000 m² (3DU/ha)</td>
<td>$19</td>
<td>$71</td>
<td>$32</td>
<td>$571</td>
</tr>
<tr>
<td>Low density Rural-Residential, 5,000 m³ – 1ha (1DU/ha)</td>
<td>$30</td>
<td>$71</td>
<td>$50</td>
<td>$571</td>
</tr>
<tr>
<td>Rural Lifestyle, 1 - 5ha</td>
<td>$35</td>
<td>$71</td>
<td>$55</td>
<td>$571</td>
</tr>
<tr>
<td>Hobby farms, 5 - 40ha</td>
<td>$113</td>
<td>$71</td>
<td>$168</td>
<td>$571</td>
</tr>
<tr>
<td>Rural, 40 ha +</td>
<td>$141</td>
<td>$71</td>
<td>$206</td>
<td>$571</td>
</tr>
</tbody>
</table>
Description of Supply Options

This section outlines some of the assumptions made to estimate the water supply options for a development consisting of approximately 400 lots with a lot size of 1 to 5 Ha. The principles of each option apply to all lot density scenarios.

The “town supply” option includes a 1000 m³ reservoir fed by the GWRC wholesale water main through 500 m of inlet pipe. The distribution comprises of 3,500 m of 200 mm diameter pipework along SH58, plus 32 km of water mains sized for fire supply purposes and 20 km of private leads. Under this option the water for fire fighting is stored in the main reservoir and conveyed by the potable water network.

The “restricted water supply with cluster fire fighting” option includes a 500 m³ reservoir fed by the GWRC wholesale water main through 500 m of inlet pipe. This reservoir supplies individual 25 m³ tanks located at each property through 3,500 m of 200 mm diameter pipework along SH58, plus 32 km of smaller size reticulation and 20 km of private leads. Under this option the water for fire fighting is stored at each cluster of approximately 40 properties in two additional 25 m³ tanks. A total of 32 km of fire size mains are required to convey fire fighting water from the tanks to hydrants within close distance of the properties. This option can prove economical if the reservoir is located far away from the properties. However, this is not the case for the Pauatahanui Judgeford development.

The “restricted water supply with on-site fire fighting” option includes a 500 m³ reservoir fed by the GWRC wholesale water main through 500 m of inlet pipe. This main reservoir supplies individual 25 m³ tanks located at each property through 3,500 m of 200 mm diameter pipework along SH58, plus 32 km of small size reticulation and 20 km of private leads. Under this option the water for fire fighting is stored at each in two additional 25 m³ tanks located on each property.

The “private supply” option comprises of a roof rain water collection tank located at each property plus minor ancillaries equipment such as pumps. Under this option the water for fire fighting is stored at each in two additional 25 m³ tanks located on each property.

Water Supply Preferred Option

The Structure Planning process has determined that an average lot size of 2.5 Ha with a minimum lot size of 1 Ha is appropriate for the lower elevations of the study area (least to moderately constrained land). Given this lot size and densities, the most economical level of service is for each lot to maintain and operate a private potable water supply.

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5 This number was calculated based on the length of the front of the properties, assuming that a single distribution pipe services two properties on each side of the road: 400 properties x 158 m/property / 2 = 31,600 m.

6 Ibid
Wastewater

When considering treatment of wastewater in the structure planning area, key considerations are:

(a) Reduction in the number of uncontrolled and untreated discharges of pollutants to the environment.

(b) Sewerage treatment and disposal systems ensure that there are no adverse effects on water bodies, in particular the Pauatahanui stream, Pauatahanui Inlet and Porirua Harbour.

(c) Reduction in levels of environmental contaminants (e.g. suspended solids, BOD, pathogens, nutrients, hydrocarbons, heavy metals, industrial chemicals) from sewage pollution and other waste disposal sources in groundwater, fresh waterways and estuaries.

(d) For onsite and cluster sewage treatment systems, no more than minor effects detected outside the site boundary or cluster.

(e) Standardisation of sewerage reticulation and treatment plant infrastructure for optimum connectivity and operation.

(f) Treatment options to be secure and sustainable

It was determined that the wastewater level of service provided to the development area could be any of the following:

(a) On-site Treatment

*This consists of a modern well maintained treatment package and disposal field located on each lot.*

(b) Cluster Treatment

*This consists of wastewater collection from a number of lots with localised treatment (and possibly disposal) facilities. Disposal of wastewater would be to either land or water.*

(c) Centralised Treatment

*This consists of wastewater collection from all lots in the study area with one central treatment facility. Disposal of wastewater would be to either land or water.*

As with water supply the serviceability constraints for wastewater include the economic viability of each level of service which is driven by lot numbers and densities.

In addition to this economic constraint, additional constraints were identified as follows:

(a) For on-site treatment systems, there is a minimum lot size required to allow room for a treatment facility, a sufficiently sized disposal field as well as the building and other land uses expected from a rural lifestyle property. Initial calculations confirmed that the minimum lot size required to provide sufficient area for these elements without specific design is approximately 3000m². As outlined previously, the structure planning process has determined a lot size from a
number of drivers and this lot size will determine whether or not on-site treatment is possible.

(b) Land topography was also considered to be a constraint. For land disposal options, the steepness of the disposal field and the ground conditions will affect the performance. All land with a slope greater than 25° was eliminated from further consideration in the study. This is consistent with the approach taken with stormwater.

Costs

The following table outlines the costs for each level of service and each development density considered:
### Wastewater Servicing Comparative Costs

<table>
<thead>
<tr>
<th>Area Description</th>
<th>Centralised sewerage and treatment, discharge to water</th>
<th>Cluster treatment, pressure sewer system, discharge to land</th>
<th>Cluster treatment, gravity sewer system, discharge to land</th>
<th>On site treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contribution (000's)</td>
<td>Yearly maintenance</td>
<td>Contribution (000's)</td>
<td>Yearly maintenance</td>
</tr>
<tr>
<td>Medium density urban, 300-600 sq m (11DU/ha)</td>
<td>$ 10</td>
<td>$ 15</td>
<td>$ 40</td>
<td>$ 50</td>
</tr>
<tr>
<td>Low density urban, 1,000-2,000 sq m (5DU/ha)</td>
<td>$ 17</td>
<td>$ 15</td>
<td>$ 55</td>
<td>$ 50</td>
</tr>
<tr>
<td>High density Rural-Residential, 2,000-5,000 sq m (3DU/ha)</td>
<td>$ 31</td>
<td>$ 15</td>
<td>$ 76</td>
<td>$ 50</td>
</tr>
<tr>
<td>Low density Rural-Residential, 5,000 sq m – 1ha (1DU/ha)</td>
<td>$ 50</td>
<td>$ 15</td>
<td>$ 81</td>
<td>$ 50</td>
</tr>
<tr>
<td>Rural Lifestyle, 1 - 5ha</td>
<td>$ 58</td>
<td>$ 15</td>
<td>$ 76</td>
<td>$ 50</td>
</tr>
<tr>
<td>Hobby farms, 5 - 40ha</td>
<td>$ 157</td>
<td>$ 15</td>
<td>$ 229</td>
<td>$ 50</td>
</tr>
<tr>
<td>Rural, 40 ha +</td>
<td>$ 233</td>
<td>$ 15</td>
<td>$ 323</td>
<td>$ 50</td>
</tr>
</tbody>
</table>
Description of Serviceability Options

This section outlines some of the assumptions made to estimate the wastewater serviceability options for a development consisting of approximately 400 lots with a lot size of 1 to 5 Ha. However, the principles of each option apply to all lot density scenarios.

The “centralised sewerage and treatment plant, discharge to water” option comprises of approximately 32 km of secondary gravity sewer plus 2 km of primary gravity sewer pipes. It was assumed that a medium size pump station would be required along with 1 km of rising main. The wastewater is conveyed to a treatment package plant (capacity 400 lots) and discharged to the Pauatahanui stream.

The “Cluster treatment, pressure sewer system, discharge to land” comprises of individual wastewater pods located at each of the 400 properties. These collect household wastewater and pump it into the cluster sewer network at programmed times. A total of 10 clusters of approximately 40 properties were assumed. At each cluster, the flow is conveyed to a waste water treatment package (capacity 40 lots). It was assumed that approximately 33 km of pressure sewer would be required along with 10 smaller size pumps. From each cluster, the treated effluent is discharged to land through irrigation via a 7 km of rising main. Land based irrigation is weather dependant; during periods of rain the wastewater would need to be stored. To allow for a week of production, a 4000 m³ storage tank would be required.

The “Cluster treatment, gravity sewer system, discharge to land” comprises of 32 km of secondary gravity sewer plus 2 km of primary gravity sewer pipes. It was assumed that 10 small size pump station would be required along with 1 km of rising main. At each of the 10 clusters, the flow is conveyed to a waste water treatment package (capacity 40 lots). From each cluster, the treated water is discharged to land through irrigation via a 7 km of rising main. A 4,000 m³ storage tank has been provided in this scenario.

The “On-site disposal” comprises of a modern well maintained treatment package and disposal field located on each lot (400 in total).

Wastewater serviceability Preferred Option

As outlined previously, the Structure Planning process has determined that an average lot size of 2.5 Ha with a minimum lot size of 1 Ha is appropriate in the lower parts of the study area. Given this lot size and densities, the most economical level of service is for each lot to maintain and operate a private on site wastewater treatment and disposal facility.

To ensure that these systems are adequately maintained, it is expected that an annual inspection record shall be supplied to Porirua City Council to provide evidence that the on-site system is performing to the required standard (refer Wastewater Bylaw).
Stormwater

When considering the management of stormwater in the structure planning area, key considerations are:

(a) Reduction in suspended solids in stormwater that is discharged into streams and waterways;
(b) Reduction in contaminants within stormwater that is discharged into streams and waterways;
(c) Reduction, or no increase, in storm water run-off rates within drainage catchments, across property boundaries or between clusters.
(d) Reduction in erosion and scouring of land and stream banks.
(e) Reduction in storm water flooding risk including no new buildings in areas prone to flooding.
(f) Minimisation of earthworks e.g. by reduced road widths or increased road gradients.

The various techniques considered for managing stormwater quality and quantity within the catchment are as follows:

(a) On-site systems such as; rain gardens to collect runoff from driveways and hard stand areas, utilise existing wetlands, swales to existing tributaries of the Pauatahanui Stream;
(b) Cluster or community based options such as; riparian planting, constructed wetlands at concentrated discharge points such as at the Judgeford Hamlet interface with the Pauatahanui Stream.

Consideration was given to management of stormwater within the development area and wider catchment and this has highlighted certain constraints.

Areas prone to flooding were investigated and the 100-year ponding area was identified and was excluded from the study from having any development potential.

Given that sedimentation of the Porirua Harbour is known to be a significant long term issue for the community, it was considered unacceptable for steep erosion prone land (slope > 25º) to be identified for further intensification. Earthworks and access roads within these areas will create a high risk of sedimentation that would be difficult to mitigate. Therefore all land steeper than 25º was excluded from the study from having any further development potential. This is consistent with the wastewater serviceability assessment.

All development within this catchment will have the potential to increase run-off into the environment and will need to be managed so that there are no additional contaminants. As reducing sediment inputs into the Porirua Harbour is considered so important, a combination of mitigation measures higher in the catchment such as revegetation/retirement of land, on site mitigation as well as potential wetland treatment at the bottom of the catchment will be required to address this issue.

Wetland Treatment Facility Construction Costs

The cost of constructing a wetland treatment facility serving rural subdivision and development is dependent on a range of factors including:

- Land purchase cost
• Whether the device to be constructed is part of a subdivision consent condition or as an individual activity independent of development (i.e. Council funded)
• The size of the catchment area
• The topography
• The soil type
• Whether the device is for treatment only or is a combined treatment and detention device
• The size of the required embankment
• The amount excavation required
• Whether or not lining is required
• The extent of wetland planting.

Not knowing the above makes estimating the cost of building a facility difficult.

A cost estimate has been calculated and the cost of establishing a wetland treatment facility would be in the order of $16,000 per hectare treated.

In addition once the facility is built there are ongoing maintenance costs. For urban development these can be factored into the sale price of each lot and would most probably be collected through increased rates or ongoing levy. However for rural residential development at 2ha densities the construction and maintenance costs are likely to outweigh the benefits.

**Stormwater Mitigation Preferred Option**

With the average lot size of 2-2.5Ha and minimum being 1Ha within the lower parts of the catchment (i.e. land with slopes <25°), this provides sufficient land and lot densities to provide for some onsite mitigation such as rain gardens, wetlands and swales.

Grassed swales will also be needed to convey runoff from roads into the existing water courses which will provide some stormwater attenuation and treatment. In addition to this, it is strongly recommended that all discharges into water bodies make provision for litter and hydrocarbon removal. There are numerous ‘off the shelf’ products available for which this can be achieved.

Setback distances from the road have been provided for in the Structure Plan to allow for onsite treatment and for visual amenity reasons (refer appendix E).

Constructed wetlands could be provided at main discharge points to the Pauatahanui Stream wherever possible, which can add further treatment and peak flow buffering capabilities. These however would need to be “off line” and not part of the main stream flow to ensure they are not adversely affected by flooding. However as noted above the costs of such facilities for rural subdivision is likely to be prohibitive.

If a logistics centre was established or much higher density of development was proposed (i.e. below 3,000m² lots) however such a facility could be appropriate given the size, impact on the environment and economies of scale of such a centre and/or peri urban residential development. A suitable area for the wetland treatment facility would be on land alongside the Pauatahanui Stream adjacent to the Judgeford Golf course. This wetland would provide additional buffering of peak flows but more importantly would
assist with the removal of nutrients and sedimentation from the stream. It would also provide treatment to existing discharges into the Pauatahanui Stream that would not be modified through any future development.

5.7 Inlet Water Quality and Revegetation Options

The inner estuary area of the Porirua Harbour is about 8km2 and the catchment covers 185km2. Gradual but extensive degrading of the dynamics and ecosystems of the Porirua Harbour have occurred over the past 150 years from pollutants from roads, stormwater and sewage systems fouling the harbour and sediment runoff from urban development and earthworks.

The key issues facing the harbour are pollutants, ecological degradation and excessive sedimentation rates. Heavy metals, pesticide residue, excess nutrients, vehicle emissions and pathogens make a number of locations in the harbour unsuitable for swimming or other contact with the harbour. Sedimentation, pollution and direct harbour edge modification have significantly destroyed areas of the original estuary habitat and reduced critical sub-tidal, intertidal ad harbour edge ecologies.

Sedimentation is considered the greatest threat to the future viability and usability of the harbour. Sedimentation of the Porirua Harbour has been excessive. Analysis of bathymetric (sea floor) surveys from 1974 and 2009 indicate about 9mm per year in the Pauatahanui Inlet. In healthy estuaries the rate of accumulation is less than 1mm per year. The primary source of excessive sedimentation in Porirua Harbour is from terrestrial sources originating from erosion prone rural land, stream bank erosion and development earthworks.

Figure 14: CLUES estimates of current terrestrial sediment (kt/yr)
The overall goal of the Harbour Strategy is to reduce sediment input rates into the Harbour by 50% by 2021. During the structure planning process possible mechanisms to help achieve this target were discussed. It was considered that allowing further rural lifestyle subdivision could be used to decrease the rate of sedimentation into the Pauatahanui Inlet. With the majority of the structure plan area in pasture and with a significant amount of that with slopes greater than 25 degrees, revegetation/regeneration of these areas would reduce erosion and sedimentation. Revegetation could be achieved through a combination of including controls which require revegetation as part of subdivision or applicants to provide a financial contribution to the Pauatahanui Revegetation Framework.

Revegetation treatments and costs have been investigated in the Structure Plan process to support the Council’s “Porirua Harbour and Catchment Strategy and Action Plan” (the Harbour Strategy, 2011). Research carried out as part of this programme has identified three key issues facing the harbour: sedimentation rates, pollutants and ecological degradation. Revegetation of steep land and riparian areas (through planting and/or retirement programmes) is recognised as one of the key tools that can be used to reduce sedimentation rates and improve degraded habitats for indigenous fauna. Harbour Strategy initiatives include research, education, regulation and project initiatives such as funding to prepare and implement whole property plans with areas fenced and replanted or retired.

The overall goal of the Harbour Strategy is to reduce sediment input rates by 50% by 2021. The Structure Plan area will need to play a significant role in this initiative as current loads from the Pauatahanui catchment of 5.53 kt/year are second only to the larger rural catchment, Horikiri.

An integral part of any option considered for the structure plan area is the Pauatahanui Revegetation Framework. This is a community based programme to provide assistance to landowners wishing to replant their properties to control erosion prone land and bring back biodiversity. It was considered that revegetation would have the most positive effect on the quality of the Pauatahanui inlet, as it helps to reduce erosion and sedimentation.

At the technical design workshops allowing further subdivision with a requirement to replant, retire erosion prone land and/or plant riparian areas on site or on land further up the catchment was explored. Providing an incentive such as increased development rights in exchange for requiring sizable areas to be revegetated was explored in some detail. Other issues such as controlling on site earthworks and siting and design of structures was also considered.

**Revegetation costs**

Baseline revegetation rates have been calculated as part of the Structure Plan process to both inform landuse and planning approach recommendations that would contribute to the Harbour Strategy:

Revegetation costs of $20,000 per hectare (exclusive of fencing, amenity grade plants and ongoing maintenance).

i) On steep slopes - line clearing (through scrub or existing exotic weed population), spot spraying, planting of small grade (root trainer) pioneer species at 1600 stems per ha (spH) and a modest contribution to pest and weed control over the establishment period.
ii) In riparian areas - hand clearing and limited use of appropriate agrichemicals, application of a compost ‘blanket’ to improve soil fertility where access permits/away from normal flow areas, planting of small grade (PB2 or PB3) plants at 300mm -1m spacing and establishment maintenance.

Note: revegetation costs can be highly variable depending on site conditions and existing vegetation patterns etc. However, a rough order of costs is necessary to inform the consideration of development contributions and whole property plans that will contribute to revegetation patterns in priority areas. An additional $5,000 is recommended for fencing costs.

Sediment reduction

The most significant influence on sedimentation rates within rural catchments are high rainfall events. The impact from earthworks through the construction of roads, buildings and removal of plantation forests is also a potential major contributor to sediment runoff rates/inputs. The later can be controlled to some extent through District Plan controls while the former through plantation of land vulnerable to erosion and alongside streams and waterways.

The greatest gains in relation to revegetation is planting on exposed or steep lands and next to streams which under wet conditions increase sediment load into the streams and into the inlet. The area of steep land and waterways amounts to about a 1/3rd of the study area (refer Appendix D Maps). Whereas planting on flatter land which is grassed on the other hand will achieve minimal benefit in terms of reduction in sedimentation. Any further intensification of the study area should require planting and/or retirement within the steeper areas and along waterways and streams. This will provide a tangible benefit for both the prevention of erosion and subsequent sedimentation in high rainfall events and ecological and visual amenity benefits with increased biodiversity and vegetated land cover. The alternative is the provision of a contribution towards the cost of planting 1ha elsewhere within the catchments area which is managed through a community based organisation with GWRC/PCC funding such as the Pauatahanui Revegetation Framework initiative.

This approach also reflects a consideration of the best practice in different areas in the catchment, in line with existing Harbour Strategy initiatives. In particular on:

- Steep land -where opportunities for appropriate development may be limited and/or greater gains may be achieved by retiring land rather than revegetating a small portion of it.
- Easy slopes and lowland areas adjacent to waterways where the Harbour Strategy vegetation framework plan (locating priority areas) along with the Council’s significant vegetation site register, can be used to evaluate the merits of onsite versus off site revegetation contributions.

Diagrammatically, and following on from the constraints analysis and lot size recommendations included in the Structure Plan are summarized as follows:
Diagrammatically, and following on from the constraints analysis and lot size recommendations included in the Structure Plan:

- **Green/orange area**
  - Lot size 2.5ha avg, 1-2 ha minimum
  - Development contribution / lot $25,000 (incl administration costs)
  - Harbour Strategy to negotiate and replant on erosion-prone land
  - Or Onsite revegetation to support the revegetation framework plan/ecosite protection/biodiversity

- **Harbour Strategy**
  - Revegetation framework

- **Red area**
  - Lot size 5-4 ha minimum
  - 2ha reserved for revegetation with 1 ha made available to Harbour Strategy
  - Or Balance lot retired as part of Harbour Strategy property plan

- **Revegetation**
  - Harbour Strategy negotiates with owners to re-vegetate/ regenerate and uses land made available to it
5.8 Recreation Opportunities

The Pauatahanui Judgeford area contains a number of popular recreational opportunities including the Judgeford Golf Club. In Judgeford there are approximately 15 horse arenas on private properties and another 15 are located in Pauatahanui. The use of Moonshine Road by horses has decreased in recent years as the volume of traffic has increased. The other rural roads have a higher amount of horse traffic.

As the majority of the land within the structure plan area is in private ownership the opportunity to increase recreational facilities is somewhat limited. The greatest opportunity to increase recreational facilities in the area would be for esplanade strips along waterways and opportunities to link the Belmont and Battle Hill Regional Parks with walkways, cycleways and bridleways as development takes place.

Providing for active transport through shared pathways alongside the Paekakariki Hill Road and along the Horokiri and Kakahao Streams is also an opportunity.

As part of Transmission Gully, the Council has negotiated with NZTA agreement in principle to a link from Flightys Road to Battle Hill Regional Park. Whether it goes ahead depends on the availability of funding.

The Judgeford basin is central to the Hutt Valley and Porirua, Kapiti and Wellington. As such, it is possible that this area would be ideal for developing a regional field sports facility, particularly following the development of the Transmission Gully Motorway. Lanes Flat has been considered from time to time for sports fields development although the area that is flood free is limited in area and is likely to be in competition with a range of other uses such as a service station and eatery. A small public park could however be developed on the site following the construction of Transmission Gully Motorway. The Judgeford Golf Course was identified as a possible site, should it ever become available for purchase. However given it is owned by an incorporated society (club members), the sale and availability of the land would be unlikely at least in the short to medium term.

5.9 Cultural, Heritage and Archaeological Sites

There are a number of archaeological, cultural and heritage sites located within the structure plan area (Figure 13). These are largely based within and around the Pauatahanui Village.
Figure 13: Sites with Historic and Cultural Heritage values. Source: *Porirua City Council, Pipeviewer (2012)*

The Historic Places Trust register contains numerous registered places and there are numerous sites listed in the Porirua City District Plan and on the Council’s heritage inventory.

Heritage sites of particular note include the Taylor Stace Cottage which is a registered Category 1 historic plan and listed in the District Plan. The cottage has recently been raised and moved to mitigate the effects of flooding.

Taylor Stace Cottage Former State Highway 58, Pauatahanui

The St Albans Church on Paekakariki Hill Road is the second church to be built in Pauatahanui and has architectural significance. The St Josephs Church located on SH58 is
the oldest Catholic Church building still in use in Wellington and was the first Catholic Church building in the Porirua basin. Adjacent to the St Josephs Church is a graveyard where a number of early settlers to the Pauatahanui area are buried. There is a cluster of significant sites and buildings within the Pauatahanui Village known as the Pauatahanui Historic Area which was registered in 1985.

St Josephs State Highway 58  
St Albans 4 Paekakariki Hill Road

The NZHPT also noted that there are a number of historic pathways in the Pauatahanui Judgeford area.

The recorded sites within the structure plan areas are set out in the table below*:

<table>
<thead>
<tr>
<th>District Plan Reference</th>
<th>Name</th>
<th>Location</th>
<th>NZHP T class</th>
<th>Description of feature/site</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA01</td>
<td>Taylor-Stace Cottage</td>
<td>State Highway 58 Pauatahanui (Lot 1 DP 50929)</td>
<td>I</td>
<td>Simple Georgian cottage built in 1847, this is the oldest existing cottage in the Pauatahanui district. Former colonial homestead currently used as a craft shop. Consists of main building and outbuildings, largely original throughout with minor modifications.</td>
</tr>
<tr>
<td>JA02</td>
<td>St Josephs Catholic Church</td>
<td>State Highway 58 Pauatahanui</td>
<td>I</td>
<td>Consists of church and graveyard which are well maintained and has been virtually unaltered since 1878. First Catholic Church in Porirua Basin and oldest catholic church.</td>
</tr>
<tr>
<td>District Plan Reference</td>
<td>Name</td>
<td>Location</td>
<td>NZHP T class</td>
<td>Description of feature/site</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>JB22</td>
<td>St Albans Church Area</td>
<td>Paekakariki Hill Road, Pauatahanui</td>
<td>II</td>
<td>The St Albans Church Building (Anglican) was built in 1895 of timber, weatherboard construction with corrugated iron roof. It was designed by Frederick de Jersey Clere, Fitzgerald and Richmond. The Church is still in use today. The Church is built on a</td>
</tr>
<tr>
<td>JB23</td>
<td>Thomas Hollis Stace Cottage</td>
<td>Paekakariki Hill Road, Pauatahanui</td>
<td>II</td>
<td>Built in 1860 by Thomas Hollis Stace as a private dwelling. Used in the late 1870's as a Post Office and in the mid 1880's as a bakehouse and general store. More recently it has been used by the Royal Forest and Bird Protection Society as a base for f</td>
</tr>
<tr>
<td>JB24</td>
<td>Pauatahanui World War I Memorial</td>
<td>Paekakariki Hill Road, Pauatahanui</td>
<td>II</td>
<td>World War I memorial.</td>
</tr>
<tr>
<td>JB25</td>
<td>WWII American Camp marker and Community Hall</td>
<td>Judgeford</td>
<td></td>
<td>Building and area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Map Number</th>
<th>Number</th>
<th>Location</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>R27</td>
<td>135</td>
<td>2671000E, 6009300N</td>
<td>GUNFIGHTER PA</td>
</tr>
<tr>
<td>R27</td>
<td>137</td>
<td>2670800E, 6009100N</td>
<td>MIDDEN</td>
</tr>
<tr>
<td>R27</td>
<td>230</td>
<td>2670900E, 6009200N</td>
<td>PITS</td>
</tr>
<tr>
<td>R27</td>
<td>234</td>
<td>2670900E, 6009400N</td>
<td>MIDDENS</td>
</tr>
</tbody>
</table>


Section 6(f) of the Resource Management Act 1991 identifies the protection of historic heritage from inappropriate subdivision, use and development as a matter of national
importance. The Porirua District Plan includes rules relating to historic heritage and a heritage schedule which identifies those properties where the heritage rules apply.

Where applications for resource consent may affect sites of significance to Maori, archaeological sites, and historic places and areas (as identified in the District Plan) applicants are encouraged to consult with the Historic Places Trust before finalising their development plans or lodging an application for resource consent. If the applicant does not consult with the Historic Places Trust then the Council will consider notification of the consent or consult to determine who the affected parties may be and what matters may need to be addressed in the decision on a resource consent.

Under the Historic Places Act 1993, any person wishing to undertake work that may damage, modify or destroy an archaeological site or to investigate a site by excavation, must first obtain an authority from the Historic Places Trust for that work. The archaeological authority process applies to all sites that fit the Historic Places Act definition, regardless of whether:

- The site is recorded in the NZAA Site Recording Scheme or registered by the NZHPT;
- The site only becomes known through development work taking place;
- The activity is permitted under the District or a Regional Plan, or a resource or building consent has been granted.

The NZHPT notes that there is a gap in the information regarding archaeological sites and historic heritage values in the Judgeford area, specifically the Judgeford Golf Course, and suggested that an archaeological assessment is required to fill this gap. A detailed preliminary archaeological survey has not been undertaken as part of the structure planning process but would be undertaken when specific development proposals within the area are considered.
6 CONSULTATION

6.1 Introduction

The development of this draft Structure Plan has included an interactive community planning exercise with key stakeholders and agencies that have an interest in the Pauatahanui Judgeford area. This included:

- A public meeting which was held on 6 December 2011 during the Integrated Strategic Logic workshop;
- Individual meetings with the following stakeholders:
  - BRANZ
  - The Guardians of Pauatahanui Inlet
  - Pauatahanui Village Business Owners
  - New Zealand Wind Energy Association
  - Pauatahanui Inlet Community Trust
  - Ngati Toa (note: very preliminary and will be ongoing throughout the structure plan project)
- Attendance of the workshops in November and December 2011 and in February 2012 by key stakeholders and agencies including Ngati Toad, the NZTA, NZHPT, GWRC, and representatives from the Wellington Regional Strategy office.

