Nelson City Council
te kaunihera o whakatū

# National Policy Statement on Urban Development Capacity: Assessment for Nelson

## November 2018

A1990408

# Foreword

This Capacity Assessment Report (A1990408) for Nelson is part of a series of reports undertaken by Nelson and Tasman Councils to meet the obligations of a medium growth urban area under the National Policy Statement on Urban Development Capacity. Reports in the series are:

| | |
|---|---|
| A2080812 | Capacity Assessment for the Nelson Urban Area |
| A1990408 | Capacity Assessment for Nelson City Council Territorial Area. |
| A2099190 | Capacity Assessment for the Tasman District Council Territorial Area |

All reports should be read together to gain an understanding of the urban development capacity for the Nelson Urban Area Unit.

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# Glossary

***Business land*** means land that is zoned for business uses in urban environments, including but not limited to land in the following examples of zones:

- industrial
- commercial
- retail
- business and business parks
- centres (to the extent that this zone allows business uses)
- mixed use (to the extent that this zone allows business uses).

***Demand*** means:

In relation to housing, the demand for dwellings in an urban environment in the short, medium and long-term, including:

a) the total number of dwellings required to meet projected household growth and projected visitor accommodation growth;

b) demand for different types of dwellings;

c) the demand for different locations within the urban environment; and

d) the demand for different price points

recognising that people will trade off (b), (c) and (d) to meet their own needs and preferences.

In relation to business land, the demand for floor area and lot size in an urban environment in the short, medium and long-term, including:

a) the quantum of floor area to meet forecast growth of different business activities;

b) the demands of both land extensive and intensive activities; and

c) the demands of different types of business activities for different locations within the urban environment.

***Development capacity*** means in relation to housing and business land, the capacity of land intended for urban development based on:

d) the zoning, objectives, policies, rules and overlays that apply to the land, in the relevant proposed and operative regional policy statements, regional plans and district plans; and

e) the provision of adequate development infrastructure to support the development of the land.

***Development infrastructure*** means network infrastructure for water supply, wastewater, stormwater, and land transport as defined in the Land Transport Management Act 2003, to the extent that it is controlled by local authorities. ***Feasible*** means that development is commercially viable, taking into account the current likely costs, revenue and yield of developing; and ***feasibility*** has a corresponding meaning.

***Expansion areas*** means rural-zoned areas that have been identified for assessment in the Future Development Strategy as providing medium and long term housing capacity.

***Existing Capacity*** means land that is zoned residential, industrial or commercial and is provided with wastewater, water, stormwater and transport infrastructure to support its development capacity. Existing capacity is available in the short term (3 years).

***Future Capacity*** means land that is zoned either residential, industrial or commercial and is subject to one or more servicing constraint before capacity can be released.

***FDS*** means Future Development Strategy under policies PC12 to PC14 of the NPS-UDC.

***HBA*** means Housing and Business Development Capacity Assessment

***Infill Capacity*** means land that is zoned residential, industrial or commercial and is provided with wastewater, water, stormwater and transport infrastructure to support its redevelopment capacity.

***Intensification*** refers to all high density development, no matter where it occurs. Intensification can occur as infill, redevelopment or within greenfield development areas.

***Long term*** means between eleven and thirty years.

***Medium-growth urban area*** means any urban area (as defined by Statistics New Zealand in 2016) that:

a) has a resident population of over 30,000 people according to the most recent Statistics New Zealand urban area resident population estimates; and

b) in which the resident population of that urban area is projected to grow by between 5% and 10% between 2013 to 2023, according to the most recent Statistics New Zealand medium urban area population projections for 2013(base)-2023.

***Medium term*** means between three and ten years.

***NPS-UDC*** means National Policy Statement Urban Development Capacity

***Plan*** means any plan under section 43AA of the Act or proposed plan under section 43AAC of the Act.

***Planning decision*** means any decision on any plan, a regional policy statement, proposed regional policy statement, or any decision on a resource consent.

***Plan enabled*** means the cumulative effect of all zoning, objectives, policies, rules and overlays and existing designations in plans, and the effect this will have on opportunities

for development being taken up.  In this report all permitted and controlled activities in the NRMP are considered plan enabled, as well as restricted discretionary activities with a non-notification statement.

***Short term*** means within the next three years.

***Sufficient*** means the provision of enough development capacity to meet housing and business demand, and which reflects the demands for different types and locations of development capacity; and ***sufficiency*** has a corresponding meaning.

# 1. Executive summary

## Introduction

The Nelson City Council territorial area forms part of the Nelson Urban Area, a conurbation defined by Statistics NZ that extends from Glenduan in the north to Hope in the south.

The Nelson Urban Area is defined by the National Policy Statement Urban Development Capacity (NPS-UDC) as a medium growth area. This requires compliance with policies PA1 to PA4 Outcomes for planning decisions, PB1 to PB7 Evidence and monitoring to support planning decisions, PC1 to PC4 Responsive planning and PD1 to PD2 Coordinated planning evidence and decision making.

This report provides an assessment of the Nelson Territorial Authority Area development capacity for both housing and business development. Development capacity means in relation to housing and business land, the capacity of land intended for urban development based on:

a) The zoning, objectives, policies, rules and overlays that apply to the land, in relevant proposed and operative regional policy statements, regional plans and district plans; and

b) The provision of adequate development infrastructure to support the development of the land.

A separate report (A2099190) provides an assessment of the capacity of the Tasman Territorial Authority Area and a combined overview report A2080812 provides an assessment of the Nelson Urban Areas urban development capacity.

These assessments are required to meet policy PB1 of the NPS-UDC, which is Central Government's requirement that all medium and high growth councils carry out a housing and business assessment on at least a three yearly basis and are encouraged to public the assessment. The assessments are also required in order to ensure that decision makers have sufficient, robust and frequently updated evidence to inform planning decisions; to ensure that planning decisions and methods enable urban development in a timely way, and that infrastructure and land use planning are coordinated and aligned within and across local authority boundaries. Objective OC1 seeks that Council's undertake responsive planning using planning decisions, practices and methods that enable urban development which provides for the social, economic, cultural and environmental well-being of people and communities and future generations.

## Growth

Population in the Nelson Urban Area is estimated to be growing at a medium growth rate according to the 2017 Territorial Authority population projections. It falls just below the 10% threshold for the high growth category. Actual population growth in Nelson has not dropped below 1% per year for the last ten years and has averaged around 1.4% per year over the same period. This growth rate is significantly higher than projected by Statistics NZ.

Council has adopted the Statistics NZ high series population projections for the first ten years of the LTP and the medium series after that. This NPS-UDC assessment has been undertaken based on the high series for the first 10 years plus the additional 20% buffer required by the NPS-UDC. The medium series and 15% buffer are adopted thereafter.

Tasman District Council have adopted the same approach in their assessment.

Nelson City Territorial Area is expected to grow from 53,000 residents in 2018 to 59,100 residents in 2028 and 62,400 residents in 2048.

### Housing Capacity

There is insufficient residential housing capacity in Nelson in the medium term (from year 9) and this extends into the long term (years 11 to 30). Projected demand outstrips capacity by 2,505 households from years 9 to 30. Recommendations include undertaking a Future Development Strategy which will assess options for rezoning expansion areas and increased infrastructure investment, along with analysis of feasible infill development of existing urban areas to explore how it can be plan enabled. The table below summarises the capacity and demand for dwellings over the short, medium and long term.

| | Demand | Capacity | Difference |
|---|---|---|---|
| Short Term (Yrs 1-3) | 2001 | 3127 | 1126 |
| Medium Term (Yrs 4-10) | 2855 | 2777 | -78 |
| Long Term (Yrs 11-30) | 2937 | 432 | -2505 |

Policy PC3 of the NPS-UDC requires that Council initiate a response within 12 months by providing further development capacity and enabling development if there is insufficient capacity in any of the short, medium or long terms. Such a response needs to be considered in conjunction with Tasman District Council, and the capacity of the Nelson Urban Area overall.

The NPS-UDC requires under policy PB3 that in addition to assessing housing capacity that is plan enabled and provided with infrastructure, Council must also assess whether it is actually feasible to develop. Residential development of all of the medium to long term capacity areas and identified expansion areas assessed in this report are feasible with only the density determining the level of feasibility and profit. In most cases, a much higher density than typically seen in new developments in Nelson was identified as the most profitable development scenario.

### Housing Choice

Policies PA3 requires that Council have particular regard to providing different housing choices that will meet the needs of people and communities and future generations for a range of dwelling types and locations. There are around 1,600 residence where one or two persons are living in a four bedroom house. There is no data available to determine why this maybe the case, but one reason maybe that smaller houses are not typically available in the Nelson market.

Feasibility analysis shows that the best opportunity to provide a range of housing types and price points within a development is through greenfield development. Recommendations in this report for the Future Development Strategy to assess higher

density zones in both greenfield and currently zoned areas may assist the market to bring a range of housing types and price points to the market in the future. Policy PA3 also requires that planning decisions promote the efficient use of urban land and development infrastructure. This will be assessed further in the Future Development Strategy.

### Business Capacity

Analysis of the current vacant and underutilised Commercial and Industrial zoned land shows that sufficient capacity exists within the Nelson Urban Area to provide for short, medium and long term demand until 2038. This NPS-UDC capacity assessment focused on housing capacity rather than business capacity, because housing supply is currently more of an issue in Nelson. The next NPS-UDC capacity assessment due in 2021 will focus greater attention on business demand and capacity, and the relationship between business and residential capacity. The table below summarises the capacity and demand for business land for the 2016-2038 period.

| 2016-2038 | Demand (Ha) | Capacity (Ha) | Difference (Ha) |
|---|---|---|---|
| Commercial | 16.6 | 18 | 1.4 |
| Industrial | 0.1 | 35.1 | 35 |

### Conclusion

There is sufficient housing capacity in the short term, and sufficient business capacity in the short, medium and long terms in the Nelson Territorial Authority Area. There is insufficient residential housing capacity in Nelson in the medium term (year 9) and this extends into the long term (years 11 to 30) where there is a significant shortfall expected for residential capacity. To ensure that the Nelson Territorial Authority Area part of the Nelson Urban Area provides sufficient capacity in the long term to accommodate projected growth, a response is required to be initiated.

### Recommendations

As a result, this report contains recommendations as to how Council could initiate a response to the evidenced insufficient long term capacity for housing development in the Nelson territorial authority area. The recommendations are summarised as:

- Assessing the strategic location of housing/business and infrastructure provision through the development of a Future Development Strategy for the next 30 years, in conjunction with Tasman District Council, considering a range of options including:
    - Plan provisions to enable greater infill feasibility and higher intensity residential development across the city to enhance feasibility, market choice and price point and make efficient use of the urban land resource and infrastructure.
    - Rezoning of expansion areas.

        - Development of infrastructure to service plan-enabled growth via asset management plans, the Long Term Plan and the 30 year infrastructure strategy.

- Maintenance and enhancement of relationships with developers, working together to affect the timing of supply, and exploration of partnerships with developers and central government.

- Continued cooperation with Tasman District Council including considering how each Council might most efficiently enable capacity to assist the other where there are shortfalls.

*This urban development capacity assessment has been undertaken to meet the requirements of the National Policy Statement on Urban Development Capacity (NPS-UDC). The assessment forms part of a package of monitoring and evidence required by the NPS-UDC to ensure that local authorities are well informed about demand for housing and business development capacity.*

# 2. Introduction

## 2.1 Purpose

The purpose of this report is to meet the National Policy Statement on Urban Development Capacity (NPS-UDC) requirements to carry out a Housing and Business Development Capacity Assessment (HBA). The overall objective is to have a robustly developed, comprehensive and frequently updated evidence base to inform planning decisions in urban environments. In short, the HBA estimates the demand for dwellings and business land and the availability of development capacity to meet that demand in order to determine whether there is sufficient capacity enabled by the Nelson Resource Management Plan (zoning and rules), the Long Term Plan and 30 Year Infrastructure Strategy (servicing) to meet projected demand.

This report provides an assessment of the Nelson Territorial Authority Areas development capacity. That is the capacity to absorb projected growth in terms of serviced and zoned land for residential and business activities in Nelson. A separate report (A2099190) provides an assessment of the Tasman Territorial Authority Areas development capacity and a combined overview report (A2080812) provides an assessment of the Nelson Urban Areas urban development capacity. All three reports should be read in conjunction with each other.

Finally, this report provides recommended options as to how the Council could initiate a response to the findings of the capacity assessment, to be considered as a part of a Future Development Strategy being prepared immediately after the results of this assessment are reported.

## 2.2 Background

The NPS-UDC came into effect on 1 December 2016 and sets national requirements for the way local authorities provide for and respond to growth, and the evidence and monitoring required to support future planning and infrastructure funding decisions. The NPS-UDC provides national direction to local government on how to make provision for urban development capacity.

The NPS-UDC identifies the Nelson Urban Area as a medium-growth urban area, which covers all of the Nelson territorial area (excluding the Whangamoa Area Unit) and some of the urban area within the Tasman territorial area (see section 1.2 for details of area units included). Policy PB1 requires that a HBA be carried out at least every three years. Under the NPS-UDC, all medium and high growth urban areas are also required to monitor a range of indicators on a quarterly basis. These quarterly reports for the Nelson Urban Area can be found on Councils website (http://www.nelson.govt.nz/building-and-property/urban-development-capacity ).

The HBA requires feasibility assessments are made for each growth area identified to cater for future residential and business growth. The aim is to ensure that Council provides sufficient land area for business and residential growth that is zoned, serviced and feasible. The NPS-UDC requires that this is evaluated over the short (years 1 -3), medium (years 4-10) and long term (years 11-30).

The NPS-UDC requires that when a capacity assessment and monitoring indicate that development capacity is not sufficient in any of the short, medium or long term, local authorities are required to initiate a response within 12 months to provide further capacity and enable development.

## 2.3 Geographic Area

The Nelson Urban Area is defined by Statistics NZ. The geographic area covered by the Nelson Urban Area includes all of the Nelson Territorial Authority Area (excluding the Whangamoa area unit) and the main Richmond urban areas of the Tasman Territorial Authority Area including the following area units:

- Aniseed Hill
- Hope
- Best Island
- Bell Island
- Ranzau
- Richmond East
- Richmond West

Figure 1 shows the extent of the Nelson Urban Area in the geographic context of the wider Nelson/Tasman territorial authority areas:

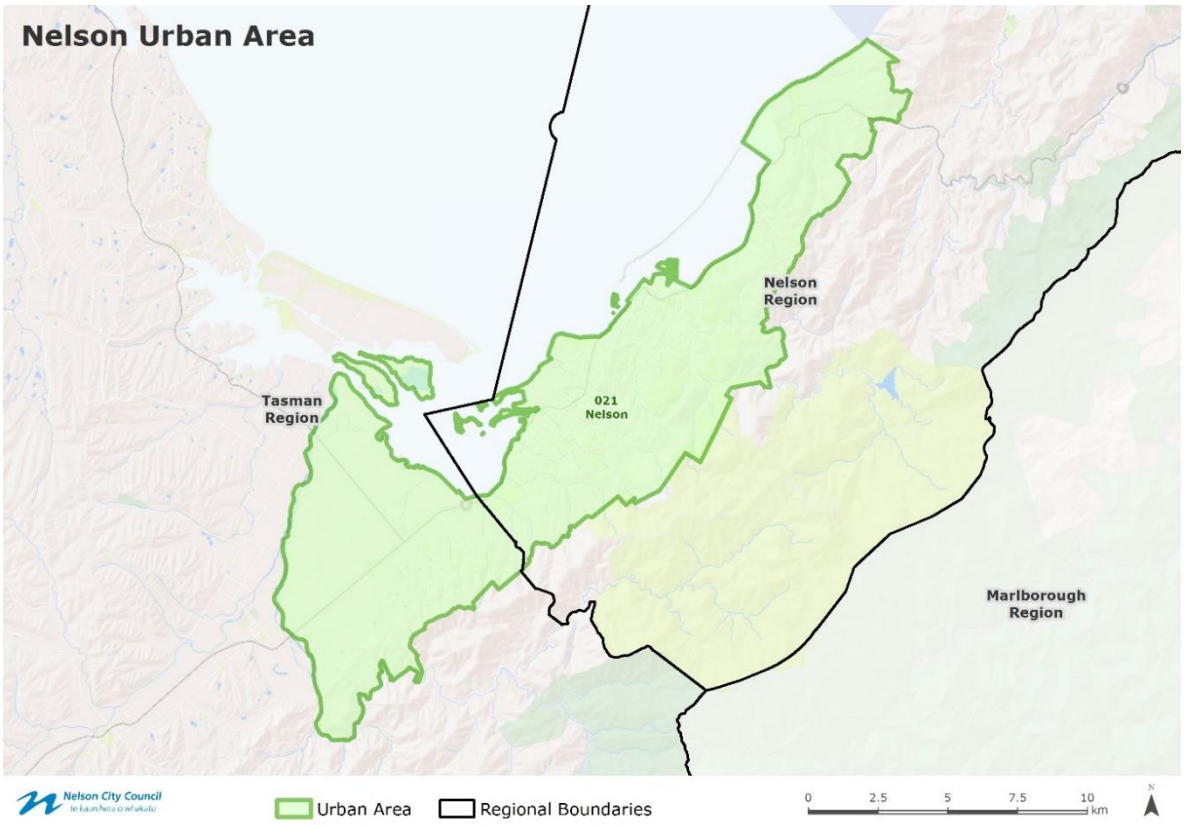



**Figure 1: Nelson Urban Area**

This report covers the portion of the Nelson Urban Area that sits within the Nelson territorial area. Tasman District Council have undertaken a separate capacity assessment for the Tasman portion of the Nelson Urban Area. The summary report that provides analysis of the total Nelson Urban Area should be read in conjunction with both Councils' reports:

(i) Capacity Assessment for the Nelson Urban Area A2080812.

(ii) Capacity Assessment for Nelson City Council Territorial Authority Area A1990408.

(iii) Capacity Assessment for the Tasman District Council Territorial Authority Area A2099190

## 2.4 Planning Framework

Nelson City Council is currently undertaking a review (known as the Nelson Plan) of its operative district and regional plan, the Nelson Resource Management Plan (NRMP) and the operative regional policy statement. To date a draft or proposed plan has not been publicly released and therefore this 2018 NPS-UDC capacity assessment is based on the NRMP as that is the current planning mechanism to enable capacity. After completing this assessment, recommendations relating to options to increase capacity are able to be made.

