

# Appendix 7: Council Technical Assessment Advice

## Content:

### 1. Council Technical Three Waters Advice

1A. Three Waters Technical Commentary – Plan Change 48 – Wairau Estate. New Plymouth District Council Three Waters Team. 19/12/2018.

1B. Three Waters Technical Commentary – Plan Change 48 – Wairau Estate. Addendum. New Plymouth District Council Three Waters Team. 31/05/2019.

### 2. Council Technical Landscape and Visual Impact Advice

2A. Wairau Estate, Oakura, Peer Review of Landscape and Visual Impact Assessment. Emma McRae. 13/02/2019.

2B. Comment on Bluemarble 'Response to Peer Review'. Emma McRae. 30/05/2019.

### 3. Council Technical Traffic Advice

3A. New Plymouth District Council Wairau Road Plan Change 48 Initial Check for Roading Matters. Graeme Doherty. 11/01/2019.

3B. New Plymouth District Council Wairau Road Plan Change 48 Initial Check for Roading Matters. Graeme Doherty. 28/05/2019.

#### 4. Council Open Space and Parks Advice

4A. Plan Change 48: Parks and Open Space Planning considerations. New Plymouth District Council Parks and Open Spaces Team. 23/05/2019.

## 1. Council Technical Three Waters Advice

1A. Three Waters Technical Commentary – Plan Change 48  
– Wairau Estate. New Plymouth District Council Three  
Waters Team. 19/12/2018.



When replying please quote: ECM 7904729

19 December 2018

Boffa Miskell  
Level 4  
Huddart Parker Building  
1 Post Office Square  
WELLINGTON 6011

ATTENTION: Anna Steven

Dear Anna

**THREE WATERS TECHNICAL COMMENTARY – PLAN CHANGE 48 – WAIRAU ESTATE**

Please find below our response to your request for a technical commentary on Plan Change 48 – Wairau Estate Water, Wastewater and Stormwater services.

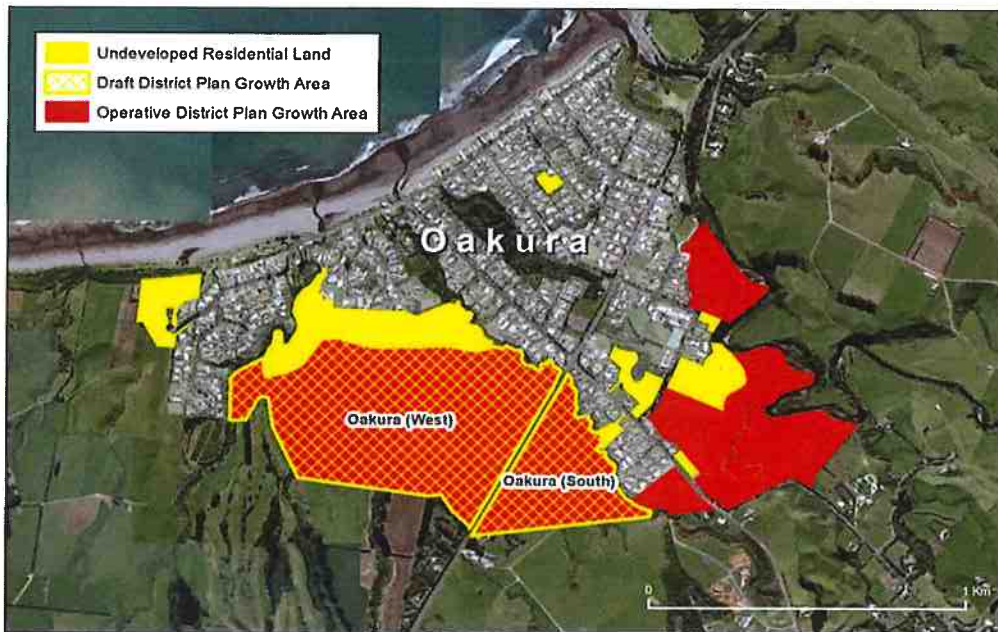
**Growth Scenarios**

There are areas of land within and around Oakura which are currently zoned residential but that are currently undeveloped. This includes areas of potential infill as well as greenfields areas. In addition large areas of land around Oakura have been identified as Draft District Plan Growth Area (Oakura (West FUD) and Oakura (South FUD)). Plan Change 48 proposes rezoning of Oakura South FUD and also incorporating an additional area of land outside the Draft District Plan Growth Areas adding an additional 248 sections.

The LTP and Infrastructure Strategy assumes 158 sections will be made available in Oakura south FUD in 2019/20 with further sections becoming available after 2028/29. The land availability is assumed to be that which is currently zoned residential or identified as Draft District Plan Future Growth (i.e. West FUD and South FUD) but does not include the areas identified by any private developers who are seeking private plan changes, i.e. if additional land is rezoned this is likely to have an impact of projected growth rates.

For planning purposes, growth in water and wastewater demand has been assumed to typically follow the increase in population based on StatsNZ's medium growth with high migration scenario. This means growth is a gradual annual increase spread out over the period in question. This is because council is unable to predict when any particular land owner is likely to develop existing zoned land or future potential rezoning.

A number of alternate scenarios have been considered, but ultimately the rate of population growth and the associated demand for Three Waters services cannot be easily predicted. Instead this report considers the cumulative demand that arises from land development, and the maximum population that can be serviced within the capacity of the existing water source, and existing or planned infrastructure.



For the purposes of this assessment it is assumed that the population served for water and wastewater are the same. It is also assumed that the resident population density is 2.28 persons per lot<sup>1</sup>. The existing urban area, Undeveloped Residential Land and Draft District Plan Growth areas have been considered along with the additional land proposed by the applicant. For clarity the area shown in plain red above has not been considered as future growth, and no increase in lots within these areas has been included.

## Water

### *Current Upgrades Included in the Infrastructure Plan*

The Infrastructure plan upgrades have been based upon the latest projections provided by the NPDC planning team (these are regularly reviewed in light of actual development and as new information comes to hand such as revised population figures).

The current long plan includes the following:

1. Provision for a Water Treatment Plant upgrade at Oakura in response to the findings of the Havelock North Inquiry (this is based upon supplying the existing demand).
2. Provision for the construction of a new trunk water main, intended to service the previously identified future growth areas and to address the existing deficiency in firefighting provisions for the Oakura township.

The Infrastructure Strategy does not include any further infrastructure upgrades during the 30 year period.

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<sup>1</sup> Source: Beca TM1.6 Demand Projections for Inglewood, Oakura and Okato Water Supplies

### ***Existing Service Capacity***

There are several parts of the existing water service infrastructure which could pose a potential limitation on the extent of development in Oakura. These must be reviewed to determine the impact of Plan Change 48.

### ***Consented Abstraction Limit***

Drinking water for Oakura is sourced from two bores. The consent allows for abstraction up to 35l/s from each bore or a combined abstraction of 43l/s between the bores. This allows a maximum abstraction of 3,715m<sup>3</sup>/day. However abstraction at these flow rates has not been tested and may not be sustainable.

### ***WTP Capacity***

The treatment plant is being upgraded to supply 3,500m<sup>3</sup> per day.

### ***Bore Pumps***

One pump is installed in each of the bores. The pumps are of different sizes and result in different abstraction capacities. The maximum proven capacity of the bore pumps is 60m<sup>3</sup>/hr and 95m<sup>3</sup>/hr respectively giving a maximum potential capacity of 3840m<sup>3</sup>/day. The pumps are therefore sufficient to achieve the full consented abstraction and are not the limiting factor in meeting demand.

### ***Reservoir Storage***

The Oakura WTP has two reservoirs providing a total of 2,500m<sup>3</sup> storage (each 1,250m<sup>3</sup> in capacity). NPDC's standards require that 24 hours storage under average day demand or 8 hours at peak day demand is required to buffer daily variation in flow. This is to provide resilience in the event of interruptions to the water treatment processes and to provide a reserve for firefighting. This means that once the average day demand exceeds 2,500m<sup>3</sup>/day or peak day demand exceeds 7500m<sup>3</sup>/day then additional reservoir storage will be required.

### ***Aquifer yield***

Since at least 2010 the demand has not required pumping rates greater than 1,500m<sup>3</sup>/day in order to meet peak day demand. However, during bore commissioning, pumping tests were conducted taking water from both bores at combined rates of up to 2,506m<sup>3</sup>/day. The test data was analysed and the bore production reports indicated that *this* pumping rate was likely to be sustainable but higher rates were not and have not ever been fully assessed. NPDC is currently working on the consent renewal process for this water take, and further work will be undertaken to assess the sustainable yield of the bores and aquifer. This work is expected to take 2 – 3 years. Therefore we will not be able to confirm at this stage if higher flow rates are possible without more investigation work. The aquifer yield has been taken to be a maximum 2,506m<sup>3</sup>/day for the purposes of this assessment.

### ***Reticulation Capacity / fire demands***

The water reticulation in Oakura has been constructed over the last 60 years. During this time Oakura has increased in size and there is now significant additional land area identified as potential future urban development. As demand for water has increased the capacity of the water mains has been reached, and during peak summer demand some areas of Oakura have low pressures estimated to be below the agreed level of service. In addition, demand for firefighting has also been assessed and the majority of Oakura cannot be supplied with sufficient water to meet the target firefighting level of service (FW3). Consequently funding is

provided to design and construct a new trunk water main and additional reticulation upgrades to address these deficiencies. The design had been based upon the areas identified in the District Plan Growth areas (West FUD and South FUD), and to meet fire demand up to FW3 but not any land in addition to these FUD areas.