The key issues raised through the stakeholder engagement are summarised in the following sections.

6.2 Public Meeting 6 December 2011

A public meeting was held with residents of the Pauatahanui-Judgeford community and interested parties in December 2011. During the meeting a number of key issues were discussed including environment and landscape, the possibility of residential and commercial development within the area, the provision of infrastructure, issues around traffic and the current roading network, community and recreation facilities, heritage sites, further development within the Pauatahanui Village and the extent of the structure plan area. The issues and suggestions which were raised during the public meeting fed into integrated strategic logic workshop and the development of this draft structure plan (refer Appendix C for further detail). These issues are discussed individually below:

Environment and Landscape

The need for control of sedimentation of the Pauatahanui Inlet was strongly indicated by many at the Public Meeting. Attendants expressed the need for the water quality of the Pauatahanui Inlet to be protected and actively monitored and that erosion and siltation of the streams and the inlet should be prevented. It was suggested that large cuts in hillsides should be disguised, perhaps through revegetation. For this reason urban development of the area was not favoured. There was a general acceptance of somewhat smaller lot sizes within the area, however, it was indicated by most that any rural residential development in the area would need to proceed with caution.
It was highlighted that the local rural character of the area should be retained and
development should be clustered to suit the terrain and the landscape of the area. It was
strongly expressed that the ridgelines within the area should be protected from
development.

**Residential Development**

More rural residential development within the study area was identified as being
acceptable for those at the meeting. More development could provide more critical mass
for sewer and water reticulation, especially near the Pauatahanui Village. It was
suggested that development should be clustered around a collective sewer system and
the concept of small clusters of six or seven dwellings grouped around shared farmland
should be considered through the structure plan process.

Attendants suggested that more flexibility in rural lot sizes should be allowed in the area.
The size of sections should take the landform into account and a minimum lot size of 2ha
was suggested as being suitable for the area.

**Commercial Development**

There were mixed views about commercial development within the area, with Large
Format Retail not being favoured by anyone present. Light industrial development with
low environmental impact was considered to be acceptable by some as it would provide
for local employment. Rezoning specific areas for this should be considered as part of the
structure plan. Other attendees indicated that no commercial development is preferred,
not even small scale, as this may open the door for larger scale development.

A possible logistics hub located near the future interchange between Transmission Gully
Motorway and SH58 was discussed and specific attention was indicated for an evaluation
of the possible local employment benefits.

**Infrastructure**

It was suggested that essential services, including wastewater reticulation, should be put
in place before further development occurs. It was also suggested that putting a sewer
main beside the existing water main should be considered as a long term future concept.

**Traffic Movement**

Concerns pertaining to general traffic safety issues resulting from development in the
area were expressed during the meeting. It was suggested that the full width of the road
reserve should be used for the movement network. In some place this may mean that
fences should be shifted back to the actual property boundaries to accommodate
walking, cycling and horse riding in the verge of the road.

Although uncertainty was expressed by some attendants about the Transmission gully
Motorway development, it was agreed that planning for the areas should assume it will
take place. The temporary concrete plants and other construction sites associated with
the Transmission Gully Motorway should be reverted to public parkland (possibly
associated with the village) after the road is constructed. An example of such an area is
the Lanes Flat area.
Community, Recreation and Heritage

It was suggested that the development of a community sports field should be considered as part of the structure plan. However, it was also noted that there is sufficient recreational open space provision in the area. It was also suggested that the development of an equestrian centre in the Battle Hill of Judgeford areas should be considered. Lanes Flat was put forward as an area that could be developed for community use.

The Judgeford Golf Course was identified as being a facility that should be protected from development.

Heritage sites within the area should be identified, exposed and celebrated.

Pauatahanui Village

With regard to development in and around the Pauatahanui Village, the meeting was divided. Some wanted no further development at all because they like the village the way it is while others favoured more dwellings and/or more services and local employment, leading to greater diversity in the village.

Scope of Structure Plan Area

Some attendants felt that the Structure Plan area should be enlarged to the north to include the Horokiri Catchment and the full length of Flightys Road.

Planning Issues

The management of development within the structure plan area was discussed during the meeting and the need for strong planning policies to protect the areas from inappropriate development was expressed.

6.3 Stakeholder Meetings

Meeting were held with individual stakeholders to provide one on one feedback sessions on their expectations. The key issues raised through the meetings are set out below.

BRANZ

BRANZ indicated that they are committed and plan to stay at their current location for the long term. They indicated support for similar research or light industry to develop around them but would have concerns about further rural residential development with the potential for reverse sensitivity (noise complaints etc. from new residents).

Guardians of Pauatahanui Inlet

The Guardians of Pauatahanui inlet generally support the Pauatahanui Development Framework subject to any development having restrictions to ensure that there is no further sedimentation of the harbour. They see the runoff from roads as a real issue and would like to see mitigation measures within any new roads to maintain water quality.

Pauatahanui Village Business Owners

The Pauatahanui Village business owners generally support controlled development and clustered rural residential development. The business owners would like to see a reticulated wastewater system rather than the use of septic tanks.
New Zealand Wind Energy Association

The New Zealand Wind Energy Association supports a comprehensive planning approach to future development in the Pauatahanui Judgeford area. Their main concern is around more rural residential development and if more is allowed they may recommend to their members that they abandon areas the area and focus on more wind farm friendly districts.

Pauatahanui Inlet Community Trust

The Trust believes that integrated management of the Pauatahanui Judgeford area is needed and as such they will not support any further development of the catchment area unless the water quality of the inlet is not further compromised. They would like to see activities which reduce the sediment load into the inlet encouraged. They are also concerned about the effects on water quality from runoff from roads, and in particular the construction of new roads. The Trust noted that water quality is a major issue for Ngati Toa. The Trust expressed concerns about the future use of the land on Lanes Flat used as a construction site and also known as ‘the compound’.

6.4 Public Meeting 14 February 2012

Kobus Mentz presented the design outputs which were developed following public input from the earlier workshop on 6 December 2011 (refer power point presentation www.pcc.govt.nz/News---Events/Public-Consultation/Pauatahanui-Judgeford-Structure-Plan). There were 38 in attendance.

The following provides a summary of the questions asked and the response given by the Council project team.

1. There is an assumption that subdivision would create excessive siltation, but would the Harbour silt up naturally anyway?

Response

With subdivision the harbour would silt up faster e.g. with earthworks from roads, structures. The options presented here will enable the rate of siltation to be slowed, thereby prolonging the Harbour ecosystem and hopefully enabling more natural rates of siltation.

2. Why rely on a financial contribution, when there is evidence that landowners are planting up their properties anyway?

Response

Replanting and retiring options have been included in the suggested mitigation approaches (as an alternative to $ contributions). There may be subdivisions where lots are 1ha in area where there is not enough land to plant sufficient revegetation. In those situations a $ contribution could well be more appropriate.

3. Have you got a similar aspiration for plantation forestry (in terms of your suggested target for reduction in inlet sedimentation)?
Response

No the project team have not looked at that at this stage. The focus is on predominantly native revegetation.

4. Where does production agriculture fit into the series of constraints?

Response

There is evidence that the value attached to primary production activity is dwindling compared to other economic uses of the land resource in the Pauatahanui area. Rural lifestyle development has already become prevalent in the study area and we have simply addressed the issue from a subdivision perspective and not touched farming.

We have started with the current 5ha minimum discretionary activity lot size. The current pattern of land fragmentation resulting from this minimum lot size is hard to reverse. Agree that landowners should not be compelled to subdivide with any change to the density provisions due to increases in rates. The impact on rates will be further considered.

5. Regarding the hard stand area for the TGM site construction office at Lanes Flat, what consideration is given to displacement of the floodplain?

Response

The assessment work to create the area for the TGM site office compound has been done in the assessment of TGM and is part of that other work. What we are suggesting in the structure plan exercise is possible uses for that compound site once TGM is completed and the site is no longer needed for the TGM site construction office.

6. How confident are you about the amount of possible per-lot contribution for revegetation?

Response

Our estimate is provisional and we expect there will be further debate about that at the time that recommendations from the Structure planning exercise are used to inform the subsequent district plan review.

7. Have you looked at opportunities for people to do replanting instead of paying a financial contribution for the revegetation?

Response

Yes we have measured the potential lot sizes and potential numbers of lot to be yielded from further subdivision to work out possible mitigation under the 4 main subdivision scenarios proposed, and the closest thing we can get to an answer will be in the subsequent report (which will be available on the PCC website when it is complete).
8. In regard to the economic benefits of subdivision, what about benefits of open space retention. Allowing 2.5 ha is short-term thinking.

Response

The 'do-nothing' and 'status quo' options will not deliver any sedimentation reduction benefits. Having said that there is a down-side to rural residential. There is already a fair amount of rural residential in the area which the community can't get any further sediment reduction gains from unless we allow further subdivision which is tied to performance conditions to require revegetation/ land retirement.

9. How will the 2.5ha lot size be averaged? Over what?

Response

The average lot size will be assessed on the site by site basis with each respective subdivision application. The total land area of all lots within the subdivision will have to comply with the minimum average.

10. 2.5 ha average is talking about topographic planning – Are you going to fit it in with the landscape?

Response

Yes that is why the average is being suggested. Furthermore there are different gradations of landscape character green areas being able to accommodate more landscape change that orange areas, which in turn are able to accommodate more landscape change than the red areas (which can accommodate the least amount of change because they contain steeper sloping areas and higher areas and ridgelines, which are more vulnerable to visual changes).

One of the driver’s for PCC doing this work is getting ahead of private plan changes which may promote inappropriate subdivision and development in the wrong areas. If PCC can develop a strategy in consultation with the community, it will have potentially more control over the landscape outcomes in a more coordinated manner, than if there was no strategy. But in doing this we need to be practical and realistic about how to achieve this. The status quo and do-nothing options are not very realistic in this regard.

11. The sediment reduction incentive does seem simplistic. Are there a range of other factors which go into the assessment? Other nuances?

Response

Yes there will be other nuances and you need to make representations about them when the time comes for considering submissions on the proposed structure plan. The outputs of this workshop will also be available from the PCC website for people who wish to make comments back to the Council prior to the structure plan being formally notified for public submissions.
12. The district plan for this area which was proposed in 1986 (or 1966?) would be good to keep an eye on.

Response

Thank you. We will follow that up.

13. Regarding possible development areas at Pauatahanui and Lanes Flat, there is now no public hall and as the population of the area increases, there is an opportunity to have a public hall and pre-school centre.

Response

The Lanes Flat site is a tsunami risk so you need to be careful about what sort of facilities you site in that area. Public halls are needed intact after a natural disaster. Having said that there could well be community space within a commercial premises if it was designed as such.

14. Regarding Pauatahanui Village – you need to fix the colour key on the sketch drawing

Response

Thank you, we will fix that.

15. How about having a community hall behind the church at Pauatahanui Village on elevated land

Response

That is a possibility.

16. The logistics hub may not just be an idea out in the future – there is a company scoping land in the area for that very purpose at the moment.

Response

Yes that is not surprising given the designation and resource consents process for TGM that is currently underway and is a good reason why we are testing through the structure plan process the suitability of the area to accommodate the hub. It’s likely to have a lot of conditions to meet in order for such a facility to be allowed here e.g. landscape mitigation, good for the local economy by creating local employment, traffic management etc.

17. Siltation is the main bugbear with rural area activity and development and you may not find much objection going to 2.5 ha minimum average lot size. However if you are going to double the population, what will the effect be on the infrastructure?
Response

The absolute numbers or predicted uptake of subdivision lots are relatively small over 20 years and whilst some roading upgrades and stormwater/floodplain management will be required the amount of infrastructure change required to accommodate the predicted changes in living density is not that great.

18. With regard to TGM and commercial development at the intersection of state highway 58, what would be happening further south along TGM at say the proposed Waitangirua intersection? Could commercial development happen elsewhere?

Response

Yes that is possible though not without problems. There are topographical constraints, its zoned rural suburban so is not zoned for commercial development making it harder to get resource consents.

19. What if I don't want my land subdivided? What if I don't want my rates to go up because of the subdivision potential? I like living on my rural farm property where our family has been for several generations?

Response

At this stage we are considering options for a structure plan which anyone will be able to make submissions to when the structure plan is notified. In addition, when the structure plan is finalised, it will be used to inform subsequent plan changes for zone changes, and there is plenty of scope for landowners to discuss potential changes to the subdivision rules with the Council.

6.5 Landowner feedback – Pauatahanui Village, Judgeford Hamlet

MEETING PAUATAHANUI VILLAGE RESIDENTS 10 MARCH 2012

Introduction
A meeting of 8 residents, Council officers and Cr Anita Baker was held to provide more background to the structure plan process. The reasons for developing a structure plan were outlined. This included the Porirua Development Framework which identifies a need to prepare a structure plan for the Pauatahanui Judgeford area. If the proposed Transmission Gully Motorway goes ahead there is risk of private plan changes where PCC may have very little input. The Council is trying to pre-empt development pressures from transmission gully.

It was asked how the structure plan is linked with the 10 year plan. Council officers explained that the 10 year plan is the Councils budget for works, when the structure plan is finalised it will include an implementation framework which will feed into the 10 year plan.
Constraints

It was noted that assumptions have been made based on the information available at the time and that the Council is taking a precautionary approach to natural hazards and looking beyond the 10 year timeframe.

There was some concern by a resident that there are inaccuracies in the natural hazard information shown on the presentation slides and asked what wave height the tsunami information is based on. There was discussion about liquefaction in the Pauatahanui Judgeford area and questions about whether liquefaction occurs in all earthquakes and whether it would occur in the Pauatahanui Judgeford area. One resident noted that looking at historical earthquakes e.g. Napier, the land in the Pauatahanui Judgeford area would be likely to rise in an earthquake and expressed concern about over reaction of what may or may not happen. Council officers explained that liquefaction occurs on land where there are alluvial soils and the Porirua CBD and Hutt Valley are on soils that are susceptible to liquefaction.

The landscape assessment outlined and it was explained that the Council wants to take a holistic approach to development in the catchment to reduce sedimentation in the inlet. It was asked why there is more sedimentation in the Pauatahanui and Horokiri catchments. Peter Matich (PM) explained that it is partly because they are bigger catchments and due to stream erosion and land scouring in the catchments. Matt Trlin (MT) explained that earthworks in the catchment will result in sedimentation in the inlet and the Council is working with Greater Wellington Regional Council to improve the erosion and sediment control rules.

Commercial overlay

PM explained that the commercial overlay would provide landowners with another option should the land become inappropriate for residential use due to natural hazards. Questions around the argument for commercial activity in the overlay area because they would also be affected by natural hazards and that people could easily raise their homes. Question as to whether any business person would take on the risk of establishing a business in the area. MT explained that the area will become more vulnerable to natural hazard events and commercial businesses have more tolerance to these events. When people’s homes become affected it’s much more sensitive.

It was asked what commercial activities would be appropriate in the overlay area and why the overlay needed to be put on now and whether it could be decided later when there is a real risk. Also questioned whether there is an option for some properties to have the commercial overlay and others not. One owner noted that there is no room on her property for any parking for a commercial activity. Another said that one or two properties converting to commercial can have a big impact on everyone else.

There were concerns that the commercial overlay would change the character of the village and should be removed. The overlay would not enhance the environmental and rural aspects of the village which people have invested in. The overlay would be an imposition on the individual owners and would reduce the desirability of the village.

That the release of information means that it already has ‘legs’ and has already spooked the market. PM explained that nothing had been adopted yet. Cr Baker outlined the process once the structure plan has gone to Council.
Another issue raised was the belief that people wouldn’t contribute to the sewage servicing upgrade if an overlay was placed over their property. MT noted that if the overlay is added there would be very limited scale commercial activity that would be able to establish in the village. It was noted that there are other people in the village that have an interest and need to be consulted before the structure plan goes to Council.

PM noted that the information is an idea to elicit discussion and debate. Council needs to hear ideas so that they can develop the necessary tools to implement the ideas. The structure plan is a non-statutory document which sets a framework for changes to the district plan.

**Rural Residential**

There was some concern regarding the proposed rural residential development. This included septic tanks are polluting the environment. MT explained that the lower areas are topographically constrained so that when the water table comes up the systems don’t perform well. However on the elevated land if designed properly they will work.

**Existing Business**

PM asked for views on putting a commercial zoning over the existing commercial activities. Questions were asked about what difference this would make to the current situation and whether controls over noise etc. would be put in place. PM explained that it would acknowledge the existing use of these sites and controls could be established to control noise etc. It was noted that this would need to be something that is discussed with the owners of those properties and it would be important to define what type of commercial activity could be undertaken in the zone.

There was some support to keep what commercial activity there is currently in the village and anything else to be established outside the village and that any further commercial activity should locate around the transmission interchange. Concern was expressed about how much commercial activity would occur in the Village; that with transmission gully there will be less people going through the village.

MT explained that there will be interest in more commercial activity in the village and if it is well managed it could add more flavour and character to the village.

It was asked what would stop a private developer coming in with a private plan change after the structure plan had been adopted. MT explained that the structure plan would show that the council has been through a strategic process to understand what the community wants for the village and would give the Council a strong case in the Environment Court.

It was asked whether the commercial overlay would be taken off the plans before it went out for consultation. MT explained that that would need to be discussed further.

**Site for potential commercial development**

PM noted that the ‘purple’ area for potential commercial development could help form a hub of commercial activity in the village.

There was some strong opposition to commercial development on the site.

**General and concluding comments**

It was asked whether a village zone could be created to lock in the village as it is currently. Others agreed with limiting further development in the Village. MT explained
that there will be pressure for change in the Pauatahanui Judgeford area under the existing district plan provisions or through private plan changes which we have already seen at Judgeford Hills. The structure plan is a chance for the community to set the agenda for the area.

It was asked what process there is for busy people and whether individual properties could be treated separately. MT explained that there is the option for the Council to meet with individuals and any request for a meeting can be sent to PM.

It was noted that a proactive approach needs to be taken with regard to Lanes Flat so that it does not end up looking like Whitby. The community would like to see Lanes Flat used as a public space/reserve.

PM summarised views on the options for the Pauatahanui Village. There was general opposition to the commercial overlay and 1ha rural residential housing. There was general support for a commercial zone over existing commercial properties but there would need to be controls to protect existing village character.

INDIVIDUAL FEEDBACK FROM VILLAGE RESIDENTS

Several submissions were received from landowners following the release of the draft concepts in mid February 2012 and following a meeting called by the local residents (as summarised above). There was some support from directly affected landowners for the potential rural residential opportunities to the east of the village. Some landowners in the residential area however did not support the proposal.

Other concerns raised were raised as follows:

- Objection to commercial zoning and reuse of properties for commercial use
- Expansion of commercial into at 10 Paekakariki Hill Road – would rather see frontage as park

Others requested the Council enable landowners to reclaim / raise their properties to respond to sea level rise.

6.6 Other feedback

JUDGEFORD GOLF CLUB

On 17 March 2012 a meeting was held with Ray Lash, manager of the golf club. At the meeting Peter Matich gave an overview of the Structure Plan process. The detailed power point presentation available on the Council’s website was tabled.

The more significant points that were of interest were outlined and these included:

- Allowing more rural subdivision averaging 2-2.5 ha (current rule is minimum 5ha)
- In the long term developers may push for a logistics hub in the area due to its proximity post Transmission Gully to the Wellington region. To be viable it would need to be 40ha+
- Flooding issues
- Potential walkway/cycleway along the Pauatahanui stream if and when subdivision occurs (i.e. developed as a condition of subdivision)
- SH58 improvements including a roundabout at Moonshine Rd and Flighty’s in 15-20 years and in the very long term 4 laning (not confirmed by NZTA as being needed)
- Questions were asked about the makeup of the club.

Ray responded:
- The club is owned by club members under an incorporated society (Judgeford Investments)
- Any sale of land e.g. for a Logistics Hub would need the support of the golf club members via and AGM and as such was unlikely (only small scale boundary adjustments/subdivision which did not affect the golf club course)
- The size of the club land is 42ha+
- That he was generally impressed with the amount of research undertaken so far
- That revegetation of the catchment as a condition of any subdivision consent made sense
- He believed while there were potential issues with spraying on neighbouring properties that the trend was to use organic sprays
- That rural residential @2ha close to the course would not detract from the golfing experience.

GENERAL

A number of issues/concerns were raised in relation to the following:

- Subdivision options – requested the lower land more suitable to development is allowed to develop at a slightly higher density. The plan needs to include provisions for careful placement of structures and planting to retain privacy and rural setting (character). Would prefer the ability to have a 2nd dwelling for larger lots. To enable residents to covenant property so no further subdivision takes place to retain current property values.
- Roading/tracks – subdivision on local roads should be required to pay a contribution towards their upgrading. Supports bike, walk, horse track from end of Flightys Road to Battlehill. Would like PCC to advocate to NZTA safety along SH58 for all users including having adequate shoulder.
- Revegetation contribution – better to have all PCC subdivisions contributing to improve the Inlet water condition. The 1ha revegetation requirement should take into account existing vegetation on site being subdivided.
- Power reticulation – to reduce amount of power reticulation Council should require new dwellings to reduce power consumption through greener technologies e.g. solar power.
- Sewage scheme – Pauatahanui village needs to be connected
- Home office/small business – support people working from home i.e. limit of 4 employees. These should not have to go through a resource consent process
- Support and opposition to Judgeford Hamlet from local residents.
NZHPT

NZHPT is concerned by the lack of historic heritage information available to inform the plan. NZHPT recommends that the known historic heritage is added to the structure planning maps, showing not only the registered buildings but the approximate location of the marine camps and the recorded archaeological sites.

Ideally the historic heritage information would have been available to inform the mapping exercise undertaken for the proposed structure plan. They acknowledged that it is Councils expectation that the work to gather the information would occur as part of the plan change is preparation. NZHPT has indicated that this is an appropriate way to proceed and have offered some assistance. In particular, NZHPT is experienced in setting briefs for projects of this nature and have indicated they would be happy to review the assessments in draft form.

NZTA

The following comments were provided:

Bradey Road – requires further investigation but consider it may be fine (with regard to proposed further development).

Belmont Road and Mulhern Road – consider that it is inappropriate for any further development without intersection upgrades. Suggest the Council investigate and identify possibilities to discuss with the NZTA. If intersection upgrades are feasible then they will need to be fully funded through PCC.

Flightys/Murphys and Moonshine - the SH58 strategy identifies these intersections as being appropriate for roundabouts in the long term. This is partly based on an increase in rural residential development along the roads. The NZTA would want to collect financial contributions through the District Plan to help partially fund these roundabouts.

The NZTA notes that in the future there is potential for a median barrier to be erected along this part of SH58. This means that right turn movements into some of the above side roads may be prevented and drivers would have to travel to roundabouts/special turnaround areas to turn right. The NZTA would install the barrier regardless of any right turning facilities that PCC had previously installed at intersections.

All of the above are preliminary comments as the NZTA is still investigating the operation of SH58 post-Transmission Gully Motorway.

Greater Wellington Regional Council

From a flood protection point of view:

Suggest 20m development (buildings and earthworks) setback from watercourses (this is the riparian setback already in the PCC District Plan that applies for watercourses greater than 3m wide). The riparian setback (20m) and planting should be applied for all watercourses including those less than 3m wide to leave room for natural watercourse migration, improve water quality, and reduce sedimentation and erosion.

Flood hazard areas should be avoided for development (buildings and earthworks). It would help if the flood hazard for the PMF (probable maximum flood) was mapped, and development occurred outside this area (with 100 year return period flood event as a
minimum). Access to the proposed Lots should also avoid the flood hazard areas. Development should be hydraulically neutral (no change in run-off) - suggested up to 100 year return period flood event.

From a biodiversity point of view: Support is provided in principle for this concept.

Greater Wellington is well aware of the problems that Porirua Harbour faces in terms of sedimentation. Further intensification of catchments or Porirua Harbour will inevitably lead to increases in sediment, if further development is not appropriately managed.

Greater Wellington is also a partner to the Porirua Harbour and Catchment Strategy and Action Plan March 2012. As such, Greater Wellington seeks to achieve the actions of:

- reducing sediment rates
- reducing pollutant inputs
- Restoring ecological health.

The proposed Regional Policy Statement also includes a policy on recognising the importance of Porirua Harbour. This policy directs both regional and district plans to include policies, rules and/or methods to recognise the regional significance of Porirua Harbour and to recognise and provide for the maintenance, protection and enhancement of the significant amenity, recreational, ecological and cultural values associated with Porirua Harbour.

So overall, Greater Wellington supports in principle the revegetation of the catchment should further intensification occur, and that this should be an absolute requirement.

### 6.7 Recommended Response

Given the level of opposition from Pauatahanui Village landowners to providing for a mixed use overlay over their properties it is recommended that this concept is not pursued any further. Home occupations and conversion to small scale commercial activities such as boutique retail can be considered as part of a resource consent application where it can be assessed on its merits. Any such proposal to the residential area to enable conversion to small scale mixed use would be required to meet criteria such as maintaining village character.

The proposed additional commercial site at 10 Paekakariki Road was removed due to lack of reticulated water supply and waste water services (existing and planned) for the site and adverse comments from affected landowners.

In relation to the requested seawall, while individual landowners can apply for consents to build such structures, the Council generally does not build such structures to protect private land.

Changes to the subdivision density for the lower parts of the catchment have been provided as has further requirements on the siting and design of buildings to both retain privacy and maintain rural amenity. Stricter controls on earthworks have also been recommended. In relation to known heritage sites, these have been included on the structure plan maps and any proposed subdivision on the site of the former WWII Marine base will need to undertake an archaeological assessment.
6.8 Summary

This section has outlined the consultation that has been undertaken in the development of the structure plan to date. It identified the key issues raised which have assisted in guiding its development. All of the suggestions/comments have been considered with a number of these resulting in changes to the recommended development options. It is expected that further refinements will take place following the publication and submission process in July/August 2012.
7 OPTIONS

7.1 Introduction

In response to consultation undertaken with stakeholders and the community in December 2011 and February 2012 and discussions with landowners, a number of options for future land use and subdivision have been developed.

These included:

- **Option 1.** Status quo / no change (5ha minimum).
- **Option 2.** Allowing no further subdivision.
- **Option 3.** Reduction of the minimum and average lot size in the Green and Yellow areas (2ha, 2.5ha average).
- **Option 4.** Strong reduction of the minimum lot size in the Green area (0.3ha minimum), and a reduction of the average lot size in the Yellow area (2.5ha average).

Add-on A. Logistics centre, possibly with or without a regional recreational cluster
Add-on B. Judgeford Hamlet

An integral part of all of these options is the Pauatahanui Re-vegetation Framework. It was identified that re-vegetation (particularly on the steeper and riparian areas within the site) has the most positive effect on the quality of the Pauatahanui Inlet, as it reduces erosion and sedimentation. This framework organises the combination of on-site re-vegetation (subdivision on erosion-prone land) and financial contributions (subdivision on less constrained land), administered by a dedicated organisation.

The *Pauatahanui Judgeford Structure Plan Strategic Logic Report* (see Appendix A) provides detail of the four options and two ‘add-ons’ which were considered and assessed as part of the Structure Plan process.

7.2 Development Options

The four options and two ‘add-ons’ that were identified and considered are summarised as follows:

**Option 1: Status Quo**

Development would occur as per the current Porirua District Plan provisions. The possible theoretical yield of new dwellings in the green and yellow areas would be 107.

This option would result in no difference in subdivision or development potential and retention of the existing pattern of Rural Zone and services (or lack thereof). The existing pattern and trend of rural-residential development (with subdivision down to 5ha minimum discretionary activity lots) would be expected to continue, along with the same gradual change to levels of environmental amenity. There is no advantage to environmental management of the catchment to be gained from this option as no changes to the existing planning framework would be proposed.
Option 2: Allowing no further development

This option would involve amending the current District Plan provisions to prohibit (as far as possible) any further subdivision and development. Under this scenario the possible theoretical yield for new dwellings would be less than 10.

This option would entail changing the Rural Zone to remove the right to subdivide further, effectively stopping further development. As such it would require a proposed Plan Change to the Rural Zone and because it would be taking away an expectation for future subdivision potential, there could be expected to be some resistance from landowners in the area. It ultimately is likely to be difficult to mount a convincing legal argument for this case, given the way the Resource Management Act 1991 is presently constituted as enabling legislation for sustainable management of natural and physical resources etc.