The NPS-UDC also recommends that medium growth Councils prepare a Future Development Strategy. Nelson and Tasman Councils have committed to preparing a joint Future Development Strategy for the Nelson and Tasman territorial areas. This capacity assessment will be used to inform the Future Development Strategy which is to be completed in 2019.

The Future Development Strategy will set out how minimum targets for capacity should be achieved, and identify the location, timing and sequencing of future urban environments and intensification opportunities. This will inform the Nelson Plan (district and regional plan review), Long Term Plan and 30 year Infrastructure Strategy to ensure required development capacity is enabled.

A refresh of the capacity assessment is required to be undertaken every 3 years and will coincide with infrastructure planning under the Long Term Plan.

The NPS-UDC requires that if a shortfall of capacity is identified in either the short, medium or long terms a planning response be initiated within 12 months. Such response would include both regulatory changes guided by the Future Development Strategy, and non-regulatory changes in the way Council works with developers, along with infrastructure provision.

A response for the Nelson Urban Area includes working with Tasman District Council to ensure infrastructure and Long Term Plan decisions are consistent and compatible across the territorial authority boundary. There is also an opportunity identify and explore areas where infrastructure efficiencies can be made between the Councils, where development capacity is considered for the urban area as a whole. Figure 2 shows the relationship between each of the documents relevant to urban capacity.

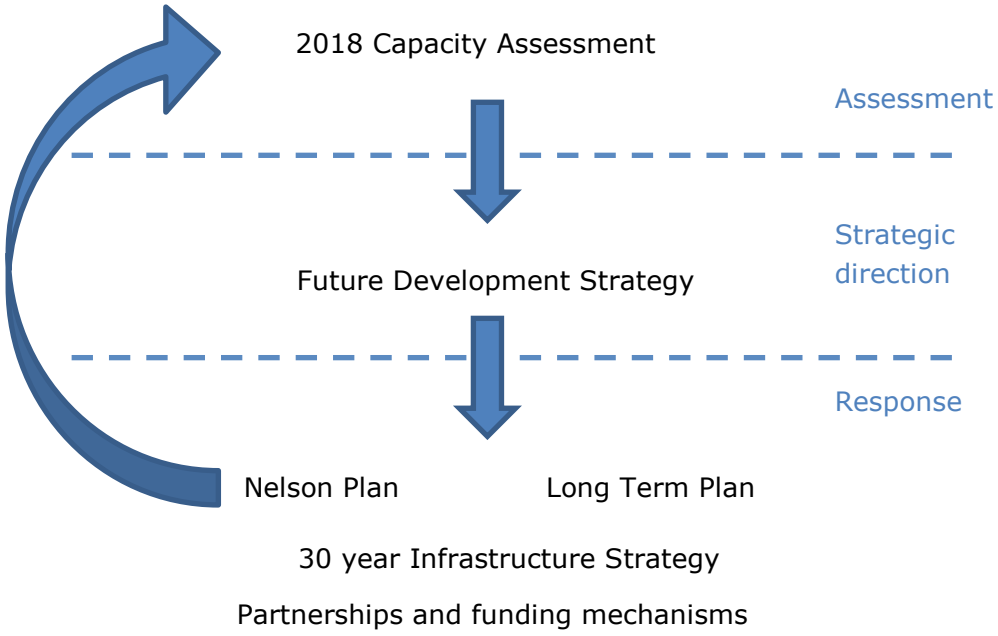



**Figure 2: Relationship between capacity related documents.**

*Population in the Nelson Urban Area is estimated to be growing at a medium growth rate according to the 2017 Territorial Authority population projections. It falls just below the 10% threshold for the high growth category. Actual population growth in Nelson has not dropped below 1% per year for the last ten years and has averaged around 1.4% per year over the same period. This growth rate is significantly higher than projected by Statistics NZ. Council has adopted the Statistics NZ high series population projections for the first ten years of the LTP and the medium series after that. This NPS-UDC assessment has been undertaken based on the high series for the first 10 years plus the additional 20% buffer required by the NPS-UDC. The medium series and 15% buffer are adopted thereafter. Tasman District Council have adopted the same approach in their assessment. Nelson City Territorial Area is expected to grow from 53,000 residents in 2018 to 59,100 residents in 2028 and 62,400 residents in 2048.*

# 3. Growth Projections & Household Demand

## 3.1 Choosing a Projection Series

Statistics NZ provide population projections for three growth scenarios, High, Medium and Low. Each of the series has different assumptions around the level of migration, births and deaths. The September 2017 projections direct from Statistics NZ are shown below in Figure 3:

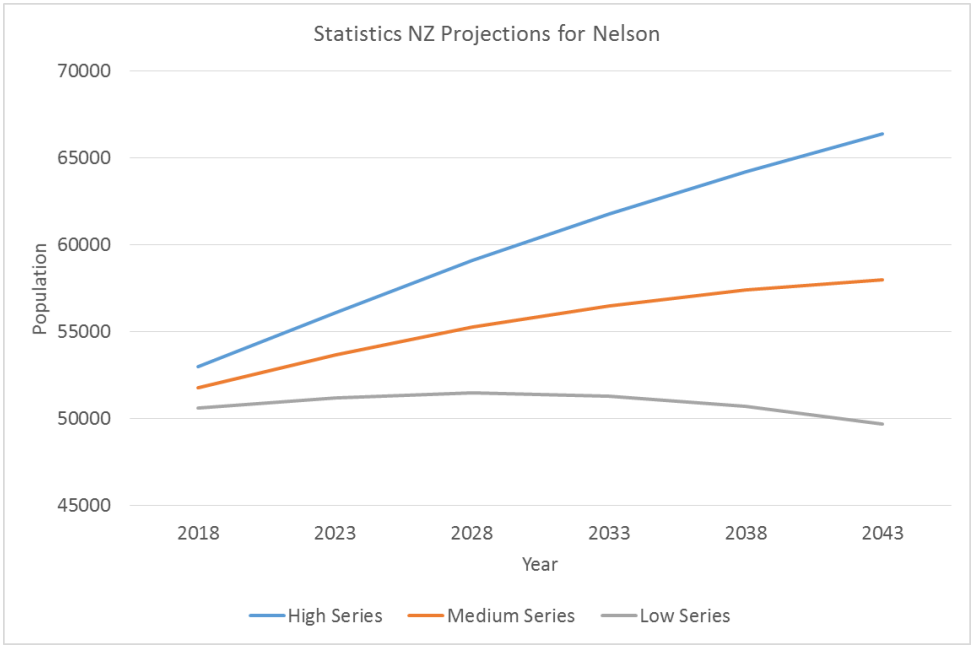



**Figure 3: Statistics NZ population projections by series**

Statistics NZ prepares the Medium Series to reflect the most likely scenario of population growth over the period. Whether this approach is appropriate in the Nelson context given

the growth that has historically been observed has been evaluated in the series adopted to inform this capacity assessment and the Long Term plan.

The Statistics NZ projections estimate the average yearly growth rates shown below in Table 1:

| Census Year | Population Growth Rate per year | | |
|---|---|---|---|
| | High | Medium | Low |
| 2018 | 1.8% | 1.3% | 0.8% |
| 2023 | 1.2% | 0.7% | 0.2% |
| 2028 | 1.1% | 0.6% | 0.1% |
| 2033 | 0.9% | 0.4% | -0.1% |
| 2038 | 0.8% | 0.3% | -0.2% |
| 2043 | 0.7% | 0.2% | -0.4% |

**Table 1: Statistics NZ projected average yearly growth rates for Nelson**

These projected growth rates can be compared to the actual population estimates prepared by Statistics NZ on an annual basis. Table 2 below shows the growth rates calculated from the Statistics NZ population estimates:

| Year | Nelson annual growth rate |
|---|---|
| 2008 | 1.1% |
| 2009 | 1.3% |
| 2010 | 1.5% |
| 2011 | 2.2% |
| 2012 | 1.5% |
| 2013 | 1.0% |
| 2014 | 1.2% |
| 2015 | 1.2% |
| 2016 | 1.4% |
| 2017 | 1.6% |
| Average | 1.4% |

**Table 2: Nelson annual population growth rate based on population estimates**

Table 2 shows that population growth in Nelson has not dropped below 1% per year for the last ten years and has averaged around 1.4% per year over the same period. This growth rate is significantly higher than projected by Statistics NZ under the medium growth scenario, which projects growth of greater than 1% per year.

The approach taken by Council to adopt the high growth series is further supported by an independent assessment undertaken by Infometrics. The Infometrics report is focussed primarily on the Nelson Urban Area which includes Richmond for the purposes of determining whether the Nelson Urban Area should qualify as a high growth area under the NPS-UDC. Its conclusions are consistent with Council's adoption of the Statistics NZ high growth series for the first ten years of the 2018-2048 Long Term Plan.

As a result, Council has adopted the high series for the first ten years of the LTP and the medium series after that. The NPS-UDC assessment has been undertaken based on the high series for the first 10 years plus the additional 20% buffer required by the NPS-UDC. Tasman District Council have adopted the same approach in their assessment.

Figure 4 below shows the projected population and associated household numbers under this scenario.

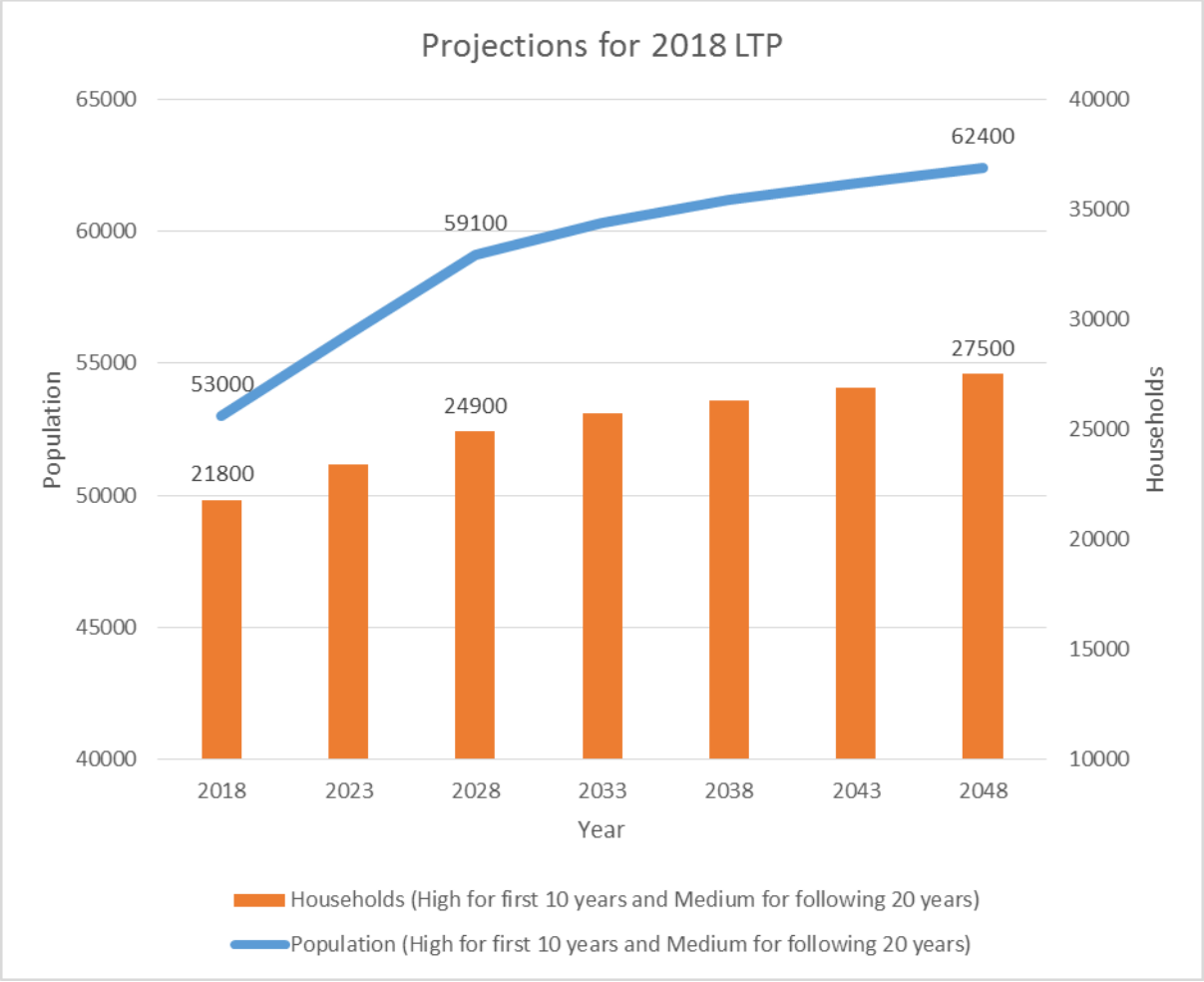



**Figure 4: Population and household projections adopted for the 2018-2048 Long Term Plan**

Figure 4 shows that population in the Nelson City Territorial Area is expected to grow from 53,000 residents in 2018 to 59,100 residents in 2028 and 62,400 residents in 2048. The number of households is expected to increase in similar proportions over the same time periods.

## 3.2 Demand for additional dwellings

An allowance has been made for unmet demand for housing using the difference between the Statistics NZ population projections and the number of building consents for new dwellings granted over a three year period prior to 2018. This is a limitation of the analysis due to Statistics NZ providing no official data on unmet demand.

Residual demand has been approximated by comparing the projected household growth over the previous 3 years against the residential resource consents granted. Any remaining demand has been totalled to get the overall demand. Included in the demand assessment is an additional 5% to allow for holiday homes and the additional 20% required by the NPS-UDC.

Based on the projections and analysis above, the demand for additional dwellings has been assessed to follow the profile in Figure 5 over the next ten years.

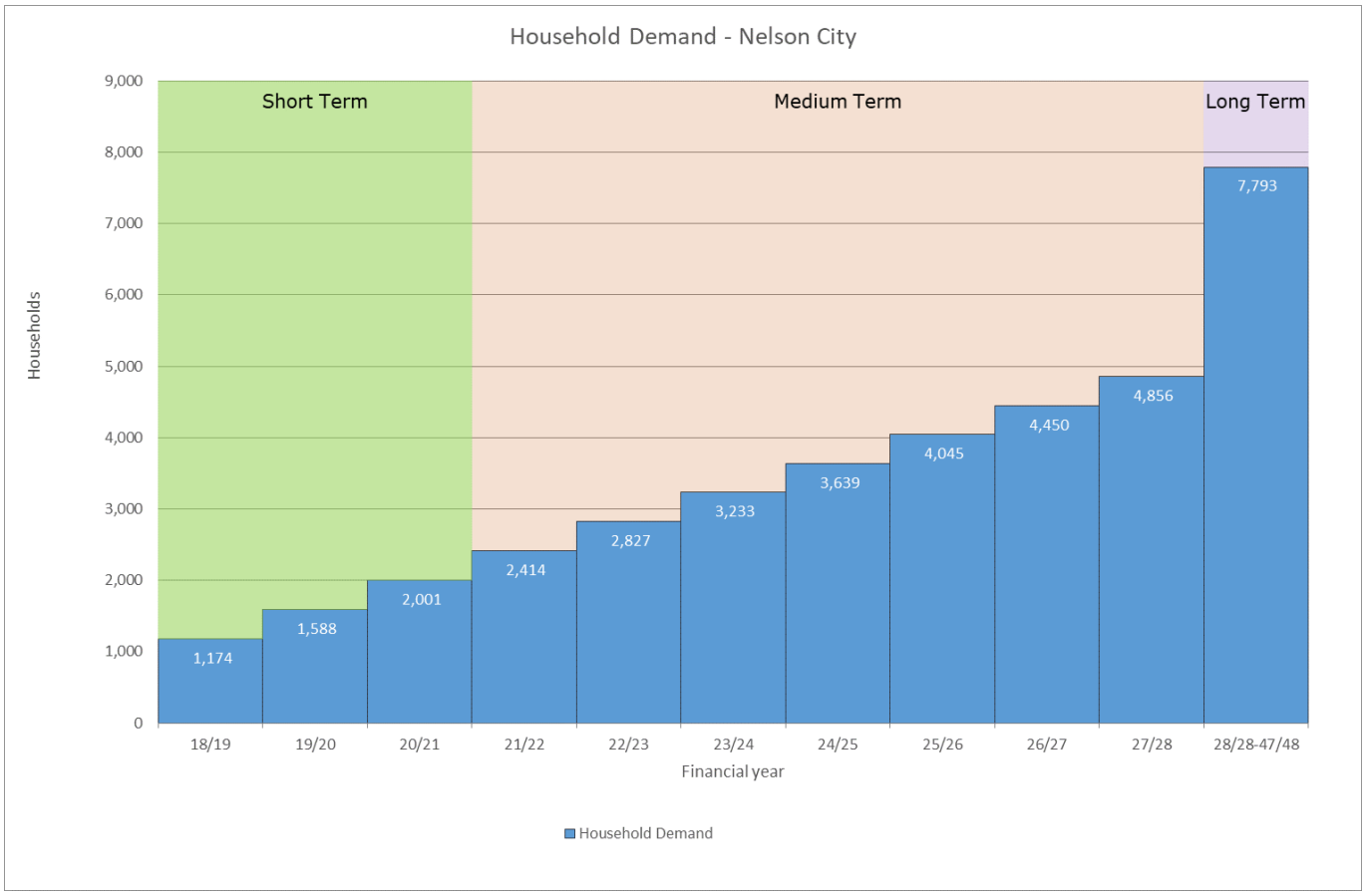



**Figure 5: Demand for additional dwellings**

The NPS-UDC defines three time periods that need to be considered for capacity assessment purposes as follows:

- Short term – first 3 years
- Medium term – years 4 to 10
- Long term – years 11 to 30

The projected demand for additional dwellings over these three periods is shown in table 3 below.

| Period | Household Demand |
|---|---|
| Years 1-3 | 2,001 |
| Years 4-10 | 2,855 |
| Years 11-30 | 2,937 |
| Total | 7,793 |

**Table 3: Long term demand for additional dwellings in Nelson**

*There is insufficient residential housing capacity in Nelson in the medium term (year 9) and this extends into the long term (years 11 to 30). Projected demand outstrips capacity by 2,505 households from years 9 to 30. Recommendations for options for rezoning expansion areas and increased infrastructure investment are provided, along with sensitivity testing of what plan enablement provisions might allow feasible infill development of existing urban areas. Policy PC3 of the NPS-UDC requires that Council initiate a response within 12 months by providing further development capacity and enabling development if there is insufficient capacity in any of the short, medium or long terms. Such a response needs to be considered in conjunction with Tasman District Council, and the capacity of the Nelson Urban Area overall.*

# 4. Residential Capacity

## 4.1 Capacity vs Supply

It is important to understand the difference between capacity and supply when reading this report. A common misunderstanding is that local authorities are responsible for ensuring that there is enough supply of developed land ready for the various activities that there is commonly demand for in the region. Council does not have any control mechanisms for increasing supply. Council does control what is plan enabled through land use zoning, rules and what is serviced through infrastructure provision to the site. This allows Council to ensure that adequate capacity exists that allows landowners to redevelop their land to meet demand.