### ***Impact of Plan Change 48***

The provisions in the LTP above have been based upon the StatsNZ growth scenario assuming a gradual annual population increase. If this growth rate is accelerated or step changes in population connected occur due to large developments coming on to market then the need for upgrades may be brought forward.

Under the StatsNZ population growth scenario average day demand can be met within the existing capacity limitations, and peak day demand does not exceed any treatment limitation until 2046/47. At this point the projected abstraction exceeds the estimated aquifer yield, but further testing and analysis is being undertaken as part of the consent renewal process to better understand the ultimate aquifer yield. If it is proven that the aquifer has sufficient capacity peak day demand could be met within current consented abstraction through to 2064/65

An area of land in and around Oakura is already zoned residential. This land is expected to yield 127 infill lots and 175 new lots. As this land is already zoned NPDC has an obligation to provide services to this land.

Plan Change 48 seeks to rezone additional land identified by NPDC as South FUD plus an additional area. The applicant indicates an expected yield of 151 lots within South FUD and 248 lots within the additional area totalling 395 lots. Using an occupancy rate of 2.28 persons per lot, the peak day demand from the existing zoned undeveloped residential land and the South FUD is able to be met from the existing proven aquifer capacity. Rezoning of the additional 248 lots beyond South FUD increases the peak day demand above the proven aquifer capacity and there is no certainty that the demand could be met. The maximum number of additional lots which could be serviced in addition to the expected number of lots in the South FUD is 165, i.e. less than the 248 lots proposed. Also if South FUD and the extra 165 lots are approved, then rezoning of west FUD could not be supported as this would further increase peak day demand beyond the current proven aquifer capacity.

Further aquifer testing is planned. If the testing proves that the consented abstraction can be achieved sustainably, then it would be possible to rezone all of the FUD areas and the additional 248 lots and meet peak day demand within the current consented abstraction. However the aquifer capacity is currently not certain.

### ***Reticulation capacity***

The applicant's feasibility report states that the new trunk main has ample capacity to service the additional lots proposed by the plan change. The report appears to overlook the need for this trunk main to also supply the township and its fire demand.

The applicant's report states that a fire supply of FW2 can be provided. The NPDC target level of service is currently FW3 to address development permitted under current District Plan rules for residential areas. If the plan change is approved under the proposed district plan this concern would be alleviated.



Firefighting demand is assessed concurrent with 60% of the peak day demand. This proposed plan change increases the peak day demand due to additional sections. The overall increase in flow exacerbates any issues with pressure and has not been allowed for in the trunk main design. It is unclear in the applicant's report how this fire demand was assessed. It appears to have omitted demands other than from the proposed plan change area.

Water pressure is assumed by the applicant to be acceptable based on an elevation difference. This assessment does not take into account the friction losses within the reticulation. Friction losses increase exponentially with velocity and hence with demand and the proposed plan change increases the demand above that which was envisaged when the trunk main was designed. The plan change also proposes a greater number of lots at a higher elevation than envisaged in the currently defined South FUD area. Additional head loss due to the increased flow and lots at higher elevation are likely to lead to low pressure issues for some of the proposed plan change area.

The trunk main has been sized on the basis of meeting demand from the areas previously identified for future urban development and to meet fire demand in the existing township. The plan change proposes an additional 248 lots which were not considered in the trunk main design. The overall demand on the trunk main under peak flow and fire demands would need a detailed assessment to confirm the extent of potential pressure issues. The upper sections of the trunk main have already been constructed. Additional demand due to the extra lots proposed by the applicant may also result in capacity limitations which impact the ability to supply the land within West FUD. If the additional 248 lots are approved consideration of the total demand and capacity of the constructed trunk mains will need to be reconsidered and will be a factor in the decision on future rezoning of land identified as West FUD

#### ***Protection of aquifer recharge***

Since the Havelock North campylobacter outbreak and the subsequent Inquiry there has been a significant increase in the consideration of risk arising from land use and a significant drive to improve the protection of source water. Ground water is particularly challenging, especially given the extents of the aquifer and its recharge path are generally poorly understood. However, it is considered that any activity which introduces potential pathogens into the soil and hence to the groundwater presents a risk of contamination. NPDC would therefore not support the use of septic tanks on any properties in the near vicinity of the bores. It is acknowledged that the latest revision of the applicant's report indicates that all lots will be connected to the reticulated sewer. NPDC supports this and would require that this become a condition if the plan change is approved

#### **Wastewater**

##### ***Currently planned upgrades***

There are currently no upgrades planned for the Oakura sewer system.

There are no specific projects identified in the Infrastructure Strategy which relate to Oakura. However the Strategy includes a total budget of \$17.9M for overflow prevention over the 30 year period (this is across the whole district, not just Oakura). The only major project identified is Smart Rd sewerage, with a budget of \$12.5M. The remaining \$5.4M spend is not detailed in the Strategy.

### ***Existing Service Capacity***

The wastewater produced by residents of Oakura is collected by a reticulated sewer system which terminates at Shearer Reserve pumping station. From this facility sewage is pumped to Corbett Park Pump station, where the pressure is boosted to continue pumping through to the New Plymouth sewer reticulation and on to NP WWTP. The pump capacity at Corbett Park must match the pump capacity at Shearer Reserve to allow the pressure boosting and overall capacity to be maintained. The pump station has a capacity of 25 l/s per pump train.

Storage was constructed at Shearer Reserve to mitigate overflows in the event of service interruptions at Shearer Reserve or Corbett Park.

### ***Infrastructure Capacity***

#### ***Corbett Park pumps / rising mains***

Four pumps are installed which operate as two in series pump trains to boost pressure by 140 – 160m. The series arrangement enables a combined flow of 25l/s to be pumped by one train with the second train providing redundancy. The design incorporated provision to install a third train, so that when flows increased two trains could operate in a duty / assist arrangement, with the third train providing 50% redundancy at ultimate development. Two rising mains were installed. The ultimate capacity of the pumps and rising mains is 50l/s.

#### ***Shearer Reserve pumps / rising mains***

Two pumps are installed which pump sewage to Corbett Park booster pump station. Each pump enables a flow of 25l/s to be pumped with the second pump providing 100% redundancy. The design incorporated provision to install a third pump, so that when flows increased two could operate in a duty / assist arrangement, with the third pump providing 50% redundancy at ultimate development. Two rising mains were installed. The ultimate capacity of the pumps and rising mains is 50l/s

For the purposes of this assessment it has been assumed that once the flow exceeds pump capacity, this will trigger the upgrades at Shearer Reserve and Corbett Park to install the third pump sets.

### ***Storage***

Shearer Reserve was constructed with 500m<sup>3</sup> of storage. This provides emergency storage in the event the pumps are unable to discharge to New Plymouth.

### ***Reticulation Capacity***

The Oakura Sewer scheme was designed between 2006 and 2008 and constructed in 2010. The design included an allowance for future growth. As a result sewers were designed with capacity to accommodate an increase in flow. In addition the NPDC Code of Practice sets a minimum size for public sewers. The capacity of a pipe is dependent on diameter and gradient. These factors combine so that the gravity sewers in Oakura typically have significant capacity to accommodate additional flows.

### ***Impact of Plan Change 48***

Under the StatsNZ population growth scenario peak dry weather flow can be met within the existing pump capacity limitations until 2054/55. Peak wet weather flow could be managed within the original design concept of diverting up to 12.5l/s to storage until 2041/42. At this point an upgrade to the pumping stations would need to be made and this would provide sufficient pumping capacity to meet wet weather demands through to 2064/65.

An area of land in and around Oakura is already zoned residential. This land is expected to yield 127 infill lots and 175 new lots. As this land is already zoned NPDC has an obligation to provide services to this land. The average dry weather flow and peak dry weather flow remain well within the capacity of the existing pump installation and peak wet weather flows would require buffering up to 9l/s in the emergency storage

Plan Change 48 seeks to rezone additional land identified by NPDC as South FUD plus an additional area. The applicant indicates an expected yield of 151 lots within South FUD and 248 additional lots totalling 395 lots. Using an occupancy rate of 2.28 persons per lot, the peak day dry weather flow from the existing zoned undeveloped residential land and the South FUD is able to be met within the existing installed pump capacity but peak wet weather flows will result in flow buffering requirement in excess of 12.5l/s.

Rezoning of the additional 248 lots beyond south FUD increases the peak dry weather flow to near the existing installed pump capacity and increases the peak wet weather flow to a point where a pump upgrade would be required.

The pump upgrades triggered by the additional lots provides sufficient additional capacity which would allow the rezoning of West FUD which would result in sewer demands which at the ultimate design capacity of the Oakura sewer scheme. If the additional 248 lots identified by the applicant were not rezoned, then the rezoning of West FUD would trigger the requirement for the pump upgrade

#### ***Reticulation capacity***

The applicant has confirmed that there are no known reticulation capacity issues with this plan change.

#### **Stormwater**

##### ***Currently planned upgrades***

There are currently no upgrades planned for the Oakura stormwater system.

##### ***Existing Service Capacity***

A number of streams originating in the rural area, including the Kaitake ranges, drain through the urban area. Except for culverted road crossings these streams are generally retained as open channels. Stormwater services are currently provided by way of a piped reticulation system to collect stormwater from urban roads and to convey this through a piped network to existing streams.

##### ***Infrastructure Capacity***

There are a small number of areas where stormwater capacity is limited, most notably in relation to the proposed plan change, the culvert beneath SH45 by Wairau Rd intersection is undersized causing a localised area to pond during heavy rain.