Option 3 and 3a: A reduction in the minimum lot size in the Green and Yellow areas

This option would involve amending the District Plan to allow the following:

- Subdivision within the green areas with an average lot size of 2.5ha and a minimum lot size of 1ha and yellow areas with an average lot size of 2.5ha with a minimum lot size 1-2ha;
- As above but with an average lot density of 2ha in the green area (Option 3a)
- A minimum lot size in the red area of 4ha with stricter design controls on earthworks and structures.

This option allows for a moderate degree of rural-lifestyle land use and subdivision intensification, at a rate at which is likely to be tolerable without compromising the general rural character of the structure plan area. Option 3a provides for further intensification subject to additional design criteria to minimise or avoid any impact on neighbouring properties and further opportunities to improve the catchment water quality and amenity values through better stormwater management and increases in catchment revegetation.

There would be a requirement to plant 1ha of locally sourced native vegetation or retire (fenced) 3ha of land for every new lot created but only on land within the site being subdivided that is >25 degree slope and/or within 10m of an existing stream/watercourse. These proposed areas will provide the most benefits in the prevention of erosion and subsequent sedimentation in high rainfall events and ecological and visual amenity benefits with increased biodiversity and vegetated land cover. If steep and/or waterbodies are not found within the property then a contribution towards the cost of planting or retirement of land elsewhere within the catchments area which will benefit most will be required. It is proposed that the funds will be managed through a community based organisation such as the Pauatahanui Revegetation Framework initiative.

The possible maximum theoretical yield under this option is 441 new dwellings.
Figure 5: Concept drawing showing 2.5ha average, 1ha minimum (source Urbanismplus)

Option 4: A bigger reduction in the minimum lot size in the Green area, and a reduction of the minimum lot size in the yellow area

This option would involve amending the District Plan provisions to provide for the following:

- Subdivision in the green areas with a minimum lot size of 3000m².
- Subdivision in the yellow areas with a minimum lot size of 2ha and an average lot size of 2.5ha.
- Subdivision in the red area with a minimum lot size of 4ha with stricter design controls.

This option provides for yet greater rural lifestyle intensification. The impact on the open rural character of lots less than 1ha would however be significant. The capacity of the local roads and SH58 and safety would also be compromised and it is doubtful that there would be sufficient demand for over 1,000 lots which could be developed as part of this option.

The possible development yield under this option would be 1,510 additional lots/dwellings.

Add-on A: Logistics centre, possibly with or without a regional recreational cluster

The economic analysis undertaken by McDermott Miller as part of the structure planning process confirmed that there was merit in investigating further a logistic centre.
According to McDermott Miller (text adapted) this is a cluster of transport, logistics and distribution enterprises on a single site. Within the centre, individual operators are either owners or tenants of buildings and facilities (warehouses, distribution centres, storage areas, offices, truck services, accommodation and catering services for drivers etc.). The size of a centre of this kind is normally approximately 100-150ha, but can be as low as 40ha (or as large as 500ha in Europe). Logistics centres tend to locate near urban centres, close to motorways, ports and rail, but where there is low potential conflict with residences making round the clock operation possible.

According to McDermott Miller, the study area would be a strategic location for a logistics centre for the following reasons (text adapted):

- **Central location in the Wellington Region with equal proximity to Porirua, Wellington City, Hutt Valley and Kapiti Coast.**
- **Excellent access to both SH1 (Transmission Gully Motorway) and SH2.**
- **Breakdown and consolidation of loads would happen closer to Wellington City than at some other areas (Levin, Paraparaumu Airport) where new warehouses and distribution centres could develop.**
- **It is unlikely that a site of the appropriate size could be assembled in Metropolitan Wellington on land already zoned industrial.**
- **Proximity to potential workforce in Porirua.**

The idea of a regional recreation centre was suggested as an option in conjunction with the logistics centre. The Pauatahanui Golf Course was considered as a possible site, should it ever become available for purchase.

A minimum site area of 40ha was identified. A site adjacent to and on the southern side of SH58 to the north of the Pauatahanui golf course was identified as a possible site. The site is however undulating and there would be difficulties in developing the area for intensive landuse. This included concerns that the effects on the landscape and on waterbodies may not be able to be mitigated without considerable financial cost (refer Appendix A Urbanismplus Strategic Logic report and Appendix B McDermott Miller report for full analysis).

It should be noted that the logistics centre was only considered as a high-level idea and was not subjected to place-based investigations. More information is required to give it a further thorough consideration. This includes whether or not there is demand for such a centre within the region and then within this area and if this is confirmed then further work is needed to confirm the suitability of a site within the study area. This will need the commitment of the regional and city Council and support of the landowners.

**Add-on B: Judgeford Hamlet**

In response to feedback from a number of members of the community, clustered development at Judgeford was considered as an option. A possible location for hamlet development was identified at the intersection of SH58 and Moonshine Road with lots ranging in size from 3,000m² to 2.5ha with a mix of light industry, one or two small shops and rural residential lots.

Potential benefits include:
- Local employment benefits
- Benefits from one or two small convenience, arts or craft shops
- On-site wastewater disposal
Subdivision triggers contributions to environmental improvements
Concentration of development leaves more land open
Increased social interaction within rural community
Increased surveillance of BRANZ property

Judgeford Hamlet

Figure 6: Hamlet Concept (source Urbanismplus – refer Appendix A)

7.3 Options Analysis

The above options were assessed from the perspective of single technical disciplines. A detailed options assessment is provided in the Pauatahanui Judgeford Structure Plan Strategic Logic Report in Appendix A. The following table taken from this report summarises the Options Analysis:
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Option 1: Status Quo</th>
<th>Option 2: Allowing no further development</th>
<th>Option 3: A reduction in the minimum lot size in the Green and Yellow areas</th>
<th>Option 4: A strong reduction in the minimum lot size in the Green area, and a reduction of the minimum lot size in the yellow area</th>
<th>Option A: Logistics Centre</th>
<th>Option B: Judgeford Hamlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Water quality</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
</tr>
<tr>
<td>State Highways / NZTA</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Local transport</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Economy</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
</tr>
<tr>
<td>Wastewater infrastructure</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Landscape</td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Strategic Planning</td>
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<td>Undesirable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Recreation</td>
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<td>Less acceptable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Social infrastructure</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

The Option Analysis summary in the table above shows that Option 3 is the most preferred option. This was confirmed through integrated discussion between the technical experts.
7.4 Pauatahanui Village

As part of the Structure Plan process, the desirability of and opportunities for further development of the Village were assessed. It was identified that further limited rural residential development would be desired to support existing and potentially increase the viability of further commercial and community facilities. The Village would also be an obvious location for additional facilities, mutually reinforcing existing facilities.

The main characteristics of the framework include:

• Reinforcing and building on village character, while restricting development in low-lying natural hazard-prone land.
• Maintaining a small service commercial centre, with possibly a small extension between school entrance and Thomas Hollis on the eastern side of Paekakariki Hill Road.
• Putting an overlay over the entire area on the western side (including existing dwellings) to allow small scale commercial. This could include boutique retail and home occupation. The aim of the overlay is to allow conversion of existing use to commercial, rather than full redevelopment.
• Providing appropriate opportunities for limited low-density 1ha+ rural residential development on the higher ground on the eastern side of Paekakariki Hill Road and within 5 minute walking distance of the village (constrained by landscape and ground slope). This would enable a further 15 households to be built which could support the village facilities. This may increase expectations for the servicing of these areas. This is currently not provided or planned for any further dwellings on these properties. Provision could only occur if there was spare capacity. The 1ha lot size however provides sufficient room for onsite treatment and disposal and for dwellings, driveways and building sites to be sited/designed so that the rural character and amenity is maintained.
• Continuing to invest in public/community spaces to include smaller scale streetscape improvements, including more street trees, small scale furniture, and entrance features on both ends of the Village.
• Recognition of limited provision of reticulated potable water to existing dwellings and commercial facilities making further expansion of the village problematic.

7.5 Lanes Flat – Compound Site

The following analysis was taken from the Urbanismplus Strategic Logic Report in relation to the long term use of the site:

The majority of Lanes Flat is prone to flooding and should revert back to wetland or be reinstated as proposed as part of the TGM project. NZTA propose to use the Site Compound as a base during the construction of TGM. This is to include site offices, car parking, a concrete batching plant and pre casting yard, plant and vehicle servicing facilities and storage areas. The site is to be compacted and elevated. Regular flooding of the area is therefore not envisaged to occur. However, as is the Pauatahanui Village, the site is prone to the effects of a tsunami or tidal wave. Post construction of TGM, part of the elevated area is proposed to be retained by NZTA and used as a weigh station.

The Council has the following choices to consider:
Either: Funding a community use:  
• Public Reserve or sport fields  
• Or Community hall (if considered acceptable given the tsunami risk)  

Or: Making gains and growing local employment from using the land for commercial development, other than retail and offices that detract from the CBD.  
• Only if considered acceptable given the tsunami risk.  
• Only if visual effects acceptably addressed.  
• Only if possible adverse environmental effects acceptably addressed.

Residential development regarded as unacceptable because of the tsunami risk

The conclusion from the Structure Plan process was that the Council should explore with the NZTA the possibility of changing the District Plan to enable public reserve or recreation uses and / or light commercial or highway related service centre (fuel and food), other than large scale retail and offices that may detract from the CBD.

7.6 Summary

This section has outlined the various options which have been considered and the pros and cons on each of the options from the perspective of the different technical disciplines. The options assessment identified that Option 3 is the preferred option for the structure plan as well as a hamlet at Judgeford and a small amount of further development in the Pauatahanui Village. The following section outlines the preferred development options in details and provides some example visual material of the development options.
8 PREFERRED OPTIONS

8.1 Introduction
This section of the report introduces in detail the preferred development option for Pauatahanui Judgeford. It includes a description of the preferred development options and design guidelines or concept plans for:

- Rural subdivision and development;
- Pauatahanui Village;
- Judgeford Hamlet;
- Logistics Centre; Lanes Flat Compound;
- Open space and Recreational Uses

It is anticipated that the structure plan will guide the development of future changes to the district plan. Recommended changes to the District Plan and design guide material are outlined in Appendix E.

8.2 Rural Subdivision and Development
As discussed above, the Options Analysis identified that Option 3 is the preferred future development option for the Structure Plan. Following feedback from landowners at the 2nd community meeting on 14 February 2012, the average lot size for the green areas was reduced to 2ha. With many lots in the lower parts of the catchment being 4-5ha this would provide more opportunity to have limited subdivision with associated revegetation of the catchment. This option would involve amending the District Plan provisions to allow subdivision within the Green areas with a minimum lot size of 1ha an average lot size of 2ha and in the Yellow areas with a minimum lot size of 1ha an average lot size of 2.5ha. Subdivision within the Red areas would have a minimum lot size of 4ha under this option.

Refer below showing worked up example of Option 3:
RURAL - RESIDENTIAL DEVELOPMENT - DESIGN PLANNING

3D ANALYSIS - BUILDING AND ROAD/ACCESSWAY LOCATION

View to the north - showing possible bridle trail along ridgeline through to Moonshine Rd

View to the east across existing residential properties
In order to manage the effects of subdivision and development within the Structure Plan area and determine where best to plant erosion prone areas and provide for stormwater treatment the following projects are recommended to take place over the next three years:

**Riparian Management Plan**

This to involve further flood hazard mapping and a survey of waterways to determine eligibility, purpose, and need of esplanade reserves within these catchments. Following this the Council should then develop Asset Management Plans for Esplanade and Local Purpose Reserves (where reserves are determined to be required). There are also links with the Integrated Catchment Management Plan outlined below where areas that would benefit the most from planting including waterways would be identified.

**Integrated Catchment Management Plan (ICMP)**

Develop ICMP and action plan for Pauatahanui Stream catchment and Upper Ration Creek catchment. This is primarily for water quality and sediment management and associated facilities and provision of recreational facilities.

The process to establish an ICMP could be as follows:

1. Gather background information.
2. Understand the outcomes sought to be achieved with the stormwater management.
3. Understand the issues/options and stakeholders within the catchment (these include engineering, planning, ecological and financial) and receiving environments.
4. Understand the future landuse sought and the impacts on stormwater discharges.
5. Fill in information gaps.
6. If necessary carry out contaminant load, hydrological and hydraulic modelling of the catchment.
7. Understand the constraints/opportunities within the catchment to management options.
8. Test management options against items 2, 3, 4, 5 6 and 7 above.
9. Recommend management options.
10. Test recommendations with stakeholders and repeat from 5 as necessary.

As part of this project there would need to be established catchment-wide planting priority areas i.e. the land adjacent to waterways and on steeper land using the mapping undertaken in this project as a base to work from (refer Appendix D). The ICMP would also determine areas for potential land for acquisition for water quality management facilities (including possible wetland treatment), and funding mechanisms.

Given the high levels of sediments being discharged from the catchments within the Structure Plan area in high rainfall events and the potential intensification of landuse/earthworks and associated demands from recreational activities, an ICMP would provide the Council and the community a range of options in an integrated way to address these issues.
8.3 Pauatahanui Village

A small amount of further development opportunities has been identified which would support existing and potentially increase the viability of existing commercial and community faculties.

A Conceptual Development Plan for the Pauatahanui Village is attached in Appendix F. The concept plan aims to achieve the following:

- Reinforce and build on the character of the village;
- Restricting additional dwellings in low lying hazard prone areas;
- Provide for appropriate and limited rural residential development on the higher ground on the eastern side of Paekakariki Hill Road provided the structures are sited and designed to minimise visual impact on wider area. Only serviced if there is spare capacity;
- Provide for CWB track along Pauatahanui Stream, open space/wetland on Lanes flat
- Complete village streetscape improvements such as planting of street trees, upgraded walking connections and re-configured bus turning bay.

8.4 Judgeford Hamlet

That a clustered development at the intersection of SH58 and Moonshine Road be enabled through a change to the District Plan. This to provide for lots ranging in size from 3,000m² to 2.5ha with a mix of light industry, one or two small shops and rural residential lots. There would also need to be district plan standards to require off road parking and potentially road widening to manage an expected increase in traffic resulting from the shops and light industry. A Conceptual Development Plan for the hamlet is attached in Appendix F.

Consultation with landowners is needed to firm up on the pros and cons of the hamlet.

8.5 Logistics Centre

One of the findings of the Structure Plan workshops was that the advantages of a centre are mainly regional, while the disadvantages are mainly local. It was concluded however that the concept is worth investigating further. This includes undertaking market analysis to determine the demand and feasibility for such a centre within the Wellington region and if so, whether the Pauatahanui Judgeford area would be the most preferred location in the Wellington Region. Any such development due to its size would require flat land and potentially extensive earthworks and due to its bulk and the area of impervious land would require of stormwater and visual/amenity treatment/mitigation. Given the lack of services (water supply, wastewater treatment), any development would need to provide for these onsite.

It should be noted that the Structure Plan neither depends on the centre being developed, nor rules it out as a future opportunity. The possible development of a logistics centre is
premised on the construction of the Transmission Gully Motorway, which is due for completion in 2021.

8.6 Lanes Flat – Compound Site

That the Council should explore with the NZTA the District Plan of the land to enable public reserve or recreation uses and / or light commercial or highway related service centre (fuel and food), other than large scale retail and offices that may detract from the CBD if the following issues are addressed:

- Only if considered acceptable given the tsunami risk.
- Only if visual effects acceptably addressed
- Only if possible adverse environmental effects acceptably addressed

That residential development is unacceptable because of the tsunami risk and concerns over reverse sensitivity with road noise from TGM.

8.7 Other Uses

The intent of the Pauatahanui Judgeford Structure Plan is to introduce an option for managed rural-residential growth in a way that results in beneficial outcomes for environmental management of the Porirua Harbour and its tributary waterways. The primary land use anticipated to be encouraged by the structure plan is envisaged to be rural-residential. However there are other uses of land within the Structure Plan study area namely:

- Home occupations
- Rural farmlets
- The existing settlement at Pauatahanui Village
- Existing businesses such as BRANZ, the sawmill
- Equestrian activities etc.

It is envisaged that all other landuses such as existing businesses will not be directly affected by actions such as District Plan changes resulting from the adoption of the Structure Plan. Discussions with business owners was mixed with one in general support of intensification of landuses and another wary of further lifestyle blocks being located next to their site and potential complaints from new residents against their operation. There should be a net benefit to existing landuses with more recreational opportunities with new walkways/cycleways and roading improvements over the long term.

Existing farms should benefit from additional funds being available to plant and fence off erosion prone areas. The existing Farm Plan initiative by GWRC is expected to be enhanced with the introduction of new requirements to provide a financial contribution towards planting erosion prone areas. These funds could augment already established publicly funded initiatives to improve soil management and retention on farms in the upper catchment.
8.8 Open Space Recreational Opportunities

More than 96% of the Structure Plan area is in private ownership (refer table below). As such there is limited opportunity to enhance existing public open spaces. The greatest opportunities arises through the subdivision and development of land and requiring as a condition of resource consents the provision of Esplanade reserves/strips and environmental offsets such as provision of walkways/cycleways along waterways. The largest open space opportunities are along the streams and waterways with opportunities to link the Regional Parks (Belmont and Battle Hill) with walking, cycling and bridleways as development takes place. There are potential opportunities to provide for off road walking, cycling and bridleways paths between Mulhern and Moonshine Road if and when further subdivision takes place.

There is also the potential to provide linkages through newly created Esplanade Reserves/Strips along waterways where the width is greater than 3m in a one year flood event and where the lots being created are less than 4ha. In this case 20m wide reserves/strips can be required as part of the subdivision process at no cost to Council. Esplanade Reserves are vested in Council whereas Esplanade Strips remain in private ownership. The former are surveyed while the later shifts with the stream edge. Both of them typically provide public access (via walkways/cycleways).

If land was to be taken as Esplanade Reserve the Council would need to make provision in its Open Spaces Asset Management Plan for its ongoing maintenance and care. The Council may wish to take more land than 20m to establish a stormwater treatment facility using a created wetland and/or to provide for open space reserve/recreation facilities such as a walkway/cycleway.

An outcome of the recommended Riparian Management Plan and ICMP outlined above could be the provision of linked walkways, cycleways, bridleways and open spaces along Esplanade Reserves and streams.

Public Landownership

<table>
<thead>
<tr>
<th>Land Owner</th>
<th>Titles</th>
<th>Area (hectares)</th>
<th>Area (ha) within catchment</th>
<th>% Catchment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Conservation</td>
<td>12</td>
<td>45.848</td>
<td>19.968</td>
<td>0.49%</td>
</tr>
<tr>
<td>Education Ministry</td>
<td>5</td>
<td>1.684</td>
<td>1.684</td>
<td>0.04%</td>
</tr>
<tr>
<td>NZ Transport Agency</td>
<td>17</td>
<td>70.635</td>
<td>36.314</td>
<td>0.89%</td>
</tr>
<tr>
<td>Porirua City Council</td>
<td>16</td>
<td>2.752</td>
<td>2.752</td>
<td>0.07%</td>
</tr>
<tr>
<td>Land Information New Zealand</td>
<td>1</td>
<td>0.024</td>
<td>0.024</td>
<td>0.00%</td>
</tr>
<tr>
<td>Transpower</td>
<td>1</td>
<td>0.976</td>
<td>0.976</td>
<td>0.02%</td>
</tr>
<tr>
<td>Greater Wellington Regional Council</td>
<td>1</td>
<td>771.164</td>
<td>65.277</td>
<td>1.60%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>771.164</td>
<td>127</td>
<td>3.12%</td>
</tr>
</tbody>
</table>
Refer draft Riparian Management Plan map below which outlines possible 10m (either side of stream) planting strip, 20m (either side of stream) Esplanade Reserve/Strip estimated where the stream is 3m width in an annual flood event, estimated 100 year flood extent and a potential site for a wetland treatment area.
Structure Plan Map (also refer to constraints map no build areas)
Overall Constraints: Graduated Suitability for Development
9 CONCLUSION

This report sets out a framework for development within the Pauatahanui Judgeford Structure Plan Area. The structure plan seeks to guide future development, minimise potential environmental effects associated with rural residential development and provide a framework to reduce the rate of sedimentation of the Pauatahanui Inlet. It sets out an approach to infrastructure provision to ensure the area is managed holistically and sustainably. Future changes to the Porirua District Plan would provide greater certainty to landowners and developers through rezoning and rules and standards. A change to the District Plan would provide a mechanism to deliver the Structure Plan.
Appendices

Appendix A Strategic Logic Report - Urbanismplus
Strategic Logic Report

Pauatahanui-Judgeford Structure Plan

7 March 2012

For: MWH
By: Urbanismplus
NB. This document contains the ingredients for the Pauatahanui-Judgeford Structure Plan to be produced by MWH. It is not intended to be integrally inserted as one or more section of the Structure Plan.
1. STRUCTURE PLAN OPTIONS

Workshop Two

The consultant team and key technical Porirua City Council staff members met for a technical workshop from 6 to 8 December 2011 in Porirua. The aim of this workshop was to develop sound evidence-based core logic for the Structure Plan that is both defendable and able to deliver the best outcome for the District and wider region.

A key input for this workshop served the extensive constraints mapping that had been prepared prior to the workshop. Key influences included the following:

- Landscape sensitivity (resulting from the physical, perceptual and associative aspects of landscape).
- Natural hazards (flooding, geotechnical).
- Services (wastewater reticulation and treatment, water supply, network utilities and telecommunications).
- Storm water management.
- Existing development patterns, including the Pauatahanui Village.
- Community facilities.
- Provision of open space and recreational areas.

Considerations informing option development

Key findings of the preceding analysis stage were presented at the outset of the workshop. These include:

- Regional and District Policies and Plans identify the strategic value of the site and associated development pressures on it, especially once the Transmission Gully Motorway is completed.
- Regional and District Policies and Plans also identify that retail development should be focussed in existing activity centres, limiting the scope for extensive retail development in the area.
- Demographic analysis and growth projections identify a population growth of 1% per annum for the Porirua area.
- The Porirua Harbour Strategy addresses sedimentation, pollution, loss of vegetation and habitat. The overall goal is to reduce sedimentation rates in the harbour by 50% by 2021. In simple pro rata terms (calculated using the current rates of sedimentation and vegetation cover) the re-vegetation of approximately 30ha of land within the catchment is required for a decrease in sedimentation by 1%.
- Market analysis suggests a demand for approximately 350 rural-residential lots over the next 20 years, with a preferred lot size of about 1ha.
- The severely constrained nature of the site (landform, vegetation, streams, areas prone to flooding, earthquake fault lines) suggests a predominant rural or rural-residential use, ruling out residential activity at suburban densities or extensive industrial development.
- The development of a logistics centre (cluster of transport, logistics and distribution enterprises on a single site) could be considered for this area given its strategic location following the construction of the Transmission Gully Motorway.
- No water and waste water reticulation exists in the area. A minimum residential lot size of 3000m² is required for on-site waste water management of the household.
- The Council is considering options for waste water reticulation within the Pauatahanui Village.
- Landscape values in the Structure Plan area are linked to physical, perceptual and associative aspects such as the distinct sequence of valleys and ridgelines, expansive views of the harbour and rural character and the
network of heritage sites in the area. Landscapes with particular significance under the RMA have been identified in the recent Landscape Study commissioned by Porirua City Council which will be finalised through key stakeholder and community consultation. The draft findings have identified ridgelines surrounding the Judgeford area and the backdrop to the harbour and the village as significant amenity landscapes as well as the extent of the coastal environment.

A network of heritage sites and important transportation routes for both Maori and European with an acknowledged survey 'gap' in the Judgeford area.

During the workshop, issue-specific constraints maps were combined into one composite constraints map identifying: (see constraints map in executive summary of the Structure Plan technical report - i.e. constraints include consideration of other landscape matters)

Least constrained land (Green area) – generally flatter, low lying land not impacted upon by ponding or flooding risk and moderately sloped land in close proximity to existing roads. This is considered most compatible with development.

Mildly constrained land (Yellow area) – generally undulating land not impacted upon by ponding or flooding risk, areas with landmark or gateway qualities. This is considered compatible with development, subject to numerous requirements.

Very constrained land (Red area) – generally steep, erosion-prone land located outside the valleys, rural areas in the coastal environment and significant amenity landscapes as identified in the draft Landscape Study and the Pauatahanui Village as a special character area. This is considered not desirable for development. Provision of environmental services is likely to be an important feature of these areas including revegetation to reduce sedimentation rates.

Land unlikely to be developed (Black area) (see constraints map in executive summary Structure Plan Technical report).

The options

In response to the analysis and constraints mapping, four main development options for the Structure Plan area were identified for the purpose of exploring the preferences of the members of the technical project team:

Option 1. Status quo / no change.

Option 2. Allowing no further subdivision.

Option 3. Reduction of the minimum lot size in the Green and Yellow areas.

Option 4. Strong reduction of the minimum lot size in the Green area, and a reduction of the minimum lot size in the Yellow area.

It should be noted that these four options are located on a 'spectrum' ranging from no (or very) little change (Option 2) to most change (Option 4), based on the boundaries set by the analysis described above. Whilst the options were individually tested, the final preferred outcome may be an option that is located elsewhere on the spectrum.

These options are explained in more detail below.

An integral part of all of these options is the Pauatahanui Re-vegetation Framework. It was identified that re-vegetation (particularly on the steeper and riparian areas within the site) has the most positive effect on the quality of the Pauatahanui Inlet, as it reduces erosion and sedimentation. This framework organises the combination of on-site re-vegetation (subdivision on erosion-prone land) and financial contributions (subdivision on less constrained land), administered by a dedicated organisation. It is described in more detail in Section 4.
In addition to the four main options, two separate development options were identified, possibly to be developed independent of whichever main option was preferred:

**Add-on A.** Logistics centre, possibly with or without a regional recreational cluster  
**Add-on B.** Judgeford Hamlet

These options are explained in more detail below.

**Option 1. Status quo / No change**
This option means that development continues as per the current District Plan. The entire area is zoned as rural, whereby:

- Subdivision resulting in lot sizes smaller than 5ha is a Non-Complying activity.
- Subdivision where any of the resultant allotments are 5ha or more in area and less than 40ha is a Discretionary activity.
- Subdivision which results in all allotments being 40ha or more in area is a Controlled activity. The matters over which Council reserves control for the purpose of assessment include among other matters: earthworks and native vegetation clearance.

- Rural, Residential, Community-related land use is a Permitted activity.
- Extractive industries and service stations are a Discretionary activity.
- Activities which emit an objectionable odour, Offensive trades and Vehicle yards are a Non-complying activity.

The possible theoretical yield of new dwellings in the yellow and green areas would be 107.

This option was included in order to assess whether any change of the current District Plan provisions would be seen as improving or, conversely, worsening the situation.

**Option 2. No further subdivision**
This option means that the current District Plan should be changed to prohibit (as far as practical) any further development in the study area. This option was developed in order to assess whether the constraints on the land and the project objectives require a blanket ban of new residential, commercial or industrial development in the area, and also whether or not possible further development would contribute to improvement of the current environmental situation, most notably including erosion, and sedimentation and siltation of the Pauatahanui Inlet.

A possible theoretical yield of new dwellings would be less than 10.

**Option 3. Reduction in the minimum lot size in the Green and Yellow areas**
This option means that the current District Plan should be changed to allow the following:

- Subdivision in the areas of the site classified as Green and Yellow, whereby the average lot size is 2ha, 2.5ha or more respectively. Discussion around a minimum lot size in the order of 1-2ha within this 2.5ha average occurred at the workshop.

- Also discussed under this option was to reduce the minimum lot size from 5ha to 4ha for the Red area in combination with stricter design controls.
The predominant land use would be rural-residential.
The possible maximum theoretical yield of new dwellings would be 441.

A number of additional sets of planning provisions respectively applying to the Green, Yellow and Red areas would need to be developed. The workshop identified the issues these would need to address. These provisions mainly pertain to re-vegetation requirements and design controls to maintain rural amenity, which particularly in the most sensitive (Red) area would be tightened. The provisions are listed and explained under Section 4.

This option was developed in response to the following considerations:
The physical, perceptual and associative aspects of the area and the potential to absorb further development whilst protecting the inlet and maintaining other identified landscape values including rural amenity. Allowing smaller lot sizes in suitable locations could be seen as a finer grain response to the local conditions. Market analysis indicated a demand for rural residential lots of about 1ha in area. It responds to the desire indicated by the community to allow smaller lots where the land allows it.