Figure 6 shows the broad relationship between capacity and market supply.

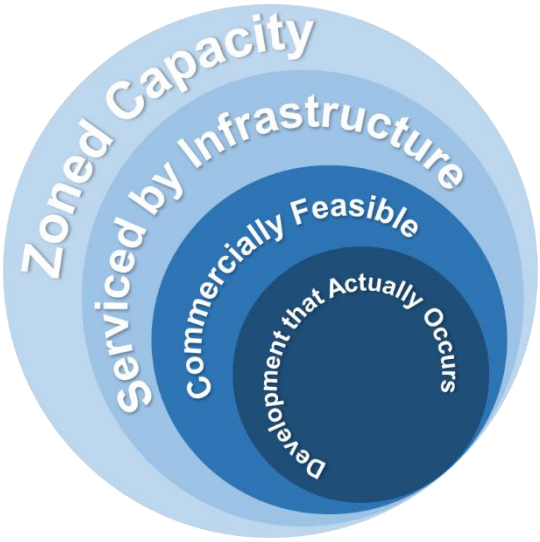



**Figure 6: Capacity-Supply relationship**

The 'zoned or plan enabled capacity' is assessed as provided under the operative Nelson Resource Management Plan. This includes land that is zoned residential or business (industrial or commercial) and may still have a services overlay applied to it to indicate that it has one or more infrastructure constraints.

The 'serviced by infrastructure' category covers all of the land that is zoned, and if it has all of the necessary infrastructure (wastewater, water, stormwater, transport) services then it is considered as existing capacity. Any areas that have capacity which are zoned and have future infrastructure projects in the Long Term Plan that release the area for development are considered future capacity. The capacity is counted as being released in the year of the final infrastructure project being completed. This is the final stage that Council has any control over the delivery of capacity.

The 'commercially feasible capacity' is the land that is zoned, serviced and not restricted by issues such as:

- Topography
- Market demand
- Geotechnical constraints
- Natural hazards
- Site location
- Development costs

Finally, the development that actually occurs addresses all of the above constraints and is owned by someone willing to take the financial risk to develop the land. The willingness of banks to lend also determines this to some degree. This final category is the definition of "supply" and is provided by developers who also determine the timing of the supply.

The eventual supply of housing to the market is monitored on a quarterly basis with the results over time shown below in Figure 7:

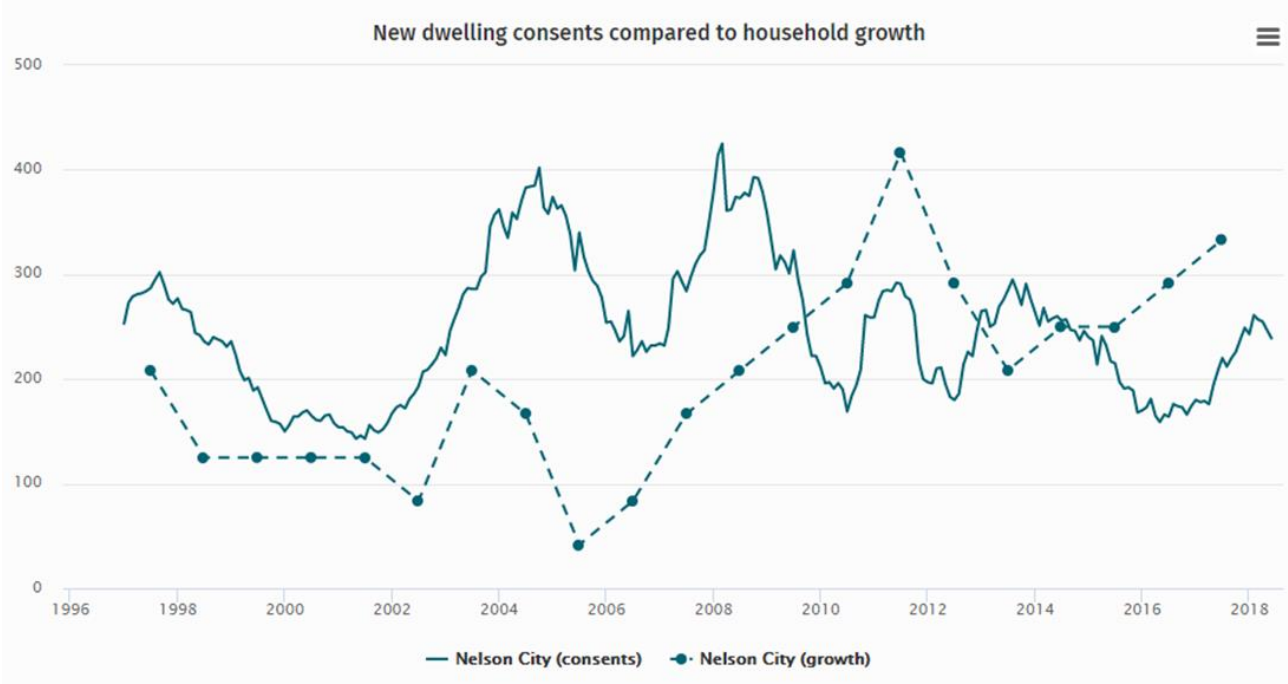



**Figure 7: New dwelling consents compared to household growth**

Figure 7 shows that the consents for new dwellings vary markedly in number each quarter with a general trend of consents granted matching the growth in households. Where the datasets differ is in the initial supply being insufficient to meet demand.

## 4.2 Existing Residential Capacity (Short Term: Zoned and Serviced)

The existing capacity for residential sections in Nelson can broadly be summarised as follows:

- Vacant residential sections
- Backyard infill enabled under the NRMP
- Infill by redevelopment
- Greenfield subdivisions (RMA and HASHAA) consented but not yet built on
- Zoned and serviced greenfield areas not consented yet

### 4.2.1 Vacant Residential Sections

The number of vacant residential sections can be easily determined by searching for properties in the residential zone with no improvements listed. Interrogation of the Nelson rating database shows that there are around 392 vacant residential sections that are plan enabled for a residential dwelling.

### 4.2.2 Backyard Infill enabled under the NRMP

Backyard infill is defined, for the purposes of this assessment, as the development of one additional residential dwelling on a plan enabled section. This typically would be located in the back yard of the existing property but can be located in any suitably sized unoccupied part of the lot. The lot may or may not be subdivided as part of this process.

In order to determine the backyard infill capacity in the city, a sample of 346 residential properties greater than 900sqm was assessed for their ability to support an additional residential dwelling. This represents approximately 25% of all lots over 900sqm and as a result is a very robust sample. The sites were assessed against the following criteria to determine their feasibility for backyard infill:

- Size of the site
- Shape of site
- Location of the existing dwelling
- Steepness of the site
- Vehicle access

Of the 346 sample sites, 112 or 32% were assessed as having capacity for backyard infill. Applying this proportion to all sites over 900sqm in Nelson, 425 sites are assessed as having capacity for backyard infill.

This method for estimating backyard infill capacity was chosen on the basis that it was time efficient as well as being realistic as actual real examples were able to be assessed in Nelsons relatively small and compact urban area. Only the physical possibility, not the financial feasibility, was assessed as part of this process. There are a number of alternative methods that are commonly used such as the land value to capital value ratio. These were not used in this assessment due to the uncertainties associated with them being highly theoretical, assessing practical examples is considered more robust in Nelson given the size and topographic constraints on the urban area.

### 4.2.3 Infill by redevelopment enabled under the NRMP

Infill by redevelopment is defined, for the purposes of this assessment, as the redevelopment of an already developed, occupied and serviced site. An example of this would be the replacement of a one storey commercial building with a three storey building with commercial activity on the ground floor and residential apartments above, or removal of one house on a section and redevelopment into three terrace houses.

Historically, around seven dwelling units per year have been created as a result of infill redevelopment. This rate of development is expected to remain constant across the district under the current plan framework. Incentives provided by way of development contributions waivers in the city centre have had little impact to date on increasing this rate of infill redevelopment.

Based on a development rate of seven dwelling units per year, capacity for 210 additional dwelling units exists currently. This capacity has been counted as being available in year one as it currently exists but is not expected to be actually developed (or supplied) straight away. Feasibility assessments were undertaken for a small sample of the sites and these are included in Appendix B.

### 4.2.4 Greenfield Subdivisions (RMA and HASHAA) consented but yet to be built on

This section of existing capacity is made up of the following:

- Lots created by resource consent but not at section 224 yet
- Resource consents currently being processed
- Gazetted Special Housing Areas (SHAs) with a resource consent

The process for determining the number of lots under each of the above categories is a manual one that requires input from the building consent and resource consent teams.

Interrogation of the building and resource consents databases shows that there is a total of 421 lots in this category.

### 4.2.5 Zoned and Serviced Greenfield Areas not consented yet

Once greenfield areas are zoned and serviced there may be a time lag until subdivision consent is applied for. This can be due to things like market conditions not being favourable or a developer not being able to secure finance. As greenfield areas are serviced by Council in time they will move from “future capacity” into this category.

Capacity for a total of 1,679 dwellings has been released by Council servicing this category and are awaiting development.

**Total Current Capacity: Short Term Years 1 to 3 (Zoned and Serviced)**

There is a total current household capacity of 3,127 households as at June 2017 which is sufficient to meet the requirements under the NPS for short term capacity.

Short term demand is 2,001 households.

## 4.3 Future Residential Capacity: Medium Term (Zoned and planned to be serviced in LTP)

The method for assessing future residential capacity uses the following steps:

- Existing zoned but unserviced areas identified
- Servicing constraints identified and projects to address these included in the LTP
- Identify likely timing of future servicing/completion of the last project in the LTP

The yield for each of the future capacity areas has been estimated using a combination of:

- Yields provided by developers
- Assessment of yield based on the NRMP provisions (plan enabled)
- Current patterns of development in the area
- Evaluation of topographical constraints

Table 4 below identifies the future residential capacity areas in Nelson and summarises the current estimated lot yield. Development feasibility of these sites is assessed in Appendix A.

| Area Number | Capacity Area Name | Current Estimated Residential remaining Capacity |
|---|---|---|
| 3 | Ngawhatu Valley | 345 |
| 4 | Marsden Valley | 650 |
| 9 | Tasman Heights | 314 |
| 11 | Toi Toi | 102 |
| 19d | Lower Bayview | 100 |
| 19e | Upper Bayview | 136 |
| 22 | Todd Valley | 4 |

**Table 4: Future Residential Capacity (Medium Term Zoned and planned to be serviced in LTP)**

### 4.3.1 Servicing Constraints

In order to identify servicing constraints on residential capacity, asset managers for each asset group (transport, water, wastewater and stormwater) have assessed each area to consider the following:

- Road safety
- Transport network capacity
- Water supply and treatment capacity
- Wastewater network and treatment capacity
- Stormwater network capacity

For each greenfield area, all of the projects required to deal with all of the above issues are identified and a cost estimate of the projects developed.

It is important to note that only services that would be provided by Council have been included as constraints. Infrastructure to be provided by the developer has not been included as a constraint but is considered in the feasibility assessments. Infrastructure provided by others (i.e. power and telecommunications) has not been assessed as a constraint as this is generally readily available in Nelson and extended to service sites by the developer.

Council policy requires greenfield developments to be hydraulically neutral and as a result, developers are able to choose to detain stormwater on-site in order to progress their development before Council provides stormwater infrastructure to the site. Where this is a feasible option, the capacity is shown as released if stormwater infrastructure is the only constraint.

A summary of the infrastructure constraints for each area is included in Appendix A.

### 4.3.2 Likely timing of servicing

The Long Term Plan (LTP) contains all of the infrastructure projects that Council plans to undertake in the next 10 years. Included in the list of projects are infrastructure works that result in additional areas of land being serviced and therefore released as capacity. Figure 8 below details the release of residential land as projects are completed in the short and medium term.

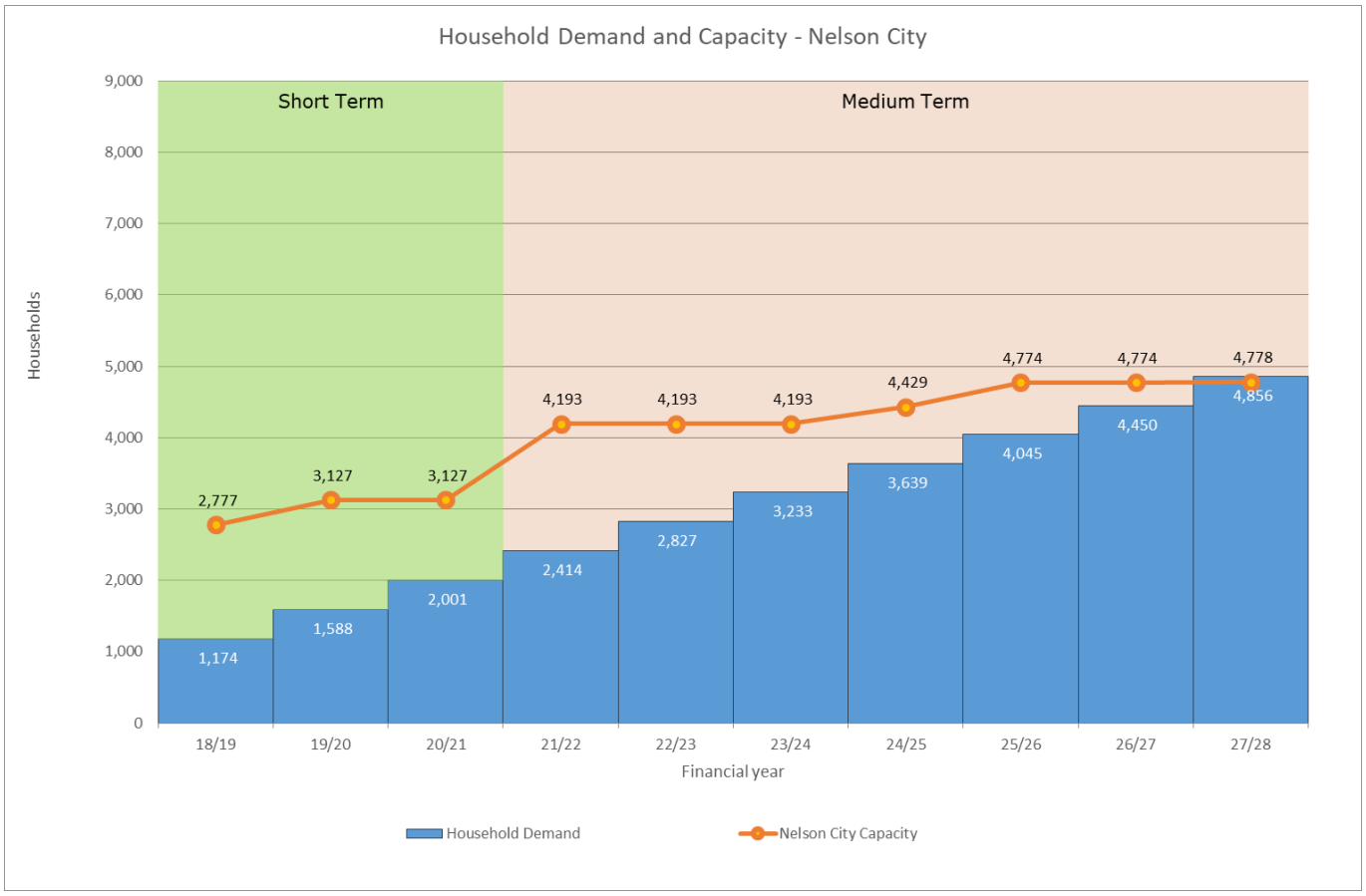



**Figure 8: Residential Capacity including release by LTP projects over time.**

As part of developing the LTP, the capacity is recalculated on a regular basis to show the effect of the addition or removal of projects so that Council can ensure sufficient capacity is provided, balanced with the capacity of Council to undertake projects.

Figure 8 shows that there is adequate plan enabled and serviced or planned to be serviced capacity to allow all of the projected growth in residential demand for the next nine years. There is a shortfall shown in year ten of around 78 residential lots.

**Total Future Capacity: Medium Term (Zoned and planned to be serviced)**

There is a total future household capacity of 2,777 lots as at July 2018 which includes capacity carried over from the short term and new capacity created in the medium term. This is insufficient to meet the requirements under the NPS-UDC for medium term capacity (3 to 10 years).

Medium term household demand is 2,855. There is a shortage of household development capacity in year 10 of 78 lots.

## 4.4 Future Residential Capacity: Long Term (Zoned, not planned to be serviced in the LTP)

The process for assessing future residential capacity for the long term (not planned to be serviced in the LTP) consists of identifying all those areas which are currently zoned residential but for which Council is not planning to provide services in this Long Term Plan. The reasons why services have not been programmed to these areas despite their residential zoning are a combination of Council prioritising other areas that better meet strategic outcomes, the costs of servicing per lot, the programming of related renewals in the area and other areas, and the intentions of the developer with respect to development timeframes. Some of the smaller areas are unlikely to be feasible for Council to service, given the infrastructure costs and the amount of capacity provided. These will be reprioritised for the next LTP.

| Area Number | Capacity Area Name | Current Estimated Residential lot Yield |
|---|---|---|
| 10a | Emano | 96 |
| 10b | Murphy | 75 |
| 16 | Campbell Terrace/ Cleveland Terrace | 15 |
| 17 | Upper Nile Street | 10 |
| 19a | Brooklands | 5 |
| 19b | Paremata | 10 |
| 20 | Werneth | 20 |
| 24 | Enner Glynn | 110 |
| 21 | Wastney Terrace | 29 |

**Table 5: Future Residential Capacity (Long Term Zoned, not planned to be serviced in the LTP)**

**Total Future Capacity: Long Term (Zoned and not planned to be serviced)**

There is a total future household capacity (long term) of 432 lots as at July 2018 which includes 140 dwellings added from infill, and 78 dwellings subtracted due to the undersupply in the medium term. This is insufficient to meet the requirements under the NPS for long term capacity.