##### ***Impact of Plan Change 48***

Urban development reduces permeable area and consequently increases the rate and volume of run off which drains to streams. This increases peak flow in the streams which can lead to increased flooding if channel capacity is limited and increased erosion of the stream bed and banks. NPDC promotes stormwater management to mitigate these impacts by requiring

individual lots to direct stormwater to ground water through soakage, and stormwater attenuation to control peak flow in the receiving environment

The applicant has identified that the ground conditions are suitable for soakage for stormwater disposal from individual lots. The applicant has also proposed retaining stream channels and identified a number of areas that could be utilised to provide stormwater attenuation.

The applicant has stated a total volume available has been indicated across a number of ponds in series. The total volume is not available for storage as flow cascades from one pond to the next. However based on the calculations provided the volume available in the downstream pond is sufficient to attenuate the flow. A suitable detail design is required from the applicant to mitigate the increase in runoff and associated peak flows.

Provided the attenuation required is provided within this development it is considered unlikely that properties located downstream of the State Highway crossing will be affected by any increased flooding from the Plan Change 48 area. The new development must be required to attenuate run off adequately to avoid this existing ponding upstream of the State Highway from being increased.

Whilst the attenuation can control peak flow it does result in a peak flow which will persist for longer as the additional stored volume of run off is drained from the pond over a longer period of time. The impacts of a longer peak flow on the existing stream bed and banks is unknown. The application must advise if this presents a risk of erosion.

### **Summary**

The proposed plan change presents some risk to the ability of the Three Waters infrastructure to meet demand. Current infrastructure improvement plans have been based upon forecast growth based on the StatsNZ growth scenario based upon Stats NZ medium growth rates with high migration. This in turn has been based upon historical growth which has been limited by the actual availability of land for development. We believe this plan change will increase the rate of growth in this town and result in infrastructure improvements being needed faster than currently budgeted for.

The applicants sales projections are unknown and the assessment of impacts are based on assumed ultimate demand from the various areas of land identified for future development.

### ***Water Supply***

Known water supply limitation will be reached if proposed plan change 48 is approved. Average day water demand can continue to be met however known aquifer yield will be exceeded by peak day demand generated by the development of the existing zoned area and the applicants proposed additional development.

It is not known if the aquifer is capable of sustaining abstraction at a greater rate than the current known yield but NPDC are assessing this as part of the abstraction consent renewal process. This process is expected to take a further 2 – 3 years.

If the aquifer is unable to support abstraction greater than the currently proven 2506m<sup>3</sup>/day then the additional 248 lots cannot be fully developed and the future rezoning of West FUD cannot be supported.

### ***Wastewater Supply***

The wastewater system in Oakura is able to accommodate the additional demand generated by the development of the existing zoned residential land and the development proposed by the applicant. In order to fully service the additional 248 lots, an upgrade to the existing pump stations at Shearer Reserve and Corbett Park will be required. This upgrade will require installation of a third pump at Shearer Reserve and a third train at Corbett Park along with an electrical upgrade to the main transformer. Once these upgrades are completed, then the pump stations would have sufficient capacity to support the future development of West FUD

Proposed plan change 48 includes some larger lifestyle blocks which would have sufficient land area to consider wastewater disposal by septic tank rather than to reticulated sewer. The applicant has accepted that this would be inappropriate given the lots are situated above the Oakura water supply groundwater aquifer, and has proposed that these lots be provided with reticulated sewer connections. If approved, the plan change should include a condition which requires all lots to be connected to the reticulated sewer.

### ***Stormwater***

The applicant has identified that the ground conditions are suitable for individual lots to dispose of stormwater to soakage. The applicant has also proposed retaining stream channels and identified a number of areas that could be utilised to provide stormwater attenuation. These requirements should be a condition of any plan change and suitable detail design is required from the applicant to mitigate the increase in runoff and associated peak flows.

Whilst the attenuation can control peak flow it does result in a peak flow which will persist for longer as the additional stored volume of run off is drained from the pond over a longer period of time. The impacts of a longer peak flow on the existing stream bed and banks is unknown and the applicant should be required to present further information on the risk of erosion.

Yours faithfully



Mark Hall  
MANAGER THREE WATERS

1B. Three Waters Technical Commentary – Plan Change 48  
– Wairau Estate. Addendum. New Plymouth District  
Council Three Waters Team. 31/05/2019.

## Anna Stevens

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**From:** Mark Hall <Mark.Hall@npdc.govt.nz>  
**Sent:** Friday, 31 May 2019 4:49 PM  
**To:** Anna Stevens  
**Cc:** Hamish Wesley; Graeme Pool  
**Subject:** Addendum to Three Waters Technical Commentary Plan Change 48 Wairau Estate

Hi Anna

Since the Three Waters Technical Commentary on Plan Change 48 was issued on 19 December 2018, the estimates for the number of lots which can be developed in existing residentially zoned land and the South FUD have been modified as below:

- Number of lots in existing vacant residential zone land has reduced from 175 to 158
- Number of lots in South FUD land has reduced from 151 to 117 (we note that this number is different and less than the number in the application).

This proposes less lots than previous estimates. However the number of lots is still higher than the capacity of our water supply.

The limiting factor for the water supply is the aquifer yield. This limits total residential lots to 1,279 lots. Provided development occurs in a logical manner then it doesn't matter where these lots are placed so long as the total is limited to 1,279.

**Mark Hall**  
Manager Three Waters

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## 2. Council Technical Landscape and Visual Impact Advice

2A. Wairau Estate, Oakura, Peer Review of Landscape and Visual Impact Assessment. Emma McRae. 13/02/2019.

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Attention: Hamish Wesney  
Company: Boffa Miskell Ltd  
Date: 13<sup>th</sup> February 2019  
From: Emma McRae, Senior Landscape Architect  
Message Ref: Wairau Estate, Oakura, Peer Review of Landscape and Visual Impact Assessment  
Project No: W16098

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## Introduction

Boffa Miskell have been engaged to peer review a Landscape and Visual Impact Assessment (LVIA) undertaken by Bluemarble Ltd for a private plan change application to rezone approximately 58 hectares of land on the southern side of Oakura. The proposal would entail a zoning change for most of the site from Rural Environment Area (with part Future Urban Development overlay over some 13ha) to a range of zonings including residential, business, and open space.

Part of the site is to be retained with Rural Environment Area but with a defined Rural Lifestyle Area introduced to allow for smaller rural lots. The proposal would also introduce a Structure Plan and new provisions to manage subdivision and development for this land (to be referred to as the 'Wairau Estate Structure Plan Area').

In 2010, the land owner, Oakura Farm Park Ltd obtained resource consent from the New Plymouth District Council for subdivision and development of a portion of the land holding for rural-residential lifestyle, known as "The Paddocks". This subdivision has been developed and lies to the north of the current plan change proposal. The proposed new development is to be called "Wairau Estate".

- Documents forming part of the application, which were reviewed as a part of this exercise: Appendix 5.1: Landscape and Visual Impact Assessment, Bluemarble, September 2017, Revision A
- Appendix 5.2: Landscape and Visual Impact Assessment Addendum, Bluemarble, 24 February 2018
- Wairau Estate Oakura Structure Plan

Several Council policies and documents in relation to landscape were also reviewed, including:

- NPDC District Plan (Operative 2005)
- NPDC Rural Subdivision and Design Guide (New Plymouth District Council, May 2012)
- Review of the New Plymouth District Landscape Assessment (LA4 Landscape Architects, September 2006)

This Peer Review has been undertaken as a desk-top appraisal, and a site visit was carried out on 29 January 2019 to assess the context of site and its surroundings, and to consider the viewpoints used in the LVIA.

This Peer Review concludes that the assessment provides an outline and some understanding of the landscape and visual effects of the proposed plan change but there are shortcomings. It fails to draw clear and logical conclusions on the effects based on a simple and clear assessment methodology and does not contain the necessary information nor detail that would generally be expected for a development of this scale and nature to be able to properly assess effects. For the assessment to be considered robust and defensible, 15 recommendations have been made, which are outlined in the conclusions.

The review provides an analysis of the adequacy of the assessment method and its reporting on landscape and visual effects, together with a consideration of the outcomes of the assessment against the provisions of

the New Plymouth District Plan and statutory framework. It responds to the following questions in relation to the three above documents:

1. Whether the **methodology** used represents best practice in assessing the actual or potential landscape effects of the activity,
2. That the **description of the existing environment**, landscape and visual amenity values are adequately covered,
3. That **the proposal** is adequately described and the illustrative material supporting the proposal and accompanying text are clear and sufficient to form part of the consent,
4. That all key viewpoints are covered, and the actual or potential **landscape and visual effects** of the activity have been adequately considered,
5. That all **relevant statutory matters** and documents have been identified and addressed,
6. That appropriate **mitigation measures**, options and recommendations are clear and achievable,
7. That the **conclusions** are robust and reflect the findings of the assessment.

## Methodology

Appendices ii and iii of the LVIA set out the methodology employed to assess the proposal. A three-point scale is used for both landscape and visual effects, High/Medium/Low. Both adverse and beneficial effects are identified. A description of which effects are considered 'minor' and 'less than minor' in RMA terms is not provided, though low adverse landscape change is described as 'minor loss' and low adverse visual change as 'minor deterioration in the view'.

The methodology does not refer to the NZILA Best Practice Note<sup>1</sup> for landscape assessment, which is considered the benchmark document for carrying out such assessments by NZILA members. The methodology broadly explains landscape and visual change and the nature of landscape and visual effects. However, the terminology used has been confused, with the heading 'Landscape Effect' describing the sensitivity of the landscape to change. The nature of landscape change is briefly described, but not the overall level of effect.

The landscape effects methodology is not carried through to the report, and the report itself does not provide a conclusion on the overall level and nature of landscape effects. Clarification of the terminology used in the methodology and identification of a scale for level of effect, together with describing and applying the methodology in the report would assist in determining and describing the nature of landscape effects.