This option could therefore be seen as a way to carefully provide incentives for a modest amount of development in those parts of the site where the conditions allow it, in order to not only mitigate adverse environmental effects, but also find ways of improving these.

During the workshop and due to the size of the study area a high level concept was developed, using the Judgeford area for a design sample for the purpose of illustrating and assessing Option 3. The concept shown is based on the ideal situation whereby landowners cooperate in order to maximise efficiency and the number of lots. Several existing dwellings and other buildings, as well as the no-build zones resulting from overhead power lines and a fault line were not taken into account.

A perhaps more realistic concept was developed taking refining the concept further. It takes into account the abovementioned constraints and assumes that development takes place within the existing boundaries of individual properties, with a small number of exceptions to this for the purposes of granting access to landlocked sites. A number of vacant properties were found and for the purpose of this planning process it was assumed that these would be subdivided and built upon.

**Option 4. Strong reduction of the minimum lot size in the Green area, and a reduction of the minimum lot size in the Yellow area.**

This option means that the current District Plan should be changed to allow the following:
Subdivision to lots as small as 3,000m² in the areas of the site classified as Green. Calculations by the consultant team’s waste water engineer identified that a rural-residential lot size of approximately 3,000m² in area can accommodate on-site waste water treatment associated with the household.
Subdivision to lots as small as 2ha in the areas of the site classified as Yellow, whereby the average lot size per subdivision is 2.5ha or more.
Also discussed under this option was to reduce the minimum lot size from 5ha to 4ha for the Red area in combination with stricter design controls.
The predominant land use would be rural-residential.
Possible theoretical yield of new dwellings would be 1,510 (based on the above including the 5ha minimum for the Red area).
As with Option 3, a number of additional sets of planning provisions respectively applying to the Green, Yellow and Red areas are developed. These provisions mainly pertain to re-vegetation requirements and design controls, which particularly in the most sensitive (Red) area would be tightened. The provisions are listed and explained under Section 4.

This option was developed in response to the following considerations:
Allowing smaller lot sizes in suitable locations could be seen as a finer grain response to the local conditions.
The strategic location of the site once the Transmission Gully Motorway is constructed would be maximised within the boundaries derived from technical analysis and the consultation.
Since development would be combined with environmental enhancement measures, this option maximises the opportunities for that.
It responds to the desire indicated by the community to allow smaller lots where the land allows it.

This option could therefore be seen as a way to carefully provide (in comparison to Option 3) slightly more incentives for development in those parts of the site where the conditions allow it, in order to not only mitigate adverse environmental effects, but also find ways of improving overall sedimentation rates. At the same time, in those locations that are most suitable for it, a more intense form of rural-residential development can take place, without the need for off-site waste water treatment and reticulation.

During the workshop and due to the size of the study area a high level concept was developed, using the Judgeford area for a design sample for the purpose of illustrating and assessing Option 4. The concept shown is based on the ideal situation whereby landowners cooperate in order to maximise efficiency and the number of lots. Several existing dwellings and other buildings, as well as the no-build zones resulting from overhead power lines and a fault line were not taken into account.

A perhaps more realistic concept was developed taking refining the concept further. It takes into account the abovementioned constraints and assumes that development takes place within the boundaries of individual properties, with a small number of exceptions to this for the purposes of granting access to land-locked sites. A number of vacant properties were found and for the purpose of this planning process it was assumed that these would be subdivided and built upon.

**Add-on A. Logistics centre**

The Porirua Development Framework (a non-statutory Council policy document) includes the objective to maximise the business opportunities provided by the Transmission Gully Motorway. An output from the pre-workshop analysis was that, in line with this objective, a site near the junction with SH58 could be strategically used for a logistics centre after completion of the Transmission Gully Motorway.

According to McDermott Miller (text adapted) *this is a cluster of transport, logistics and distribution enterprises on a single site. Within the centre, individual operators are either owners or tenants of buildings and facilities (warehouses, distribution centres, storage areas, offices, truck services, accommodation and catering services for drivers etc.). The size of a centre of this kind is normally approximately 100-150ha, but can be as low as 40ha (or as large as 500ha in Europe). Logistics centres tend to locate near urban centres, close to motorways, ports and rail, but where there is low potential conflict with residences making round the clock operation possible.*
According to McDermott Miller, the study area would be a strategic location for a logistics centre for the following reasons (text adapted):

**Central location in the Wellington Region with equal proximity to Porirua, Wellington City, Hutt Valley and Kapiti Coast.**

**Excellent access to both SH1 (Transmission Gully Motorway) and SH2.**

**Breakdown and consolidation of loads would happen closer to Wellington City than at some other areas (Levin, Paraparaumu Airport) where new warehouses and distribution centres could develop.**

**It is unlikely that a site of the appropriate size could be assembled in Metropolitan Wellington on land already zoned industrial.**

**Proximity to potential workforce in Porirua.**

It should be noted that these are only high level strategic considerations from the perspective of structure planning the site. This process is not intending to advocate the development of a logistics centre in the study area. The main outcome of this process is that a Structure Plan should not rule out the possibility for the development of such a centre. A more thorough feasibility study of a possible development of a logistics centre in the area should be carried out, led by the Greater Wellington Regional Council, with input from the relevant local authorities, key stakeholders and representatives from the private sector.

### Possible site

During the workshop the minimum site size of 40ha identified by the analysis was assumed to be sufficient for development of the first stages of a logistics centre. Reasons to aim for this minimum included the scale of the Wellington region in comparison with overseas examples and the limited opportunities for identifying a suitable site of sufficient proportions. Detailed investigations, including market analysis are required to confirm this. This includes a thorough technical feasibility study carried out, and consultation with local and neighbouring landowners should take place. This also applies to the potential regional recreational centre outlined below.

### Regional Recreation Centre

The idea of a regional recreation centre / cluster of sports fields was introduced during the early stages of the project. This idea is premised on the strategic and central location of the Pauatahanui-Judgeford site within the Greater Wellington Region, especially once the Transmission Gully Motorway is completed. This is at this stage a high-level suggestion only and should be further considered by the Local Councils and the Greater Wellington Regional Council. During the workshop it was suggested that it could be seen in conjunction with the logistics centre, as it could help fund it. As a possible site the golf course was identified should it ever become available for purchase. The reasons behind this include:

- It is, at first sight, suitable landform.
- Possibly more likely acceptance by the community for a less significant change in use of this land (from one type of privatised recreational open space to another).

### Add-on B. Judgeford Hamlet

This option was developed in response to feedback from a number of members of the community that clustered development may be a suitable response to the constraints of the study area.

In addition, BRANZ identified the land surrounding it as having prime opportunities for light industrial development. At the same time development in proximity of its premises could have a positive effect on the security (vandalism and burglary) of its premises. Adjacent light industrial would also alleviate concerns pertaining from reverse sensitivity resulting from rural-residential development.
A concept for a possible Hamlet in the Judgeford area was developed for a site near the intersection of Moonshine Road and SH58. The following aspects should be noted:

- The development is located within 400 metres distance (as the crow flies) from the intersection, and limited to the northern side of SH58.
- The sites on the corners of the intersection could be used for a small node of commercial, retail, or possibly community facilities.
- The sites between this node and BRANZ could be used for light industrial activities with design controls to ensure appropriate integration with adjacent rural-residential properties.
- A system of internal loop roads serves a number of rural-residential properties ranging between 3,000m² (0.3ha) and 2.5ha. Similarly design controls (Section 4) would be required to ensure integration with wider rural-residential landuse.
- A building setback of 100 metres off SH58 is applied to the larger properties and a 20 metres setback for the smaller properties.
- Direct property access from SH58 is minimised.
- The intersection of Moonshine Road and SH58 requires an upgrade.
- The Hamlet is self-contained with its own package waste water treatment plant or possibly combining with that used by BRANZ.
- Notices on title alerting new residents of the fire laboratory at the BRANZ site are required.

It should be emphasised that the above is developed in a workshop environment, based on a high level desktop analysis for the purposes of illustrating and assessing the concept. Although based on existing known property boundaries, a number of existing dwellings are not taken into account. A thorough technical feasibility study should be carried out, at least addressing storm water, infrastructure, transport and geotechnical engineering aspects.

In addition, consultation with local and neighbouring landowners should take place.
2. OPTIONS ASSESSMENT

During the workshop the above options were assessed by the participants, initially from the perspective of the single technical discipline. The assessment consisted of the following elements:

Describe the pros and cons of this option with regards to best practise in your discipline.

Which additional requirements (beyond normal development requirements) will be necessary for you to support development in this area?

Grade this option, choosing one of the following options: acceptable; less acceptable; or undesirable.

The following tables summarise the position of the different single discipline groups, which include:

Heritage
Water quality (of the Pauatahanui Inlet)
State Highways / NZTA
Local transport
Economy
Wastewater infrastructure
Landscape
Strategic Planning
Recreation
Social infrastructure

Options Summary:

Option 1. Status quo / no change (5ha minimum).

Option 2. Allowing no further subdivision.

Option 3. Reduction of the minimum lot size in the Green and Yellow areas (2.5ha average).

Option 4. Strong reduction of the minimum lot size in the Green area (0.3ha minimum), and a reduction of the minimum lot size in the Yellow area (2.5ha average).

Add-on A. Logistics centre, possibly with or without a regional recreational cluster

Add-on B. Judgeford Hamlet

<table>
<thead>
<tr>
<th>DISCIPLINE: HERITAGE</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
</table>
| Advantages          | - Low potential negative effects on heritage values.  
                      - Potential for increased enhancement and protection of heritage values on individual site.  
                      As per Option 1.  
                      - Ability to avoid significant heritage values on site by site basis.  
                      - Potential through development to benefit heritage by increased protections and enhancement.  
                      - Potential through development to benefit heritage by increased protections and enhancement.  
                      - HPA archaeology provisions. |
by site basis.
- Development triggers existing District Plan rules.

<table>
<thead>
<tr>
<th></th>
<th>Protection and enhancement.</th>
<th>Applied across whole development sites.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disadvantages</td>
<td>HPA archaeology provisions applied haphazardly.</td>
<td>As per Option 1. As per Option 1. Increased possibility of destruction of significant heritage values.</td>
</tr>
<tr>
<td>Additional criteria</td>
<td>Increased protection and identification of heritage through District Plan change (work in progress).</td>
<td>As per Option 1. - Avoid significant heritage, mitigate effects. - In-depth scoping of areas for heritage values.</td>
</tr>
<tr>
<td>Grading</td>
<td>Acceptable</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

**DISCIPLINE: HERITAGE**

<table>
<thead>
<tr>
<th></th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages</td>
<td>- Ability to avoid significant heritage. - Potential to protect and enhance heritage features.</td>
<td>As per Option A.</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Ability to destroy significant heritage.</td>
<td>As per Option A.</td>
</tr>
<tr>
<td>Additional criteria</td>
<td>Avoid significant heritage, mitigate effects.</td>
<td>As per Option A.</td>
</tr>
<tr>
<td>Grading</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>DISCIPLINE: WATER QUALITY</td>
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<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Option 1</td>
<td>Option 2</td>
</tr>
<tr>
<td>Advantages</td>
<td>- Manageable demand.</td>
<td>- No increase in nutrient loading.</td>
</tr>
<tr>
<td></td>
<td>- No services.</td>
<td>- No loss of habitat.</td>
</tr>
<tr>
<td></td>
<td>- Small increase in storm water.</td>
<td></td>
</tr>
<tr>
<td>Disadvantages</td>
<td>- On-going waste issues.</td>
<td>- No improvement to existing problems.</td>
</tr>
<tr>
<td></td>
<td>- Issues in monitoring septic tanks.</td>
<td>- Less reason for PCC to improve services.</td>
</tr>
<tr>
<td></td>
<td>- Wildlife reserve impacts.</td>
<td>- No decrease in nutrient or sediment loading.</td>
</tr>
<tr>
<td></td>
<td>- Increase in treatment loading to Pauatahanui Stream.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Does not reduce sediment loading.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- No riparian buffer.</td>
<td></td>
</tr>
<tr>
<td>Additional criteria</td>
<td>- Riparian retirement and planting.</td>
<td>As per Option 1.</td>
</tr>
<tr>
<td></td>
<td>- Septic tank management and monitoring.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Flood plain controls.</td>
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</tr>
<tr>
<td>Grading</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>DISCIPLINE: WATER QUALITY</td>
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<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Option A.</td>
<td>Option B.</td>
</tr>
</tbody>
</table>
| **Advantages**           | No advantages identified. | - Community monitoring.  
- Buffer zone (100m) provides for integrated storm water solution for developed areas and future roading improvements. |
| **Disadvantages**        | - Changed hydrology  
- Increased contaminants  
- Increased HSNO threat  
- Increased roading and impermeable areas  
- Vehicle washing | - Increased risk of contamination from development. E.g. litter, heavy metals from road runoff.  
- Increased runoff from developed area (roofing & paved surfaces)  
- 20m buffer zone limits opportunity for detention / treatment options. |
| **Additional criteria**  | - Controls on roofing and paving materials.  
- Riparian retirement and planting.  
- Septic tank management and monitoring.  
- Flood plain controls.  
- Treatment and attenuation requirements.  
- Vehicle wash down area  
- Constraints on storage | As per Option 3.  
In addition:  
- Very limited / restricted commercial premise (eg. no petrol station). |
<p>| <strong>Grading</strong>              | Less acceptable | Acceptable (with services) |</p>
<table>
<thead>
<tr>
<th>DISCIPLINE: STATE HIGHWAYS / NZTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
</tr>
</tbody>
</table>
| **Advantages** | - No additional pressure on SH58  
| | - No need to bring forward the planned SH58 upgrades.  
| | As per Option 1. | N/A | N/A |
| **Disadvantages** | Little opportunity for rationalisation of accesses. | As per Option 2. | - Increased pressure on Moonshine Road intersection.  
| | | | - Increased traffic volumes on SH58 in both directions. |
| **Additional criteria** | N/A | N/A | - Financial contribution for improvements (e.g. roundabouts) at Moonshine Rd and Flightys Rd / Murphys Rd.  
| | | | - Transport assessment.  
| | | | As per Option 3.  
| | | | In addition:  
| | | | - NZTA will be commissioning an I&R study in 2012 to investigate widening SH58 (east of the future Transmission Gully Motorway) to four lanes.  
| | | | - Ensure that safety improvements do not conflict.  
| | | | - Potential contribution from PCC.  
| **Grading** | Acceptable | Acceptable | Less acceptable | Less acceptable |

<table>
<thead>
<tr>
<th>DISCIPLINE: STATE HIGHWAYS / NZTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option A.</strong></td>
</tr>
</tbody>
</table>
| **Advantages** | - Could lead to more efficient traffic elsewhere.  
| | - Opportunity to bring forward  
| | - Reduces demand for direct property access onto SH58.  
| | - Opportunity to bring forward |
### DISCIPLINE: STATE HIGHWAYS / NZTA

<table>
<thead>
<tr>
<th></th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disadvantages</strong></td>
<td>SH58 improvements with support from developer.</td>
<td>SH58 improvements with support from developer.</td>
</tr>
<tr>
<td></td>
<td>- Lack of multimodal freight transport options.</td>
<td>- Increased pressure on Moonshine Road intersection.</td>
</tr>
<tr>
<td></td>
<td>- Negative impacts on SH58 (Regional Strategic status).</td>
<td>- Increased traffic volumes on SH58 in both directions.</td>
</tr>
<tr>
<td></td>
<td>- Negative traffic safety effects from trucks.</td>
<td></td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>Upgrade SH58 more than currently planned, might need additional connection onto SH58</td>
<td>- Financial contribution for improvements (e.g. roundabout) at Moonshine Rd.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Transport assessment.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
</tbody>
</table>

### DISCIPLINE: LOCAL TRANSPORT

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>No worsening of existing situation</td>
<td>As per Option 1.</td>
<td>- Opportunity to bring upgrades to SH58 intersections with local roads forward.</td>
<td>- Opportunity to bring upgrades to SH58 intersections with local roads forward.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Compared to more intense options only marginal increase of private vehicles on the local roads.</td>
<td>- Increased viability for a public bus system?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- increased viability for walking and cycling improvements?</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- No improvement of existing situation</td>
<td>As per Option 1.</td>
<td>- Putting more people in a car-based environment.</td>
<td>As per Option 3.</td>
</tr>
<tr>
<td></td>
<td>- Not bettering for non-vehicular modes</td>
<td></td>
<td>- Loading more vehicle movements onto problematic SH58 intersections.</td>
<td></td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>- New local link road to increase connectivity between</td>
<td>As per Option 3.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>In addition:</td>
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<tr>
<td>DISCIPLINE: LOCAL TRANSPORT</td>
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</tr>
<tr>
<td><strong>Option A.</strong></td>
<td><strong>Option B.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>Opportunity to bring forward SH58 upgrades forward.</td>
<td>- Opportunity to bring forward SH58 upgrades forward.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increase of local facilities, leading to positive traffic effects.</td>
<td>- Increased viability for a public bus system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased viability for walking and cycling improvements?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>Negative traffic safety effects, especially from trucks through the area.</td>
<td>- Putting more people in a car-based environment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Loading more vehicle movements onto problematic SH58 intersections.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>- Additional local roads</td>
<td>As per Option B.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reducing speed limit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Improvements for cycling and walking along SH58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### DISCIPLINE: ECONOMY

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>- Keeps population low in a non-urban area / sensitive catchment.</td>
<td>N/A</td>
<td>- Economic benefits from possible harbour improvements and of revegetation</td>
<td>- Winners get more wins</td>
</tr>
<tr>
<td></td>
<td>- Saves money and time.</td>
<td></td>
<td>- Giving landowners a windfall.</td>
<td>- More re-vegetation with positive economic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Incrementally helps utility services and Pauatahanui Village.</td>
<td>- Up to a point more efficient use of infrastructure (but this is up to a point, and then it turns).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- More efficient use of existing infrastructure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Maintenance costs reduced.</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>- Helping meet existing demand, prices decrease therefore eases market entry, wider range of households.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Over the medium term it will lower the value of rural residential land (also a disadvantage).</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- Inefficient response to transport infrastructure.</td>
<td>- Still need expensive plan change.</td>
<td>- Risks increase local demand for more roundabouts. If not local intersections will become more dangerous – higher services costs</td>
<td>- Disadvantages of Option 3 are exaggerated</td>
</tr>
<tr>
<td></td>
<td>- Limits ability to leverage sediment improvements from new growth.</td>
<td>- Harder to get any harbour improvements.</td>
<td>- Flood risks and storm water management costs of red and</td>
<td>- Becoming urban with urban necessities.</td>
</tr>
<tr>
<td></td>
<td>- Dispersed population can not support infrastructure / high operational</td>
<td>- Harder to help existing village commercial / vitality.</td>
<td></td>
<td>- Increased pressure to develop retail in the area, eroding existing centres.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Not taking advantage of transport</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Risks increase local demand for more roundabouts. If not local intersections will become more dangerous – higher services costs.
- Flood risks and storm water management costs of red and brown.
**DISCIPLINE: ECONOMY**

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
<td>- Current zoning promotes ad-hoc development</td>
<td>- Existing landowners benefit exclusively, but future generations suffer.</td>
<td>- Increase market uncertainty re rural residential land values</td>
<td>- Development in flood-prone green areas</td>
</tr>
<tr>
<td></td>
<td>- Neglects marketing opportunity from heritage</td>
<td>- Harder to improve services as sought by the community.</td>
<td>- Risk of later desire to get out, and lower rate return.</td>
<td>- Undermines the potential success of a strategic priority residential area of Plimmerton (identified by PCC).</td>
</tr>
<tr>
<td>Additional criteria</td>
<td>Increased controls to stop LFR / ad-hoc private pan changes</td>
<td>N/A</td>
<td>- Need reconciliation with Option A (logistics centre)</td>
<td>- Need to substantiate number of units</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Commercial analysis to understand data for actual number and size of units.</td>
<td>- Need more confidence on costs of services.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Consider ways of phasing of development (considering supply and demand)</td>
<td>- Need more confidence on the impacts on Pauatahanui Village.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Needs to be legally watertight, re-vegetation needs to be guaranteed.</td>
<td>- Needs to be legally watertight, re-vegetation needs to be guaranteed.</td>
</tr>
<tr>
<td>Grading</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
</tr>
</tbody>
</table>

**DISCIPLINE: ECONOMY**

<table>
<thead>
<tr>
<th></th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages</td>
<td>- Makes most of strategic location and infrastructure.</td>
<td>- Market choice.</td>
</tr>
<tr>
<td></td>
<td>- Implements policies calling for maximised business benefit from TGM.</td>
<td>- Economic opportunity building on the history of the area.</td>
</tr>
<tr>
<td></td>
<td>- Employment benefit.</td>
<td>- Individual land owner will win.</td>
</tr>
<tr>
<td></td>
<td>- Helps fund harbour and other</td>
<td>- Fall back opportunity if</td>
</tr>
</tbody>
</table>
### DISCIPLINE: ECONOMY

<table>
<thead>
<tr>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>improvements (initial and ongoing).</td>
<td>Pauatahanui Village is affected by flooding or a tsunami etc.</td>
</tr>
<tr>
<td>- Investment opportunity for PCC and other local authorities.</td>
<td></td>
</tr>
<tr>
<td>- Regional efficiencies in logistics / distributions.</td>
<td></td>
</tr>
<tr>
<td>- Potential for significant rates.</td>
<td></td>
</tr>
</tbody>
</table>

#### Disadvantages

<table>
<thead>
<tr>
<th>Disadvantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Big introduction of pollutants to be managed.</td>
<td>- Commercially unsustainable.</td>
</tr>
<tr>
<td>- Environmental effects require costly management.</td>
<td>- May create problems – has economic disbenefits.</td>
</tr>
<tr>
<td>- Heritage / earthworks costs.</td>
<td>- Will compete with Pauatahanui Village.</td>
</tr>
<tr>
<td>- Risk of LFR and other undesirable business happening.</td>
<td>- Windfall for a few.</td>
</tr>
<tr>
<td>- Adverse impacts on adjacent land for residential.</td>
<td></td>
</tr>
</tbody>
</table>

#### Additional criteria

<table>
<thead>
<tr>
<th>Additional criteria</th>
<th>Additional criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cannot become Large Format Retail.</td>
<td>N/A</td>
</tr>
<tr>
<td>- Needs to be legally watertight, re-vegetation needs to be guaranteed.</td>
<td></td>
</tr>
<tr>
<td>- Feasibility study prior to Structure Plan adoption and development.</td>
<td></td>
</tr>
</tbody>
</table>

#### Grading

<table>
<thead>
<tr>
<th>Grading</th>
<th>Acceptable</th>
<th>Undesirable</th>
</tr>
</thead>
</table>

Status: Proposed  
Project number: z1980800  
Page 132  
October 2012
### DISCIPLINE: WASTEWATER

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>No worsening of existing situation.</td>
<td>As per Option 1.</td>
<td>Lot size allows for on-site wastewater disposal.</td>
<td>As per Option 3.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Onsite w/w is:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(a) technically viable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(b) low cost for owners.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(c) lowest cost for PCC.</td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>No improvement of existing situation.</td>
<td>As per Option 1.</td>
<td>- Owners’ responsibility for maintenance.</td>
<td>- Owners’ responsibility for maintenance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Pollution risk if not maintained.</td>
<td>- Pollution risk is higher.</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Annual WOF certificate to be supplied by owner to PCC for on-site system.</td>
<td>Annual WOF certificate to be supplied by owner to PCC for on-site system.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
</tbody>
</table>

### DISCIPLINE: WASTEWATER

<table>
<thead>
<tr>
<th></th>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>The size of the logistics centre may also make a cluster treatment facility viable.</td>
<td>Lot area is large enough to still make onsite wastewater feasible. The densities may also make a cluster treatment facility viable.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>Could require significant land to dispose of wastewater onsite.</td>
<td>Minimum lot sizes and potential for a concentration of on-site treatment facilities could lead to cross border effects.</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>- Depending on the scale of the logistics centre and the type of industry and therefore wastewater generated, some pre-treatment may be required.</td>
<td>Would require an annual warrant of fitness for any on-site treatment facilities.</td>
</tr>
<tr>
<td>DISCIPLINE: <strong>WASTEWATER</strong></td>
<td>Option A.</td>
<td>Option B.</td>
</tr>
<tr>
<td>--------------------------</td>
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</tr>
<tr>
<td>Grading</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>DISCIPLINE: LANDSCAPE</td>
<td></td>
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<tr>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td><strong>Option 1</strong></td>
<td><strong>Option 2</strong></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>Some certainty of effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- Private plan change continues</td>
<td>- No scope for development contribution to increase reserve contribution</td>
</tr>
<tr>
<td></td>
<td>- Ad-hoc development, especially ribbon commercial development along SH58.</td>
<td>- Potential for quasi subdivision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Contested via private plan change.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>Re-vegetation benefits from new subdivisions</td>
<td>Green network plan with increased funding partnerships to include re-vegetation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green network plan with onsite/offsite re-vegetation conditions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Encourage clustering by controlling earthworks and building location.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Standards and rules to ensure roading and building typologies complement rural character.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Consideration</td>
</tr>
</tbody>
</table>
### DISCIPLINE: LANDSCAPE

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>for additional purchase of public land or a buffering requirement (perhaps in the form of larger lots in key areas).</td>
<td>permeability. - Setback buffers on SH58. - Protect / purchase community open space.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Grading
- Undesirable
- Less acceptable
- Acceptable
- Less acceptable

### DISCIPLINE: LANDSCAPE

<table>
<thead>
<tr>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- As an alternative/effects more easily managed than multiple business developments along SH58. - Wetland buffer on SH58. - Opportunity to require re-vegetation and other landscape improvements.</td>
<td>- Potential to retain open space in green zone. - Funding for re-vegetation. - In keeping/ complement rural character as village.</td>
</tr>
</tbody>
</table>

#### Advantages
- Visual effects particularly views from hills.
- Environmental risks.
- Loss of rural amenity.
- Extent of earthworks with associated effects.

#### Disadvantages
- Design controls required to ensure integration with rural residential areas adjacent.
- Slightly higher environmental risk due to proximity to stream.

#### Additional criteria
- Requirements to visually break up mass and reduce adverse visual effects viewed from the hills, road and private properties.
- Significant contribution to re-vegetation / regeneration in catchment.
- Stringent best practice storm water quality standards and monitoring.
- Lighting / hours of operation control.
- ‘Streetscape’ design requirements with strong vegetation framework.

#### Grading
- Undesirable
- Less acceptable
## DISCIPLINE: STRATEGIC PLANNING

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Situation no better or worse strategically.</td>
<td>No money needed to expand services.</td>
<td>- Development opportunities give something to plan with.</td>
<td>- Reflects the green/yellow distinction.</td>
</tr>
<tr>
<td></td>
<td>- Limited amount of rural area character change.</td>
<td>- Development opportunities give something to plan with.</td>
<td>- Opportunity to enable proactive use of offset mechanism to protect the Red area (higher density tied to protection of land in red area).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fair and consistent.</td>
<td>- Limited amount of rural area character change.</td>
<td>- Limited earthworks in the Green area, less prone to sedimentation and erosion effects.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Gives more diversity in housing and lifestyle choice within city (of regional benefit - due to comparative regional accessibility).</td>
<td>- Development opportunities give something to plan with.</td>
<td>- 'Urban' in character</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Tied to a particular landform / landscape limited quantum of damage that can be better proactively planned for.</td>
<td>- Opportunity to enable proactive use of offset mechanism to protect the Red area (higher density tied to protection of land in red area).</td>
<td>- Increased pressure on roads, community services infrastructure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Precludes and protects peri-urban rural character from further high density rural and urban encroachment.</td>
<td>- Opportunity to enable proactive use of offset mechanism to protect the Red area (higher density tied to protection of land in red area).</td>
<td>- Increased potential for</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Does not take any strategic opportunity.</td>
<td>- Existing social and environmental problems with existing 5ha lots and existing sewerage disposal etc. remain.</td>
<td>Need to be careful about ‘development creep’ over time where previous subdivision creates small lots and larger balance lots.</td>
<td>- 'Urban' in character</td>
<td></td>
</tr>
<tr>
<td>- Will not deliver any benefits.</td>
<td>- Existing social and environmental problems with existing 5ha lots and existing sewerage disposal etc. remain.</td>
<td>Need to be careful about ‘development creep’ over time where previous subdivision creates small lots and larger balance lots.</td>
<td>- Increased pressure on roads, community services infrastructure.</td>
<td></td>
</tr>
<tr>
<td>- Pollution and social costs remain.</td>
<td>- Existing social and environmental problems with existing 5ha lots and existing sewerage disposal etc. remain.</td>
<td>Need to be careful about ‘development creep’ over time where previous subdivision creates small lots and larger balance lots.</td>
<td>- Increased potential for</td>
<td></td>
</tr>
</tbody>
</table>
## DISCIPLINE: STRATEGIC PLANNING

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Court if seen as not being reasonable.</td>
<td>As per Option 1. In addition: May need to support and incentivise property owners to enable status quo landscapes etc to remain (given 95% of rural area is a privately owned ‘working rural landscape’).</td>
<td>- Minimum lot sizes and / or averages justified by rural character. - Design guidelines for amenity and character management.</td>
<td>reverse sensitivity with existing businesses such as BRANZ and the timber mill.</td>
</tr>
</tbody>
</table>

### Additional criteria
- Requires buy-in from community and partner agencies to leave it alone (not realistic in view of call for strategic action from strategies and plans etc expressed by communities and agencies, Village Plan, PDF, WRS etc).
- As per Option 1.