Demand for long term housing is 2,937. There is a shortfall of residential capacity of 2505 new dwellings.

Beyond ten years the LTP does not have any effect on infrastructure programming therefore the timing of infrastructure projects to release long term capacity is unknown. The 30 Year Infrastructure Strategy does not contain sufficient detail to establish release of capacity timeframes within the 11 to 30 years. As a result, the only assumptions made in years 11-30 are that the remaining infrastructure to service the rest of the growth areas is completed and that the seven additional dwellings per year of brownfield redevelopment will continue. On the basis of these assumptions the long term capacity will be insufficient to meet the projected demand as shown in Figure 9 below.

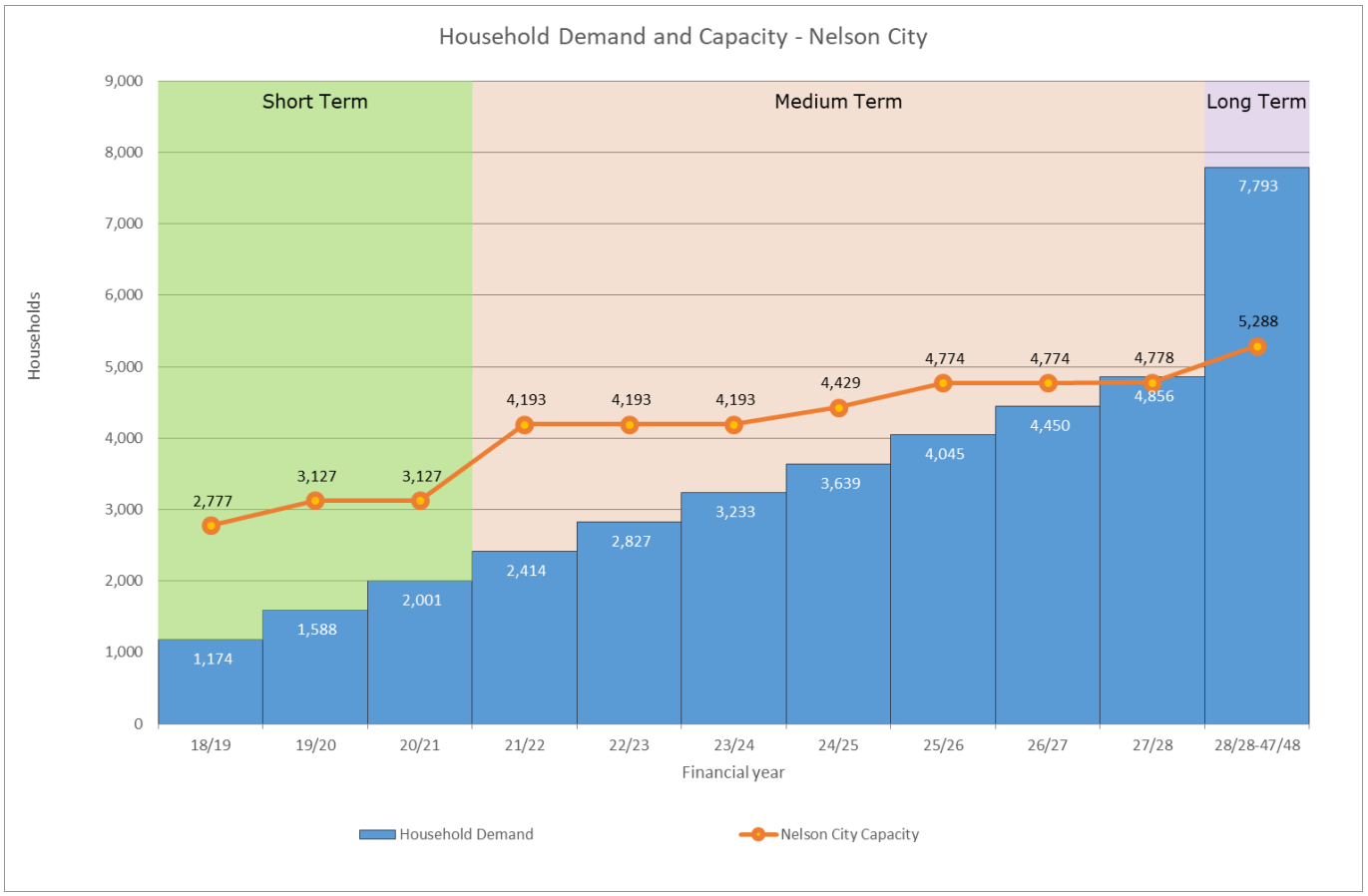



**Figure 9: Residential Capacity including year 30**

The numbers shown in Figure 9 above are based on what is enabled in the NRMP. It is apparent that a change to feasible plan enabled development and greater infrastructure roll out is needed to release further capacity in the long term. To achieve this changes need to be initiated within 12 months, and planned and implemented within the medium term due to the long lag between the start of infrastructure planning in the capital works programme and the release of capacity.

A number of expansion areas and infill opportunities have been identified and feasibility analysis undertaken on both of those in order to inform feasible plan enablement provisions. This work will need to be further developed and assessed in the Future Development Strategy and the Nelson Plan.

Figure 10 below shows a broad overview of the existing and future capacity areas in a geographic context. It also includes the location of three expansion areas which have been identified as a possible means of providing feasible long term capacity. A summary of those is included in section 4.5 below and in full including feasibility analysis in Appendix C. More detailed maps of each future capacity areas and expansions areas are included in Appendix A and C.

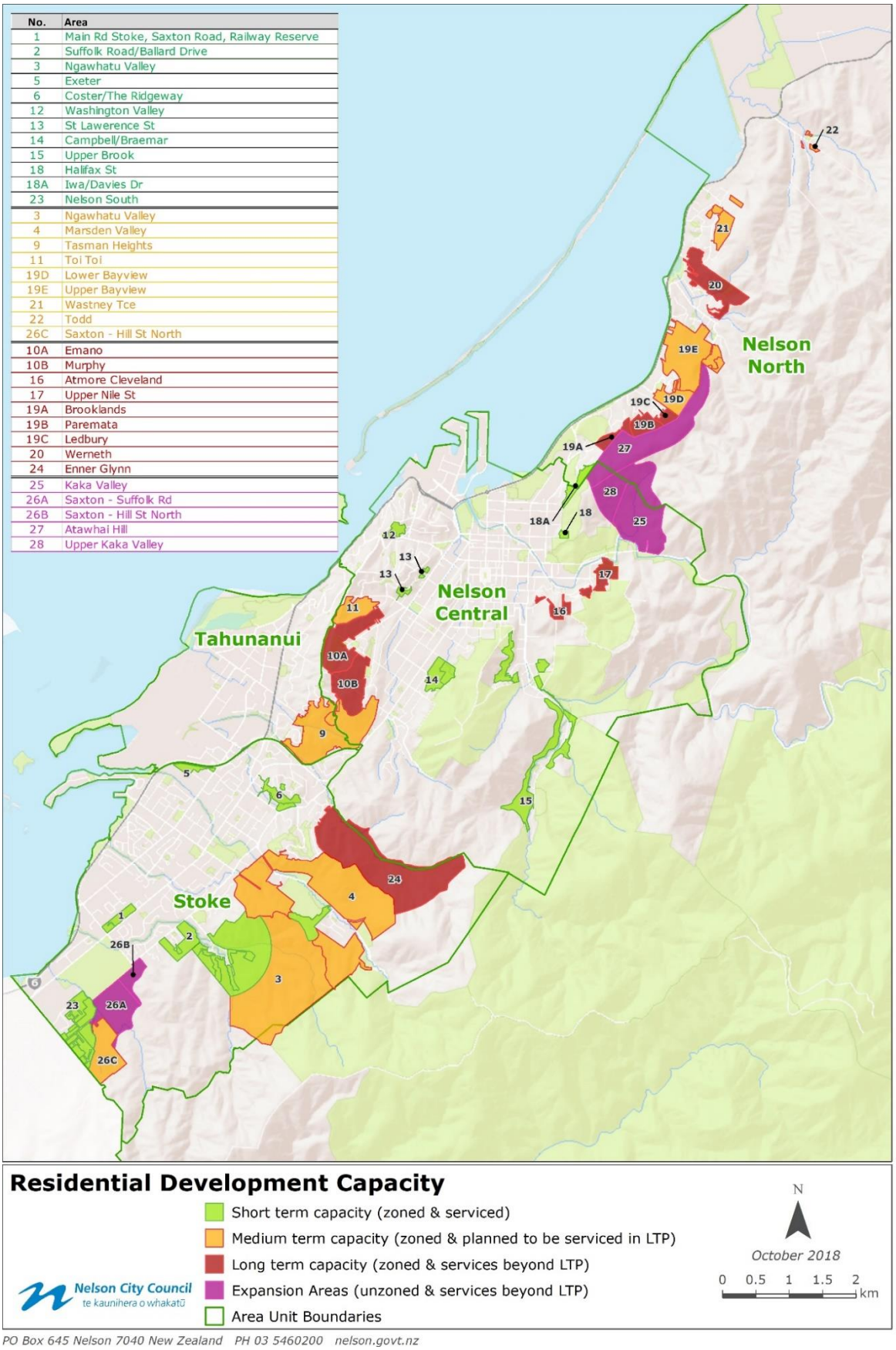



**Figure 10: Nelson Existing and Future Capacity Areas, and Expansion Areas**

## 4.5 Expansion Areas

One practicable response to address policy PC3 of the NPS-UDC and provide additional capacity is the addition of new zoned areas to increase greenfield land capacity. The response would require changes to zoning, objectives, policies, and rules. It would also initiate planning for capital investment in infrastructure. It is recommended that all three areas are assessed further as part of the Future Development Strategy. The location of the possible expansion areas are shown in figure 10.

It should be noted however, that if all three areas identified as possible means to provide capacity were rezoned in the long term (11-30 years) there would still be insufficient capacity to meet demand and the NPS-UDC requirements. Greater plan enablement for infill development is also required, and sensitivity testing in this respect is contained in section 4.5 and Appendix B.

Unlike the zoned areas in Appendices A & B, this section includes recommendations in order to compare and prioritise options as part of a high level growth plan to feed into the Future Development Strategy. Description, analysis and feasibility of the expansion areas is contained in Appendix C. These areas are currently zoned rural and would need to be assessed as part of the Future Development Strategy and the plan review to determine key infrastructure, amenities and a plan enablement framework.

For the feasibility assessment assumptions around development types have been made on the basis that these areas are un-serviced and not constrained by existing development patterns. Similarly the feasibility assessments are not based on current regulatory constraints on building height, size and coverage. This sensitivity tests rule frameworks to provide assessment of what might best suit future conditions and provide a broad range of built form types.

The three expansion areas identified are:

(i) Area 25 : Kaka Valley

| | |
|---|---|
| Projected Yield | 700 dwellings used in capacity calculation (800 dwelling potential with plan change to encourage higher density) |
| Net developable area | 30Ha |
| Priority decade | Years 10-30 (long term) |

(ii) Areas 26A (excluding Summerset SHA) & 26B: (Saxton Growth Area)

| | |
|---|---|
| Projected Yield | 700 dwellings used in capacity calculation (Up to 1760 dwellings with plan change to encourage higher density) |
| Net developable area | 39Ha |
| Priority decade | Years 5-15 (medium to long term) |

(iii) Area 27: Atawhai Hills

| | |
|---|---|
| Projected Yield | 500 dwellings used in capacity calculation (820 dwelling potential with plan change to encourage higher density although landform makes this more difficult) |
| Net developable area | 51.3 hectares |
| Priority decade | Y15-25 |

Future residential development capacity that could be enabled through these expansion areas is 3480 over years 5 to 30. Currently there is a shortfall of 2505 new dwellings in year 9 to 30. Figure 11 below illustrates the addition to long term capacity provided by these expansion areas and the shortfall of 605 households that still remains.

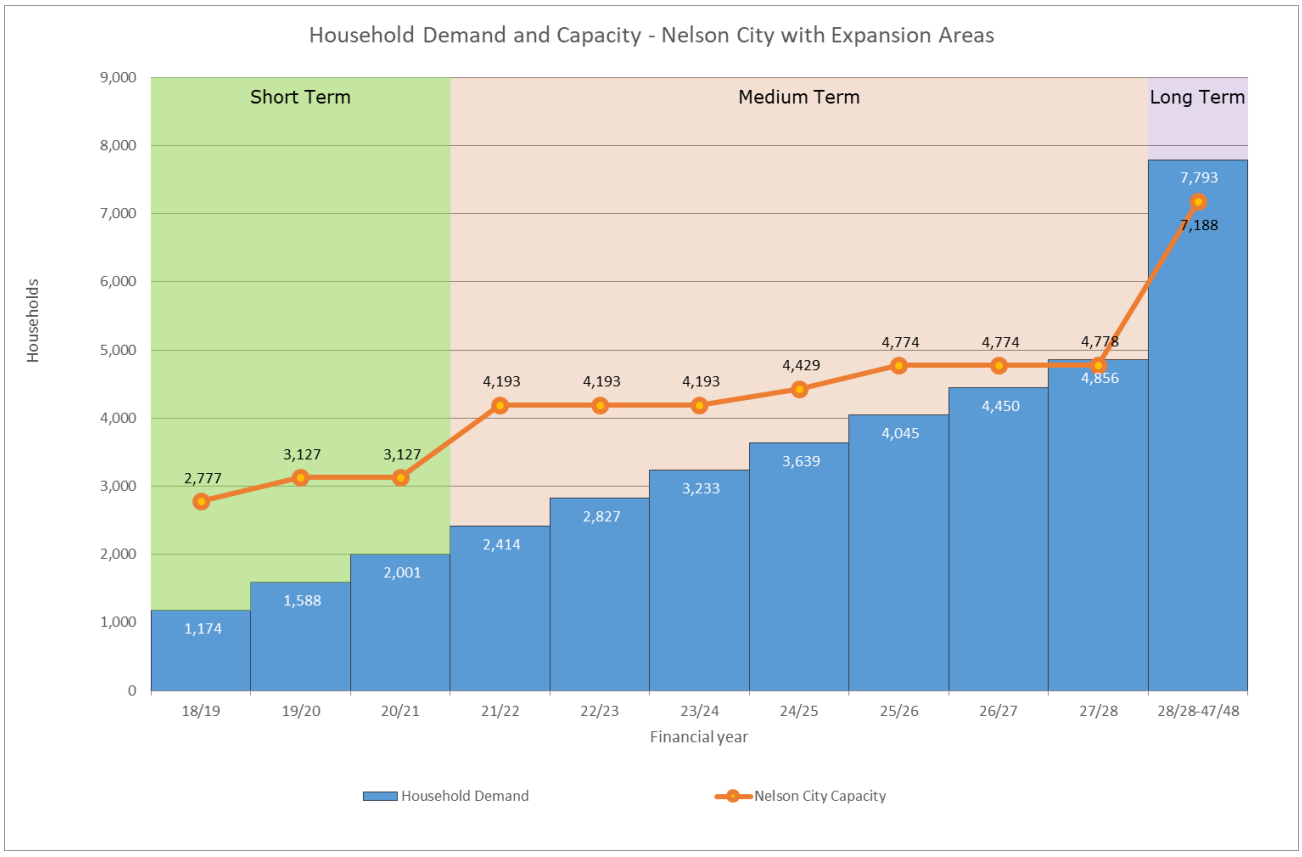



**Figure 11: Residential Capacity including year 30 with expansion areas.**

Of note is the potential effect of changes to plan rules that may encourage higher density. Capacity for an additional 1,160 dwellings has the potential to be released with changed plan rules. This additional capacity would allow for the theoretical demand to be met in year 30.

## 4.6 Future Infill by Redevelopment Capacity

CBRE Ltd was commissioned by Council to test a set of prescribed infill and redevelopment scenarios at a number of sites across the urban area. The findings of that

testing was that most (10 of 13) of the developments tested were not feasible. In particular CBRE found that:

1. The relatively higher effective land cost is a primary impediment to redevelopment.

2. Minor units were found to be difficult to achieve financial feasibility.

3. Feasibility is increased with higher density developments but 'smaller markets can exhibit issues with liquidity and absorption not reflected in a static feasibility method' which means the sale period of higher density units will be longer in a smaller town, making them a riskier proposition to develop.

4. Larger scale developments (such as those achieved by brownfields site agglomeration) are more attractive to commercial developers.

The conclusions that can be taken provide useful recommendations for the Future Development Strategy and the plan review. Feasibility analysis of two currently plan-enabled sites in Appendix B is also helpful to ascertain what plan enablement conditions are able to support feasible infill development. Both assessments have led to the following recommendations for infill or redevelopment which has the potential to provide the additional medium to long term capacity required for the Nelson territorial authority part of the Nelson Urban Area.

Recommendations for inclusion in the Future Development Strategy and/or Nelson Plan review are as follows:

- A regulatory response is needed to mitigate high land cost by permitting more intensive use of land, rather than relying on small scale minor unit infill.

- A capital investment response could be to leverage a combination of more permissive zoning and associated focussed infrastructure and amenity investment. One way this could be achieved in a financially neutral way would be to use income from development contributions within an area of more intensive development to fund investment in a spatially targeted way. This would require some or all asset types to be funded on a catchment-area basis and this may have benefits for other reasons.

- A spatial analysis of existing urban areas should be undertaken as part of the Future Development Strategy in order to determine and rank intensification areas.

- A transport and land use strategy would identify areas of priority for development of walkable and transit enabled development. This should be relatively straightforward given the close built form of Nelson.

- The analysis should take into account current and emerging natural hazards, market attractiveness, land value, existing and potential infrastructure to meet intensification requirements.

Appendix B contains further sensitivity testing of infill by redevelopment, including a matrix to test feasible plan enablement provisions.