The visual effects methodology describes the sensitivity of viewers (high/medium/ low), magnitude of change, and then a 'Visual Significance of Change' is described as either substantial, moderate, minor or negligible but no description of the nature of each is provided.

Overall, the assessment methodology confuses terminology and lacks a clear, structured and consistent approach which can be followed to ensure that findings are explained in a manner which is clear and objective. Clarification of the methodology in line with best practice and application of this within the assessment would assist in providing a more well-defined and robust assessment of landscape and visual effects for the development.

## Description of the existing environment

The description of the subject site and its surrounding landscape context is described and illustrated in the LVIA report in Section 3. The report makes use of the 2010 Hearing description of the site's character. This description is adequate, however does not mention that the character of the area has changed with the construction of houses within "The Paddocks" subdivision to the north. Some description of the site in relation to the wider context of the Oakura settlement and its location at the southern entrance to Oakura would also be helpful.

The description of the immediate environment notes that the Kaitake Ranges are a dominant feature with the site being in the foothills of the ranges. Illustration of this relationship within the viewpoint or site photographs

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<sup>1</sup> Best Practice Note: Landscape Assessment and Sustainable Management 10.1, NZILA Education Foundation and New Zealand Institute of Landscape Architects.

would also be helpful. Additionally, a plan which shows the location of the site in relation to the Kaitake Ranges and wider settlement of Oakura would assist with understanding this relationship.

The Council's Rural Subdivision and Design Guide provides a description of the landscape character types of the existing rural environment. The site lies within the Ring Plain landscape unit, made up of both rolling and flat land. The most recent landscape characterisation study for the area is a review of the New Plymouth District Landscape Assessment carried out by LA4 Landscape Architects in September 2006. This notes that there are several observed landscape changes in the Ring Plain character area including a "prevalence of buildings on the lower slopes of the Kaitake Range". The 2006 Study also notes of the adjacent Pouakai and Kaitake Ranges landscape unit that "care needs to be taken to ensure development on the lowest slopes of the Ranges within the Ring Plain do not climb any further up the slopes of the Ranges." Given that this study was carried out 13 years ago, it would have been useful to have referred to the 2006 assessment and then considered if landscape changes over that time frame had affected things.

Appendix A Viewpoint Location Plan, illustrates both the locations of the photographs and includes the photographs themselves. This makes the photographs very small and difficult to read. Displaying the photographs separately on A3 sheets, including annotation to illustrate key landscape features relating to the site and its surroundings, would assist in understanding the proposal in relation to the site. Referencing the description of the existing environment to the photographs would also assist in understanding the existing environment of the site.

### The proposal

The proposal is briefly described in Section 2 of the report. The report refers to four residential character types outlined in the District Plan, but does not give summary of these, leaving the reader to refer to the District Plan. The structure plan illustrates the location of these different areas within the site. Other aspects of the proposed development are described in the mitigation section, including building height, cladding colour, roof colour, fencing, planting, landform and a proposed 'buffer zone' and screen bund. There are also features of the proposal which have not been described and detailed anywhere in the report which have the potential for adverse landscape and visual effects, namely the proposed roundabout and proposed underpass.

A better description is required to properly inform an assessment of effects and understand the site. It would be helpful for the reader to have a description of the overall proposal, explaining the key aspects of these character areas, and how the mitigation measures apply to each area, and how this relates to local character.

### Landscape and visual effects

The assessment of landscape effects in Section 6 does not follow the methodology defined in Appendix I; instead, it discusses effects on the landscape resource in the round, without drawing any conclusions as to their scale and nature. This section of the report is also very brief. A more thorough assessment of landscape effects is needed, considering the scale and nature of the proposal in relation to the existing settlement and the nature of the surrounding landscape character, given its proximity to an Outstanding Natural Landscape/National Park.

The New Plymouth District Plan provides a helpful description of rural character within the Rural Zone which should have been adopted/referred to in describing the baseline condition of the site and the surrounding landscape. The Council's Rural Subdivision and Design Guide also provides a description of the landscape character types of the existing rural environment. Although over ten years old, the findings of the 2006 Landscape Review by LA4 Landscape Architects also have relevance in relation to the effects of the development on the landscape setting of the Kaitake Ranges. It would be helpful to have key elements of the existing site and surrounding landscape described and illustrated, such as the site's relationship to the Kaitake Ranges ONL and Egmont National Park.

The landscape effects section should consider both biophysical changes, because of change to the landscape fabric, as well as landscape character effects, effects on the landscape setting of the ONL/National Park and effects on the landscape setting of the Oakura settlement.

Consideration of the nature of the landscape resource, the degree of change and the resulting nature of effect of the plan change in relation to the above elements during construction and completion should also be provided.

The assessment of visual effects in Section 7 identifies four groups of 'receptors' (viewers) and provides a series of six photographs from representative viewpoints to illustrate views. A description of how the visual envelope and viewing audience was determined is not given i.e. determined via a site visit, via ZTV analysis or another method.

The six views are all located either on the site boundary or within the site. Given the scale of the proposal, six views are considered insufficient. Additional views should be provided to:

- illustrate the site in relation to the setting of Oakura;
- from SH45 illustrating the approach to the site;
- from upper Wairau Road; and
- from the proposed roundabout location.

These additional representative viewpoints will also be useful to describe the existing landscape character of the area.

A summary table is provided in Section 7 (Table 2), which groups the viewpoints together into "groups of visual receptors" who would experience the various views.

A 'Description of the view' describes which viewers would experience the view. The degree of visibility of the site is stated, but not described in relation to the view and visual sensitivity of viewers at each viewpoint listed. This appears to broadly follow the visual effects methodology. A new term, "Effect of Change" is introduced to describe the nature of effect prior to and following mitigation, but this is not described in the methodology so its relevance at this point is not clear. A discussion of mitigation measures of relevance to each viewpoint is given.

The nature of existing views from each viewpoint is not described, nor is the change that would be experienced at each view, and how proposed mitigation measures would affect the potential change in view. Without this information it makes it difficult to understand how the visual effects have been determined. These aspects should be covered, with reference to the improved methodology, which would assist in understanding the nature of visual effects of the proposed plan change.

## Statutory Matters

Section 2 of the report states that 66.3ha of the site is zoned Rural, with 12 hectares of this covered by a Future Urban Development Overlay. A separate illustration of this current zoning would be helpful as the Future Urban Development overlay on the plan provided is difficult to read.

District Plan policies relating to the site are addressed in Section 4 of the report. These relate to Character Areas, Rural Character and Urban Environments. A brief discussion of the proposed plan change against the objectives and policies of each is provided in Table 1. The Structure Plan is discussed as the key provision which will assist the plan change in meeting the objectives and policies.

The NPDC District Plan provides a description of the character of the Rural Environment Area, including the Rural E Environmental Area Residential Zones A, C and D; and Business Area C. Some discussion of this would help to describe the potential effects of the proposed plan change in relation to the character of the urban and rural environments and relate to how the objectives and policies are addressed.

There is no discussion provided on the Objectives and Policies of the Future Urban Development overlay (Issue 1A) and what this means in relation to the site and the proposed plan change. It is recommended that this is included.

Landscape related objectives and policies in relation to the proposed plan change have not been discussed. Objective 15 of the New Plymouth District Plan which relates to Outstanding and Regionally Significant Landscapes within the District should also be discussed with reference to Policy 15.1 which states that:

*Subdivision, use and development should not result in adverse visual effects on, and enhance where practicable the following Outstanding landscapes:*

- *Mt Taranaki/Egmont;*
- *The Kaitake and Pouakai mountain ranges.*

Discussion on the visual effects of the proposed plan change on the ONL and any proposed enhancement measures with reference to viewpoint and site photographs should be provided.

It is also intended to rezone part of the site as Open Space, but the objectives and policies of this zone are not discussed.

Reference to Sections 7c) and f) of the Resource Management Act 1991 is given in Section 5 of the report. The report does not refer to Section 6 matters applicable to the plan change or refer to applicable areas of the Taranaki Regional Policy Statement. The protection of Outstanding Natural Landscapes is covered under Section 10.1 and Amenity Values under Section 10.3 of the Taranaki Regional Policy Statement. Commentary on these relevant sections and their policies in relation to the proposed plan change would cover and address this.

### Mitigation measures

It would assist to describe/explain the involvement of the landscape architect/designer from the outset as this would provide some background and indicate how the design has been integral to the mitigation through the site layout and open space planning.

Measures to avoid, remedy and mitigate impacts are outlined in section 8 of the LVIA report. Measures include the use of character types, provision of open space within the development and road layout. Additional mitigation measures are also proposed which relate to design controls, including building height, roof colour, cladding colour, fencing, planting and landform treatment.

The LVIA includes a Structure Plan which provides some detail of landscape mitigation features, including the proposed rural lifestyle area to the southeast of the development and a proposed noise bund along SH45 at the entrance to Oakura. This noise bund needs to be carefully considered in the context of change to the surrounding landscape character, what the effect of this will be on views towards the Kaitake Ranges from this stretch of SH45 and the landscape effects of the construction of such mitigation. Likewise, the proposed roundabout on SH45 has the potential for adverse? landscape and visual effects and should be considered as a part of the assessment. Additional viewpoints from at or near this location would assist in this assessment.

There are several mitigation measures included within the proposal and it would be helpful if these were better explained within the assessment as to how these would effectively mitigate the landscape and visual effects of the proposed plan change. An outline of the author's involvement in the design where these matters were considered and incorporated into the design would also be helpful.

### LVIA addendum

The LVIA addendum, dated 24 February 2018, responds to NPDC's section 92 request regarding a consent notice lodged over Lot 29 DP 497629 of the site.