**Grading**
- Undesirable
- Undesirable
- Acceptable
- Less acceptable

## DISCIPLINE: STRATEGIC PLANNING

<table>
<thead>
<tr>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td><strong>Advantages</strong></td>
</tr>
<tr>
<td>- Possible business / employment opportunity.</td>
<td>- Location-specific and designed to fit in with the wider network.</td>
</tr>
<tr>
<td>- Looks at long term economic situation.</td>
<td>- Concentrates development in a cluster to ‘protect open space in surrounding area’.</td>
</tr>
<tr>
<td>- Reflects ‘investigatory aspiration’ in PDF.</td>
<td>- Choice of property opportunities in rural areas is enhanced.</td>
</tr>
</tbody>
</table>

**Disadvantages**
- Threatening for other sub-regional agencies/political entities.
- Potential opposition from
- Same as for Option 4, but limited in extent of adverse effects.
- Precedent for other road
### DISCIPLINE: STRATEGIC PLANNING

<table>
<thead>
<tr>
<th></th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>landowners and neighbouring properties.</td>
<td>junctions on SH58.</td>
</tr>
<tr>
<td></td>
<td>- May create some reverse sensitivity effects (on BRANZ?).</td>
<td>- 'Greenwash' justification for gated community (impacts on community services, waste disposal, public transport and recreational opportunities/facilities public expectations increased).</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>- Have to sell a ‘unique, non-threatening' nature of any logistics hub to other sub-regional/political entities.</td>
<td>- A detailed design.</td>
</tr>
<tr>
<td></td>
<td>- Further understanding of form and manner of logistics hub possibilities in order to understand benefits.</td>
<td>- Design guidelines.</td>
</tr>
<tr>
<td></td>
<td>- Business case reflecting the above.</td>
<td>- Confirmation that it is and can remain un-serviced.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td><strong>Acceptable</strong></td>
<td><strong>Acceptable</strong></td>
</tr>
</tbody>
</table>
### DISCIPLINE: RECREATION

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>Self-funded personal recreation on private property (or private golf course).</td>
<td>As per Option 1.</td>
<td>- Lots are large enough to provide for personal recreation requiring space (e.g. horse riding).</td>
<td>As per Option 3.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Subdivision triggers recreation and civic contributions for acquiring stream connections and managing stream restoration.</td>
<td>In addition: May provide opportunity for additional cross-connections between local roads / regional parks – recreational opportunities off SH58.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- No protection of riparian margins.</td>
<td>As per Option 1.</td>
<td>Increased traffic on the road (shared use impacts).</td>
<td>- Limited private on-site recreational provision on the smaller lots.</td>
</tr>
<tr>
<td></td>
<td>- No ability to restore stream values.</td>
<td></td>
<td></td>
<td>- Increased demand for public recreation opportunities.</td>
</tr>
<tr>
<td></td>
<td>- No connections other than by main road.</td>
<td></td>
<td></td>
<td>- Negative impacts on water quality in streams and harbour (affecting recreational use).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Increased traffic on the road (shared use impacts).</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>- Require protection of riparian margins for recreation.</td>
<td>As per Option 1.</td>
<td>As per Option 1.</td>
<td>As per Option 1. In addition:</td>
</tr>
<tr>
<td></td>
<td>- Require restoration of stream values for recreational purposes.</td>
<td></td>
<td></td>
<td>Need to secure excellent and safe shared pedestrian / cycle / horse / on- and off-road connections.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Undesirable</td>
</tr>
</tbody>
</table>
## DISCIPLINE: RECREATION

<table>
<thead>
<tr>
<th></th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>NB. This assessment assumes that a logistics centre enables a possible Regional Recreational centre / cluster of sport fields.</td>
<td>- Lots are large enough to provide for personal recreation requiring space (e.g. horse riding).</td>
</tr>
<tr>
<td></td>
<td>- Secures open space for recreation.</td>
<td>- Subdivision triggers recreation and civic contributions for acquiring stream connections and managing stream restoration.</td>
</tr>
<tr>
<td></td>
<td>- Logistics centre essentially pays for land.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Serves greater Wellington required need for regional sports facility at centre.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sports fields more complementary to industrial use than residential (i.e. buffer).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sports compatible with heritage protection.</td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- Expensive for PCC to acquire.</td>
<td>- Limited private on-site recreational provision on the smaller lots.</td>
</tr>
<tr>
<td></td>
<td>- No public transport.</td>
<td>- Increased demand for public recreation opportunities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Negative impacts on water quality in streams and harbour (affecting recreational use).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Increased traffic on the road (shared use impacts).</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>Determine whether demand for regional facility exists (to be determined in 2012).</td>
<td>- Require protection of riparian margins for recreation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Require restoration of stream values for recreational purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Secure excellent and safe shared pedestrian / cycle / horse / connections.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
</tbody>
</table>
### DISCIPLINE: SOCIAL INFRASTRUCTURE

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>- Low population reflects general lack of services.</td>
<td>As per Option 1.</td>
<td>- A little more diversity in terms of income groups.</td>
<td>- A little more diversity in terms of income groups.</td>
</tr>
<tr>
<td></td>
<td>- Less pressure on school.</td>
<td></td>
<td>- More community through planting programme.</td>
<td>- More community through planting programme.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Social interaction with smaller lots.</td>
<td>- More social interaction with smaller lots.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Mostly rural interest so common interest.</td>
<td>- Mostly rural interest so common interest.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Retention of rural community.</td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- Hard to improve anything or new services and hard to sell to everyone</td>
<td>As per Option 1 – exacerbated.</td>
<td>- Pressure on school.</td>
<td>As per Option 3.</td>
</tr>
<tr>
<td></td>
<td>- Remains isolated</td>
<td></td>
<td>- Long travel distances to social, medical and community facilities</td>
<td>In addition:</td>
</tr>
<tr>
<td></td>
<td>- People trapped in a rural-residential / cannot sell.</td>
<td></td>
<td>services.</td>
<td>- More demand on services, especially schools.</td>
</tr>
<tr>
<td></td>
<td>- No children activities etc.</td>
<td></td>
<td>- More people put in a car-based situation.</td>
<td>- Less opportunity for on-site recreation.</td>
</tr>
<tr>
<td></td>
<td>- If ad-hoc development manages to take place, problem could be exacerbated</td>
<td></td>
<td></td>
<td>- Less common interest i.e. is low density urban with no services.</td>
</tr>
<tr>
<td></td>
<td>- May not give effect to existing range of plans and policies.</td>
<td></td>
<td></td>
<td>- Inducing demand for rural, isolated living taking away people from</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>urban areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Maintenance costs of community facility.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Sense of identity not clear, urban or rural?</td>
</tr>
</tbody>
</table>
### DISCIPLINE: SOCIAL INFRASTRUCTURE

<table>
<thead>
<tr>
<th>Additional criteria</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>Encourage Whitby children to go to local school to create capacity in Pauatahanui School.  - Provision for local community facility.  - Buffer around BRANZ.</td>
<td>As per Option 3. In addition: Developer puts in space for community facilities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grading</th>
<th>Less acceptable</th>
<th>Undesirable</th>
<th>Acceptable</th>
<th>Undesirable</th>
</tr>
</thead>
</table>

### DISCIPLINE: SOCIAL INFRASTRUCTURE

<table>
<thead>
<tr>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>- May include employee services / lunch bar accessible to local residents.  - Possible local employment opportunities (to be verified).  - Possible improvements as part of approval.  - CPTED/crime/24hr activity.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>- Health and safety risks  - More severance effects around SH58 resulting from increased heavy traffic.  - Need to be sold to community.  - Lighting and noise at night.</td>
</tr>
<tr>
<td><strong>Additional criteria</strong></td>
<td>- Provide more information to the local community.  - Deal with nuisances.  - Correlation net social benefit / improvements/ jobs.</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>Less acceptable</td>
</tr>
</tbody>
</table>
Compiling the individual grading into one table leads to the following:

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option A.</th>
<th>Option B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Water quality</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
</tr>
<tr>
<td>State Highways / NZTA</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Local transport</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Economy</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
</tr>
<tr>
<td>Wastewater infrastructure</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Landscape</td>
<td>Undesirable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Strategic Planning</td>
<td>Undesirable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Recreation</td>
<td>Less acceptable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Less acceptable</td>
</tr>
<tr>
<td>Social infrastructure</td>
<td>Less acceptable</td>
<td>Undesirable</td>
<td>Acceptable</td>
<td>Undesirable</td>
<td>Less acceptable</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

As evident from this table, Option 3 is most preferred. This is however based on more than simply adding up the number of green, orange and red grading. The above table was subjected to a thorough integrated discussion in which all technical workshop participants took part. The aim of this was to exchange views among the representatives of the different technical disciplines and come to a common conclusion.
3. THE PREFERRED OPTION

As described above, it was identified that Option 3 is the most preferred option. The main reasons for this include:

Acknowledgement that the Transmission Gully Motorway development will increase development pressure on the area.

As with all options considered, a mainly rural-residential land-use, leaving industrial and commercial development for other, more suitable areas within the region. This includes suitability both from the perspective of the environmental capability of the land, as well as the urban location where it could lead to agglomeration effects and reductions in travel.

Acknowledgement of the different opportunities the land offers based on the classification of Green, Yellow, and Red areas.

Careful permission to somewhat intensify rural-residential development in areas where the negative effects can be avoided, remedied or mitigated.

Attracting development with as a precondition to the subdivision consent that environmental improvements are made, i.e. contributing to the re-vegetation of the area, leading to a reduction in erosion and sedimentation of the Inlet.

Attracting development to the area would support existing and possibly additional commercial and community facilities within the Pauatahanui Village.

Overall, this option could be seen as maximising the benefits of development and associated re-vegetation, while limiting the negative effects of further development.

Lot sizes and yields

The minimum lot size of 1ha is based on high-level design tests in the workshop and responds to market analysis, which identifies a regional need for rural-residential properties of that size. The average of 2.5ha per lot per subdivision is defined in response to the current 5ha minimum lot size, which can thus be subdivided into at least two lots.

CAD-based calculations have identified for all properties within the study area that under the preferred option the number of new lots that can be formed through subdivision total an amount of 196. This is in addition to existing properties. Adding the Red area and Flighty’s road through to TGM adds a further 244 new lots with the total maximum potential for 441 new lots.

It should be noted that this is a theoretical yield, based on the following assumptions:

The total number of properties that could be subdivided. This may not be the case, even in the long term, given the likelihood that not all landowners will wish to subdivide their land, and it would result in the actual yield being lower than the theoretical yield.

All properties are rural-residential. This is not the case, as there are a number of known non-residential properties located within the study area. This results in the actual yield being lower than the theoretical yield.

The land shown as prone to flooding or liquefaction and land within close proximity to the national gas line, active earthquake fault traces and overhead power lines has not been removed from the calculation as the land can be used as part of the calculation of attaining the minimum lot sizes. This takes up 36% of the study area. Each would need to include house sites outside of these areas and on-site waste water disposal sites outside of the natural hazard areas. As such this results in the actual yield being lower than the theoretical yield.

All properties contain one dwelling. This is not the case, as there are a number of properties with no dwellings located on them at all. Further analysis has shown the differences to be small and as such there would be an
actual yield being higher than the theoretical yield but not to a significant degree (note: requires further testing).

This is higher than the potential demand (additional 25%) for approximately 350 rural-residential lots over the next 20 years (17 per year) determined through market research but well within the likely demand over a 30 year period. Given that 36% of the land is undevelopable and that not all landowners will wish to develop /subdivide their land at all or to the maximum density possible the potential yield of 441 would not be unreasonable.

Logistics centre
The workshop was unable to reach a strong view on the logistics centre on a 40-60ha site to the west of the golf course. A complicating factor was that the advantages of a centre are mainly regional, while the disadvantages are mainly local. It should be noted that the logistics centre was only considered as a high-level idea and certainly not subjected to place-based investigations. More information is required to give it a further thorough consideration.

During the workshop it was identified that the concept is worth investigating further. This would include:
Investigating whether there is a demand for such a centre within New Zealand and more specifically the Wellington region. This investigation should be led by the Greater Wellington Regional Council with input from the local Councils, and in consultation with the private sector.
If so, investigating whether the Pauatahanui-Judgeford Structure Plan area would be the most preferred location with the Wellington region. This investigation should also be led by the Greater Wellington Regional Council with input from the local Councils, and in consultation with the private sector.
If so, investigating whether the area identified though this Structure Planning process would be the most appropriate and preferred site for the centre, or whether there are viable alternatives. This investigation should be led by the Porirua City Council with input from the Greater Wellington Regional Council, and in consultation with the private sector.
For the most preferred site: consultation with the landowner(s) and,
Detailed technical investigations at least addressing storm water, infrastructure, transport and geotechnical engineering aspects.

In the meantime, the Structure Plan neither depends on the centre being developed, nor rules it out as a future opportunity. The possible development of a logistics centre is premised on the construction of the Transmission Gully Motorway, which is due for completion in 2021.

Regional Recreation Cluster
During the workshop it was identified that the concept of a Regional Recreational Cluster in the Structure Plan area is worth investigating further. Since this is a facility aimed at serving the wider region this investigation should be led by the Greater Wellington Regional Council with input from the local Councils, and in consultation with regional sports bodies.

Judgeford Hamlet
The assessment and consultation identified that the Judgeford Hamlet considered for a location near the Moonshine Road-SH58 intersection is more acceptable as a cluster of light-industrial and possibly
commercial activities around BRANZ, than a more intense rural-residential development with some associated facilities.

This concept received mixed support in the workshop. Both the discipline-based and the overall assessments identified both advantages and disadvantages of this proposal. The main advantages include:

- Allowing a small number of facilities to settle within the Judgeford area provides the local community with employment and small-scale retail opportunities at relatively close distance.
- Light-industrial development may make some facilities shared with BRANZ possible, and could provide a buffer between BRANZ and adjacent rural-residential properties.
- Other activities in its vicinity may also provide BRANZ with more opportunities for active and passive surveillance of their premises, which currently have to cope with incidental burglaries and vandalism, due to its isolated position. However, during consultation BRANZ also indicated that possible reverse sensitivity effects resulting from adjacent development may negatively impact on their activities. Further consultation on the concept is therefore required before taking this proposal any further.
- There may be a market for sites to locate light-industrial activities that, similar to BRANZ, would benefit from a relatively isolated location.

The main disadvantages include the following:

- It could be seen that existing zones in closer proximity to urban areas within the region would be eroded by this proposal.
- Retail development could be seen as a threat to retail within the Pauatahanui Village.
- Employment development could be seen as competition to mixed-use activity centres elsewhere in the District and wider region.
- Light-industrial development will likely consist of larger building footprints and more impermeable surfaces, negatively impacting on the sensitive local environment.
- Particularly employment facilities would most likely rely car-based travel and would more likely induce more travelling than employment facilities in closer proximity to the population base in urban Porirua.
- Within an area of 200m from the intersection smaller rural-residential lots than the 1ha in the preferred Option 3 could be allowed. A design test, based on current property boundaries, overhead power lines, and the earthquake fault line indicates that a small number of lots as small as approximately 5,000m² may be needed to make redevelopment worthwhile. These smaller lots could be exempt from the proposed 100m setback from SH58 (over a length of 200m on either side of the intersection). It is also proposed that the minimum average 2.5ha lot size per subdivision would not apply within a designated area.
- The Moonshine Road intersection would require upgrade to cope with additional traffic flows.
4. HIGH-LEVEL PLAN PROVISIONS

As this Structure Planning process is not a Plan Change process, this section should be seen as indicative only. The issues listed and described are aimed to only provide a steer on which issues should at least be addressed in the planning process following the Structure Plan.

Re-vegetation / regeneration

Making re-vegetation work:

1% reduction in harbour sedimentation = 30ha of re-vegetation in erosion-prone land / riparian areas.

1ha re-vegetation costs vary but $20,000 is an industry estimate exclusive of many variables (fences / pest control / admin etc.) Sometimes can be cheaper, sometimes much more expensive.

1% sediment reduction = $20,000 x 30ha = $600,000, or $1,600 / household @ 380 new h/hholds over 20 years.

5% reduction = $600,000 x 5 = $3,000,000, or $7,895 / household @ 380 new h/hholds over 20 years.

If the Council identified $5,000 / household cost as appropriate, $5,000 x 380 = $1,900,000 or 3% sediment reduction.

If the Council required every new lot to pay for 1ha revegetation, 380 x $20,000 = $7,600,000 (excluding many other costs), or 12.7% net improvement over 20 years.

The Council will need to make a strategic decision on what level of harbour improvement it wants.

Green / Yellow areas

2.5ha avg, 2ha minimum; each lot makes financial contribution of $25,000 to the Initiative to negotiate and replant on erosion-prone land… could also be used onsite if it will assist sediment solution in harbour and/or biodiversity initiatives.

Red areas

5ha (4ha) minimum; each lot provides 2ha for re-vegetation, 1ha of which can be achieved by making it available to the initiative for its replanting or balance lot retired (and covenanted) as part of the whole property plan supported by Harbour Strategy initiatives.

→ Revegetation - Framework negotiates with owners to re-vegetate + uses land made available to it.

Revegetation framework

Objective: Reduce sediment in harbour.

Problem: Best development land is not best re-vegetation land.

Solution: Combination of on-site re-vegetation (subdivision on erosion-prone land) and financial contributions (subdivision on less constrained land) administered by a dedicated organisation.

Logical to use existing Harbour protection organisation(s), but could be a suitable Trust or Council-controlled group.

Subdivision rules are twofold:

Encourage sub-dividers in erosion-prone areas to make land available to the Initiative for it to replant.
Require sub-dividers in less constrained land to give money to the Initiative so it can undertake re-vegetation on land in agreement with owners of that land.

**Other provisions**

A building setback of 100m from SH58 is required, in combination with landscaping along the front of the development.

In Green areas, least constrained land (2.5ha avg, 1-2ha min):

All subdivision other than minor boundary adjustments a Restricted Discretionary Activity

Minimum subdivision requirement per lot 1-2ha, avg 2.5ha.

Every lot to provide financial contribution of $25,000 to the **Pauatahanui Revegetation Framework** or onsite if in priority (biodiversity / siltation control) area.

Design controls over:

Earthworks and proximity to existing buildings/ roads to encourage clustering/retain open space.

Building platform, basic landscaping including boundary treatments and onsite revegetation where appropriate.

Roading / driveway typologies.

Percentage of impermeable surface.

In Yellow areas, mildly constrained land (2.5ha avg, 2ha min.):

All subdivision other than minor boundary adjustments a Restricted Discretionary Activity.

Minimum subdivision requirement per lot 1-2ha but average 2.5ha.

Every lot to provide financial contribution of $25,000 to the **Pauatahanui Revegetation Framework** or on site revegetation if in priority (biodiversity / siltation control) area.

Design controls over:

Building platform location.

Landscaping – boundary treatments in particular and onsite revegetation where appropriate.

Earthworks and new roads to control visual effects.

Roading/building typologies.

Percentage of impermeable surface.

Visual effects.

Via property plan.

In Red areas, very constrained land (5ha (4ha?) min.):

All subdivision other than minor boundary adjustments a Restricted Discretionary Activity.

Minimum subdivision requirement per lot 5ha... Could possibly retreat to no less than 4ha if necessary for buy in.

Design controls over:

Building platform location.
Building typology-visual effects.

Earthworks and proximity to encourage clustering.

Landscaping.

Land for re-vegetation of at least 2ha per lot (can be part of the 5ha site area). 1ha of minimum re-vegetation requirement may be provided by way of making that land available to the Pauatahanui Revegetation Framework for its replanting or balance lot of (* ha) to retired and covenanted with support from Harbour Strategy initiative.

Via property plan.
5. PAUATAHANUI VILLAGE

The main activity centre within the study area is the Pauatahanui Village, defined by the Grays Road intersection in the north, the Inlet to the west, the Paremata Road intersection in the south, and rolling hills to the east. The Village is a small node of commercial and community facilities, and residential properties in a range of sizes and time periods. A general store, café, restaurant, service station / garage, cinema, and several older, relatively small residential properties are located on the western side of Paekakariki Hill Road. On the Eastern side of the road the village features a school, church, and larger properties, some with more recently built dwellings.

The public realm consists of two narrow vehicle lanes with speed tables, angled on-street parking, footpaths on both sides, and a school drop-off zone. There is a small zone of street trees around the service station, and north of the commercial properties the vegetated steep banks provide the Village with a green character.

The area to the west of the road is currently more densely developed than the eastern part. In addition to its already developed nature, the land is severely constrained by the Inlet, conservation land, and the fact that it is generally low lying, prone to flooding, and swampy land.

On the eastern side of the road, there appears to be some more open land, however, this land is severely constrained by its steep nature and the existing characteristic vegetation.

Proposals

As part of the Structure Plan process, the desirability of and opportunities for further development of the Village were assessed. It was identified that further residential development would be desired to support existing and potentially increase the viability of further commercial and community facilities. The Village would also be an obvious location for additional facilities, mutually reinforcing existing facilities.

However, due to the constraints as described above, there is very little scope for additional development. Refer concept plan that shows a framework for the village, within which some variations are possible.

The main characteristics of the framework include:

- Reinforcing and building on village character, while restricting development in low-lying natural hazard-prone land.
- Maintaining a small service commercial centre, with possibly a small extension between school entrance and Thomas Hollis on the eastern side of Paekakariki Hill Road.
- Putting an overlay over the entire area on the western side (including existing dwellings) to allow small scale commercial. This could include boutique retail and home occupation. The aim of the overlay is to allow conversion of existing use to commercial, rather than full redevelopment.
- Providing appropriate opportunities for limited low-density rural residential development on the higher ground on the eastern side of Paekakariki Hill Road (constrained by landscape and ground slope). Due to the ownership patterns any additional development would take place in locations behind existing dwellings in locations not visible form the road. Subdivision to at least 1ha lots where the land allows it and larger lots in steeper and more vegetated locations may be appropriate.
- Investing in the public real could include smaller scale streetscape improvements, including perhaps more street trees, small scale furniture, and entrance features on both ends of the Village.
Lanes Flat – The Compund

Further consideration needs to be given to the long term use of Lanes Flat, in particular the area known as the Site Compound. The majority of Lanes Flat is prone to flooding and should revert back to wetland or be reinstated as proposed as part of the TGM project. NZTA propose to use the Site Compound as a base during the construction of TGM. This is to include site offices, car parking, a concrete batching plant and pre casting yard, plant and vehicle servicing facilities and storage areas. The site is to be compacted and elevated. Regular flooding of the area is therefore not envisaged to occur. However, as is the Pauatahanui Village, the site is prone to the effects of a tsunami or tidal wave. Post construction of TGM, part of the elevated area is proposed to be retained by NZTA and used as a weigh station.

Our brief consideration of this suggests that the Council has the following choices to consider:

<table>
<thead>
<tr>
<th>Either:</th>
<th>Or:</th>
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<tbody>
<tr>
<td>Funding a community use:</td>
<td>Making gains and growing local employment from using the land for commercial development, other than retail and offices that detract from the CBD.</td>
</tr>
<tr>
<td>Public Reserve or sport fields</td>
<td>Only if considered acceptable given the tsunami risk.</td>
</tr>
<tr>
<td>Or Community hall (if considered acceptable given the tsunami risk)</td>
<td>Only if visual effects acceptably addressed.</td>
</tr>
<tr>
<td></td>
<td>Only if possible adverse environmental effects acceptably addressed.</td>
</tr>
<tr>
<td>Residential development regarded as unacceptable because of the tsunami risk</td>
<td></td>
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</tbody>
</table>

Refer to the memo with subject Pauatahanui Structure Plan –preliminary comments pertaining to options and scenarios for the area known as Lanes Flat by Wayne Bredemeijer -Urbanismplus sent to Andrew Guerin - MWH (copy to Peter Matich -PCC), dated 13-01-2012 for an explanation and background discussion on the options for the Lanes Flat are
Appendix B  McDermott Miller: Demand and Supply Analysis Report
Porirua City Council

Pauatahanui-Judgeford

Structure Plan: Land-Use Activity Demand and Supply Analysis
Report by McDermott Miller Limited

20 March 2012
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Table A.7: Estimated Dwelling and Population Capacity Under Option 3A

Table A.8: Dwelling Capacity on future lots at each land suitability colour code.
EXECUTIVE SUMMARY

Commission

McDermott Miller Limited, a strategy planning and economics consultancy, is part of the MWH consortium commissioned to assist Porirua City Council prepare the Pauatahanui-Judgeford Structure Plan. It has been asked to provide market demand/supply and economic advice during preparation of the Pauatahanui-Judgeford Structure Plan. Specifically, it was required to:

1. Provide a demand and supply profile of the rural-residential market in Wellington Region and Porirua.
2. Prepare projections of demographic and economic growth for Wellington Region and Porirua
3. Identify commercial/industrial development threats and opportunities arising from construction of the Transmission Gully motorway in the Pauatahanui-Judgeford area.
4. Derive population, household and employment changes in the Pauatahanui-Judgeford area under various scenarios of residential, industrial and commercial development/

Approach

Rural-Residential Activity

We built up a picture of ‘lifestyle’ values and preferences underlying rural-residential demand in the Wellington Region from a combination of published sources, specially ordered data, and qualitative survey of Wellington Regional real estate agents.

We analysed the distribution and financial value of rural residential lifestyle properties by TLA across the Wellington Region, in Porirua City, and in the Pauatahanui-Judgeford area, using a special data order from Quotable Value. This yielded a statistical pattern of rural residential activity hitherto unavailable in Wellington Region.

We estimated the dwelling and population capacity of the Pauatahanui-Judgeford Study Area. We developed and applied a model that subdivides existing (2012) land parcels taking into account the minimum sizes allowed under each of the land suitability classifications (ie “Green Area”, “Yellow Area” and “Red Area”).

We then synthesised the rural-residential demand and supply analysis which gives a demand curve that indicates possible take up of newly developed rural residential properties in the Study Area, over a 20 year planning horizon.

Commercial and Industrial Activity:

We drew on various pieces of work including the following:


The Wellington Region Strategy 2007, available at
Supporting reports the WRS, including McDermott Miller’s Regional Growth Initiatives Report: refer:
The Industrial Land Project carried out by Wellington Regional Council as part of the Wellington Regional Strategy; refer:
Select review of international and NZ development trends in transport and logistics centres.

Summary Findings 1: Rural Residential Development

Demand For Lifestyle Properties:
Currently rural residential properties in Porirua take around 6 months to sell.
There are mixed views whether demand will return to levels seen during the property peak of 2006/7. Some real estate agents think not, others think demand for lifestyle properties will always be high in buoyant economic times.
Real estate agents indicate that a rural residential property of 2.0-2.5 hectares has the greatest level of demand, because (compared to a larger block) it does not require as much maintenance and purchase price is at a level that is affordable to a greater range of people.
A Porirua agent made the following comment: “There is a shortage of the size of block people want. There are too many blocks at the 5 hectare size. There is a niche of people living close who would love the chance to buy a small sized lifestyle block.”