*The NPS-UDC requires under policy PB3 that in addition to assessing housing capacity that is plan enabled and provided with infrastructure, Council must also assess whether it is actually feasible to develop. Residential development of all of the medium to long term capacity areas and identified expansion areas is feasible with only the density determining the level of feasibility and profit. In most cases, a much higher density than typically seen in new developments in Nelson was identified as the most profitable development scenario.*

*This section also illustrates plan enabled infill or redevelopment is currently not feasible, and provides recommendations for consideration as part of a plan enablement framework that would assist feasibility.*

# 5. Residential Development Feasibility

## 5.1 Current and Future Development Area Feasibility

Feasibility assessments of each of the capacity areas have been undertaken, as required by the NPS-UDC. The MBIE feasibility tool was used to ensure a consistent approach. A summary of the feasibility of the short to medium capacity areas is included in Appendix A and Appendix B of this report. Appendix B and C also contain feasibility analysis of the infill and the identified future expansion areas and uses this to interrogate what the likely plan enablement provisions would be.

The most challenging part of assessing the feasibility is determining the pre-development value of the land. The rating database, which is typically the source of land value data for this kind of analysis values some undeveloped land at $1.60/sqm which is too low. Instead of using ratings values in valuing the land, the assumption has been made that it will sell for as much as a developer will be prepared to pay for it and still make a minimum margin of just over 20% after development. The MBIE feasibility tool is then used to back calculate the amount that the land would likely be sold for.

The logic applied to come to this method for calculating pre-development land price is as follows:

- The current owner will sell the land for as much as they can get for it.
- The purchasing developer will only buy the land if they can make a margin of at least 20.1% for a relatively low risk development option. In the Nelson context, a low risk development option has been identified as residential sections around 667sqm on average which allow building of a 3-4 bedroom family home. This development type is what is currently being developed in Nelson.
- If the developer intends to develop at a higher intensity they will be taking more risk and as a result expect a higher margin.
- In some cases there is a house on a large property which skews the calculation due to the capital improvements on the site. In these cases it has been assumed that the house would be subdivided off and sold with 1000sqm of land and the remaining land has then been valued using a back calculation in the MBIE feasibility tool.

This method does result in the land cost being much higher in general than the valuation in the rating database. In a lot of cases the total cost for the full land area is likely to be too high for a bank to risk financing the purchase. In this situation it can be assumed that the land would be sold off in smaller parts to allow a developer to get finance.

The other anomaly is the situation where the likely developer has owned the land for a very long time or has inherited it. In some of these cases the owner is the developer and may not value the land at the full market value and as a result accept a lower theoretical margin. The assumption made for all of the feasibility assessments is that the owners will act rationally from an economics point of view and demand a margin of over 20% with the land valued at full market value.

Figure 12 below shows an example of the MBIE feasibility tool with the pre-tax margin of 20.1% that is circled used to back calculate the land price, also circled.

**Area 3 Ngawhatu**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | Gross site area | ha | 175.5 | | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | Land capital value (CV) | $ | $34,747,215 | | | | |
| | Land sale price relative to CV, ex GST | % | 100% | | | | |
| | Road Reserve area for 15 dw/ha | % of area | 20% | | | | |
| | Extra roading for increased dw/ha | % per dw/ha | 0.30% | Revenue | NewLot Area 1 | 400 | m2 |
| | Landscape Reserve for 15 dw/ha | % of area | 5% | | NewLot Price 1 | $244,000 | Section price $ |
| | Extra landscape reserve for dw/ha | % per dw/ha | 0.05% | | NewLot Area 2 | 800 | m2 |
| | Wastewater/stormwater Reserve | % of area | 5% | | NewLot Price 2 | $272,000 | Section price $ |
| | Other constraints that reduce net site area | % of land area | 15% | | m | 0.157 | Section price gradient |
| | Minimum net density | dwellings/ha | 10 | | c | 11 | Section price intercept |
| | Maximum net density | dwellings/ha | 30 | | | | |
| | Time to develop | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | DC contributions factor | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | Project contingency | % | 10% | 10% | 10% | 10% | 10% |
| | Civil works | | Select civil works costs | | | | |
| | Fees and charges | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | Road Reserve Area | ha of land | 32.47 | 35.10 | 37.73 | 40.37 | 43.00 |
| | Landscape Reserve Area | ha of land | 8.34 | 8.78 | 9.21 | 9.65 | 10.09 |
| | Stormwater Reserve Area | ha of land | 8.78 | 8.78 | 8.78 | 8.78 | 8.78 |
| | Other constraints that reduce net site area | ha of land | 26.33 | 26.33 | 26.33 | 26.33 | 26.33 |
| | Net Developable land Area | ha of land | 99.60 | 96.53 | 93.45 | 90.38 | 87.31 |
| Revenue | Subdivision Lots created | total lots | 996 | 1,448 | 1,869 | 2,260 | 2,619 |
| | Average section size | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | Average sales price (inc GST) | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | Average sales price (ex GST) | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | Total revenue | | $ 243,950,842 | $ 332,806,969 | $ 410,683,245 | $ 479,420,217 | $ 540,099,439 |
| Costs | 1 Rawland purchase and holding cost | | $42,044,130 | $42,044,130 | $42,044,130 | $42,044,130 | $42,044,130 |
| | 2 Civil works, incl holding costs | | $120,205,779 | $126,584,063 | $132,917,439 | $139,205,909 | $145,449,473 |
| | 3 Fees and charges, incl holding costs | | $65,639,840 | $83,288,387 | $107,426,484 | $124,368,475 | $139,468,135 |
| | 4 Project contingency | | $22,788,975 | $25,191,658 | $28,238,805 | $30,561,851 | $32,696,174 |
| | Total costs | | $250,678,724 | $277,108,237 | $310,626,858 | $336,180,366 | $359,657,912 |
| | per section costs (excl rawland) | | $209,480 | $162,351 | $143,698 | $130,174 | $121,257 |
| | per section (total) | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | Pre tax profit $ | | -$6,727,883 | $55,698,732 | $100,056,387 | $143,239,852 | $180,441,526 |
| | Pre tax margin % | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| Development feasible? | No | Yes | Yes | Yes | Yes |
| Profit maximising? | No | No | No | No | Yes |
| Margin maximising? | No | No | No | No | Yes |

**Figure 12: MBIE feasibility tool – Land price calculation example.**

In developing the feasibility models for each growth area the following assumptions where made:

- Post development section prices will vary from $244,000 for a 400sqm section to $272,000 for an 800sqm section. These assumptions were validated using sales data from January 2016 to April 2018. Some site specific adjustments have been made to account for particularly attractive or unattractive attribute but in general the above prices have been used.

- The minimum section size that developers are likely to consider in the current Nelson market is 333sqm which corresponds to 30 lots per hectare (net).

- Development contributions are based on the 2018 Development Contributions Policy.

- The remaining assumptions are specific to each growth area and detailed in the assessments in Appendix A.

In summary, the feasibility assessments show that residential development of all of the medium to long term capacity areas is feasible with only the density determining the level of feasibility and profit. In most cases, a much higher density than typically seen in new developments in Nelson was identified as the most profitable development scenario. There are a range of reasons why this is not typically the development form seen in Nelson including:

- Developers not wanting to take a higher level of risk

- Higher density typically means greater earthworks which result in greater upfront costs

- Banks not being prepared to finance these higher risk development types

- The perception amongst developers that there is limited market for higher density living environments

- The desire of buyers for freehold title

These broad reasons limit the range of section types available in the Nelson area to sections typically of a size 600sqm to 700sqm.

As part of the feasibility assessment process, developers and landowners of land in the development areas have been asked for feedback on the assessment results. It is important that the confidentiality of these conversations be protected and as a result the feedback has been collated into general themes rather than being listed for individuals. It is important to note that not all of the land owners and developers were interested in being involved in the process. This was primarily a result of them having well developed plans for their land holdings and not feeling the need to engage further.

The feedback received from developers and landowners is summarised as follows:

- Generally those who engaged were pleased to see that Council had undertaken the work and were wanting to get feedback. In a few cases the MBIE tool was far more detailed than they had seen before so it was a useful tool to inform their future development decisions.

- The potential for higher profit margins from higher development densities was of interest to a number of them and something they hadn’t considered before.

- Availability of finance for development is a major barrier. The banks in particular require a very high proportion of presales before they will consider releasing any funding (sometimes as much as 100% depending on the situation).

- Increasing construction costs and availability of contractors further constrains or adds risk for developers if they are required to achieve 100% presales. The time

taken to bring the product to market after first agreeing on a price for presales can mean that little profit is made as construction costs increase over the development period.

The process of engaging with developers and landowners is ongoing and will inform future assessments.

## 5.2 Infill capacity feasibility

Council has undertaken a limited feasibility assessment of plan enabled infill capacity and this is attached in Appendix B.

The assessment revealed that it is unlikely for infill or redevelopment of existing residential sites to be feasible under the current plan provisions. In general, for redevelopment, the cost of acquiring the already occupied land is too high for the plan enabled development form to recoup along with a viable profit.

It is important to understand that for infill, the analysis requires a financial return on any land area that was subdivided. In practice, land owners that develop a second dwelling on their property do not always take into account the capital gains of the unbuilt part of their property and as a result may accept a much lower theoretical profit margin in lieu of other benefits therefore making development feasible for them under different criteria. For example, the motivation for developing infill housing is not always profit but instead maybe to allow affordable or close-by housing for elderly family members or for younger family members that cannot afford a house of their own.

Nelson has very few developers who have been able to bring infill developments to the market. Conversations with these developers highlight that the property values, lack of plan enablement, and finance are the biggest factors affecting feasibility.

The outcome of the feasibility assessment for infill and redevelopment support the conservative approach taken in determining the contribution in the capacity assessment that this development mode type might make to the overall capacity. There is significant potential in Nelson for infill and site redevelopment to contribute to housing capacity, however the feasibility assessment has shown that to enable this some significant changes need to be made to the plan framework, and these would require testing in terms of the acceptability of amenity outcomes and the appropriateness of areas to accommodate them.

*Policy PA3 requires that Council have particular regard to providing different housing choices that will meet the needs of people and communities and future generations for a range of dwelling types and locations. There are around 1,600 residences where one or two persons are living in a four bedroom house. There is no data available to determine why this maybe the case but one reason maybe that smaller houses are not available in the market. Feasibility analysis shows that the best opportunity to provide a range of housing types and price points within a development is through greenfield development.*

# 6. Housing Types and Choices

An important factor in providing for long term residential housing demand is the provision of an appropriate mix of housing types to match the household sizes. Over the next 30 years there is projected to be a large shift in the age breakdown of Nelson's residents. Figure 13 shows the projected population of Nelson age group.

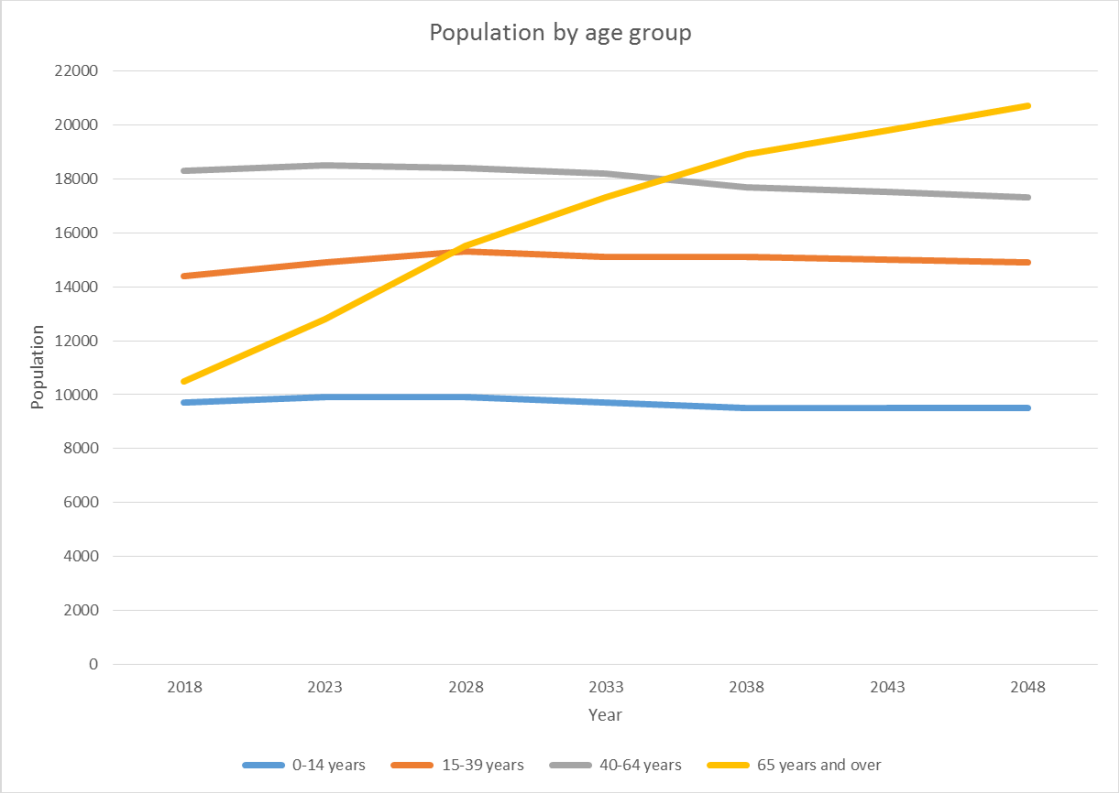



**Figure 13: Projected Nelson population by age group.**

As shown in Figure 13, all of the age groups between zero years and 64 years are projected to either remain similar or reduce slightly between 2018 and 2048. In contrast the 65 years and over age category is expected to approximately double in population

over the same period. Along with the large increase in the older population there is expected to be a corresponding increase in demand for one and two bedroom dwellings. Figure 14 shows the breakdown of Nelson's housing stock by number of bedrooms and number of occupants.

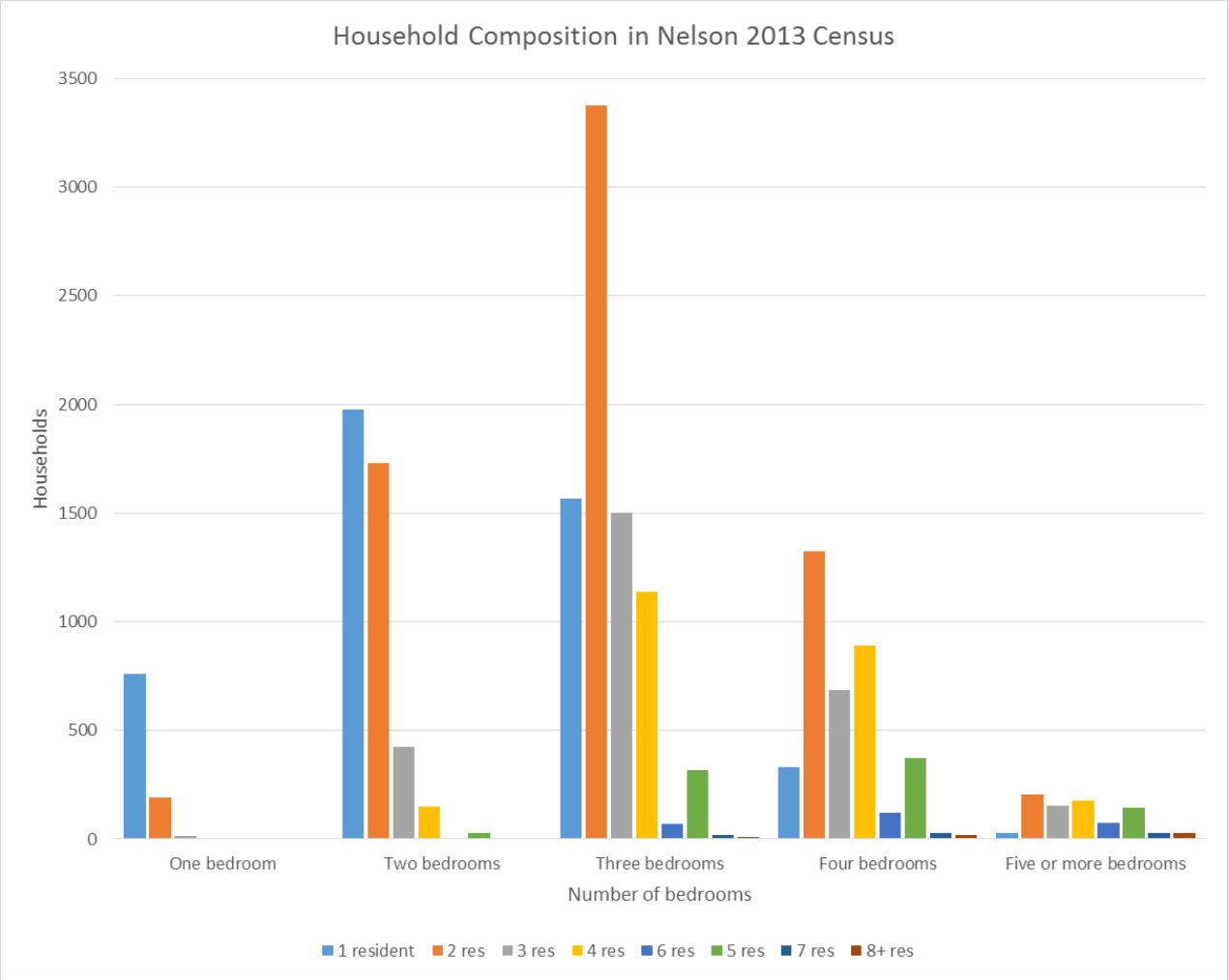



**Figure 14: Number of dwellings by number of bedrooms and number of occupants**

Figure 14 shows that there are around 1,600 residents living one or two persons in a four bedroom dwelling. There is no data available to determine why this maybe the case but one reason maybe that smaller dwellings are not available in the market.

Council currently has no ability to control the size of dwellings in the market and while the NRMP enables a range of dwelling sizes, the feasibility of those in relation to land value and site size does not favour smaller dwellings. Further work is required to better understand the community's preferences for dwelling size and how that relates to price points in Nelson. Feasibility analysis shows that the best opportunity to provide a range of housing types and price points within a development is through greenfield development.