The consent notice states that "Lot 29 shall not be further subdivided while the land remains in the Rural Environment Area". This consent notice was imposed to maintain the rural character and environment of this land in granting consent to the neighbouring development at "The Paddocks" subdivision". The section 92 requested a further assessment of effects of the proposed plan change on rural character and amenity of Lot 29, with reference to the assessment and basis for granting consent to "The Paddocks" development.

The addendum goes on to state that it is "*implicit in my assessment that the intent of the Consent Notice (as described above) cannot be achieved upon re-zoning.*" The addendum refers to the structure plan as creating a change from rural character to residential land use. The addendum states that:

*"Rural spaciousness generally, is now to some extent altered by the inclusion of the Paddocks development, albeit in my assessment they are the greatest beneficiaries of Lot 29's spaciousness, and therefore are potentially most affected by its change. In terms of the Consent Notice, I consider that with regard to rural character its role has changed from that intended."*

The addendum does not provide an adequate explanation as to the justification for the uplifting of the consent notice. Further discussion and detail is required within the LVIA on the landscape change resulting

from the loss of this open land and the effect it would have on the setting of Oakura, the Kaitake ONL/Egmont National Park. Policies 4.1, 4.2 and 15.1 of the District Plan are of particular relevance here.

## Conclusions and recommendations

It is considered that the assessment provides an outline and some understanding of the landscape and visual effects of the proposed plan change but there are shortcomings. It fails to draw clear and logical conclusions on the effects based on a simple and clear assessment methodology.

The assessment does not contain the necessary information nor detail that would generally be expected for a development of this scale and nature to be able to properly assess effects. There are several mitigation measures described within the assessment, but these are not adequately explained as to how they would assist in reducing adverse landscape and visual effects.

For the assessment to be considered robust and defensible, the following recommendations set out what still needs to be addressed:

1. Provision of a simple and clear assessment methodology in line with best practice and apply this within the assessment to enable a clearly defined and robust assessment of landscape and visual effects for the development to be provided.
2. A description of the author's involvement in the design in determining mitigation outcomes.
3. Presenting the viewpoint photographs separately on A3 sheets, with annotations to illustrate key landscape features relating to the site and its surroundings.
4. Supplying additional plans to illustrate the current zoning of the site and its relationship to Oakura settlement and the Kaitake Ranges ONL.
5. The description of the proposal and assessment should refer to photographs to assist the reader understanding the proposal and likely effects.
6. Updating the description of the proposal to include details of the residential, business and open spaces character types, which are proposed for the site, explaining their key characteristics, how the mitigation measures apply to each area, and how this relates to local character.
7. Considering relevant Council plans and policies in relation to landscape, including relevant aspects of the Rural Subdivision and Development Design Guidelines and the Review of the New Plymouth District Landscape Assessment
8. The landscape effects section should consider both biophysical changes, because of change to the landscape fabric, as well as landscape character effects, change in land use, effects on the landscape setting of the ONL/National Park and effects on the setting of the settlement of Oakura. Consideration of the nature of the landscape resource, the level of change and the resulting nature of effect of the plan change in relation to the above elements during construction and completion should be provided.
9. Additional views should be provided to illustrate the site in relation to the setting of Oakura, from upper Wairau Road, from SH45 illustrating the approach to the site, and from the proposed roundabout location.
10. Describe the nature of the existing view at each viewpoint, and the nature of the change that would be experienced at each viewpoint, and how mitigation measures would affect the view, with reference to the improved methodology to assist in understanding the nature of visual effects of the proposed plan change at construction and at completion.
11. Considering landscape and visual effects of the proposed noise bund and roundabout as part of the assessment.
12. Providing discussion on the Objectives and Policies of the Future Urban Development overlay and what this means in relation to the site and the proposed plan change.
13. Considering relevant statutory matters in relation to landscape, with reference to those objectives, policies and rules in the District Plan relating to the Kaitake Ranges Outstanding Natural Landscape
14. Making reference to Resource Management Act Section 6 matters and to applicable areas of the Taranaki Regional Policy Statement.
15. Considering any other relevant statutory matters as outlined above.



2B. Comment on Bluemarble 'Response to Peer Review'.  
Emma McRae. 30/05/2019.



# Memorandum

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Attention: Hamish Wesney, Anna Stevens

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Company: Boffa Miskell

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Date: 30 May 2019

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From: Emma McRae, Senior Landscape Architect

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Message Ref: Comment on Bluemarble 'Response to Peer Review'

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Project No: W16098

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## Introduction

The Boffa Miskell (BML) Peer Review, dated 13<sup>th</sup> February 2019 of the Landscape and Visual Impact Assessment (LVIA) undertaken by Bluemarble Ltd for the Wairau Estate concluded that the assessment provides an outline and some understanding of the landscape and visual effects of the proposed plan change but there were shortcomings. The assessment failed to draw clear and logical conclusions on the effects based on a simple and clear assessment methodology and did not contain the necessary information nor detail that would generally be expected for a development of this scale and nature to be able to properly assess effects. For the assessment to be considered robust and defensible, 15 recommendations were made. These recommendations were further responded to by Richard Bain in the Bluemarble Response to Peer Review dated 17<sup>th</sup> May 2019, hereon referred to as the 'peer review response'. Additional information provided below in this memo is therefore in reply to this peer review response.

## Bluemarble Peer Review Response

While the response to the Peer Review dated 17<sup>th</sup> May 2019 addresses the matters relating to representation of viewpoint photography, supplying additional plans to illustrate the site in relation to Oakura settlement and the Kaitake Ranges Outstanding Landscape (OL<sup>1</sup>), details of the residential, business and open spaces character types, and a description of the visual change at each viewpoint, there are still outstanding matters which have not been adequately addressed in the peer review response. While a description of the residential, business and open spaces character types has been provided, it has not been effectively explained how these character types relate to the existing local character or how elements within them will mitigate potential landscape effects. Relevant statutory policies have been listed, but again no explanation is given as to how the proposed development addresses these policies. This is something that could be addressed with the preparation of a simple table listing policies in one column, with an explanation in the adjacent column of how the proposed development responds to the policy. Additional views which were requested have not been provided. These additional photographs were requested to provide an understanding of the landscape context of the site, in order to effectively describe and analyse the effects of the proposed development on local character.

In the absence of this information, the assessment does not adequately address key landscape issues in relation to the proposed development, namely the effect of the proposed development on rural character,

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<sup>1</sup> Previously this has been referred to as 'ONL' or Outstanding Natural Landscape in the LVIA, Peer Review and Peer Review Response. The Operative District Plan refers to the area as an 'Outstanding Landscape' so this or the abbreviation 'OL' has been used throughout this memo for clarity.

and effects on the Kaitake Ranges OL. The proposed Structure Plan lacks any meaningful landscape mitigation, with the LVA and subsequent peer review response placing too heavy a reliance on development controls such as recessive coloration and development density to mitigate potential effects. It is the extent of the development (i.e. its overall footprint) and its potential landscape and visual effects that should be addressed. There are no examples given to illustrate what the different development densities within the Wairau Estate might look like, to give an understanding of how these areas respond to the existing landform and views, and what the potential effects of the proposed development might be.

### The need for a Landscape Structure Plan

The development requires a robust and detailed landscape structure plan to demonstrate how the development will effectively mitigate landscape effects. The current proposal offers only 0.24ha of Open Space B land, and 8.73 ha of Open Space C land. The majority of the Open Space C land is covered by existing gullies with vegetation. While this vegetation will provide some landscape structure to the development, the nature of gullies as low-lying land means that planting within them will have limited visual influence. There are no proposals for additional planting within the development on flatter or more open ground to provide an integrated overall framework. The peer review response simply states there will be 'no restrictions on amenity planting.' There are also no proposals to create a landscape structure on public land using elements such as street trees, which would assist in breaking up the urban form. Strategic planted areas could be used to reduce the apparent mass of development in views from SH45 towards the Kaitake Ranges OL. The establishment of a strong landscape structure is also necessary in the staging of the works, to ensure that the development is effectively mitigated as it is developed over each stage, and that each of these stages mitigates landscape and visual effects as a standalone development. The current layout of the proposal, with planting only in low lying gully areas, risks creating the appearance of development creeping up the slopes from SH45 towards the OL.

### Previous Landscape Assessments

The desire to avoid the appearance of development creeping up the lower slopes of the ranges is identified within landscape characterisation studies of the area. Council's Rural Subdivision and Design Guide provides a description of the landscape character types of the existing rural environment. The site lies within the Ring Plain landscape unit, made up of both rolling and flat land. The most recent landscape characterisation study for the area is a review of the New Plymouth District Landscape Assessment carried out by LA4 Landscape Architects in September 2006. This notes that there are several observed landscape changes in the Ring Plain character area including a "prevalence of buildings on the lower slopes of the Kaitake Range". The 2006 Study also notes of the adjacent Pouakai and Kaitake Ranges landscape unit that "care needs to be taken to ensure development on the lowest slopes of the Ranges within the Ring Plain do not climb any further up the slopes of the Ranges."

Though this study is now 13 years old, the same issues were raised again at the time of the NPDC rural review in 2009. A summary of landscape issues prepared for the rural review known as Plan Change 27, Changes to Land Use provisions relating to maintaining rural character, by Landscape Architect Mary Buckland for NPDC, identifies New Plymouth landscapes where changes are occurring or where care needs to be taken to ensure development does not adverse effect landscape or rural character. These areas include the lowest slopes of the Pouakai and Kaitake Ranges (Outstanding Natural Feature and Landscape), and the Ring Plain which "forms the foreground to many of the views of Mount Taranaki, Pouakai and the Kaitake Range from New Plymouth and from roads that circle the ranges as well as those leading toward them...New development has occurred in many places on the lower slopes, spreading up to the bush line. There is now an increasing scatter of buildings at the bush line, especially on the north-facing slopes of the ranges."