Supply of Rural Residential Properties:
Total supply of “Lifestyle Improved” (Quotable Value’s term for “rural residential”) properties in Wellington Region was 6227 in 2011. This represented an increase of 20% since 2006, considerably above the 7% increase in total dwellings
Total supply of “Lifestyle Improved’ properties in Porirua City was 352 in 2011, or a 5% of share of the Wellington Region total. This represented an increase of 19% since 2006, compared to a 6% increase in total dwellings
Estimated annual net increase in rural residential living in whole Wellington Region is 120 dwellings.
Porirua’s current share of this annual growth is around 3%. On average, there are 4 new lifestyle properties per year in the city, of which 3 are in the Pauatahanui or Judgeford suburbs.
**Dwelling and Population Capacity of Study Area:**

The system of classifying land in the study area as “Green” “Yellow”, “Red” or “Black” depending on the suitability of the land for purposes of further development as discussed elsewhere in the Structure Plan report.

There are around 262 dwellings (estimated population 724) in the study area as of 2012. Of these, some 180 are on land parcels with at least some land classified “Green”.

The minimum lot sizes in our “base case” analysis (Option 3A) is 2 ha on Green Area land, 2.5 on Yellow Area land, and 5 ha on Red Area land.

There is theoretical capacity for some 196 dwellings on future “Green Area” lots, and some 215 dwellings on “Yellow Area” lots giving a total capacity of 411 on lots classified as either “Green” or “Yellow”, or an increase of 196 from current 215.

The increment on Green and Yellow land i.e 196 means annual average sales of around 10 per year, or 8% of current regional demand.

There is theoretical capacity for some 292 lots entirely classified as “Red”, giving a total capacity of 703 i.e 441 more than the current 262.

High density development (Option 4, with a minimum lot size on Green Area land of 0.3 ha) is not realistic and is not sustainable by regional demand for rural residential living. Housing density under the option would be similar to suburban zones. Such development would be contrary to Porirua City Council’s Porirua Development Framework (2009) which identifies the “North of Camborne” area as the only Potential Urban Growth Area in the City.

Option 3A has been selected in principle by the SP team as the preferred scenario, and therefore it is the only option we have analysed further in the interaction of supply and demand.

**Interaction – Demand and Supply:**

Improved affordability - market demand for smaller blocks (2-2.5 ha) will be greater than present market demand in the area for 5 ha blocks.

Market conditions will improve - demand generally likely to be higher as these subdivided properties won’t come on the market for say 2 years by which time market conditions are expected to improve.

Competitive advantages will favour Pauatahanui-Judgeford; location attractiveness will grow with Transmission Gully improving access to Wellington CBD.

Taking demand factors into account, full development of the Green and Yellow areas could be achieved near the end of the 20 year planning horizon.

Averaged over a 20-year planning horizon, the increment on Green and Yellow land of 196 means annual average sales of around 10 per year or 8% of current regional demand of 120.

But development would not be at a steady rate. Under a scenario of rapid initial development and suppressed demand for blocks in the 2-2.5 ha range on both the supply and demand sides, development of such blocks could be running at around 24
per year over 2015-17. This represents some 20% of current regional demand, compared a share of only 2.5% at present.

Under existing zoning provisions, there is already capacity in the Red area land for an additional 245 dwellings. Clearly, current demand for 5 ha properties is nothing like what would be required to absorb 245 new properties over a 20 period, in addition to the smaller properties on the Green and Yellow areas.

Summary Findings 2: Economic and Commercial Development Opportunities and Threats

Opportunity for a Logistics Centre at Judgeford:

The Judgeford area is highlighted as a “Possible long-term industrial/business growth area” in Porirua City Council’s Porirua Development Framework (2009).

The Pauatahanui–Judgeford area includes relatively flat land (up to 180 ha) along SH58 that could be used for business/industrial activities, as it already is to a limited extent. Because of the location of the study area at the nexus (post Transmission Gully) of Wellington’s transport routes and the availability of regionally scarce flat land suitable for industrial development, a logistics centre is an appropriate activity for a portion land in the Judgeford area.

A Logistics Centre is a cluster of transport, logistics and distribution enterprises managed by a commercially neutral legal body. Facilities include warehouses, distribution centres, storage areas, offices, truck services, accommodation and catering services for drivers etc.

Logistics Centres tend to locate near urban centres, close to motorways, ports and rail, but where there is low potential conflict with residences making round the clock operation possible.

The Logistic centre would increase efficiency of freight industry in Wellington, including improved competitiveness of Port of Wellington by providing site for consolidation of goods prior to export, or to breakdown imports,

Judgeford has a central location in Wellington Region, at the junction of both SH1 (Transmission Gully) and SH2 and equal proximity to the industrial/commercial activities in Porirua, Wellington City, Hutt Valley and Kapiti Coast.

It will probably be possible to consolidate a site at the lower end of Logistics Centre range ie 40-60 ha; plus expansion potential over long term up to around 100 ha.

Direct employment created by a Logistics Centre of some 50 ha at Judgeford could be of the order of 100-150 FTE jobs, depending on the range of ancillary services provided. Indirect economic and employment effects would be felt throughout the Wellington region from, inter alia, distribution efficiencies.

A pre-feasibility study is needed to confirm the economic benefits to Porirua City and Wellington Region of a putative Logistics Centre in Judgeford, before it is formally provided for in the Porirua City District Plan. Accordingly, the Structure Plan discusses the urgency of undertaking further analysis to determine whether there is investment interest in a logistics centre in the Wellington Region generally an in the SP area in particular, and if so to undertake more detailed site investigations and consultation
with the individual landowners. It is thought critical that this takes place before any "relaxation" of the subdivision rules.

**Convenience Retailing only Required in Study Area:**

Porirua is well serviced by supermarkets. Close to Pauatahanui, the Whitby New World provides "top up" supermarket and convenience shopping to Whitby and current households in the study area.

A new 3000m2 New World Supermarket is proposed for Whitby to replace the existing New World. If this receives resource consent, it will be more than sufficient to serve the emerging rural-residential community of Pauatahanui-Judgeford as well as Whitby’s 2900 households.

Projected households in the Study Area will not require major new retail development in the study area. Provision of new, or extension of existing, convenience retailing is sufficient relative to expected demand. Convenience shopping needs can be served by the Pauatahanui General Store, and possibly a future convenience store at Judgeford.

Urbanism Plus has examined the case for Large Format Retailing in the Study Area and in its view LFR should not be provided for in the Structure Plan. McDermott Miller concurs with this view.

While we previously thought DIY retailing might pose a hard to control development threat, to putative rural-residential "lifestyle" activity in the Pauatahanui-Judgeford area, the February announcement of a Mitre 10 Mega Store in central Porirua has obviated this. It our view, this would be a superior outcome for Porirua, as such a store will strengthen the retail attraction of Central Porirua. It will also help Porirua City centre maintain its competitive position in the face of major proposed retail development in the north of Wellington City.

[SUMMARY ENDS]

**COMMISSION AND APPROACH**

**COMMISSION**

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Prepare projections of demographic and economic growth for Wellington Region and Porirua.
Identify commercial/industrial development threats and opportunities arising from construction of the Transmission Gully motorway in the Pauatahanui-Judgeford area. Derive population, household and employment changes in the Pauatahanui-Judgeford area under various scenarios of residential, industrial and commercial development.

**APPRAOCH**

**Analysis of Demand for Rural-Residential Properties:**

McDermott Miller built up a picture of ‘lifestyle’ values and preferences underlying rural-residential demand in the Wellington Region from a combination of published sources (Kapiti Coast District Council, 2009; Mosaic data, 2008; Statistics New Zealand, 2005; Property Economics, 2005; Paterson, 2005; Cook & Fairweather, 2005); specially ordered data from Quotable Values; and, a qualitative survey of Wellington Regional real estate agents (conducted by McDermott Miller Strategies, 2011).

In this report we look specifically at the four cities and districts which supply a sample of lifestyle properties for the Wellington metropolitan region.

These areas are:
- Porirua, including Pauatahanui, Coroglen, Plimmerton, Tawa
- Upper Hutt, including Mangaroa, Whitemans Valley, Kaitoke, and Wallaceville.
- Wellington, including Ohariu Valley and Makara
- Kapiti, including Pukerua Bay through to Otaki

To corroborate results we have compared regional demand for lifestyle blocks to the national average, using published sources from Statistics New Zealand and Mosaic data.

Overall, our picture of rural residential ‘lifestylers’ includes:
- Size and segmentation of the ‘lifestyle’ market
- Defining characteristics of the rural ‘lifestyle’ market
- What drives people to purchase (or leave) rural lifestyle blocks
- Size of rural lifestyle block preferences

While we looked at lifestyle properties in Wairarapa as part of our supply analysis we have chosen not to focus on Wairarapa as part of the demand analysis. This is because McDermott Miller thinks it more relevant to focus on the Wellington metropolitan areas which are an easy commute to the Wellington CBD.

**Analysis of Supply of Rural-Residential Properties:**
We analysed the distribution and financial value of rural residential lifestyle properties by TLA across the Wellington Region, in Porirua City, and in the Pauatahanui-Judgeford area (refer Section 3). This yielded a statistical pattern of rural residential activity hitherto unavailable in Wellington Region.

We drew on a custom run of data from Quotable Value which included:
Counts of "lifestyle assessments" (Quotable Values term for Rural Residential properties) by year over 2000-2011, together with average capital and land valuations.
These “Lifestyle” properties are grouped into “Lifestyle Improved” and “Lifestyle Vacant” properties. The former include a dwelling, and the latter do not have but are judged by QV as having potential to carry a dwelling.
Individual sales records for each "Lifestyle” property since 1/1/2006.

This data provided the basis for estimating (see Section 3):
Current supply of Lifestyle properties by TLA and in Pauatahanui-Judgeford area;
Average value and land values of Lifestyle properties by TLA;
Supply of Lifestyle properties by TLA over time;
Annual additions to supply of Lifestyle properties by TLA.

Method of analysis for dwelling and population capacity:
McDermott Miller estimated the dwelling and population capacity of the Pauatahanui-Judgeford study area under each of the “development options” set out elsewhere in the Structure Plan. We developed and applied a model that subdivides existing (2012) land parcels taking into account the minimum sizes allowed under each development suitability classification of the land (ie “Green Area”, “Yellow Area” and “Red Area”).

A detailed description of the method is given in Section 4. Results of the analysis are set out in Section 4 and Annex I.

Interaction of Demand and Supply:
We then synthesised the rural-residential demand and supply analysis which gives a demand curve that indicates possible take up of newly developed rural residential properties in the Study Area, over a 20 year planning horizon.

Refer Section 5 for details on method and results..
Method of Analysis for Commercial and Industrial Activity:

We identified commercial/industrial development threats and opportunities arising from construction of the Transmission Gully motorway through review of:

The Western Corridor Transport Plan: Review of Economic Aspects;

The Wellington Region Strategy 2007;

Supporting reports the WRS, including McDermott Miller’s Regional Growth Initiatives Report;

The Industrial Land Project carried out by Wellington Regional Council as part of the Wellington Regional Strategy; and,

Select review of international and NZ development trends in transport and logistics centres.

(See Section 6 for links to some of these sources)

REPORT DEFINITIONS:

For this report we have used the following definitions:

Rural residential = properties in rural zone, 5 hectares or greater (Porirua City Council).

Lifestyle improved = property with dwelling in rural area, 1 hect or greater (QV & Real estate agents).

Lifestyle vacant = land only in rural area, 1 hectre or greater (QV & Real estate agents).

Lifestyle properties = combination of rural lifestyle improved & vacant.

Wellington region = regional authority including: Wellington City, Lower Hutt, Upper Hutt, Porirua, Kapiti and Wairarapa.

Wellington metropolitan region = including: Wellington City, Lower Hutt, Upper Hutt, Porirua, and Kapiti.
PART ONE

LIFESTYLE DEMAND PROFILE

INTRODUCTION

This section summarises the demand profile of lifestyle property owners in the Wellington Region. The section is partly qualitative in nature, and as such adds ‘colour’ and ‘depth’ to the analysis. But as is the nature of qualitative research it does attempt to give empirical evidence for the findings, except in case of quoting published quantitative studies and data.

REGIONAL DEMAND PROFILE:

Common Characteristics across Wellington Region

Demographic and Sociographic Profile:

The majority of lifestyle property purchasers currently live in residential dwellings. It is unusual for owners of lifestyle properties to purchase and then shift to another lifestyle property. The typical length of lifestyle property ownership is around 10 years, this is in-line with changing family composition i.e. when children leave home, parents sell their lifestyle properties and return to residential living.

While there are some differences across areas, in general demand for lifestyle properties comes from within the Wellington region and is strongly linked to families with young children who have high household incomes.

In general, the age of lifestyle property owners in Wellington is 35-54 years old, but the exception to this is Kapiti, where 43% of lifestyle property owners are over 60 years of age (Property Economics, 2005; KCDC, 2009).

Wellington’s regional profile corresponds closely to the national profile. Nationally, this group has the highest median and average income of any residential group in New Zealand (Statistics New Zealand, 2003). Lifestyle owners make up a very small segment of national population, circa 2.5% or 95,800 people (Statistics New Zealand, 2003). Occupations of lifestyle owners include professionals, self-employed, or, managers (Statistics New Zealand, 2003; Mosaic data, 2008).

Advantages of Lifestyle Properties:
People who search for, or, purchase lifestyle properties, view the advantages of this type of living as:

ability to accommodate a growing family,
giving young children immediate and safe access to an outdoor lifestyle
privacy
peace and quiet “tranquillity – a world away feeling”
ability to accomplish more things on the land e.g. hobby farming, organic growing, sustainability, recreational amenities e.g. tennis courts, swimming pools, and run horses.
Additionally, lifestyle properties are sometimes purchased as an investment. When purchasers buy large blocks they see the potential to sub-divide in future. Equally, when purchasers buy vacant blocks and build their own homes they can increase the capital value of their investment.

Disadvantages of Lifestyle Properties:
The overriding disadvantages of lifestyle properties are:

the high level of work required to maintain property detracts many “Lifestyle property is a life sentence”
High maintenance costs and overheads plus the sluggish market combined make it hard to exit without financial loss.
The purchase price of a lifestyle property is out of reach of most people.

Porirua
Porirua has the highest average value of life style improved properties in Wellington Region (McDermott Miller estimates based on Quotable Value Data). The majority of properties in Porirua are 5 hectares or more in size.

Demand for lifestyle properties in Porirua tends to come from Wellington City. It is often families with children. "They are the young families who want the 'green life' and the space of a lifestyle block and have very high incomes that can afford blocks”. Porirua lifestyler’s continue to work in the Wellington City and commute daily.
Upper Hutt

Lifestyle properties in Upper Hutt tend to be less developed and cheaper than elsewhere in the region. The majority of lifestyle properties in Upper Hutt are around 4 hectares in size but can range up to 10+ hectares.

Demand for lifestyle properties in Upper Hutt comes mainly from Wellington City, Lower Hutt and Upper Hutt City. Often people who are not able to afford lifestyle properties elsewhere in Wellington region buy in Upper Hutt.

In general, demand arises from young families with children. But there are a range of other segments such as singles and couples across a range of ages, and occasionally extended families e.g. grand-parents purchasing with their children.
Wellington

Lifestyle properties in Wellington are desirable due to Ohariu Valley’s and Makara’s close proximity to Wellington CBD. But the Wellington area has a limited number of lifestyle properties. Properties that are occasionally available in this area range in size, they can be anywhere between 1.0 and 10+ hectares.

Demand for lifestyle properties in Wellington comes mainly from Wellington City. Often demand is drawn from the Wellington City suburbs surrounding Ohariu Valley and Makara, such as Karori, Kelburn, Khandallah and Thorndon.

In general, demand comes from families with children. They tend to be double income families in high paying occupations. They already own high valuation residential properties in Wellington City that they are able to capitalise to purchase a lifestyle property.

Figure 2.3: Example of a Lifestyle Property in Wellington (Ohariu Valley)
Kapiti

Kapiti has the highest average value per hectare of lifestyle improved properties in Wellington Region (McDermott Miller estimates based on Quotable Value Data). Properties in Kapiti tend to be smaller than elsewhere in the Wellington and are more established in terms of amenities and landscaping. Lifestyle properties in Kapiti range from under 1 hectare to more than 5 hectares.

Demand for lifestyle properties in Kapiti tends to come from Kapiti area itself, although this is supplemented by Wellington City residents and residents from the UK.

Lifestyle purchasers come from all walks of life, but the majority tend to be families with young children. Demand is split between "greenies", wanting a more sustainable life and those who see lifestyle properties as a form of grandiose living.

Figure 2.4: Example of a Lifestyle Property in Kapiti (Otaihanga)
CURRENT DEMAND FOR LIFESTYLE PROPERTIES

The current demand for lifestyle blocks in Wellington region is weak. The time to sell a lifestyle property differs between cities and districts.

Porirua:
Currently rural residential properties in Porirua take around 6 months to sell.
"Couldn’t sustain a glut of properties coming onto the market the moment"

Upper Hutt:
Currently takes over 12 months to shift lifestyle properties with dwellings;
Takes less time to shift undeveloped blocks.

Wellington:
The only area in Wellington region with fast turnaround, takes 3-6 weeks.

Kapiti:
Up to 5 months turnaround for lifestyle properties.
Demand is for lifestyle properties with dwellings.
Demand very low for undeveloped blocks as too many of these are on the market.
UK ex pat market segment has dried up since the Global Financial and Eurozone Crises.

Overall, there is consensus from real estate agents that demand for lifestyle properties across all Wellington areas has decreased dramatically since 2008 (or "since the start"
of the recession”). There are mixed views whether demand will return to levels seen during the property peak of 2006/7. Some real estate agents think not, others think demand for lifestyle properties will always be high in buoyant economic times.

PREFERRED SIZE OF LIFESTYLE PROPERTIES

Real estate agents across Wellington region consistently indicate that a lifestyle property of 2.0-2.5 hectares has the greatest level of demand. This size of block is in greater demand because (compared to a larger block) it does not require as much maintenance and purchase price is at a level that is affordable to a greater range of people.

However, real estate agents prefaced this view with the following comments:

“To be able to sell “lifestyle areas” there needs to be a good range of blocks (size and type) available. This creates a community feel.”

“Allow subdivisions down to 2 hectares, but needs to be done in an orderly process. Can't have too many of one size coming onto the market, and all blocks need to be good quality land.”

“If there is a development of smaller blocks it means more services e.g. diary, but this means blocks will become more built up and less remote and peaceful which is the reason why people buy them in the first place.”

A Porirua agent made the following comment:

“There is a shortage of the size of block people want. There are too many blocks at the 5 hectare size. There is a niche of people living close by [in Whitby] who would love the chance to buy a small sized lifestyle block.

WELLINGTON REGION RESIDENTIAL LIVING SITUATION

INTRODUCTION

This section summarises the supply side of lifestyle properties in the Wellington Region. The analysis section draws on published statistics from Statistics New Zealand and a custom run of data from Quotable Value.

SIZE OF CURRENT HOUSING MARKET

In 2011 there were 191,000 dwellings in the Wellington Region, up 7% since 2006 (Table 3.1)
Table 3.1 Total Dwelling in Wellington Region

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<th>2006</th>
<th>2011</th>
<th>% Growth</th>
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<tbody>
<tr>
<td>Kapiti Coast district</td>
<td>20,200</td>
<td>21,900</td>
<td>8.4%</td>
</tr>
<tr>
<td>Porirua city</td>
<td>16,500</td>
<td>17,500</td>
<td>6.1%</td>
</tr>
<tr>
<td>Upper Hutt city</td>
<td>15,100</td>
<td>16,100</td>
<td>6.6%</td>
</tr>
<tr>
<td>Lower Hutt city</td>
<td>37,500</td>
<td>39,100</td>
<td>4.3%</td>
</tr>
<tr>
<td>Wellington city</td>
<td>73,000</td>
<td>79,400</td>
<td>8.8%</td>
</tr>
<tr>
<td><strong>Total Metro Wgtn</strong></td>
<td>162,300</td>
<td>174,000</td>
<td>7.2%</td>
</tr>
<tr>
<td>Masterton district</td>
<td>9,400</td>
<td>9,800</td>
<td>4.3%</td>
</tr>
<tr>
<td>Carterton district</td>
<td>2,900</td>
<td>3,100</td>
<td>6.9%</td>
</tr>
<tr>
<td>South Wairarapa district</td>
<td>3,800</td>
<td>4,000</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>Total Wairarapa</strong></td>
<td>16,100</td>
<td>16,900</td>
<td>5.0%</td>
</tr>
<tr>
<td><strong>Wellington region</strong></td>
<td>178,300</td>
<td>190,900</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

Source: Statistics NZ Census of Population and Dwellings ©McDermott Miller Limited, March 2012

CURRENT SUPPLY OF RURAL-RESIDENTIAL PROPERTIES

Total supply of “Lifestyle Improved” (Quotable Value’s term for “rural residential” properties ie that include dwellings) properties in Wellington Region is 6227 (in 2011). Figure 3.1 below illustrates the distribution of these properties across the Wellington Region.

The area consisting of Pauatahanui and Judgeford suburbs (refer Porirua Public Information Map for suburb boundaries http://gis.pcc.govt.nz/PublicViewer/) has 276 such properties (a 4% share of the regional supply), and the rest of Porirua has 76 (1% share), for a total of 352 (5% share of regional supply),

Figure 3.1: Supply of Lifestyle Improved Properties in Wellington Region, 2011
Total supply of “Lifestyle Vacant” properties (deemed by Quotable Value as having potential to support a dwelling) in Wellington region in 2011 is 2147. Figure 3.2 below illustrates the distribution of these properties across Wellington Region.

The Pauatahanui Judgeford suburbs have a 3% share of the regional supply, and the rest of Porirua has a 1% share, for a total of 4%.

**Figure 3.2: Supply of Lifestyle Vacant Properties in Wellington Region, 2011**

---

**Figure 3.3** presents the average valuations of Lifestyle Improved Properties in 2011.
Porirua Lifestyle Improved properties are the most valuable in the region, with an average valuation of $1 million, of which $513,000 is in the land and $491,000 is improvements.

**Figure 3.3 : Average Value of Lifestyle Improved Properties, 2011 ($000s)**

![Graph showing average value of lifestyle improved properties in different local authorities.](image)

Source: MML Estimates based Quotable Value Data
©McDermott Miller Limited, March 2012

The average size of a Lifestyle Improved property is Porirua is 5.6 ha, considerably larger than the average of 3.6 ha in Kapiti.

Adjusting for lot size, **Figure 3.4**, presents the average land values per hectare of Lifestyle Improved Properties in 2011.

On this basis, Porirua Lifestyle Improved properties are the second most valuable in the region (after those of Kapiti).
We can conclude that the Pauatahanui-Judgeford area (where most Porirua lifestyle properties are) is valued highly by buyers under the current conditions of tight supply.

**Figure 3.4: Average Land Values/Ha of Lifestyle Improved Properties, 2011 ($000/ha)**

![Graph showing average land values per hectare for different local authorities in Wellington Region.](image)

Source: MML Estimates based Quotable Value Data
©McDermott Miller Limited, March 2012

**SUPPLY GROWTH OF LIFESTYLE PROPERTIES: 2001 TO 2011**

The 6227 “Lifestyle Improved” properties in Wellington Region was in 2011 (Figure 3.5 below) represented an increase of 20% since 2006, considerably above the 7% increase in total dwellings (Table 3.1)

Consequently, Lifestyle Improved Dwellings as a percentage of total dwellings in the region increased from 2.9% to 3.3% between 2006 and 2011.

However, rural residential dwellings remain a relatively minor component of the total supply of dwellings in Wellington.
The supply of “Lifestyle Improved” of 352 properties in Porirua City in 2011 (Figure 3.6 below) represents an increase of 19% since 2006, compared to a 6% increase in total dwellings (Table 3.1)

Consequently, Lifestyle Improved Dwellings as a percentage of total dwellings in the region increased from 1.8% to 2% between 2006 and 2011.
The 276 “Lifestyle Improved’ properties in Pauatahanui and Judgeford suburbs in 2011 (Figure 3.7 below) represent an increase of 22% since 2006.

Rural Residential dwellings constitute around 74% of dwellings in Pauatahanui and Judgeford suburbs, very much greater than the 2% for the Porirua City as whole.

Figure 3.7 : Supply of Lifestyle Properties in Pauatahanui plus Judgeford Suburbs
ANNUAL ADDITIONS TO SUPPLY OF LIFESTYLE PROPERTIES

Estimated annual net increase in rural residential living in whole Wellington Region is 120 dwellings (based QV data on sales of new Lifestyle properties and Statistics NZ projections of population growth in rural area with “high or medium urban influence.”).

Under Statistics NZ High Projection, net growth will continue for next 20 years at around this level.

**Figure 3.8** illustrates how the supply of Lifestyle properties is being added to by District.

Porirua’s current share of this annual growth is around 3%. On average, there are 4 **new lifestyle properties per year** in the city, of which 3 are in the Pauatahanui or Judgeford suburbs.
Figure 3.8: Annual Additions to Supply: Average Annual Sales Last 5 Years of New Lifestyle Properties

Source: MML Estimates based Quotable Value Data
©McDermott Miller Limited, March 2012

DWELLING AND POPULATION CAPACITY UNDER THE DEVELOPMENT OPTIONS

INTRODUCTION

In this section we estimate the future dwelling capacity of the Study Area under the development options presented in elsewhere in the Structure Plan.

The analysis section draws on Quotable Value land parcels data provided to McDermott Miller by MWH, tailored to the boundaries of the Study Area (see map in the Structure Plan).

LAND CLASSIFICATION AND DEVELOPMENT OPTIONS

The system of classifying land in the study area as “Green” “Yellow”, “Red” or “Black” depending on the suitability of the land for purposes of further development as discussed elsewhere in the Structure Plan report.
Note that this classification of land cuts through existing land parcels. We have therefore grouped existing land parcels (and dwellings on them) according to the lowest constraint type of land it includes. For example, a land parcel including any “Green” any land is classified as having a “Green” highest suitability colour code.

The Development Options are discussed in detail elsewhere in the Structure Plan report. In brief, they are:

Option 1. Status quo / no change in zoning provisions.
Option 2. Allowing no further subdivision.
Options 3 and 3A. Reduction of the minimum lot size in the Green and Yellow areas.
Option 4. Strong reduction of the minimum lot size in the Green area, and a reduction of the minimum lot size in the Yellow area.

Under Option 2, dwellings and population would remain close to current levels so this option is not considered further here. Only estimates of dwelling and population capacity for Option 3A are discussed in the main body of the report; estimates for the other options are presented in the attached Annex.

Existing Dwellings and Population

Table 4.1 below shows current dwellings in the study area. There are around 262 dwellings in the study area as of 2012. Of these, some 180 are on land parcels with at least some land classified “Green”.

Concentrations of dwelling are on land at least partly classified as Green along Flightys Road (37 dwellings), Moonshine Road (34), Murphy’s Road (30) and the section of SH58 in Judgeford (30).

Table 4.1: Existing Dwellings in Study Area
Table 4.2 shows estimates of current population, assuming the Pauatahanui Area Unit average occupancy of 2.76 persons per dwelling applies.

**Table 4.2: Estimated Current Population of Study Area**

<table>
<thead>
<tr>
<th>Road</th>
<th>Highest Suitability Colour Code on Existing Land Parcel</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pauatahanui</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Road</td>
<td></td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td></td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Grays Road</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>1</td>
<td>1</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td><strong>Judgeford</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradey Road</td>
<td></td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Belmont Road</td>
<td></td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>SH 58 Judgeford</td>
<td></td>
<td>30</td>
<td>16</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>Murphys Road</td>
<td></td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Flightys Road</td>
<td></td>
<td>37</td>
<td>10</td>
<td>1</td>
<td>48</td>
</tr>
<tr>
<td>Mulhern Road</td>
<td></td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Moonshine Road</td>
<td></td>
<td>34</td>
<td>2</td>
<td>7</td>
<td>43</td>
</tr>
<tr>
<td>Mt Cecil Road</td>
<td></td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Harris Road</td>
<td></td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Ahoroa Road</td>
<td></td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>179</td>
<td>34</td>
<td>17</td>
<td>230</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>180</td>
<td>35</td>
<td>47</td>
<td>262</td>
</tr>
</tbody>
</table>

Source: Dwelling numbers provided to MWH by Porirua City Council. Compiled by MWH and McDermott Miller
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Minimum Lot Sizes

Based on discussion during Workshop 2 and advice from MWH we have adopted the following as base case assumptions (Option 3A) on minimum lot size allows in each suitability colour area. (Table 4.3):

Table 4.3: Minimum Lot Size Assumptions under Option 3A (Ha)

<table>
<thead>
<tr>
<th>Color Area</th>
<th>Lot Size (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Area</td>
<td>2</td>
</tr>
<tr>
<td>Yellow Area</td>
<td>2.5</td>
</tr>
<tr>
<td>Red Area</td>
<td>5</td>
</tr>
</tbody>
</table>

Capacity Estimation Procedure

We have estimated the maximum capacity of dwellings in the study area using a “bottom up” model. This model calculates the additional dwellings that could developed on each land parcels taking into account the land suitability colour of the parcel. Note that a single 2012 parcel can include land of 1 or up to 3 suitability colours.