Disseminating this information to the public and to developers and housing companies is another important part of improving the chances that a wider range of dwelling types will be developed, as well as promoting partnership models with social housing providers. Of course it is not useful to provide dwellings of a particular size if there is no one to afford them. In order to assess the availability of dwellings to the full range of residents in the Nelson area, a sample of sales data from the last four months has been compared to the ability to pay of those resident households that do not own their own home. Figure 15 below shows the broad relationship.

There are a number of broad assumptions made in the analysis to get to the figure 15 as follows:

- The data for household income and housing ownership is from the 2013 census. In order to attempt to more closely reflect the current incomes, the change in median income between 2013 and 2018 has been used to scale the 2013 household income figures up. Further assessment of this will be necessary once the 2018 census data is released in the first quarter of 2019.
- To determine the price that households can afford to pay for a home, an online mortgage calculator from one of the major banks was used. This determined the amount the bank would loan and the assumption was made that the household had a corresponding 20% deposit.
- The house price bands reflect what the households can afford based on the household income bands that the census data covers.

It is important that the numbers in figure 15 are not taken as absolute but rather used to gain a broad understanding of what proportion of the population is likely to be able to purchase a home under the current market conditions.

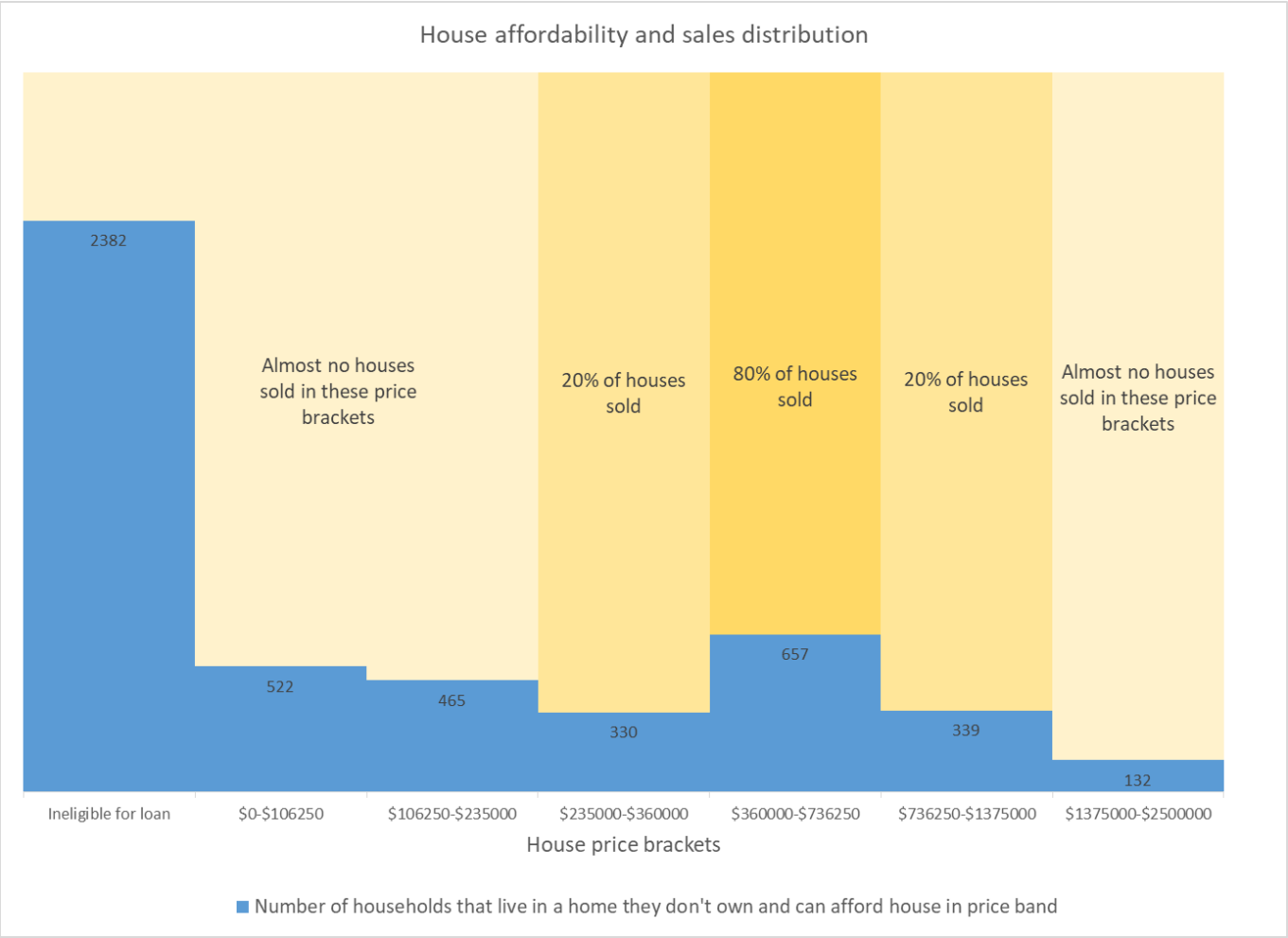



**Figure 15: Relationship between house sale prices and ability to pay for all households not living in their own home.**

Figure 15 shows that of the households that are not living in their own home, around half do not earn enough to be eligible for any loan from the bank. As a result, it is unlikely that without any inheritance or other similar windfall, they would be able to afford their own home. The rationale behind the bank not being able to loan to them is simply that their costs of living day-to-day take up all of what they earn.

The next two categories of $0-$106,250 and $106,250-$235,000 are able to loan money from the bank but not enough to afford any houses sold in the current market in Nelson. For the remaining price brackets, the house sales profile broadly follows the demand profile. This indicates that around 70% of the households that do not live in their own home are unlikely to be able to participate in the Nelson housing market due to inadequate income or conversely too high property prices.

The MBIE Housing Affordability Measure (HAM) that is reported on in the NPS-UDC Quarterly Monitoring Report shows that around 85% of first home buyers are not able to afford a typical 'first-home' which is defined as the lower quartile price point of housing in the Nelson area. This result supports the analysis summarised in Figure 15.

Further work on the spread of affordability is needed on order to understand the levers that Council may have available. This work will be done after the 2018 census data is released to make sure that the data used is up to date and relevant to the current housing market.

*Analysis of the current vacant and underutilised Commercial and Industrial zoned land shows that sufficient capacity exists within the Nelson Urban Area to provide for short, medium and long term demand until 2038. This NPS-UDC capacity assessment focused on housing capacity rather than business capacity, because housing supply is currently an issue in Nelson. The next NPS-UDC capacity assessment due in 2021 will focus greater attention on business demand and capacity, and the relationship between business and residential capacity.*

# 7. Business Capacity

Nelson City Council and Tasman District Council commissioned Property Economics to undertake an assessment of business land capacity in both regions. The report, completed at the end of 2016 provides a Nelson Urban Area assessment which is included in the Nelson Urban Area overview report A2080812. The report is available on the Nelson City Council website at www.nelson.govt.nz/urban-development-capacity.

The focus of this Nelson territorial area urban development capacity assessment was on residential capacity rather than business capacity as that is seen to be where the greatest lack of supply is currently in the Nelson market. The next capacity assessment (due December 2020) will provide greater focus on the business capacity for both the Nelson Territorial Area and the Nelson Urban Area. In particular the relationship between business land in both Nelson and Richmond needs to be focused on as a number of co-dependencies exist within both the centres hierarchy and industrial land supply, and the way in which the regional market operates within both territorial authority's boundaries and the Nelson Urban Area.

The Nelson City Centre is a critical economic engine for the region, and reinvestment and development (retail, office, and commercial services) should be focused on the Nelson City Centre to optimise the economic benefit potential of such development. The Nelson City Centre is a commercial hub that could, and should, be performing at a higher level and being more productive. New development and activity is required to facilitate this improvement.

Tahunanui is the key area for industrial activity in Nelson. Central Nelson also has a relatively high industrial land provision on its city centre fringe which is an important industrial location, especially given the limited potential for new land supply.

Analysis of the existing zoned provision of business land which is all serviced across Nelson shows that the there is sufficient capacity in the short, medium and long term. It is important to note however, that this capacity is a result of large tracts of the existing zoned business land provision being vacant or underutilised. This type of brownfield development which reinvests capital back into existing infrastructure and land resources improves the city's market and allocative efficiencies.

Business demand is assessed by Property Economics from using the population projections, assessing employment rates and then transferring that demand into floor

area requirements for commercial and industrial zones (these being the two business zones used in Nelson).

Table 6 below details the business demand needed up until 2038 in addition to that which is currently available.

| Business Demand | Land Area/Floor Space Required 2016-2038 |
|---|---|
| | NCC part of Nelson Urban Area |
| Commercial (Includes retail) | 16.6 Ha |
| Industrial land | 0.1 Ha |

**Table 6: Business land demand**

Analysis of the current vacant and underutilised Commercial and Industrial zoned land shows that capacity exists within the Nelson Urban Area to cater for all future demand as shown below in Table 7.

| Business Capacity | Vacant/underutilised land (floor space) |
|---|---|
| | NCC part of Nelson Urban Area |
| Commercial (Includes retail) | 18 Ha |
| Industrial land | 35.1 Ha |

**Table 7: Business land capacity**

The Property Economics Assessment report identifies there is sufficient business land provision and that this provision is well located from a business location perspective. All zoned business land in the Nelson territorial area has adequate infrastructure provision to allow development immediately. No feasibility testing of the business land has been done at this stage. Ground truthing of industrial land usage was undertaken in 2017, however no ground truthing of commercial capacity has been undertaken instead vacant or underutilised sites have been assessed using local valuers/real estate knowledge.

There is a relationship between business and residential capacity. Council is focusing on revitalising business activity in the city centre. One method is by encouraging greater residential activity above first floor. Sufficient capacity exists to accommodate both activities currently and the relationship and optimal balance between both activities will be explored further in the next capacity assessment, in the development of the city centre programme and the Future Development Strategy.

*There is sufficient zoned land available, or planned to be made available and serviced with infrastructure, to allow for housing development for the next 9 years in the Nelson Territorial Authority Area part of the Nelson Urban Area. Beyond 10 years, there is a significant shortfall expected for residential capacity unless there are significant changes to the plan enablement provisions and increased infrastructure investment. If Council wishes to ensure that the Nelson Territorial Authority Area part of the Nelson Urban Area provides sufficient capacity in the long term to accommodate projected growth then a response is required to be initiated.*

# 8. Conclusion

The analysis described and summarised in this report demonstrates that there is sufficient zoned land available, or planned to be made available and serviced with infrastructure, to allow for housing development for the next 9 years in the Nelson Territorial Authority Area part of the Nelson Urban Area.

Beyond 10 years, there is a significant shortfall expected for residential capacity unless there are significant changes to the plan enablement provisions and increased infrastructure investment. PC3 of the NPS-UDC requires that Council initiate a response if there is insufficient capacity for the Nelson Urban Area in any of the short, medium or long term within 12 months of this assessment.

If Council wishes to ensure that the Nelson Territorial Authority Area part of the Nelson Urban Area provides sufficient capacity in the long term to accommodate projected growth then a response is required. The relationship between residential and business capacity is relevant in making this consideration. In order to ensure the vitality of the city centre and surrounding business activities, greater residential activity is needed to be enabled within the Nelson Territorial Authority Area rather than relying on the Tasman portion of the Nelson Urban Area to provide long term residential capacity.

In addition, the ability of Tasman District Council to provide long term residential capacity for years 11 to 30 is dependent upon an augmented water supply (i.e. the Waimea Dam) being provided. Currently there is uncertainty about an augmented water supply. These are scenarios and risks which will be tested in the assessment undertaken as part of the Future Development Strategy. It is likely however that a future development strategy will include enabling the full range of capacity options in order to increase certainty and reduce risks for developers, leverage benefits to the Nelson City Centre business land, and enable the provision of a range of housing choices and price points.

A plan change or proposed plan and accompanied infrastructure planning is required to provide greater 'plan enablement' both in zoning and development provisions to provide the required long term residential capacity. To achieve this for the long term (11 to 30 years) Council needs to start the plan change process and infrastructure assessment in

the short to medium terms. The Future Development Strategy and Nelson Plan provide existing opportunities to do this.

Assessment of the feasibility of developing the land in each of the growth areas shows that developers are, in general, developing properties at a much lower density than the optimum for maximising returns for themselves. This has highlighted that the major challenge in promoting further development of housing in the Nelson Urban Area is the availability of finance for developers to adopt higher density and greater risk housing types.

Assessment of feasibility of infill development under the current plan enabled framework and market show that it is extremely difficult to make a profit which explains the general low supply of infill capacity in Nelson. This also affects the ability to bring different types and therefore different price points to the market. In general the market in Nelson is dominated by the supply of one housing type.

All options to meet long term capacity for years 11 to 30 will be further assessed in the creation of the Future Development Strategy over the next year, and this is the start of Council initiating a response in accordance with Policy PC3. The response will need to be developed in conjunction with Tasman District Council.

Analysis of the current vacant and underutilised Commercial and Industrial zoned land shows that sufficient capacity exists within the Nelson Urban Area to provide for short, medium and long term demand until 2038. This NPS-UDC capacity assessment focused on housing capacity rather than business capacity, because housing supply is currently an issue in Nelson. The next NPS-UDC capacity assessment due in 2021 will focus greater attention on business demand and capacity, and the relationship between business and residential capacity.

# 9. Recommendations

Recommendations to enable Council to initiate a response to the identified shortfall in urban development capacity for housing in the long term (11 to 30 years) are as follows.

Response as per Policy PC3:

(i) Undertake a Future Development Strategy in conjunction with Tasman District Council to ensure sufficient residential and business development capacity is provided of the Nelson Urban Area over the next 30 years.

(ii) Initiate assessment of a plan change/proposed plan to rezone identified greenfield future capacity areas with appropriate plan provisions and infrastructure investment.

(iii) Initiate assessment of a plan change/proposed plan to provide a regulatory framework that enables feasible infill and redevelopment of existing areas.

(iv) Continue to evaluate and monitor residential and business capacity with Tasman District Council to ensure decision making is aligned between the Councils where it affects the potential to provide sufficient residential and business land capacity.

(v) Build and strengthen developer relationships and identify potential partnership opportunities, including with central government agencies and the urban Growth Agenda, Kiwibuild and Urban Development Agencies.

(vi) Develop the city centre program to attract greater reinvestment in the city centre and residential living opportunities.

Recommendations to improve the next capacity assessment are as follows:

- Undertake further assessment on housing types, their feasibility and what framework would enable different price points for the Nelson market to be supplied. Better define the demand assessment methodology.
- Undertake a more detailed assessment including ground-truthing of business land capacity and the relationship between business and residential land capacity.
- Identify in the Infrastructure Strategy greater detail on the costs and timing of projects to enable capacity in the 11 to 30 year term for both greenfield expansion areas and infill development areas.
- Undertake consultation with Iwi and other infrastructure providers.

# 10. Assumptions

The following assumptions have been made during the development of this capacity assessment:

- Developers will continue to subdivide land at a density that is similar to the current trend. This behaviour reflects the relatively conservative approach to development that requires the minimum financial risk.
- The development feasibility for all areas has been assessed using todays values for land value and the development costs. As demand for housing increases and land supply becomes strained, the relationship between cost to develop and section sales prices may change so that additional areas become more feasible to develop.
- The feasibility assessment has used the costs from the 2018 Development Contributions Policy.

# 11. Limitations

The following issues have the potential to affect the long term accuracy of the capacity assessment have been identified below:

- Demand has been calculated using the high series Statistics NZ projections. If the high series is not released then there will be greater capacity than evaluated. In order to avoid over investment in infrastructure Council should revaluate demand projection based on actuals provided by the next census.

- There is no process to account for conversion of backyard infill capacity into supply, so it is possible that double counting could occur in the future. This is not applicable at this stage but will need to be considered within the next 5-7 years.

- There is no unique identification field linking resource consents to building consents and then to the rating database. This makes tracking of changes over time a very manual process with potential for double counting and other inaccuracies.

- The method of calculation of residual demand needs to be validated in some way. There is a shortage of high quality data sets that adequately describes the unmet demand for housing.

- The MBIE feasibility tool limits flexibility when testing alternative densities as it does not allow individual components to be changes other than applying a blanket percentage change to the costs as the density increases.

Between the completion of this report and the next one in three years' time, work will be undertaken to develop processes to minimise or eliminate the uncertainties above. In the case of the MBIE feasibility tool, some small modifications have already been made to allow some additional functionality but further work will continue to be undertaken.

# 12. References


A1247963 Nelson City Council future capacity area assessment and infrastructure planning

A1955169 Nelson City Council Population Demand Projections

A1717364 Nelson City Council current residential capacity assessment

A1334823 Nelson City Council Backyard infill analysis

A1992283 Economic business land demand forecasting for Nelson and Tasman by Property Economics Ltd

A1746509 High level of analysis of Nelson Urban Area Population growth by Infometrics

# Appendix A

This appendix details the timing of completion of infrastructure projects to zoned areas and therefore the timing of the release of residential capacity. This section also evaluates the feasibility of each of the significant capacity areas.

## Part 1: Future Residential Capacity Areas

### Medium Term years 4 to 10

| Area Number | Capacity Area Name | Current Estimated Residential remaining Capacity |
|---|---|---|
| 3 | Ngawhatu Valley | 345 |
| 4 | Marsden Valley | 650 |
| 9 | Tasman Heights | 314 |
| 11 | Toi Toi | 102 |
| 19d | Lower Bayview | 100 |
| 19e | Upper Bayview | 136 |
| 22 | Todd Valley | 4 |

Medium term capacity areas are documented in section 4.3 of the report. They are all zoned residential but subject to one or more servicing constraints being addressed in the LTP.

## Part 2: Future Residential Capacity Areas

### Long Term years 11 to 30

| Area Number | Capacity Area Name | Current Estimated Residential lot Yield |
|---|---|---|
| 10a | Emano | 96 |
| 10b | Murphy | 75 |
| 16 | Campbell Terrace/ Cleveland Terrace | 15 |
| 17 | Upper Nile Street | 10 |
| 19a | Brooklands | 5 |
| 19b | Paremata | 10 |
| 20 | Werneth | 20 |
| 24 | Enner Glynn | 110 |
| 21 | Wastney Terrace | 29 |

Long term capacity areas are documented in section 4.4 of the report. They are all zoned residential but subject to one or more servicing constraints that is not being addressed by the LTP.