Given that the issue of 'creeping' development has been highlighted by two previous landscape studies, this should have provided a clear focus to the approach to the Blue Marble LVA but the issues raised in these studies has not been addressed.

Issues relating to rural character and the Kaitake Ranges Outstanding Landscape

LVA identifies that the overall landscape change of the proposed development is 'significant' but that it is "appropriate and justifiable, given the site's proximity to Oakura". While it is agreed with the statement that the landscape change will be significant, it is disagreed that that this is justifiable purely because of the site's location on the edge of Oakura.

The BML Peer Review identified that the LVA needed to consider biophysical changes, because of change to the landscape fabric, as well as landscape character effects, effects on the landscape setting of the Outstanding Landscape/National Park and effects on the landscape setting of the Oakura settlement.

In relation to this, the Peer Review response places reliance on the identification of part of the site as a FUD (Future Urban Development) area, and that this designation anticipates any urban development occurring within it to be an appropriate land use.

The Peer Review response states that "As a landscape resource, which includes its biophysical features, the site will change from rural to urban, for most of the site, and 44% will be 'equestrian rural' (Rural E). Drainage patterns and processes centred around the existing gully system will remain intact and legible, as will the overall sloping site from mountain to sea. The dominance of the Kaitake Ranges will also remain legible by way of proximity and scale, and the sense of place - Oakura on the flanks of the Kaitake Ranges, will remain intact. The resulting loss of rural land is small in both the local and regional context, and taking the FUD into consideration, the landscape change is largely anticipated."

With regard to the Kaitake Ranges Outstanding Landscape (OL), the peer review response states that "Kaitake Range is a dominant backdrop to the site and local area", further stating that "while dominant, views of the OL vary from place to place, the most open views are from approximately 5 kms north of Oakura on SH45. The Structure Plan may reduce views from a small section of SH45 where a roadside bund will be located. This does not in my opinion constitute an adverse effect on the OL. Permitted activity (such as a shelter belt) could easily create the same loss of view, and its importance in the context of other views of the OL from throughout the area should not be exaggerated. Simply put, the OL will continue to be the dominant landscape feature to the Oakura environs."

While it is true that the OL will still be largely visible, it is disagreed with that visibility is the only consideration that needs to be taken into account when considering effects on the OL. Effects on the landscape character of the OL not only relate to simply its visibility, but the landscape relationship between the OL and the adjacent ring plain landscape. Viewpoints 5 and 6 in the Peer Review response illustrate views looking towards the OL from SH45 looking both north and south. The forest clad ranges contrast strongly with the open pastoral land of the ring plain, creating a distinctive and striking landscape which is characteristic to this area of the province.

The introduction of the proposed development into this view changes the view in the foreground from a rural landscape, typical of the ring plain character area, to a built landscape. Though the subdivision would not have a direct physical impact on the OL, and the OL would still remain visible, the landscape characteristics and rural character of this location would change dramatically, resulting in adverse effects on the character of the OL. This is why, in granting consent for the adjacent development of "The Paddocks" a consent notice was registered over the subject site, Lot 29 DP 497629, which was imposed to retain the rural character and environment of the area. The removal of this consent notice would remove the current protection of the open

and rural character of the area. This change in character may be acceptable if the development can demonstrate that it can integrate seamlessly between the existing built edge of Oakura, the OL and the wider rural landscape of the ring plain. The current proposal does not demonstrate whether this can be achieved.

### Issues relating to the proposed Noise Bund

The proposed noise bund is another aspect of the proposal which would give rise to a change in landscape character which has not adequately been addressed by the LVA or subsequent addendum and peer review response. The proposed noise bund is 2-4m in height – a not insubstantial structure on its own. The Peer Review response identifies that there may be adverse effects in the form of the narrowing of the road corridor and that the bund structure itself could appear unnatural. It is agreed that that this is likely and that the construction of the bund constitutes a level of landscape change in itself that is potentially inappropriate in the surrounding context described above. A key feature of the current southern approach to Oakura is the expansive views towards the Kaitake Ranges from SH45. The Peer Review response outlines that the most open views occur 5km north of Oakura on SH45. This is true but there are also a series of open and expansive views of the rural ring plain contrasting with the forested Kaitake Ranges between Okato and Oakura. These views are available approaching Oakura from the south at Pitone (around 7km away), before the road turns into a winding, steep and enclosed corridor descending towards the Timaru Stream. Emerging from the stream valley at Tataramaika, the ranges and ring plain relationship is again glimpsed before being obscured again at Lucy's Gully/ Ahu Ahu Road, where hedgerow shelterbelts obscure views towards the ranges. The final approach towards Oakura on SH45 at the site is the final in this series of views. The proposed bund would effectively separate the road again from this ringplain/ranges relationship. The proposed roundabout at the Wairau Road intersection will form the end of this route, and the entrance into the main settlement of Oakura. Its design needs to be very carefully considered in this context. The Peer Review sought an additional description of this roundabout feature and a discussion of its potential landscape and visual effects. The Peer Review response has stated only that the landscape and visual effects of the roundabout will be "insignificant, assuming the roundabout is attractive." This is an inadequate response and it does not provide a rationale and it is suggested that further detail is required of the design and appearance of the roundabout structure in order to adequately understand its effects.

### Conclusion

In summary, it is still difficult from the information provided to gain an understanding of the full nature of the proposal and the resulting potential landscape and visual effects. From the information provided it can be determined that the site is capable of absorbing some development, but the suitable scale, location and density needs to be determined through a thorough assessment of the site's landscape character. This assessment should give an understanding of which areas of the site have a greater capability to absorb development and how the design proposes to minimise landscape effects on the Kaitake Ranges OL.

With reference to the landscape character analysis, further consideration needs to be given to the development layout, its staging, integral mitigation measures such as planting and development layout, and examples of how differing densities or character areas will assist with mitigation. The current location of the medium density zoning, positioned on rising land, has the potential for significant adverse landscape and visual effects. Whether this type of development can be effectively accommodated within the site should be demonstrated through thorough site analysis and visual material.

Greater detail of the design and nature of the roundabout, noise bund and equestrian access is required, as the landscape and visual effects of these elements are not able to be well understood. The proposed bund has the potential to be out of scale and character with the surrounding landscape, and details should be provided of its design and detailing in order to demonstrate that it can be satisfactorily accommodated without adverse effects on existing character. While there are nearby examples of shelterbelt vegetation obscuring views towards the OL and narrowing the road corridor, this type of planting is typical of the local

rural environment and forms part of the existing local character, while a planted bund of the size and mass proposed has the potential to be at odds with the existing landscape character and therefore create greater landscape effects.

## Recommendations

The development requires a strong landscape structure plan to provide certainty that effects can be effectively mitigated. Any development in this location will create a change in character by removing the current open pastoral ring plain and replacing it with a different built character. The FUD zone anticipates landscape change with some development in this location, but not to the extent of the current proposal. In order of for the current proposal to be considered acceptable in landscape terms, further information/detail is required, including:

- A thorough assessment of the existing site's landscape character, to give an understanding of which areas of the site have a greater capability to absorb development and to demonstrate how the design proposes to minimise landscape effects on the Kaitake Ranges Outstanding Landscape.
- A robust and detailed landscape structure plan based on an analysis of the existing site's landscape character, to demonstrate how the development will effectively mitigate landscape effects, integrating between the existing built edge of Oakura, the Outstanding Landscape and the wider rural landscape of the ring plain. The landscape structure plan should consider additional areas of open space and strategic planting to break up the mass of the development, considering views of the development in the context of the Kaitake OL and the southern approach to Oakura and consideration of the location and extent of the differing development densities.
- Consideration of the landscape effects of the development at each stage, so that each stage as constricted is mitigated within itself and does not rely on a subsequent stage of development to achieve mitigation
- The range of development densities within the site has not been clearly demonstrated. Examples of what development layouts in each of these areas should be provided. The material provided is far too general and of a scale that does not provide the necessary level of information and detail to be able to understand the potential long-term landscape and visual effects of the proposed development.
- Appropriate visualisations which demonstrate the massing of the proposed development and proposed mitigation from SH45 to demonstrate how the proposed development can be accommodated into the rural landscape without significant effects on the OL or rural character (including avoiding the appearance of development creeping up the slopes towards the OL)

### 3. Council Technical Traffic Advice

3A. New Plymouth District Council Wairau Road Plan  
Change 48 Initial Check for Roading Matters. Graeme  
Doherty. 11/01/2019.



11 January 2019

Anna Stevens  
Boffa Miskell Ltd  
Level 4, Huddart Parker Building  
1 Post Office Square  
Wellington 6011

Dear Anna

**New Plymouth District Council Wairau Road Plan Change 48  
Initial Check for Roading Matters**

I have reviewed the following sections of the application document for a proposed private Plan change for Oakura Farm Park Limited Wairau Road – Surf Highway SH45, Oakura prepared by Comber Consultancy dated March 2018:

- Sections 5.4.4, 5.4.5;
- Sections 1.0, 2.0, 3.0, 5.0 and 8.0 and associated appendices of Appendix 8 (Engineering Feasibility Report);
- Appendix 9 (Traffic Impact Assessment) excluding associated appendices but including the cost estimate for the proposed roundabout at the intersection of SH45 and Wairau Road.

In reviewing the above, as they relate to roading matters, I recommend that the following should be addressed in the application documents to enable NPDC to undertake their assessment of effects.

**Upper Wairau Road**

Noting the reported increased traffic volumes on Upper Wairau Road from the proposed subdivision and other traffic growth factors (Table 6 of Appendix 9), this road is likely to carry well over 5,000 vpd north of the proposed subdivision intersection within 10 years.