The model assumes that new parcels are not created by amalgamating land from neighbouring 2012 parcels. Rather existing properties are subdivided so that some new parcels are at the minimum size allowable and others are larger.

On a particular property, “remainder” green area land (after calculating new “green area” lots and minimum size) is added to Yellow Area land on the property for purposes of calculating yellow area lots;

Similarly, remainder “yellow” area land is added to Red Area land on the property for purposes of calculating Red Area lots.

In a number of 2012 and parcels, current residences are already at or above “capacity” under options 1, 2 and 3. In these cases, we used the existing number of dwellings as the “capacity” figure.

The increment in dwellings on each existing land parcel was calculated by deducting existing dwellings from the capacity. If the number of residence is already at or beyond capacity, the increment is 0.

MWH provided McDermott Miller with a data file giving the area (in ha) of each land parcel that falls into each suitability colour area, and into a further “Black” area from

---

Source: Quotable Value, Compiled by MWH and McDermott Miller
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which development is entirely “constrained” (refer to the Structure Plan for definition of these constraints)\(^8\).

**THEORETICAL DWELLING AND POPULATION CAPACITY**

The results of this analysis given in Table 4.4 to 4.6. As in Table 4.1, existing (2012) land parcels (and dwellings on them) are grouped according to the highest land suitability colour on them, and by road.

Currently study area has approx 262 households and 724 population the total theoretical increment of dwellings would be 441 (Table 4.4) total dwellings in the Study area would be theoretical 703 at build out (Table 4.5) and population would be 1943 (Table 4.6).

**Table 4.4: Increment in Dwellings to Reach Capacity**

<table>
<thead>
<tr>
<th>Road</th>
<th>Highest Suitability Colour Code on Existing (2012) Land Parcel</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paukatahanui</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Road</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Grays Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Judgeford</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradey Road</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Belmont Road</td>
<td>35</td>
<td>10</td>
<td>0</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>SH 58 Judgeford</td>
<td>39</td>
<td>32</td>
<td>0</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Murphys Road</td>
<td>48</td>
<td>33</td>
<td>2</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Flightys Road</td>
<td>33</td>
<td>13</td>
<td>23</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Mulhern Road</td>
<td>29</td>
<td>21</td>
<td>0</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Moonshine Road</td>
<td>65</td>
<td>1</td>
<td>18</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Mt Cecil Road</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Harris Road</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Ahoroa Road</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>269</td>
<td>112</td>
<td>46</td>
<td>427</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><em>269</em></td>
<td><em>121</em></td>
<td><em>51</em></td>
<td><em>441</em></td>
<td></td>
</tr>
</tbody>
</table>

Source: McDermott Miller Estimates  
©McDermott Miller Limited, March 2012

**Table 4.5: Dwelling Capacity**

\(^8\) We performed earlier analyses which did not take the constraints into account. Results of these can be provided on request.
<table>
<thead>
<tr>
<th>Road</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pauatahanui</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Roa</td>
<td>0</td>
<td>10</td>
<td>29</td>
<td>39</td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Grays Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1</td>
<td>10</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td><strong>Judgeford</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradey Road</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Belmont Road</td>
<td>54</td>
<td>10</td>
<td>0</td>
<td>64</td>
</tr>
<tr>
<td>SH 58 Judgeford</td>
<td>69</td>
<td>48</td>
<td>4</td>
<td>121</td>
</tr>
<tr>
<td>Murphys Road</td>
<td>78</td>
<td>33</td>
<td>2</td>
<td>113</td>
</tr>
<tr>
<td>Flightys Road</td>
<td>70</td>
<td>23</td>
<td>24</td>
<td>117</td>
</tr>
<tr>
<td>Mulhern Road</td>
<td>42</td>
<td>24</td>
<td>0</td>
<td>66</td>
</tr>
<tr>
<td>Moonshine Road</td>
<td>99</td>
<td>3</td>
<td>25</td>
<td>127</td>
</tr>
<tr>
<td>Mt Cecil Road</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Harris Road</td>
<td>7</td>
<td>0</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Ahoroa Road</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>448</td>
<td>146</td>
<td>63</td>
<td>657</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>449</td>
<td>156</td>
<td>98</td>
<td>703</td>
</tr>
</tbody>
</table>

Source: McDermott Miller Estimates
©McDermott Miller Limited, March 2012

**Table 4.6: Population at Capacity**

<table>
<thead>
<tr>
<th>Road</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pauatahanui</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Roa</td>
<td>0</td>
<td>28</td>
<td>80</td>
<td>108</td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td>3</td>
<td>0</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Grays Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>3</td>
<td>28</td>
<td>97</td>
<td>127</td>
</tr>
<tr>
<td><strong>Judgeford</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradey Road</td>
<td>44</td>
<td>3</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Belmont Road</td>
<td>149</td>
<td>28</td>
<td>0</td>
<td>177</td>
</tr>
<tr>
<td>SH 58 Judgeford</td>
<td>191</td>
<td>133</td>
<td>11</td>
<td>334</td>
</tr>
<tr>
<td>Murphys Road</td>
<td>216</td>
<td>91</td>
<td>6</td>
<td>312</td>
</tr>
<tr>
<td>Flightys Road</td>
<td>193</td>
<td>64</td>
<td>66</td>
<td>323</td>
</tr>
<tr>
<td>Mulhern Road</td>
<td>116</td>
<td>66</td>
<td>0</td>
<td>182</td>
</tr>
<tr>
<td>Moonshine Road</td>
<td>274</td>
<td>8</td>
<td>69</td>
<td>351</td>
</tr>
<tr>
<td>Mt Cecil Road</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Harris Road</td>
<td>19</td>
<td>0</td>
<td>22</td>
<td>41</td>
</tr>
<tr>
<td>Ahoroa Road</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1238</td>
<td>403</td>
<td>174</td>
<td>1816</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1241</td>
<td>431</td>
<td>271</td>
<td>1943</td>
</tr>
</tbody>
</table>

Source: McDermott Miller Estimates
DWELLING AT CAPACITY AT EACH LAND CLASSIFICATION LEVEL

Table 4.7 shows the number of dwellings at capacity on new and existing lots at each land suitability colour. The difference between Table 4.7 and Tables 4.4 to 4.6 is that at capacity some 449 dwellings would be on land now on existing (2012) parcels which are at least partly “Green” (Table 4.5 above), but of these only a theoretical 196 (Table 4.7 below) would be on future lots entirely classified as “Green”. Further:

There is theoretical capacity for some 215 dwellings on future lots classified as “Yellow”;

Theoretical Capacity on “Green” or “Yellow” land combined is some 411 dwellings.

There is theoretical capacity for some 292 lots entirely classified as “Red”, giving a total capacity of 703 i.e. 441 more than the current 262.

Table 4.7: Dwelling Increment and Capacity on future lots at each land suitability colour code.

<table>
<thead>
<tr>
<th>Land Suitability Colour Code of Parcel</th>
<th>Current Dwellings</th>
<th>Dwelling Increment</th>
<th>Dwelling Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>180</td>
<td>16</td>
<td>196</td>
</tr>
<tr>
<td>Yellow</td>
<td>35</td>
<td>180</td>
<td>215</td>
</tr>
<tr>
<td>Total Green plus Yellow</td>
<td>215</td>
<td>196</td>
<td>411</td>
</tr>
<tr>
<td>Red</td>
<td>47</td>
<td>245</td>
<td>292</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>441</td>
<td>703</td>
</tr>
</tbody>
</table>

Source: McDermott Miller Estimates

Conclusions

Estimated annual net increase in rural residential living in whole Wellington Region is 120 households (based QV data on sales of new Lifestyle properties and Statistics NZ projections of population growth in rural area with “high or medium urban influence.”).

Porirua’s current share of this annual growth is around 3% or 4 new lifestyle properties per year.

Under Statistics NZ High Projection, net growth will continue for next 20 years at around this level.

Over an illustrative 20 year horizon, the theoretical increment under the base case Option 3A (441) means annual average sales of some 22 per year (or 18% of current regional demand).

The theoretical increment on Green and Yellow land i.e 196 means annual average sales of around 10 per year over a 20-year planning horizon or 8% of current regional demand of 120.
Under the highest density option. Option 4, (theoretical increment 873, refer Tables A.6 and A.8 in the Annex) over the same period annual average sales would have to be some 44 per year (36% of current regional demand).

In our opinion Option 4 is not realistic and is not sustainable by regional demand for rural residential living. Housing density under the option would be similar to suburban zones. Such development would be contrary to Porirua City Council’s Porirua Development Framework (2009) which identifies the “North of Camborne” area as the only Potential Urban Growth Area in the City.

Option 3A has been selected in principle by the SP team as the preferred scenario, and therefore it is the only Option we have analysed further in the interaction of supply and demand (Section 5).

INTERACTION RURAL-RESIDENTIAL DEMAND AND SUPPLY

INTRODUCTION

In this section we synthesise the rural-residential analysis from Section 2 to Section 4 and propose a demand curve that indicates possible take up of newly developed rural residential properties in the Study Area, over a 20 year planning horizon.

WHAT CURRENT DEMAND AND SUPPLY MEANS FOR PAUATAHANUI-JUDGEFORD AREA

Market cycle:

Currently at or near bottom
Current difficulty of selling “town” properties makes relocation hard to achieve.
Effect is to suppress demand for all types of property, so current demand is not representative of ongoing future demand.

Lifestyle blocks:

Are expensive in absolute terms.
Affordability limited to very few because absolute price for 5ha and larger blocks is high in relation to average or even upper quartile household incomes.
Often a long way from city services, airports and public transport and serviced by lower quality roads.

Pauatahanui-Judgeford competitive advantages

Closest major area of lifestyle blocks to Wellington CBD in the Wellington region
Close to Paramata Harbour and nearby shops (Whitby Village Centre)
Public transport services available in nearby Whitby-Papa kowhai
Close to health services (Kenepuru)
Further access improvements to region when Transmission Gully route operates
Serviced by existing roads
Close to two domestic airports (Wellington and Paraparaumu)
Green environment close to two major cities

If subdivided to 2 to 2.5 hectares, then likely to be some of the smallest lifestyle blocks available within the region, therefore more affordable and will draw buyers away from other areas.

If subdivided to less than 2 hectares e.g. 1 hectare could cater to a new segment of the market previously unable to afford lifestyle properties.

Ultimately will be a faster commute than Kapiti, but with all the benefits otherwise available to Kapiti lifestylers at more affordable prices.

MARKET DEMAND FOR DEVELOPMENT OPTION 3A

Subdividing will reduce absolute price for a lifestyle block and therefore make them more affordable to more buyers.

Market price could rise per ha when sold in smaller blocks compared with market price per ha for a 5 ha block (e.g. 5ha block valued at, say, $450,000, might be saleable as five blocks at, say $100,000 each, realising $50,000 profit and the market for land at $100,000 lifestyle blocks is likely to be greater than the market for $450,000 lifestyle blocks.

Three effects:
 Improved affordability - market demand for smaller blocks will be greater than present market demand in the area.
 Market conditions will improve - demand generally likely to be higher as these subdivided properties won't come on the market for say 2 years by which time market conditions are expected to improve.
 Competitive advantages will favour Pauatahanui-Judgeford

But lifestyle blocks still a small segment of the regional market, so properties added to the area are more likely to be several hundred rather than in the thousands over the next twenty years.

Potential Price Effects

Price per ha likely to be higher than prices for current 5ha blocks but lower per block sold because the blocks are smaller.

Supply of blocks will increase.

Means potential gain for existing landholders whose properties are subdivided.

Demand and Supply for Green and Yellow Area Properties

We assume:
No change until rezoning is adopted by Council – say 2 years from now.

Initial lift in demand from that time for, say 24-36 months, on the assumption there suppressed demand for blocks in the 2-2.5 ha range on both the supply and demand sides;

Tailing off to an average demand around 2-3 times current annual level.

Further lift when Transmission Gully is close to operational

Taking demand factors into account it is possible to estimate the supply demand relationship for Option 3 of Pauatahanui-Judgeford Structure Plan Change (refer Figure 5.1 below). Estimated demand indicates full development of the Green and Yellow areas could be achieved near the end of the 20 year planning horizon.

Under this optimistic scenario, demand for new rural residential properties in the study area could be running at around 24 per year at its peak rate over 2015-17. This represents some 20% of current regional demand (120, refer Section 3.5), compared a share of only 2.5% at present.

**Figure 5.1: Supply/Indicative Demand Relationship Option 3A vs. Status Quo**

![Supply/Indicative Demand Relationship Option 3A vs. Status Quo](image_url)

©McDermott Miller Limited, 2012

It is important to note the possible pattern of growth shown in Figure 5.1 assumes all land deemed as “suitable” in the study area (ie is not constrained “Black” land) can be built on. It does not take into account possible other restrictions on supply such limited
infrastructure services (e.g. water and electricity supply) and levies or costs that may be imposed on development of 2.5ha or smaller sites. These restrictions have not been quantified, but their effect may be such as to make the rise in new household numbers in the study area slower than indicated.

**Demand and Supply for Red Area Properties**

As shown in Table 4.7, there is already capacity in the Red area land for an additional 245 dwellings. This exists under all options considered in the Structure Plan design process or investigations including the “Status Quo” (Option 1), because the ability to subdivide with a 5 ha minimum lot size exists under current zoning provisions. A small proportion of the average 3 new lifestyle properties per year in the Pauatahanui-Judgeford area (Section 3.8) could be on Red area land, but we do not have data to estimate this.

Clearly, current demand for 5 ha properties is nothing like what would be required to absorb 245 new properties over a 20 period, in addition to the smaller properties on the Green and Yellow areas. In our view, new properties on the Green and Yellow areas will absorb the demand for rural residential properties in the study area. Any allowance for take up of new lots on the Red Area would be purely speculative.
PART TWO

ECONOMIC & COMMERCIAL DEVELOPMENT

INTRODUCTION AND METHOD OF COMMERCIAL AND INDUSTRIAL ACTIVITY:

In this section we identify commercial/industrial development threats and opportunities in the Pauatahanui-Judgeford study area arising from construction of the Transmission Gully motorway.

In doing this we drew on the following:


Supporting reports the WRS, including McDermott Miller’s Regional Growth Initiatives Report: refer:

The Industrial Land Project carried out by Wellington Regional Council as part of the Wellington Regional Strategy; refer:

Select review of international and NZ development trends in transport and logistics centres.

WHY DISTRIBUTION AND INDUSTRIAL DEVELOPMENT IN PAUATAHANUI-JUDGEFORD?

The Judgeford area is highlighted as a “Possible long-term industrial/business growth area” in Porirua City Council’s Porirua Development Framework (2009). It has considerable potential for an appropriate form of commercial development. These could potentially include

Logistics Centre?
“Clean Technology” manufacturing?
Other Manufacturing?
Commercial/Office
Large format retail
Other retail
Retail options are discussed in **Section 6.3** below. Commercial/Office activities are also possible. Clean manufacturing is another possibility. However, a comprehensive review of industrial land supply in the Wellington Region carried out by Wellington Regional Council as part of the Wellington Regional Strategy has shown there is vacant industrial in other parts of Porirua and the wider region.

The Pauatahanui–Judgeford area includes relative flat land (up to 180 ha) along SH58 that could be used for business/industrial activities, as it already is to a limited extent.

Figures 6.1 and 6.2 illustrate the position of a logistics centre relative to the region’s transport routes.

**Figure 6.1: Wellington Regional Population and Employment Distribution, 2011**

![Figure 6.1](image)

*Note: Symbols are to scale © McDermott Miller Limited, March 2012*

**Figure 6.2: Future Road Transport Network: Shifts economic activity North**
OPPORTUNITY FOR A LOGISTICS CENTRE AT JUDGEFORD

Because of the location of the study area at the nexus (post Transmission Gully) of Wellington’s transport routes and the availability of regionally scarce flat land suitable for industrial development, a logistics centre is an appropriate activity for a portion land in the Judgeford area.

What is a Logistics Centre?

A Logistics Centre is a cluster of transport, logistics and distribution enterprises on a single site.

A Logistics Centre is managed by a single, commercially neutral legal body (eg a Public-Private-Partnership).

Within the Centre, individual operators are either owners or tenants of buildings and facilities (warehouses, distribution centres, storage areas, offices, truck services, accommodation and catering services for drivers etc.)

The Logistics Centre management entity must allow open access to all freight/logistics companies, from small to large.

Their size is normally in range 100-150 ha, but can be as low as 40 ha or as large as 500 ha in Europe.
Logistics Centres tend to locate near urban centres, close to motorways, ports and rail, but where there is low potential conflict with residences making round the clock operation possible.

**Figure 6.3** illustrates the potential area within the study area that could be developed for business purposes.

**Figure 6.3: Potential industrial/business growth areas in P-J study area**

![Map of potential industrial/business growth areas](image)

Source: McDermott Miller and MWH

**Examples of Existing and Potential Industrial and Distribution Centres**

**Table 6.1** presents data on:
- examples of major distribution centres in New Zealand; and
- other existing and potential industrial area on the Western Corridor.

**Table 6.1: NZ Examples of Industrial and Distribution Centres**
EXAMPLES OF MAJOR NATIONAL DISTRIBUTION CENTRES

<table>
<thead>
<tr>
<th>NAME</th>
<th>LOCATION</th>
<th>AREA</th>
<th>OWNER</th>
<th>LINKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metroport Auckland</td>
<td>Southdown, Auckland</td>
<td>5.5ha</td>
<td>Port of Tauranga</td>
<td>road/rail freight</td>
</tr>
<tr>
<td>Wiri Freight Hub</td>
<td>Wiri, South Auckland</td>
<td>10ha</td>
<td>Ports of Auckland/NZL</td>
<td>road/rail freight</td>
</tr>
<tr>
<td>Auckland International Airport</td>
<td>South Auckland</td>
<td>74ha</td>
<td>Auckland International Airport</td>
<td>road/rail freight</td>
</tr>
<tr>
<td>Foodstuffs</td>
<td>Palmerston North</td>
<td>3.5ha</td>
<td>Foodstuffs Wellington</td>
<td>road/road</td>
</tr>
<tr>
<td>Progressive Enterprises</td>
<td>Palmerston North</td>
<td>1.25ha</td>
<td>Progressive Enterprises</td>
<td>road/road</td>
</tr>
</tbody>
</table>

EXISTING AND POTENTIAL WESTERN CORRIDOR INDUSTRIAL, DISTRIBUTION, COMMERCIAL AND RETAIL CENTRES

<table>
<thead>
<tr>
<th>NAME</th>
<th>LOCATION</th>
<th>AREA</th>
<th>OWNER</th>
<th>LINKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway Enterprise Park</td>
<td>Levin</td>
<td>66.3ha</td>
<td>NZ Wise Holdings????</td>
<td>road/rail freight</td>
</tr>
<tr>
<td>Otaki South Mixed Use Development Area</td>
<td>Otaki</td>
<td>19.2ha</td>
<td>Riverbank Holdings (Otaki) Ltd</td>
<td></td>
</tr>
<tr>
<td>Kapiti Landing</td>
<td>Paraparaumu</td>
<td>30ha</td>
<td>Kapiti Coast Airport Ltd</td>
<td>road/road/air</td>
</tr>
<tr>
<td>Grenada North</td>
<td>Nth Wellington City</td>
<td>67.6ha</td>
<td>Flagged for possible expansion</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.2 shows existing business and industrial zones in Porirua, and shows the potential industrial area in Pauatahanui-Judgeford.

Table 6.2: Porirua City Business and Industrial Zones

<table>
<thead>
<tr>
<th>Existing Zones</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD &amp; Elsdon/Porirua Hospital land/Kenepuru</td>
<td>161 ha</td>
</tr>
<tr>
<td>North of Cambourne</td>
<td>23 ha</td>
</tr>
<tr>
<td>Potential industrial/business growth area (ref Porirua Development Framework)</td>
<td>270 ha approx</td>
</tr>
<tr>
<td>Of which Judgeford west of Mulhern Rd only</td>
<td>180 ha approx</td>
</tr>
<tr>
<td></td>
<td>57% increase</td>
</tr>
</tbody>
</table>

Source: Porirua City Industrial Activity Review, Property Economics June 2008, McDermott Miller Estimates
©McDermott Miller Limited, March 2012

Some European examples of logistics centres are summarised in Table 6.3 below.

Table 6.3: International Examples of Logistics Centres

<table>
<thead>
<tr>
<th>Name</th>
<th>Land Area (Ha)</th>
<th>Covered warehouse area (sq)</th>
<th>Site Coverage</th>
<th>Capital value (Euros)</th>
<th>Employees</th>
<th>No. of Companies in LC</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>BILK Kombiterminal - Hungary</td>
<td>100</td>
<td>$14 million</td>
<td>12.5%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
<tr>
<td>Interporto Bologna SpA - Italy</td>
<td>200</td>
<td>250,000</td>
<td>12.5%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
<tr>
<td>Dresden GVZ - Germany</td>
<td>27</td>
<td></td>
<td>12%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
<tr>
<td>Klaipeda Logistics Centre (KLC) - Lithuania</td>
<td>92</td>
<td></td>
<td>12.5%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
<tr>
<td>Nordic Transport Centre (NTC) - Denmark</td>
<td>59.2</td>
<td>47,000</td>
<td>7.9%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
<tr>
<td>Bikakobo-Aparcabisa Transport &amp; Logistics Centre - Spain</td>
<td>20</td>
<td>57,000</td>
<td>28.5%</td>
<td>$164 million</td>
<td>81</td>
<td>PPP</td>
<td>Private</td>
</tr>
</tbody>
</table>

Source: Transport and Logistics Centres, Kent Bentzen, Association of Danish Transport Centres et al 2007
©McDermott Miller Limited, March 2012

What are the advantages of a Logistics Centre serving Metropolitan Wellington?
Increased efficiency of freight/logistics industry in Wellington.
Improved competition between freight/logistics and Fast Moving Consumer Goods companies – potential to flow through to lower cost to consumers.
Lowered barriers to entry for entry of new competitors in the freight, distribution and/or Fast Moving Consumer Goods markets in Wellington.
Opportunities for IT and other synergies to develop between companies in the Logistics Centre; Logistics centre is managed by a neutral moderation authority.
Help improve competitiveness of Port of Wellington by providing a site for consolidation of goods prior to export, or to breakdown imports.
Potential to co-ordinate with other such centres in NZ (as they develop) consequently create efficient transport chains and network solutions for optimal cargo flow and distribution.
Potential for co-operation on services by tenants of the centre – broadband, energy

**Why a Logistics Centre at Judgeford in Particular?**

Central Location in Wellington Region.
Excellent access to both SH1 (Transmission Gully) and SH2.
Equal Proximity to Porirua, Wellington City, Hutt Valley and Kapiti Coast.
Breakdown and consolidation of loads would happen closer to Wellington City than at some other areas (Levin, Paraparaumu Airport) where new warehouses and distribution centres could develop, therefore more efficient (lower emissions).
Low conflict potential if rural residential development is controlled in the area.
It will probably possible to consolidate a site at the lower end of Logistics Centre range ie 40-60 ha; plus expansion potential over long term up to around 100 ha (out of total possible area of 180 ha).
It is unlikely such a site could be assembled in Metropolitan Wellington on land already zoned industrial.
Proximity to potential workforce in Porirua.
Makes adjoining sites more attractive for manufacturing (if zoned for industrial activities).

**Potential Employment at a Logistics Centre in Judgeford**

Direct employment created by a Logistics Centre of some 50 ha at Judgeford could be of the order of 100-150 FTE jobs, depending on the range of ancillary services provided. Indirect economic and employment effects would be felt throughout the Wellington region from, inter alia, distribution efficiencies.
This is based more on NZ conditions than international experience. We would need to look at this more closely to give a more exact figure.
Employment provided in Logistics Centres range across a range of occupations and industries including:

- Logistics Centre managers & support staff
- Logistics professionals
- Warehouse/distribution workers
- Truck servicing workers
- Accommodation workers
- Catering service workers

**Conclusion: Need for a pre-feasibility study of a Logistics Centre in Judgeford**

A pre-feasibility study is needed to confirm the economic benefits to Porirua City and Wellington Region of a putative Logistics Centre in Judgeford, before it is formally provided for in the Porirua City District Plan.

Accordingly, the Structure Plan discusses the urgency of undertaking further analysis to determine whether there is investment interest in a logistics centre in the Wellington Region generally and in the SP area in particular, and if so to undertake more detailed site investigations and consultation with the individual landowners. It is thought critical that this takes place before any "relaxation" of the subdivision rules.

**POTENTIAL RETAILING**

**Retail Needs of Pauatahanui-Judgeford Community**

Porirua is well serviced by supermarkets, with three major supermarkets in central Porirua.

Closer to Pauatahanui, the Whitby New World at about 1200m² provides “top up” supermarket and convenience shopping to Whitby and current households in the study area. This is supplemented by other retail, takeaway and personal services stores.

A new 3000m² New World Supermarket is proposed for Whitby to replace the existing New World. If this receives resource consent, it will be more than sufficient to serve the emerging rural residential community of Pauatahanui-Judgeford as well as the Whitby’s 2900 households. Therefore no new supermarket will be required to serve rural residential households in P/J study area.

Households in the Study Area, even at capacity of 703 (in the unlikely event of full development of the Red Area land) would be 24% of the current size of Whitby; the more realistic 458 households (at a 20 year planning horizon) is 16% of current Whitby households. This is not sufficient to require major new retail development in the study area. Provision of new, or extension of existing, convenience retailing would be sufficient.
The Pauatahanui-Judgeford community will be a small rural residential community so its convenience shopping needs can be served by the Pauatahanui General Store, and possibly a future convenience store at Judgeford.

The community will use North City Plaza and North City Mega Centre as its main comparison shopping centres.

**Large Format Retail**

Urbanism Plus has examined the case for Large Format Retailing and in its view LFR should not be provided for in the Structure Plan. McDermott Miller concurs with this view.

While we previously thought DIY retailing might pose a hard to control development threat, to putative rural-residential “lifestyle” activity in the Pauatahanui-Judgeford area, the February announcement of a Mitre 10 Mega Store in central Porirua has obviated this. It our view, this would be a superior outcome for Porirua, as such a store will strengthen the retail attraction of Central Porirua. It will also help Porirua City centre maintain its competitive position in the face of major proposed retail development in Johnsonville, Wellington City.
ANNEX I ESTIMATED DWELLINGS AND POPULATION UNDER OTHER DEVELOPMENT OPTIONS

Based on the material in Section 1 of the Pauatahanui-Judgeford Structure Plan Strategic Logic Summary reporting on workshop 2, we have made the following assumptions on minimum lot size allows in each colour area under four development options:

Table A.1: Minimum Lot Size Assumptions under Development Options (Ha)

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option 3A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Area</td>
<td>5</td>
<td>2.5</td>
<td>0.3</td>
<td>2</td>
</tr>
<tr>
<td>Yellow Area</td>
<td>5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Red Area</td>
<td>5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Results for Options 1, 3, 4 and 3A are given in Tables A.3-A.7 below. Results for Option 3A are also given in Tables 4.4-4.7 in the main body of the report.