# Part 1: Future Residential Capacity Areas

# Medium Term years 4 to 10

## Area 3: Ngawhatu Valley

| | |
|---|---|
| Projected Yield | 800 lots based on development plans received |
| Gross site area | 175Ha |
| Estimated Net developable area | 120Ha |
| Priority decade | Years 3-10 |
| Servicing cost per lot | $1,575 |

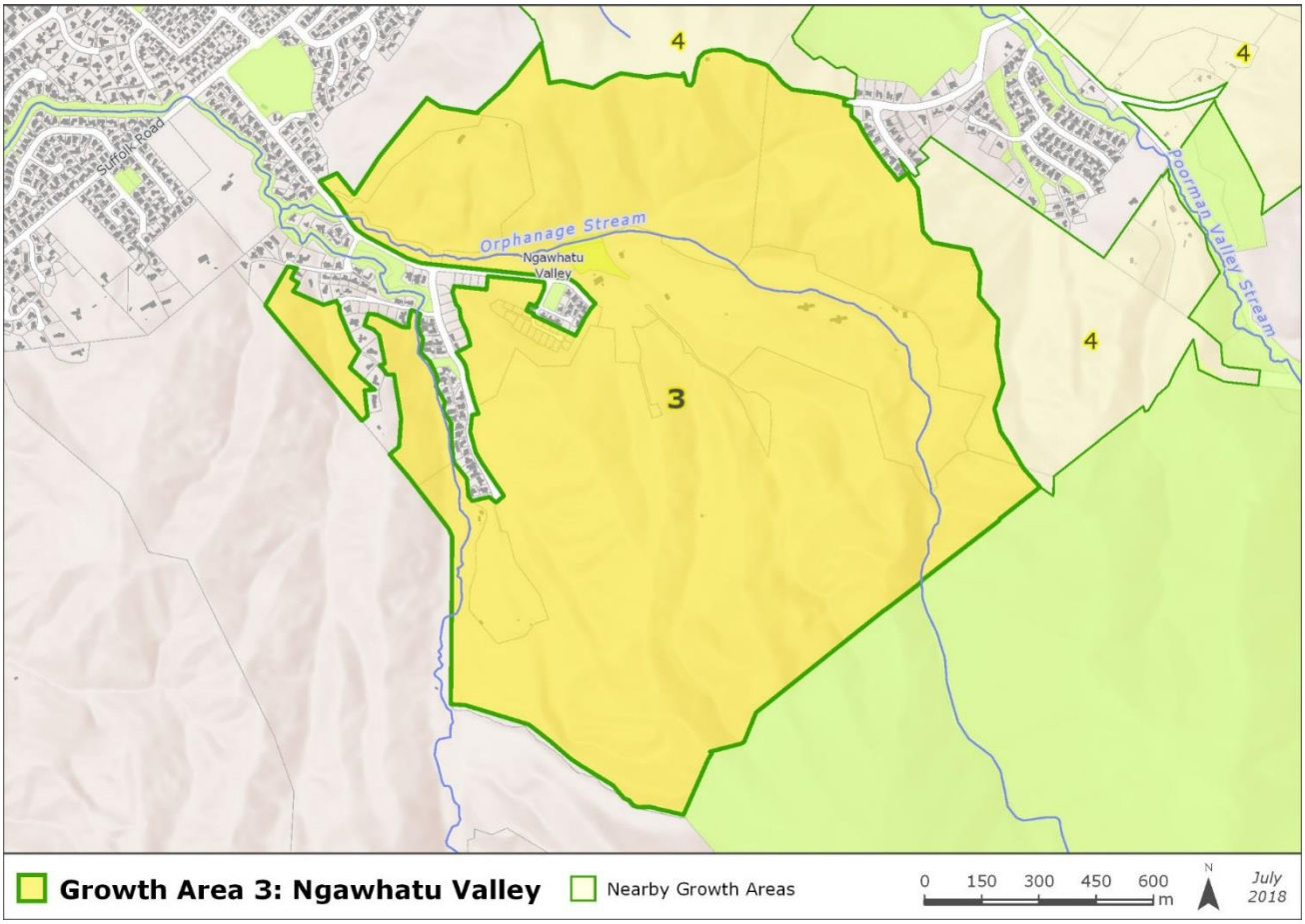
### Description

Area 3 sits within the Ngawhatu Valley in Stoke and extends to meet area 4 at the top of the ridge between Ngawhatu Valley and Marsden Valley. The area is currently partially developed but still has significant capacity remaining. The bottom of the valley is relatively flat with the ground steepening further to the sides. All access to the valley is via the intersection of Suffolk Road and Ngawhatu Road. A small high density area (300sqm minimum lot size) has been developed on Montebello Avenue with lot sizes ranging from 400-500 sqm.

Development in the valley to date has been primarily on the valley floor and on the north facing slopes of the southern side of the valley with residential lot sizes generally following the typical pattern seen in Nelson of around 600-700sqm.

The undeveloped land in the valley is almost all owned by a two companies, Stoke Valley Holdings Ltd and Solitaire Investments Ltd.

## Location plan




## Servicing constraints

As shown in the table below, growth area 3 is constrained by transport and water infrastructure. All projects needed to release the remaining capacity will be completed in 2026 according to the project list in the 2018 Nelson Long Term Plan.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $160,000 | Yes | 2026 |
| Stormwater | No | | | |
| Water | Yes | $1,100,000 | Yes | 2026 |
| Wastewater | No | | | |
| | Total | $1,260,000 | Final completion | 2026 |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare.

**Area 3 Solitaire**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 175.5 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $34,747,215 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $244,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $272,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.157 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 32.47 | 35.10 | 37.73 | 40.37 | 43.00 |
| | *Landscape Reserve Area* | ha of land | 8.34 | 8.78 | 9.21 | 9.65 | 10.09 |
| | *Stormwater Reserve Area* | ha of land | 8.78 | 8.78 | 8.78 | 8.78 | 8.78 |
| | *Other constraints that reduce net site area* | ha of land | 26.33 | 26.33 | 26.33 | 26.33 | 26.33 |
| | *Net Developable land Area* | ha of land | 99.60 | 96.53 | 93.45 | 90.38 | 87.31 |
| Revenue | *Subdivision Lots created* | total lots | 996 | 1,448 | 1,869 | 2,260 | 2,619 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | *Average sales price (ex GST)* | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | *Total revenue* | | $ 243,950,842 | $ 332,806,969 | $ 410,683,245 | $ 479,420,217 | $ 540,099,439 |
| Costs | *1 Rawland purchase and holding cost* | | $42,044,130 | $42,044,130 | $42,044,130 | $42,044,130 | $42,044,130 |
| | *2 Civil works, incl holding costs* | | $120,205,779 | $126,584,063 | $132,917,439 | $139,205,909 | $145,449,473 |
| | *3 Fees and charges, incl holding costs* | | $65,639,840 | $83,288,387 | $107,426,484 | $124,368,475 | $139,468,135 |
| | *4 Project contingency* | | $22,788,975 | $25,191,658 | $28,238,805 | $30,561,851 | $32,696,174 |
| | *Total costs* | | $250,678,724 | $277,108,237 | $310,626,858 | $336,180,366 | $359,657,912 |
| | *per section costs (excl rawland)* | | $209,480 | $162,351 | $143,698 | $130,174 | $121,257 |
| | *per section (total)* | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | *Pre tax profit $* | | -$6,727,883 | $55,698,732 | $100,056,387 | $143,239,852 | $180,441,526 |
| | *Pre tax margin %* | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 4: Marsden Valley

| | |
|---|---|
| Projected Yield | 920 lots |
| Gross site area | 67Ha |
| Estimated Net developable area | 46Ha |
| Priority decade | Years 3-10 |
| Servicing cost per lot | $2,714 |

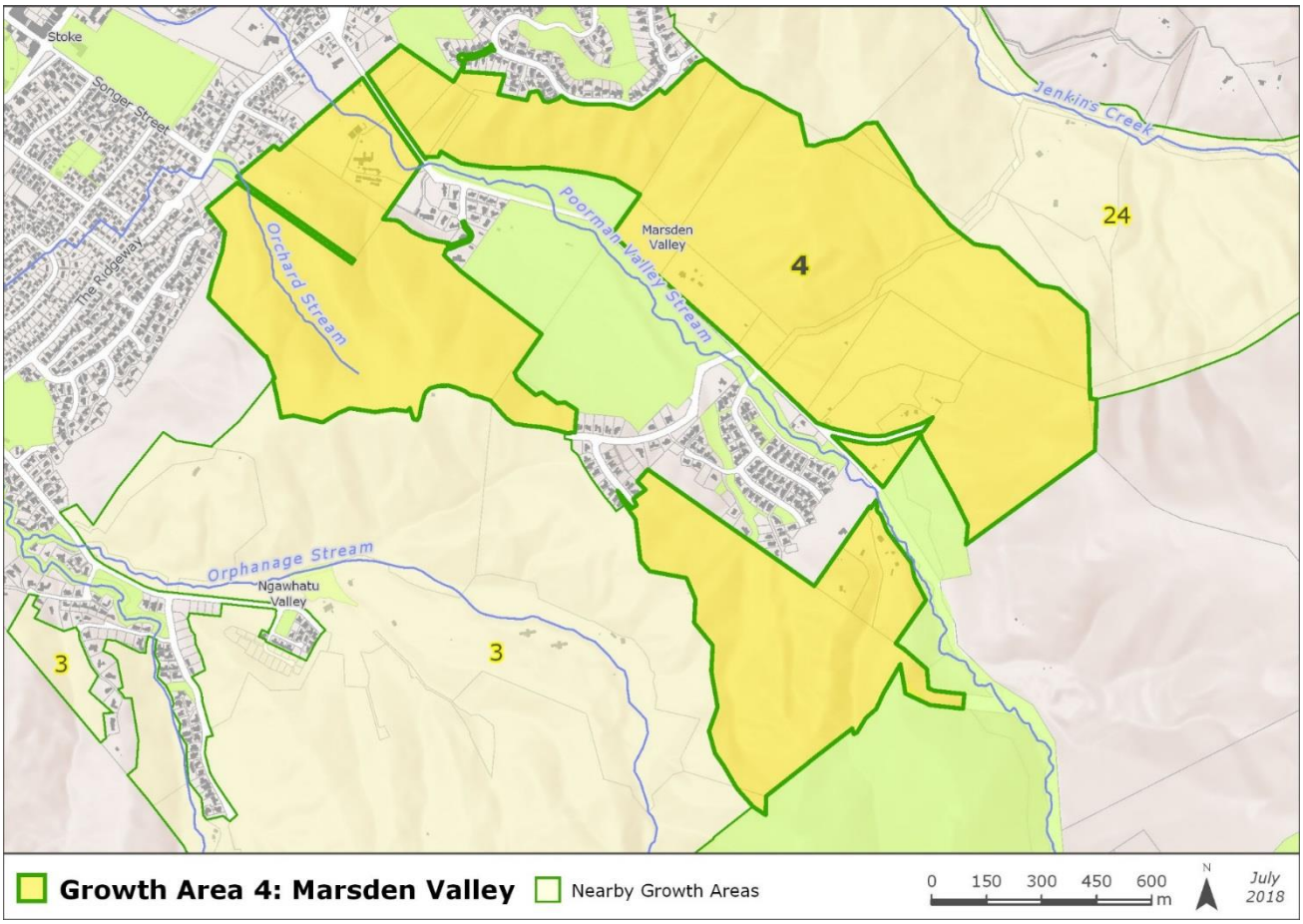
### Description

Area 4 sits within the Marsden Valley in Stoke and extends to meet area 3 at the top of the ridge between Ngawhatu Valley and Marsden Valley. The area is currently partially developed but still has significant capacity remaining. The bottom of the valley is relatively flat with the ground steepening further to the sides. All access to the valley is via the intersection of Suffolk Road and Ngawhatu Road.

Development in the valley to date has been primarily on the north facing slopes of the southern side of the valley with residential lot sizes slightly smaller than typically seen in Nelson at 500-600sqm.

The majority of the undeveloped land in the valley is owned by three entities.

## Location plan




## Servicing constraints

As shown in the table below, growth area 4 is constrained by transport servicing. All projects needed to release the remaining capacity will be completed in 2025 according to the project list in the 2018 Nelson Long Term Plan.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $2,497,200 | Yes | 2025 |
| Stormwater | No | | | |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $2,497,200 | Final completion | 2025 |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare.

**Area 4: Marsden Valley**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 67.3 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $18,631,106 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 150% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $240,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $270,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 45% | | *m* | 0.170 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 100% | 100% | 100% | 100% | 100% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 12.45 | 13.46 | 14.47 | 15.48 | 16.49 |
| | *Landscape Reserve Area* | ha of land | 3.20 | 3.37 | 3.53 | 3.70 | 3.87 |
| | *Stormwater Reserve Area* | ha of land | 3.37 | 3.37 | 3.37 | 3.37 | 3.37 |
| | *Other constraints that reduce net site area* | ha of land | 30.29 | 30.29 | 30.29 | 30.29 | 30.29 |
| | *Net Developable land Area* | ha of land | 18.00 | 47.11 | 45.93 | 44.75 | 43.58 |
| Revenue | *Subdivision Lots created* | total lots | 180 | 707 | 919 | 1,119 | 1,307 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $280,434 | $261,763 | $249,275 | $240,000 | $232,679 |
| | *Average sales price (ex GST)* | per section | $243,856 | $227,620 | $216,761 | $208,696 | $202,329 |
| | *Total revenue* | | $ 43,900,777 | $ 160,847,907 | $ 199,126,267 | $ 233,501,739 | $ 264,505,447 |
| Costs | *1 Rawland purchase and holding cost* | | $33,815,457 | $33,815,457 | $33,815,457 | $33,815,457 | $33,815,457 |
| | *2 Civil works, incl holding costs* | | $44,029,544 | $46,992,077 | $49,494,575 | $51,979,854 | $54,447,911 |
| | *3 Fees and charges, incl holding costs* | | $12,515,477 | $40,945,481 | $51,656,031 | $61,615,277 | $70,872,009 |
| | *4 Project contingency* | | $9,036,048 | $12,175,302 | $13,496,606 | $14,741,059 | $15,913,538 |
| | *Total costs* | | $99,396,527 | $133,928,317 | $148,462,670 | $162,151,647 | $175,048,915 |
| | *per section costs (excl rawland)* | | $364,284 | $141,672 | $124,800 | $114,702 | $108,034 |
| | *per section (total)* | | $552,119 | $189,526 | $161,610 | $144,925 | $133,901 |
| Profit | *Pre tax profit $* | | -$55,495,749 | $26,919,590 | $50,663,597 | $71,350,092 | $89,456,531 |
| | *Pre tax margin %* | | -55.8% | 20.1% | 34.1% | 44.0% | 51.1% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 9: Tasman Heights (500 lots)

| | |
|---|---|
| Projected Yield | 500 lots |
| Gross site area | 58Ha |
| Estimated Net developable area | 28Ha |
| Priority decade | Years 1-3 |
| Servicing cost per lot | $5,198 |

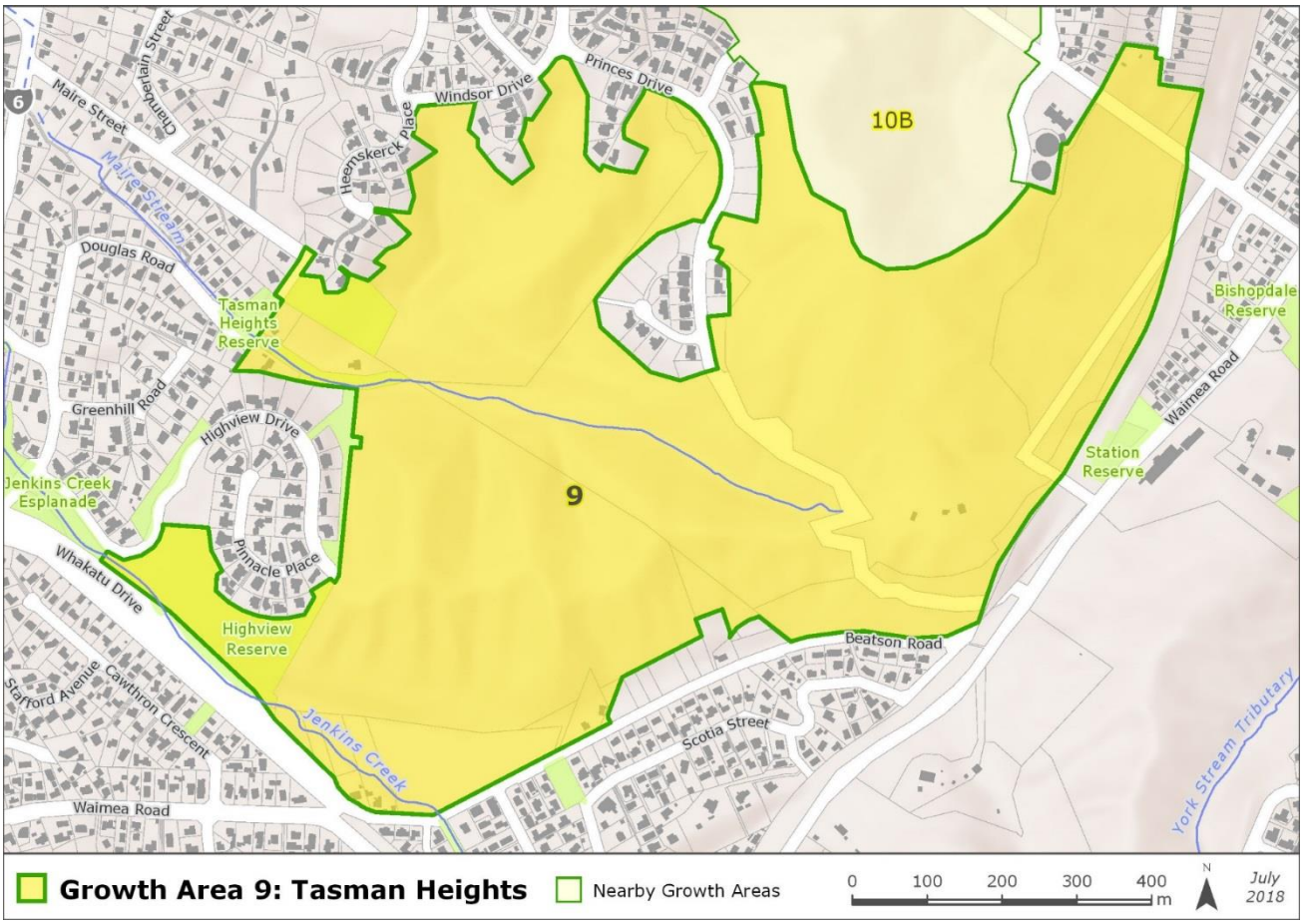
### Description

Area 9 sits on the hills above the southern end of Tahunanui and Bishopdale. The land has been gradually developed over the last 15 years. The terrain includes relatively gentle hill tops dropping down to steeper slopes further down. Currently, all access to the site is via Princes Drive from the northern end. Any further development requires a road link through to Waimea Road and construction of a signalised intersection at the developers cost. This cost is not included in the cost to service as it is internal to the site and developer funded.