This will mean that the definition of Upper Wairau Road will correlate to Figure E13 from Table 3.2 of NZS 4404. The existing layout of this section of Wairau Road does not match that standard and an upgrade to meet that standard will be required.

Council should give consideration to altering the status of the unformed part of Donnelly Street between Upper Wairau Road and the existing sealed end of Donnelly Street. Noting the location of the primary school, it is recommended that the extension of Donnelly Street to Wairau Road is not undertaken as it will likely become an alternative route for vehicles wanting to access the state highway from Upper Wairau Road. Existing Donnelly Street is not of the standard or road type that enables it to function as a potential link road. The enhancement of walking, cycling and equestrian facilities linking Wairau Road to Donnelly Street is recommended as are appropriate crossing facilities on Upper Wairau Road to provide linkage to the proposed subdivision.

**Internal Subdivision Roads**

With reference to Table 3.1 of NZS 4404, the Applicant should provide details of the Area Type and Land Use and, with reference to Table 3.2 of NZS 4404, specify the Figure number correlated to road type that each of the subdivision roads are to be designed to.

The Applicant should provide typical cross section details to enable an understanding of where each of the cross-sectional elements eg (roads, footpaths, berms, services, street lighting) are to be located.

### **Stormwater run-off**

One typical cross section has been provided by the Applicant (refer appendix V of Appendix 8) of an example of a rain garden in the centre of the road and a roadside rain garden. As the cross-sectional layout of the subdivision roads has not been specified (see above section), the assumption is made that all subdivision roads will be constructed with rain gardens in the centre of each road. It is worth noting that rain gardens in the centre of the road are problematic when trying to access driveways from the opposite side of the carriageway and vice versa in terms of egress if regular turn around areas are not provided along the length of the roadway.

In Section 6.2 of Appendix 8, The Applicant has stated that stormwater runoff from the subdivision roads will utilise rain gardens for storage and soakage with overflow to drain into the existing gully network. Although the Applicant states in Section 6.1 that the soils have proven permeability, I could find no permeability testing undertaken on the site that would verify this statement.

It is worth noting that the Applicant also intends to provide soakage to dispose of stormwater runoff from roofs and hard stand areas.

Without verification testing to demonstrate that soakage as a method of stormwater disposal is feasible, the proposed capture, storage and disposal of stormwater cannot be verified and could be significantly different to that proposed.

With regard to the disposal method for stormwater runoff, the risk that the retention areas in the gullies are undersized remains, particularly for road runoff if the proposed use of rain gardens is rejected or deemed not feasible. The risk is heightened if the runoff from roofs and hard standing areas also requires to be disposed directly to retention areas.

### **Proposed Roundabout on SH45**

I have reviewed the initial layout and cost of the proposed roundabout at the intersection of SH45 and Wairau Road. Whilst the diameter of the central island meets the minimum Austroads standard within a 50 km/hr speed environment, the width of the circulating carriageway is not provided and based on the aerial sketch at the end of Appendix 9, appears to be deficient in width for the truck and trailer units (eg milk tankers) that currently use the state highway.

The repositioning of the footpath in the eastern quadrant is not shown and it does not appear that sight distance criteria (refer to Figure 3.1 of Austroads Part 4B) for vehicles exiting upper Wairau Road is able to be provided due to the location of the existing cut batter.

In rectifying the above, it is likely that land from private property adjacent to the eastern quadrant of the roundabout is required, the owners being directly affected parties.

It is noted that the Applicant is proposing an underpass at or near the location of the intersection of Wairau Road and SH45. I could not find any drawings showing the location. If located near the proposed roundabout and considering the ramp requirements (for pedestrians, cyclists and possibly horses) and safety clearances from the state highway and Wairau Road traffic, it is unknown whether land from private property will be required but it is likely that land from adjacent private properties will be required. The Applicant should provide more definition of the proposed roundabout and underpass (including ramps) to understand whether there are any directly affected landowners.

With regard to the estimated cost of the roundabout and with reference to the cost estimate provided at the end of Appendix 9, it is my opinion that the P&G items have been underestimated when correlated to recent similar projects constructed over the last two years. I would expect the base estimate for traffic management to be approximately \$100,000 and the overheads and profits to be 20 to 25% of the sum of all the other priced items. I would expect the base estimate for the construction to be approximately \$800,000.

When considering the likely changes to the design, as stated above to incorporate the construction cost of the proposed underpass and contingencies of 25%, I would estimate the construction cost to be in the range of \$1.5 to \$1.7M.

**Closing**

Please contact me if you have any queries or require further information.

Yours faithfully

Graeme Doherty  
Manager Civil Infrastructure - Wellington  
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3B. New Plymouth District Council Wairau Road Plan Change  
48 Initial Check for Roading Matters. Graeme Doherty.  
28/05/2019.

28 May 2019

Anna Stevens  
Boffa Miskell Ltd  
Level 4, Huddart Parker Building  
1 Post Office Square  
Wellington 6011

Dear Anna

**New Plymouth District Council Wairau Road Plan Change 48  
Initial Check for Roading Matters**

I have reviewed the following sections of the application document for a proposed private Plan change for Oakura Farm Park Limited Wairau Road – Surf Highway SH45, Oakura prepared by Comber Consultancy dated March 2018:

- Sections 5.4.4, 5.4.5;
- Sections 1.0, 2.0, 3.0, 5.0 and 8.0 and associated appendices of Appendix 8 (Engineering Feasibility Report);
- Appendix 9 (Traffic Impact Assessment) excluding associated appendices but including the cost estimate for the proposed roundabout at the intersection of SH45 and Wairau Road.

I have reviewed the following supplementary documents:

- Applicants response to prehearing actions held 28 January 2019;
- Attachment A1 – Pedestrian Equestrian Linkages dated January 2019;
- Attachment A2 – Equestrian Linkages with SH45 Access dated May 2019;
- Attachment B – Oakura School traffic Commentary dated April 2019;
- Attachment C1.1 – Super Staging Plan dated January 2019;
- Attachment C1.2 – Super Staging Plan dated January 2019;
- Attachment C2 – SH45 Access Assessment Final dated March 2019;
- Attachment C3.1 – Pedestrian Underpass SHT 1 dated September 2017;
- Attachment C3.2 – Pedestrian Underpass SHT 2 dated September 2017;
- Attachment C3.3 – Pedestrian Underpass SHT 3 dated September 2017;
- Attachment C3.4 – Pedestrian Underpass SHT 1 dated September 2017;

I have been asked by New Plymouth District Council (NPDC) to provide a review of these documents for inclusion into NPDC's Section 42A of the RMA assessment.

In reviewing the Applicants response to the prehearing actions document (as part of the supplementary documents provided) and correlating the stated actions to the above documents, the applicant did not "provide drawings showing the full configuration of the proposed new roundabout and underpass together, including topography/elevation to demonstrate sight lines for the roundabout and underpass", instead referring to the originally submitted Traffic Impact Assessment dated March 2018. I note that with the supplementary information provided (Attachment C2), the applicant states that a new access point to/from SH45 to the south of the proposed roundabout negates the need for the new roundabout.

There are inconsistencies between the application documents and the supplementary information. A fully revised Traffic Impact Assessment report needs to be provided that is correlated to the amended proposal, in particular Sections 4, 5 and 6 and all Appendices from Appendix D onwards.

Noting that the existing TIA has not been withdrawn and noting that the Applicant has proposed a new access point onto the State Highway further to the west, I have undertaken my assessment based on

two scenarios. The first is the original proposal with a new roundabout at the Wairau Road/SH45 intersection and no other access to the State Highway, with the second scenario being the revised proposal with a new State Highway access and no new roundabout at the Wairau Road/SH45 intersection.

For both scenarios, the Applicant has accurately described the existing road and traffic environment as stated in the TIA (March 2018).

### **Scenario 1 – New Roundabout at the Wairau Road/SH45 intersection**

I have reviewed the initial layout and cost of the proposed roundabout at the intersection of SH45 and Wairau Road. Whilst the diameter of the central island meets the minimum Austroads standard within a 50 km/hr speed environment, the width of the circulating carriageway is not provided and based on the aerial sketch at the end of Appendix 9, appears to be deficient in width for the truck and trailer units (eg milk tankers) that currently use the state highway.

The repositioning of the footpath in the eastern quadrant is not shown and it does not appear that sight distance criteria (refer to Figure 3.1 of Austroads Part 4B) for vehicles exiting upper Wairau Road is able to be provided due to the location of the existing cut batter.

In rectifying the above, it is likely that land from private property adjacent to the eastern quadrant of the roundabout is required, the owners being directly affected parties.

It is noted that the Applicant is proposing an underpass at or near the location of the intersection of Wairau Road and SH45. If located near the proposed roundabout and considering the ramp requirements (for pedestrians, cyclists and possibly horses) and safety clearances from the state highway and Wairau Road traffic, it is likely that land from adjacent private properties will be required. The Applicant should provide more definition of the proposed roundabout and underpass (including ramps) to understand whether there are any directly affected landowners.

When viewing the plans showing the equestrian links within the proposed subdivision (supplementary attachments C1.1 and C1.2), these appear to join into the proposed underpass, whose internal height of 3m is not suitable for horses. Additionally, the ramps for the underpass are not shown in any detail to enable me to understand whether they will encroach onto private property nor understand where there is a significant drop beside the state highway and the treatment thereof.

Overall, I think the Applicant has not provided enough information to understand whether a roundabout and underpass designed to appropriate standards can be installed within the existing road designation and therefore the effects of a new roundabout and underpass are more significant than presented by the Applicant.