Table A.2: Current Dwellings and Population (2012) in Study Area

A) Current Dwellings

<table>
<thead>
<tr>
<th>Road</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauatahanui</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Road</td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Grays Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1</td>
<td>1</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>Judgeford</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braden Road</td>
<td>10</td>
<td>1</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Belmont Road</td>
<td>19</td>
<td>0</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>SH 58 Judgeford</td>
<td>30</td>
<td>16</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>Murphys Road</td>
<td>30</td>
<td>0</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Flightys Road</td>
<td>37</td>
<td>10</td>
<td>1</td>
<td>48</td>
</tr>
<tr>
<td>Mulhern Road</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Moonshine Road</td>
<td>34</td>
<td>2</td>
<td>7</td>
<td>43</td>
</tr>
<tr>
<td>Mt. Cecil Road</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Harris Road</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Aholoa Road</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Subtotal</td>
<td>179</td>
<td>34</td>
<td>17</td>
<td>230</td>
</tr>
</tbody>
</table>

Total                                | 180     | 35       | 47    | 262   |

B) Current Population
## Table A.3: Estimated Dwelling and Population Capacity Under Option 1

### A) Increment in Dwellings to reach Capacity

<table>
<thead>
<tr>
<th>Road</th>
<th>Highest Suitability Colour Code on Existing Land Parcel</th>
<th>1 Green</th>
<th>2 Yellow</th>
<th>3 Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pauatahanui</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paekakariki Hill Road</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>SH 58 Pauatahanui</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Grays Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
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<td>6</td>
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Source: McDermott Miller Estimates
©McDermott Miller Limited, March 2012

### Table A.5: Estimated Dwelling and Population Capacity Under Option 3

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#### B) Dwellings at Capacity

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Source: McDermott Miller Estimates  
©McDermott Miller Limited, March 2012

### Table A.6: Estimated Dwelling and Population Capacity Under Option 4

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#### B) Dwellings at Capacity
### Highest Suitability Colour Code on Existing Land Parcel

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### Highest Suitability Colour Code on Existing Land Parcel

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Source: McDermott Miller Estimates  
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### Table A.7: Estimated Dwelling and Population Capacity Under Option 3A

#### A) Increment in Dwellings to Reach Capacity

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### C) Population at Capacity

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</table>

Source: McDermott Miller Estimates

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---

**Table A.8: Dwelling Capacity on future lots at each land suitability colour code.**

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</table>

Source: McDermott Miller Estimates

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Appendix C Consultation

PUBLIC MEETING 6 DECEMBER 2011

A public meeting was held with residents of the Pauatahanui-Judgeford community and interested parties in December 2011. During the meeting a number of key issues were discussed. These included the impact of any new development on the environment and landscape values, the implications of residential and commercial development within the area, the provision of infrastructure, issues around traffic and the current roading network, community and recreation facilities, heritage sites, further development within the Pauatahanui Village and the extent of the structure plan area. These issues are discussed individually below. The issues and suggestions which were raised during the public meeting were fed into the integrated strategic logic workshop and the development of this draft structure plan.

Environment and Landscape

The need for control of sedimentation of the Pauatahanui Inlet was strongly indicated by many at the Public Meeting. Attendants expressed the need for the water quality of the Pauatahanui Inlet to be protected and actively monitored and that erosion and siltation of the streams and the inlet should be prevented. It was suggested that large cuts in hillsides should be disguised, perhaps through revegetation. For this reason urban development of the area was not favoured. There was a general acceptance of somewhat smaller lot sizes within the area, however, it was indicated by most that any rural residential development in the area would need to proceed with caution.

It was highlighted that the local rural character of the area should be retained and development should be clustered to suit the terrain and the landscape of the area. It was strongly expressed that the ridgelines within the area should be protected from development.

The future of the area of land between the proposed Transmission Gully Motorway and the Pauatahanui Inlet was discussed and attendants expressed an interest in keeping this area free from any further development.

The planting of pine trees within the areas was not looked upon favourably. The ‘tunnelling of trees’ along road corridors was also not favoured by attendees. It was also suggested that any planting of vegetation should complement the landform and not just follow property boundaries. A further suggestion was to provide incentives to property owners who introduce covenants over land for ecological reasons.

The restricting or banning of cats from the area was suggested by attendants as they threaten local bird life and wildlife.

Residential Development

More residential development within the study area was identified as being acceptable for those at the meeting. More development could provide more critical mass for sewer and water reticulation, especially near the Pauatahanui Village. It was suggested that development should be clustered around a collective sewer system and the concept of small clusters of six or seven dwellings grouped around shared farmland should be considered through the structure plan process. Residential development should also take
place where there is existing sufficient water supply. According to some attendants at the public meeting, high rates put pressure on landowners to subdivide their land.

Attendants suggested that more flexibility in rural lot sizes should be allowed in the area. The size of sections should take the landform into account and a minimum lot size of 2ha was suggested as being suitable for the area. Others indicated that a smaller lot size may be possible where the landform allows it and the privacy of residents can be maintained.

**Commercial Development**

There were mixed views about commercial development within the area, with Large Format Retail not being favoured by anyone present. Light industrial development with low environmental impact was considered to be acceptable by some as it would provide for local employment. Rezoning specific areas for this should be considered as part of the structure plan. An employment/commercial hub near Lanes Flat which would include warehousing and small businesses was indicated by some. Other attendees indicated that no commercial development is preferred, not even small scale, as this may open the door for larger scale development.

A possible logistics hub located near the future interchange between Transmission Gully Motorway and SH58 was discussed and specific attention was indicated for an evaluation of the possible local employment benefits. An assessment of a possible logistics hub located within the area has been undertaken and is discussed later in this report.

Most attendants wanted to see the ridgelines protected from the visual intrusion of wind turbines. Some expressed an interest in wind turbines within the area as long as the visual and acoustic effects were mitigated.

**Infrastructure**

It was suggested that essential services, including wastewater reticulation, should be put in place before further development occurs. It was also suggested that putting a sewer main beside the existing water main should be considered as a long term future concept.

**Traffic Movement**

Concerns pertaining to general traffic safety issues resulting from development in the area were expressed during the meeting. It was explained that NZTA are looking at options to install roundabouts at the intersection of SH58 and Flighty’s and Moonshine Roads within 15 – 20 years. It was indicated that traffic improvements around SH58 should take place at an earlier timeframe than projected. Turning bays or roundabouts should be considered for Flighty’s Mulhern and Harris Road intersections.

Attendees were of the view that Grays Road, an important connection with SH1 and through to the Kapiti Coast, should be either upgraded or heavy vehicles should be prohibited from using it.

It was suggested that the full width of the road reserve should be used for the movement network. In some place this may mean that fences should be shifted back to the actual property boundaries to accommodate walking, cycling and horse riding in the verge of the road.

Although uncertainty was expressed by some attendants about the Transmission Gully Motorway development, it was agreed that planning for the areas should assume it will take place. The temporary concrete plants and other construction sites associated with the Transmission Gully Motorway should be reverted to public parkland (possibly
associated with the village) after the road is constructed. An example of such an area is the Lanes Flat area.

Consideration of a bus system through the area or other forms of passenger transport was suggested during the meeting. A rail link between Porirua and the Hutt Valley for the long term was also suggested. It was indicated that more bridle paths should be developed in the area.

It was indicated that the car parking in Pauatahanui Village should be increased and better managed (for example, through time restrictions).

**Community, Recreation and Heritage**

It was suggested that the development of a community sports field should be considered as part of the structure plan. However, it was also noted that there is sufficient recreational open space provision in the area. It was also suggested that the development of an equestrian centre in the Battle Hill of Judgeford areas should be considered. Lanes Flat was put forward as an area that could be developed for community use.

The Judgeford Golf Course was identified as being a facility that should be protected from development.

Heritage sites within the area should be identified, exposed and celebrated.

**Pauatahanui Village**

With regard to development in and around the Pauatahanui Village, the meeting was divided. Some wanted no further development at all because they like the village the way it is while others favoured more dwellings and/or more services and local employment, leading to greater diversity in the village. Those favouring more retail in the village felt that new shops should take the form of small scale boutique shops. It was felt that converting shops into houses should be made difficult, as it will be difficult to ever get the shop back. The reverse was also discussed.

**Scope of Structure Plan Area**

Some attendants felt that the Structure Plan area should be enlarged to the north to include the Horokiri Catchment and the full length of Flightys Road.

Following the public meeting consideration was given to the extent of the structure plan area and as a result the area was extended to include a small area of the Ration Creek catchment and all land parcels which gain access from Flightys Road. This was to enable landowners who share the same road and are in the same community to be part of the Structure Plan and any subsequent change in subdivision/development rights to the District Plan. The western boundary of the extended area forms the alignment of the Transmission Gully motorway. The northern extent of the extended area has been set on the ridgeline to the north of the last houses of Flighty's Road and the eastern boundary is aligned with the edge of the Whakatiki catchment through to its connection with the Pauatahanui Catchment.

**Planning**

The management of development within the structure plan area was discussed during the meeting and the need for strong planning policies to protect the areas from inappropriate development was expressed. Residential and commercial activities should be separated through zoning and building setback standards will be needed. It was also noted that the
Hutt City Council and Greater Wellington Regional Council should be involved to align planning of the area with their policies.

STAKEHOLDER MEETINGS

Meeting were held with individual stakeholders to provide one on one feedback sessions on their expectations. The key issues raised through the meetings are set out below.

BRANZ

BRANZ indicated that they are committed and plan to stay at their current location for the long term. The business is self-contained with its own package waste water treatment plan and considers that access from SH58 as not being ideal. They have been buying property around them but consider the price to be elevated because they are seen as ‘fat cats’. They see the land around them as prime industrial land and in the long term can see the industrial area in Porirua (Elsden) shifting to Judgeford.

With regard to the potential for rural residential development in the area, they would be concerned with reverse sensitivity effects if this was to occur. They would support putting notices on property titles which would alert new residents of the fire lab on the BRANZ site. The property currently has issues with break-ins and vandalism due to its isolation but feel that with more industry around them this would make the area safer.

Regarding the proposed Transmission Gully Motorway, the representatives from BRANZ predict that the motorway will be built in 10 years and assume that land prices in the area will soar with the completion of the motorway. The motorway would have benefits for staff at BRANZ due to reduced commuting time.

Guardians of Pauatahanui Inlet

The Guardians of Pauatahanui inlet generally support the Pauatahanui Development Framework subject to any development having restrictions to ensure that there is no further sedimentation of the harbour. The Guardians also would not like the area within Lanes Flat, known as “the Compound” which is proposed to be used by the NZTA as a site office and concrete batch plant, to be developed. The guardians believe that more research is needed on the Judgeford Flood Plain before any further development is contemplated.

With regard to new development, the Guardians see the runoff from roads as a real issue and would like to see mitigation measures within any new roads to maintain water quality. Individual members of the Guardians believe that the business park should be located elsewhere, for example on Porirua Hospital land.

Pauatahanui Village Business Owners

The Pauatahanui Village business owners support controlled development and generally support clustered rural residential development. The business owners would like to see a reticulated wastewater system rather than the use of septic tanks.

New Zealand Wind Energy Association

The New Zealand Wind Energy Association supports a comprehensive planning approach to future development in the Pauatahanui Judgeford area. Their main concern is around more rural residential development and if more is allowed they may recommend to their members that they abandon areas the area and focus on more wind farm friendly districts. The Association is concerned about precedent effects from Plan Change 7 to the Porirua City District Plan with a 700m buffer between turbines and adjoining properties.
Pauatahanui Inlet Community Trust

The Pauatahanui Inlet Community Trust formed in 2002 as an action group out of the Guardians of Pauatahanui Inlet. The trust includes representatives from agencies including iwi, Greater Wellington Regional Council and Porirua City Council. The group has coordinated and supported a lot of planting, restoration projects including the Peter Handford led Pauatahanui revegetation project.

The Trust believes that integrated management of the Pauatahanui Judgeford area is needed and they will not support any further development of the catchment area unless the water quality of the inlet is not further compromised. They would like to see activities which reduce the sediment load into the inlet encouraged. They are also concerned about the effects on water quality from runoff from roads, and in particular the construction of new roads. The Trust noted that water quality is a major issue for Ngati Toa.

The Trust expressed concerns about the future use of the land on Lanes Flat used as a construction site and also known as ‘the compound’. They would not like to see this area be used for industrial activity or even a school hall.

With regard to Transmission Gully, the Trust supports the project but with many caveats and are concerned that many of the mitigation measures are superficial.
Appendix D Maps
Archaeological, Heritage and Proposed HMS sites
Flood Hazards

Legend:
- Transmission Gully
- State Highway 58
- Road
- Rivers
- Overland Flow Ponding Areas
- 100-Year Flood Hazard
- Tsunami Evacuation Zone
  - Red (Highest Risk)
  - Orange (Civil Defence Emergency Management Zone)
  - Yellow (Worst case scenario: 1 in 2500 year event)
Fault Hazards

[Map of the area with various roads and fault lines labeled.]

Legend:
- Pauatahanui Judgeford Structure Plan Outline
- Transmission Gully
- State Highway 58
- Road
- Fault Line
- Liquefaction
- Seismic Hazard

Scale: 1:50,000

Kilometers

See Inset
Constraints
Overall Constraints: Graduated Suitability for Development
Transportation Options

- Heritage Trail
- Possible Future Connection
- Realignment of Stream?
- Enhance Intersection
- Green Corridor
- Parallel to road either side of river
- Active transport + flood + ecology

- Need to add new walkway underpass
- Wide shoulders for cyclists along SH58 on both sides
- Enhance Intersection
- Realignment of Stream?
- Heritage Trail
- Enhance Intersection
- Green Corridor
- Parallel to road either side of river
- Active transport + flood + ecology

Legend:
- Road
- Proposed Transmission Gully Expressway
- State Highway
- Potential Cycling/Walking/Bridleway (CWB)
- Esplanade CWB Link
- Green Corridor Cycleway/Walkway
- Existing Underpass
Appendix E  Suggested Changes to the District Plan and Non-Regulatory Methods

High-Level Plan Provisions

As this Structure Planning process is not a Plan Change process, this section should be seen as indicative only. The suggested future provisions will be further refined taking into account the findings and recommendations of the Integrated Catchment and Riparian Management Plans and the Movement Plan. The plan changes to implement the Structure Plan will be subject to section 32 analysis and 1st Schedule of the RMA process and consultation with Tangata whenua, statutory parties and the local community.

Re-vegetation / regeneration

One of the drivers of the Structure Plan process is the increasing rates of sedimentation of the regionally significant Pauatahanui Inlet. This is caused by construction activities in relation to earthworks, building sites and new roads. For rural parts of the Porirua Catchment however the most significant cause of sedimentation is in relation to high rainfall events causing slips and stream bank erosion and from earthworks.

With the majority of the catchment in pasture and with a significant amount of that with slopes greater than 25 degrees, revegetation/regeneration of these areas would prevent further erosion/sedimentation resulting from major storm events. Any further subdivision of the catchment could be required to vegetate or retire areas where this would have the most impact.

In addition, the current District Plan provisions for earthworks are fairly permissive. Any change of subdivision rights should also be accompanied by a change in earthworks permitted activity standards to minimise any impact on the waterways and the inlet. Earthworks which exceed permitted levels would be required to be controlled through sediment mitigation measures. Other strategies to prevent stormwater runoff associated with development will also be important. For example, through the requirement for detention and remediation strategies on site and in roading design.

SUGGESTED DISTRICT PLAN PROVISIONS

The following provisions in italics should be viewed as a starting point when drafting the plan changes to implement the Structure Plan.

Subdivision Controls

The following outlines the baseline subdivision controls for the three areas identified through the constraints analysis with green areas (lower parts of the catchment), yellow areas (mid height) and red areas (steeper lands, highly visible areas and ridge tops).

In Green areas, least constrained land (2ha average, 1ha min):

- **All subdivision other than minor boundary adjustments is a Restricted Discretionary Activity**
- **Minimum subdivision requirement per lot 1ha and minimum average lot size 2ha.**
- **Every lot to either:**
- **Plant with species appropriate to the conditions and the district, avoiding Pine/Fir trees, cultivars and varieties that are more suited to amenity plantings, stock proof fence 1ha of land that will provide most benefit in preventing further sedimentation i.e. land > 25 degree slope and/or all land within 10m of a stream/waterbody and/or linking existing indigenous vegetation and/or regenerate remnant indigenous vegetation and will be protected by s.221 covenant:** or
- **Retire 3ha of land (fenced to exclude livestock):** or
- **Provide financial contribution of $25,000 (+GST) to the Council who will distribute the funds through a community trust set up by the Council and/or through the Pauatahanui Revegetation Framework (TBD).**
- **Recognise existing indigenous trees on land > 25 degree slope and/or all land within 10m of a stream/waterbody in planting calculation**

**Design controls over via property plan:**
- **Earthworks and proximity to existing buildings/ roads to encourage clustering/retain open space.**
- **Building platform, basic landscaping including boundary treatments and onsite revegetation where appropriate.**
- **Roading / driveway typologies (as per Isthmus diagram xyz).**
- **Percentage of impermeable surface.**
- **Visual effects.**
- **Stormwater management measures.**

In **Yellow areas**, moderately constrained land (2.5ha avg, 1ha min.):

- **All subdivision other than minor boundary adjustments is a Restricted Discretionary Activity.**
- **Minimum subdivision requirement per lot 1ha and minimum average lot size 2.5ha.**
- **All other subdivision provisions as per the green areas above.**

In **Red areas**, very constrained land (4ha ave, 2ha min):

- **All subdivision other than minor boundary adjustments is a Restricted Discretionary Activity.**
- **Minimum subdivision requirement per lot 2ha and minimum average lot size 4ha.**
- **Every lot to either:**
  - **Plant with species appropriate to the conditions and the district, avoiding Pine/Fir trees, cultivars and varieties that are more suited to amenity plantings, stock proof fence 1ha of land that will provide most benefit in preventing further sedimentation i.e. land > 25 degree slope and/or all land within 10m of a stream/waterbody and/or linking existing indigenous vegetation and/or regenerate remnant indigenous vegetation and will be protected by s.221 covenant:** or
o Retire 3ha of land (fenced to exclude livestock and covenanted to provide on-going protection); or

o Provide financial contribution of $25,000 (+GST) to the Council who will distribute the funds through a community trust set up by the Council and/or through the Pauatahanui Revegetation Framework (TBD).

o Recognise existing indigenous trees on land > 25 degree slope and/or all land within 10m of a stream/waterbody in planting calculation

• Design controls via property plan over:
  o Building platform location.
  o Building typology-visual effects.
  o Landscaping – boundary treatments in particular and onsite revegetation where appropriate.
  o Earthworks and new roads to control visual effects.
  o Roading/building/driveway typologies (as per Isthmus diagram xyz).
  o Stormwater management measures.

General Subdivision Provisions

That Restricted Discretionary Activity rural subdivision standards be drafted to achieve the following:

• Each new lot, including balance lots, to carry an encumbrance on the title prohibiting further subdivision beyond the permitted average as outlined above

• Each lot to have a development area and access sited and designed so that all buildings and other improvements are compatible with and blend in with the natural environment and visual character of the area

• Each lot to be able to supply potable water and dispose of waste on site as there will be no provision of Council reticulated services

• Site boundaries and roading infrastructure to as much as possible follow the contours, natural geographic features and topography

• Roading / driveway typologies to be constructed as per Isthmus diagram xyz.

• Archaeological assessments be undertaken for any subdivision of land containing the WWII US Marine base

• Two site plans be submitted to Council for approval; one detailing the existing situation and the other detailing the proposed subdivision development. The proposed subdivision development plan will show the no-build areas consistent with the Structure Plan

Note1: S.221 notice to be included restricting development within the buffer (no build) areas, further subdivision of balance areas and ongoing requirements for maintaining planting as per individual farm planting plan.

Note 2: Financial contributions towards the cost of upgrading SH58 may be applied
Note 3: Further subdivision of lots fronting Mulhern and Belmont Road is likely to be restricted until the intersections with SH58 are upgraded.

Development Standards

Add the following Controlled Activity Standards:

DEVELOPMENT WITHIN THE PAUATAHANUI JUDGEFORD STRUCTURE PLAN RURAL AREA

Require development within the Pauatahanui Judgeford Precinct to be a controlled activity subject to meeting the following permitted activity standards:

a) Development is located within the areas shown as suitable on the Structure Plan for the Pauatahanui Judgeford Precinct.

b) Roading infrastructure and new and relocatable structures are located outside buffer areas adjacent to ecological sites, streams, expressway, fault lines and transmission lines as identified on the structure plan, except for structures associated with passive recreation and conservation activities.

c) LANDSCAPING AND PLANTING

i) Individual lots are landscaped and planted to:

- visually reduce the bulk of buildings;
- Integrate the building form into the landscape;
- Provide shade and windbreaks;
- Protect or minimise adverse effects on visual privacy;
- Limit linear planting including hedges and shelter belts unless it can be demonstrated that it can be integrated appropriately with the landscape and topography and retains a sense of open space;
- Maintain sufficient separation distance between vegetation and transmission lines.

ii) In revegetation areas, plant species must be appropriate to the conditions and the district, avoiding cultivars and varieties that are more suited to amenity areas.

d) LIGHTING

All fixed exterior lighting is directed away from adjacent sites and roads with lighting levels and fixtures used to be in keeping with the rural environment.
e) SITE LAYOUT [Refer design guidelines as per below]
   
i) Buildings within individual lots are situated so that:
   
   ▪ They are sited at least 30m from SH58 and 20m from all other road boundaries and existing external boundaries [Refer diagram A-01 and B-01].
   
   ▪ Reason: Buildings are set well back from boundaries to retain open space and provide for permitted rural activities without nuisance.
   
   ▪ Note: The above yard standards do not apply to fences (including fences for the containment of stock) or walls that are minor structures.
   
   ▪ Residential dwellings are orientated to maximise solar gain and views [Refer diagram A-04].
   
   ▪ Buildings are located on naturally occurring platforms and use balanced cut and fill [Refer A-05]
   
   ▪ Buildings are clustered to provide for open space/rural/recreational activities and to minimise the need for new roads, accessways and services [Refer diagram A-06]
   
   ii) A site layout plan will need to be approved by Council and provided with the Building Consent application which shows the following:
   
   • The location of all dwellings and accessory buildings on site;
   
   • Proposed driveway;
   
   • Any proposed earthworks: and
   
   • Any proposed planting.

f) BUILDING DESIGN

Buildings are designed and finished in a way to ensure that they will blend into the rural landscape. To achieve this any new buildings will be required to comply with the following:

• Any building or fence constructed or clad in metal, or material with reflective surfaces, will be painted or otherwise coated with a non-reflective finish.

• Ensure the scale and style of buildings complements the rural environment by using simple forms and footprints/heights that relate well to existing buildings and the surrounding landscape

• Use a simple palette of natural materials such as timber/locally sourced aggregate and colours that are complementary to the surrounding landscape

• Limit the use of impermeable paving materials to reduce run off and provide low impact stormwater detention and treatment on site
• Use simple fencing styles and entrance treatments such as post and rail or post and wire to retain a sense of open space, rural character and to protect waterways.

• Use light poles and lamps with clean simple lines, low light spill with a height that complements the rural environment (typically 7-9m)

The matters over which Council reserves control for the purpose of this assessment are:

(a) the location and design of structures,
(b) earthworks,
(c) native vegetation clearance,
(d) planting and screening
(e) the imposition of financial contributions in accordance with Part E of this plan,

Note: Earthworks may also require consent under the Proposed Regional Soil Plan.

EARTHWORKS

Restrict all earthworks within 20m of a water body (except for stream maintenance) and on slopes >28 degrees.

Any non-compliance with the standard to require a Restricted Discretionary Activity consent. This to include a requirement for a sedimentation management plan and a detailed remediation plan.

Add the following Non-Complying Activity

Roading infrastructure and new and relocatable structures located within buffer areas (no build) adjacent to ecological sites, streams, expressway, faultlines and transmission lines, except for structures associated with passive recreation/conservation activities and bridges/culverts.

Pauatahanui Village

The overall objective is to reinforce and build on the village character including the small service commercial centre, while restricting development in low-lying natural hazard-prone land. A village zone is recommended to provide for further limited redevelopment while meeting the overall objective.

The following District Plan provisions are recommended:

• Provide appropriate opportunities for limited low-density rural residential development on the higher ground on the eastern side of Paekakariki Hill Road on properties adjacent to village properties with minimum lot size of 0.5ha and minimum average lot size 1ha (refer concept plan. Due to the ownership patterns
any additional development within the village would take place in locations behind existing dwellings in locations not visible from the road.

- In response to natural hazards and limitations on wastewater disposal, no further subdivision and additional dwellings of low lying land.

**Large Format Retail (LFR)**

On the basis that it is neither necessary nor otherwise desirable to provide for LFR in Pauatahanui (refer Appendix A Urbanismplus Strategic Logic report):

The Structure Plan will not provide for LFR.

That any potential logistics / distribution / industrial area must be validated as being regionally desirable as well as then demonstrating a local environmental compatibility.

That in the context of a future enabling Plan Change, specific Objectives and Policies be drafted that:

a. Outline the environmental sensitivities of the catchment;

b. Require environmental enhancement to be a key requirement of development;

c. Provide for key strategically desirable industrial activities as appropriate where they can contribute to unique economic and social benefits for both Porirua and the Region but note that this is only because those unique positive effects justify the actual and potential adverse environmental effects that may arise from that location;

d. Specifically exclude LFR as not providing those necessary positive effects to justify tolerating the actual and potential adverse effects likely to arise (including landscape effects and inefficient use of the new Transmission Gully Motorway);

e. Provide provisions and assessment matters that emphasize the social and economic benefits of commercial development rather than solely visual design and mitigation matters which would alone be likely to be met by LFR development; and

f. Specifically state that more desirable and appropriate locations than Pauatahanui for LFR exist in the CBD and existing industrial zones of Porirua.

**Non Regulatory Methods**

In Pauatahanui Village invest in the public realm to include smaller scale streetscape improvements, more street trees, small scale furniture, and entrance features on both ends of the Village as per the Village Plan.

Include rural living guidelines similar to Environmental Guidelines for Rural Living Kapiti 7 Horowhenua 2001.
Design Guideline Diagrams

**RURAL - RESIDENTIAL DEVELOPMENT - DESIGN PLANNING**

**SITE DIAGRAM (A) - PART 02**

- Use shared accessways/minimise the number of new accessways off public roads to reduce the apparent level of development and infrastructure requirements.

- Maximise access to public open spaces and valued natural and cultural features.

- Establish transportation options with pathways that link to the road network and existing/potential Cycle/Walking/Bridgeways in the area.

- Locate new roads and accessways along the contours avoiding prominent hill faces and ridges and to minimise impact on rivers and streams, existing vegetation and ecological pathways.

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RURAL - RESIDENTIAL DEVELOPMENT - DESIGN PLANNING

SITE DIAGRAM (A) - PART 01

Ensure buildings are well set back from boundaries to retain open space and provide for permitted rural activities without nuisance.

Locate buildings against a backdrop (landform/vegetation) - avoid skyline ridges

Vary setbacks to maximise privacy and views.

Orientate residential buildings to maximise views and solar gain

Cluster buildings and vary lot sizes to provide for open space/rural/recreational activities and to minimise the need for new roads, accessways and services

Locate buildings on naturally occurring platforms and use balanced cut and fill

PAUATAHANUI-JUDGEFORD STRUCTURE PLAN
RURAL - RESIDENTIAL DEVELOPMENT - DESIGN PLANNING
LOT DIAGRAM (B) - PART 02

Retain and enhance existing native vegetation patterns with an emphasis on existing ecotones, riparian areas, steep land and priority areas identified in district wide vegetation framework plans.

Orientate residential buildings to maximise views and solar gain.

Vary setbacks to maximise privacy and views

Locate buildings against a backdrop (landform/vegetation) - avoid skyline ridges.
Locate buildings on naturally occurring platforms and use balanced cut and fill.
Locate new roads and accessways along the contours avoiding prominent hill faces and ridges and to minimise impact on rivers and streams, existing vegetation and ecological pathways.

Retain areas of pasture/open space & views of wider landscape in some areas.

Locate new roads and accessways along the contours avoiding prominent hill faces and ridges and to minimise impact on rivers and streams, existing vegetation and ecological pathways.

Use fencing types that complement the rural character and increase sense of open space. Such as post and rail or post and wire fencing ≤1.5m.

Provide swales for stormwater runoff, either planted, grassed or loose gravel aggregate.
Appendix F  Pauatahanui Village and Judgeford Hamlet
Spatial Concept Plan
3D VIEWS OF PROPOSED VILLAGE RURAL/LIFESTYLE LAND USE

-existing and possible house and access-way locations
3D VIEWS OF PROPOSED VILLAGE RURAL/LIFESTYLE LAND USE

~existing and possible house and access-way locations
Appendix G Technical Power Point Presentations