With regard to the estimated cost of the roundabout and with reference to the cost estimate provided at the end of Appendix 9, it is my opinion that the P&G items have been underestimated when correlated to recent similar projects constructed over the last two years. I would expect the base estimate for traffic management to be approximately \$100,000 and the overheads and profits to be 20 to 25% of the sum of all the other priced items. I would expect the base estimate for the construction to be approximately \$800,000.

When considering the likely changes to the design, as stated above to incorporate the construction cost of the proposed underpass and contingencies of 25%, I would estimate the construction cost to be in the range of \$1.5 to \$1.7M.

### **Upper Wairau Road**

Noting the reported increased traffic volumes on Upper Wairau Road from the proposed subdivision and other traffic growth factors (Table 6 in the TIA), this road is likely to carry well over 5,000 vpd north of the proposed subdivision intersection within 10 years.

This will mean that the definition of Upper Wairau Road will correlate to Figure E13 from Table 3.2 of NZS 4404. The existing layout of this section of Wairau Road does not match that standard and an upgrade to meet that standard will be required.

### **Internal Subdivision Roads**

With reference to Table 3.1 of NZS 4404, the Applicant should provide details of the Area Type and Land Use and, with reference to Table 3.2 of NZS 4404, specify the Figure number correlated to road type that each of the subdivision roads are to be designed to.

Understanding the typical cross section of each internal road enables the safety of the roads, correlated to traffic function (hierarchy) within the subdivision to be assessed. The application documents do not contain a design statement that provides any information as to the type of the internal roads, which in turn enables a view on the safety of the internal layout to be undertaken. Provided NPDC are satisfied that the applicant will meet the NZS 4404 standards for road type, correlated to hierarchy and function of each road (including active modes as well as general traffic), then this is sufficient.

### **Scenario 2 – New Access off State Highway 45**

In my review of the supplementary information, related to the proposed access from SH45, west of the Wairau Road intersection, my overall view is that there is a lack of information provided by the applicant for a number of the items as below.

- The supplementary information provides photos looking from the position of the proposed access onto SH45. These photos have not been taken from the location from which drivers will look left and right when egressing the proposed subdivision. With reference to Appendix C of Attachment C2 and correlated to Figure 3.2 of Austroads Part 4A, the location for calculating the sight line requirements is many metres further into the proposed subdivision than where the photos were taken. The location of trees and hedging to the west of the proposed access blocks visibility to the west for vehicles exiting the subdivision and turning right. Additionally, the photos are not taken from the drivers eye height of 1.1m and noting the presence of a crest curve on both sides of the proposed access, it appears that the Safe Intersection Sight Distance is not achieved in either direction when exiting the proposed subdivision. Additionally, the application is silent on what happens to the existing accesses onto SH45 just to the south and north of the proposed access point. This raises further safety concerns.
- The drawings provided by the applicant do not have any notes to define the property boundary lines and I am unable to determine if any land is required from adjacent property owners.
- It appears the Siidra analysis undertaken at the intersection of Wairau Road is un-linked to the proposed SH45 intersection to the west. With the proposal specifying an additional access off the State Highway and also via Upper Wairau Road, the Siidra analysis should use the linked intersection function within Siidra to assess both intersections to provide confidence that the traffic modelling is more representative of the proposed network configuration. Additionally, the Siidra analysis for the Wairau Road intersection appears to have been done using a 50km/hr speed restriction but the existing speed restriction is 70km/hr, with a 100km/hr speed approaching Wairau Road from the west. I am unaware whether a lower speed restriction has been agreed with the NZ Transport Agency, therefore the analysis should reflect the current speed restrictions.
- No analysis has been presented to show that the 'T' intersection treatment is the correct intersection type and questions remain as to whether the intersection should be a roundabout.
- No analysis has been presented to determine if a roundabout is or isn't required at the Wairau Road/SH45 intersection. Almost all additional traffic generated from the proposed development will still pass through this intersection.
- The quantum of stormwater from the extended sealed areas at the proposed intersection will be greater than the current situation. The location of the receiving environment for this stormwater is likely to be the existing culvert just south of the proposed location. Sizing of this culvert will need to be checked for the faster inflows to ensure the risk of flooding is mitigated.

My overall conclusion is that the proposed "T intersection will be unsafe.

## **Oakura School Traffic Commentary (AMTANZ, April 2019)**

In my review of the supplementary information related to the Oakura School Traffic Commentary (AMTANZ, April 2019), the following items are noted:

- Although the document states that a Siidra analysis was undertaken, the Siidra analysis was not provided. The analysis should use trip generation of 10.4 trips per Lot as is current practice when assessing trip generation associated with a state highway. I don't agree that the same proportion of traffic on the State Highway will turn into Donnelly Road as per the existing situation once the proposed subdivision is built. The traffic generation (and parking requirements) needs to be correlated to the number of pupils the school is expecting once the development is complete.

My concern is whether the traffic generated at school peak times can manoeuvre within the existing road corridor between the State Highway and the Hussey Street intersection without people having to queue on the State Highway.

The Applicant makes reference to using Hussey Street and Butlers Lane as a potential route. I agree that Hussey Street appears to be wide enough to facilitate additional traffic volumes up to a point, but Butlers Lane is not currently suitable for through traffic.

### **Stormwater run-off**

In Section 6.2 of Appendix 8, The Applicant has stated that stormwater runoff from the subdivision roads will utilise rain gardens for storage and soakage with overflow to drain into the existing gully network. Although the Applicant states in Section 6.1 that the soils have proven permeability, I could find no permeability testing undertaken on the site that would verify this statement.

It is worth noting that the Applicant also intends to provide soakage to dispose of stormwater runoff from roofs and hard stand areas, adding to the overall volume of stormwater to be disposed of via soakage.

Without verification testing to demonstrate that soakage as a method of stormwater disposal is feasible, the proposed capture, storage and disposal of stormwater cannot be verified and could be significantly different to that proposed, whose subsequent effects result in flooding.

With regard to the disposal method for stormwater runoff, the risk that the retention areas in the gullies are undersized remains, particularly for road runoff if the proposed use of rain gardens is rejected or deemed not feasible. The risk is heightened if the runoff from roofs and hard standing areas is also disposed directly to retention areas in heavy rainfall events.

### **Advice if development was to proceed:**

- The overall increase in traffic volumes will have an impact on Oakura, which will mostly manifest at intersections on the State Highway towards New Plymouth. All these intersections will likely have increased delays for those vehicles accessing onto and from the State Highway, which elevates the crash risk exposure overall. The exposure rate of the existing situation should be determined and also re-calculated utilising the anticipated additional volumes and checked against guidelines as to whether interventions are required to address an unacceptable crash exposure rate at these intersections.
- If the roundabout at Wairau Road was to not go ahead and instead only the SH 45 intersection was proposed, I believe that the new intersection could manage all traffic generated from the proposed development provided the speed restriction was significantly lowered, the sight distances rectified and an appropriate safe intersection treatment based on Austroads standards was implemented. There would still be safety issues associated with pedestrian and equestrian movements crossing the State Highway at grade at the Wairau Road intersection, which could be mitigated if an appropriately designed underpass and ramps was implemented. If all this could be addressed including my comments about stormwater, then it would be a preferred location for all traffic from the proposed development to access the State Highway, with active modes utilising access to



Upper Wairau Road with some minor works to ensure adequate footpaths from the proposed development along Upper Wairau Road and safe crossing points to gain access to the paper road portion of Donnelly Street were implemented. .

- Staging of the changes to the transport network are dependent on whether the Wairau Road intersection is a roundabout or not and whether there are changes to the current speed restrictions west of Donnelly Street, which will all impact crash risk exposure.
- Other comments made above in relation to Donnelly Street, speed restrictions on SH45, Upper Wairau Road and the internal subdivision roads should be addressed.

Yours faithfully

Graeme Doherty  
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## 4. Council Open Space and Parks Advice

4A. Plan Change 48: Parks and Open Space Planning considerations. New Plymouth District Council Parks and Open Spaces Team. 23/05/2019.



23<sup>rd</sup> May 2019

Boffa Miskell  
Anna Stevens  
PO Box 11340  
Wellington 6142

Re: PLAN CHANGE 48: Parks and Open Space Planning considerations

Dear Anna,

Please find below our comments regarding Plan Change 48 from a Parks and Open Spaces planning perspective .

**Esplanade Reserve – Wairau Stream**

Parks would recommend taking an esplanade reserve along the Wairau Stream, this is indicated in the draft District Plan as a priority waterbody. This would also add to the wider pathway network in the area.

**Current esplanade strip**

Parks is comfortable with the width of the current esplanade strip on the property. This strip is sufficient to form a shared pathway network which will be an important link for the wider pathway network. It is noted that the walkway is currently used by residents and maintained by the landowner. Parks would recommend that this strip be transferred to esplanade reserve owned and maintained by NPDC to would allow the Council to form a shared pathway track.

**Proposed open space (2400m2)**

The proposed open space would provide for a kick a ball space for residents. The size and location of this open space are consistent with NPDC Open Space Sports and Recreation Strategy and aligns with New Zealand Recreation Association 'Natural New Zealand Park Categories and Levels of Service' document, which sets out a recommended level of service for open space provision for Territorial Authorities in New Zealand.

**Other proposed esplanade reserves**

The proposed esplanade reserves will provide for good connectivity to the proposed open space and the wider reserve network. Parks and Open Space do not recommend a walkway alongside the state highway but are happy to work with the applicant on the best way to provide to the reserve network.

Kind regards,

A handwritten signature in blue ink, appearing to be 'Stuart Robertson', written over the 'Kind regards,' text.

Stuart Robertson,  
Parks and Open Spaces Manager