A large retirement village is currently under construction on the lower south facing slopes of the site. Site sizes in this type of development will be much smaller and likely to bring the average lot size of the overall development area down within the range 500-600sqm

The majority of the undeveloped land in this development area is owned by two separate but related development entities.

## Location plan




## Servicing constraints

As shown in the table below, growth area 9 is constrained by both transport and wastewater services. All projects needed to release the remaining capacity will be completed in 2022 according to the project list in the 2018 Nelson Long Term Plan.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $208,275 | Yes | 2019 |
| Stormwater | No | | | |
| Water | No | | | |
| Wastewater | Yes | $2,390,945 | Yes | 2022 |
| | Total | $2,599,220 | Final completion | 2022 |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare.

**Area 9: Tasman Heights**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 58.4 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $8,894,311 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 130% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $244,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $272,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.157 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 10.80 | 11.68 | 12.56 | 13.43 | 14.31 |
| | *Landscape Reserve Area* | ha of land | 2.77 | 2.92 | 3.07 | 3.21 | 3.36 |
| | *Stormwater Reserve Area* | ha of land | 2.92 | 2.92 | 2.92 | 2.92 | 2.92 |
| | *Other constraints that reduce net site area* | ha of land | 8.76 | 8.76 | 8.76 | 8.76 | 8.76 |
| | *Net Developable land Area* | ha of land | 33.14 | 32.12 | 31.10 | 30.08 | 29.05 |
| Revenue | *Subdivision Lots created* | total lots | 331 | 482 | 622 | 752 | 872 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | *Average sales price (ex GST)* | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | *Total revenue* | | $ 81,177,944 | $ 110,746,023 | $ 136,660,408 | $ 159,533,565 | $ 179,725,397 |
| Costs | *1 Rawland purchase and holding cost* | | $13,990,752 | $13,990,752 | $13,990,752 | $13,990,752 | $13,990,752 |
| | *2 Civil works, incl holding costs* | | $40,000,100 | $42,122,560 | $44,230,077 | $46,322,650 | $48,400,281 |
| | *3 Fees and charges, incl holding costs* | | $21,842,545 | $27,715,338 | $35,747,616 | $41,385,293 | $46,409,909 |
| | *4 Project contingency* | | $7,583,340 | $8,382,865 | $9,396,844 | $10,169,870 | $10,880,094 |
| | *Total costs* | | $83,416,736 | $92,211,515 | $103,365,289 | $111,868,565 | $119,681,036 |
| | *per section costs (excl rawland)* | | $209,480 | $162,351 | $143,698 | $130,174 | $121,257 |
| | *per section (total)* | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | *Pre tax profit $* | | -$2,238,792 | $18,534,508 | $33,295,118 | $47,665,001 | $60,044,361 |
| | *Pre tax margin %* | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 11: Toi Toi

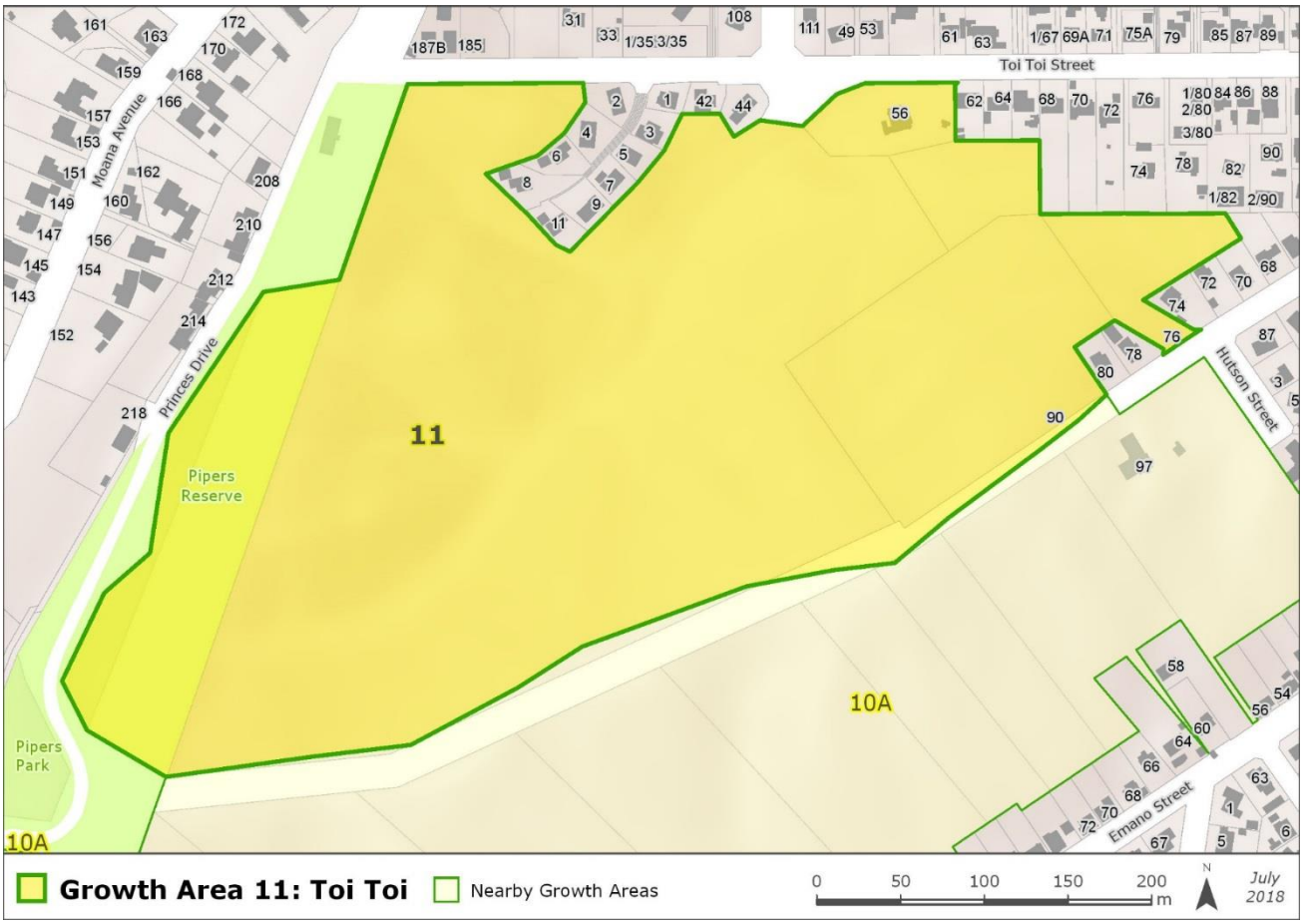
| | |
|---|---|
| Projected Yield | 202 lots |
| Gross site area | 14.4Ha |
| Estimated Net developable area | 8Ha |
| Priority decade | Years 1-3 |
| Servicing cost per lot | $474 |

### Description

Area 11 sits to the north of the Emano growth area in the Victory area of Nelson. The terrain varies between moderately steep to very steep and is located on the north side of a spur. Access to the site is planned to be from both Toi Toi Street and Princes Drive.

The undeveloped land in this growth area is primarily held by a single owner. A resource consent has been issued by Council using the Special Housing Areas (SHA) provisions under the Housing Accord - Special Housing Areas Act (HASHAA) permitting development of 202 lots. Resource consent has been issued corresponds to a density of around 25-30 lots per Hectare which is much higher than typically seen in Nelson. To achieve this relatively high density, the developer has proposed a mix of conventional lots and higher density attached housing spread throughout the site.

## Location plan




## Servicing constraints

As shown in the table below, growth area 11 is constrained by transport services. The transport constraint is shared with areas 10a and 10b with the potential to release up to 210 lots in total in 2023 depending on which area is developed first.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $95,649 | Yes | 2023 |
| Stormwater | No | | | |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $95,946 | Final completion | 2023 |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare.

**Area 11 Toi Toi**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 14.4 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $2,851,053 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $244,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $272,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.157 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 2.66 | 2.88 | 3.10 | 3.31 | 3.53 |
| | *Landscape Reserve Area* | ha of land | 0.68 | 0.72 | 0.76 | 0.79 | 0.83 |
| | *Stormwater Reserve Area* | ha of land | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 |
| | *Other constraints that reduce net site area* | ha of land | 2.16 | 2.16 | 2.16 | 2.16 | 2.16 |
| | *Net Developable land Area* | ha of land | 8.17 | 7.92 | 7.67 | 7.42 | 7.16 |
| Revenue | *Subdivision Lots created* | total lots | 82 | 119 | 153 | 185 | 215 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | *Average sales price (ex GST)* | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | *Total revenue* | | $ 20,016,479 | $ 27,307,239 | $ 33,697,087 | $ 39,337,043 | $ 44,315,851 |
| Costs | *1 Rawland purchase and holding cost* | | $3,449,775 | $3,449,775 | $3,449,775 | $3,449,775 | $3,449,775 |
| | *2 Civil works, incl holding costs* | | $9,863,038 | $10,386,385 | $10,906,046 | $11,422,023 | $11,934,316 |
| | *3 Fees and charges, incl holding costs* | | $5,385,833 | $6,833,919 | $8,814,481 | $10,204,593 | $11,443,539 |
| | *4 Project contingency* | | $1,869,865 | $2,067,008 | $2,317,030 | $2,507,639 | $2,682,763 |
| | *Total costs* | | $20,568,511 | $22,737,086 | $25,487,332 | $27,584,030 | $29,510,393 |
| | *per section costs (excl rawland)* | | $209,480 | $162,351 | $143,698 | $130,174 | $121,257 |
| | *per section (total)* | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | *Pre tax profit $* | | -$552,031 | $4,570,152 | $8,209,755 | $11,753,014 | $14,805,459 |
| | *Pre tax margin %* | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Growth Area 19d: Lower Bayview

| | |
|---|---|
| Projected Yield | 100 lots |
| Gross site area | 14Ha |
| Estimated Net developable area | 8Ha |
| Priority decade | Years 4-10 |
| Servicing cost per lot | $12,600 |

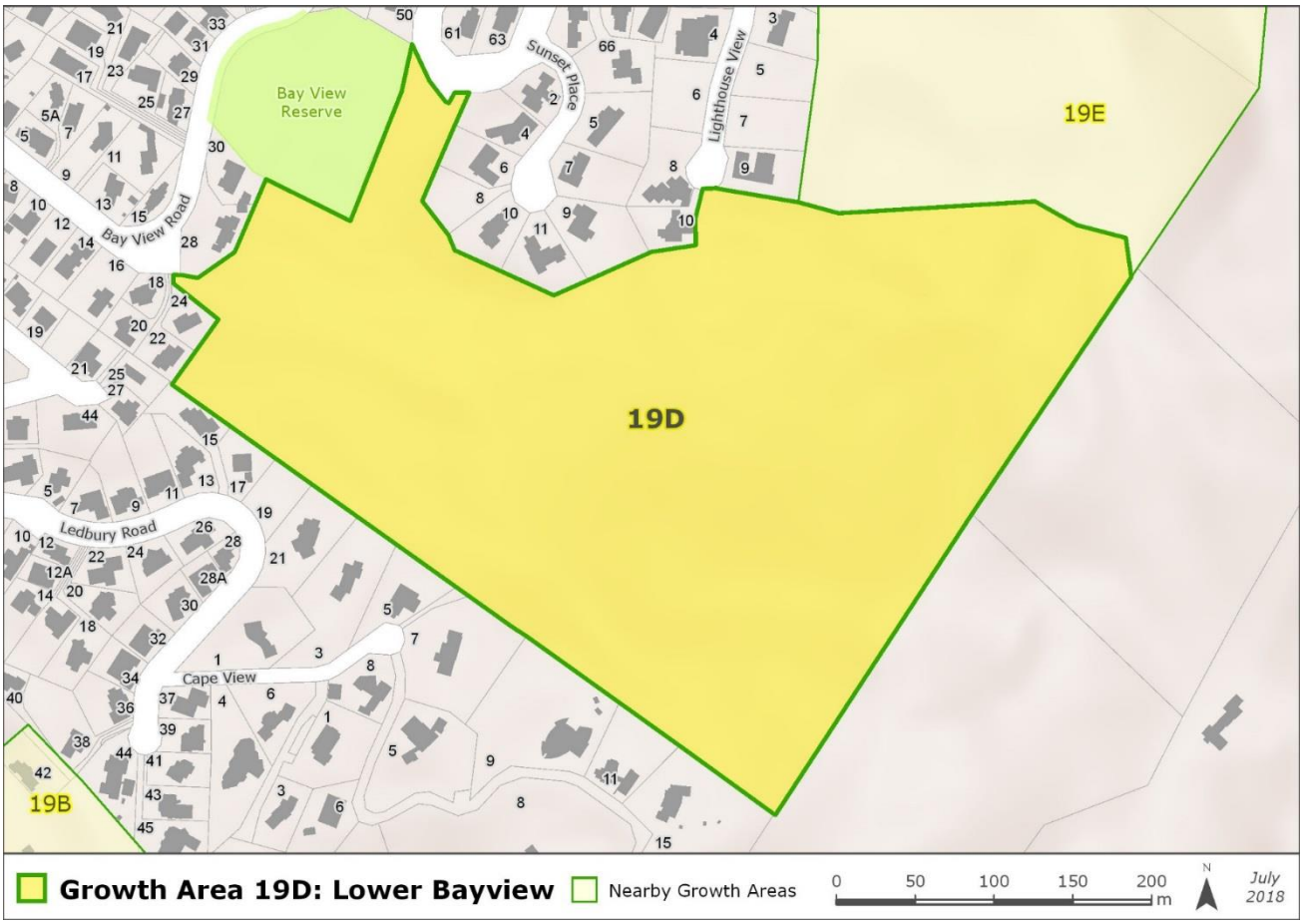
### Description

Growth area 19d sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is moderately steep to very steep with a number of gullies containing unstable soils that require careful geotechnical work prior to subdivision.

Access to the growth area is via Bayview Road which in turn intersects with State Highway 6 at the bottom of the hill. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

Area 19d is held by a single owner syndicate that also owns Bayview area 19e. The owner syndicate has been gradually developing the combined areas 19d and 19e over the last 15-20 years, releasing a small number of lots in each stage.

## Location plan




## Servicing constraints

As shown in the table below, growth area 19d is constrained by transport, water and wastewater services. All Council projects needed to release the remaining capacity will be completed in 2025 according to the project list in the 2018 Nelson Long Term Plan. The unknown at this stage is what requirements NZTA will have and what the timing of any works on State Highway 6 will be.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | No | | | |
| Water | Yes | $8,224,486 | Yes | 2024 |
| Wastewater | Yes | $510,462 | Yes | 2025 |
| | Total | $1,260,000 | Final completion | 2025 |

## Feasibility

With the pre-tax margin for the 10 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a much higher density. The profit margin more than doubles with an increase in density to 15 dwellings per hectare. The value of the bare, undeveloped land in this scenario is low at around $11 per hectare, indicating that either the owner is undervaluing the land as a result of owning it for a long time or they are expecting to get much higher prices for the developed sections.

**Area 19d Lower Bayview**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 14.1 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $1,643,572 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $300,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $320,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.093 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 12 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 2.61 | 2.82 | 3.03 | 3.24 | 3.45 |
| | *Landscape Reserve Area* | ha of land | 0.67 | 0.71 | 0.74 | 0.78 | 0.81 |
| | *Stormwater Reserve Area* | ha of land | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 |
| | *Other constraints that reduce net site area* | ha of land | 2.12 | 2.12 | 2.12 | 2.12 | 2.12 |
| | *Net Developable land Area* | ha of land | 8.00 | 7.76 | 7.51 | 7.26 | 7.01 |
| Revenue | *Subdivision Lots created* | total lots | 80 | 116 | 150 | 182 | 210 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $326,718 | $314,614 | $306,298 | $300,000 | $294,950 |
| | *Average sales price (ex GST)* | per section | $284,103 | $273,577 | $266,346 | $260,870 | $256,478 |
| | *Total revenue* | | $ 22,733,188 | $ 31,823,847 | $ 39,995,890 | $ 47,357,609 | $ 53,973,968 |
| Costs | *1 Rawland purchase and holding cost* | | $1,988,722 | $1,988,722 | $1,988,722 | $1,988,722 | $1,988,722 |
| | *2 Civil works, incl holding costs* | | $9,657,558 | $10,170,002 | $10,678,837 | $11,184,065 | $11,685,684 |
| | *3 Fees and charges, incl holding costs* | | $5,561,493 | $7,158,703 | $9,273,944 | $10,804,051 | $12,177,141 |
| | *4 Project contingency* | | $1,720,777 | $1,931,743 | $2,194,150 | $2,397,684 | $2,585,155 |
| | *Total costs* | | $18,928,550 | $21,249,169 | $24,135,653 | $26,374,521 | $28,436,701 |
| | *per section costs (excl rawland)* | | $211,702 | $165,574 | $147,484 | $134,329 | $125,678 |
| | *per section (total)* | | $236,555 | $182,671 | $160,728 | $145,284 | $135,128 |
| Profit | *Pre tax profit $* | | $3,804,638 | $10,574,679 | $15,860,237 | $20,983,088 | $25,537,267 |
| | *Pre tax margin %* | | 20.1% | 49.8% | 65.7% | 79.6% | 89.8% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Growth Area 19e: Upper Bayview

| | |
|---|---|
| Projected Yield | 136 lots |
| Gross site area | 53Ha |
| Estimated Net developable area | 30Ha |
| Priority period | Years 4-10 |
| Servicing cost per lot | $13,929 |

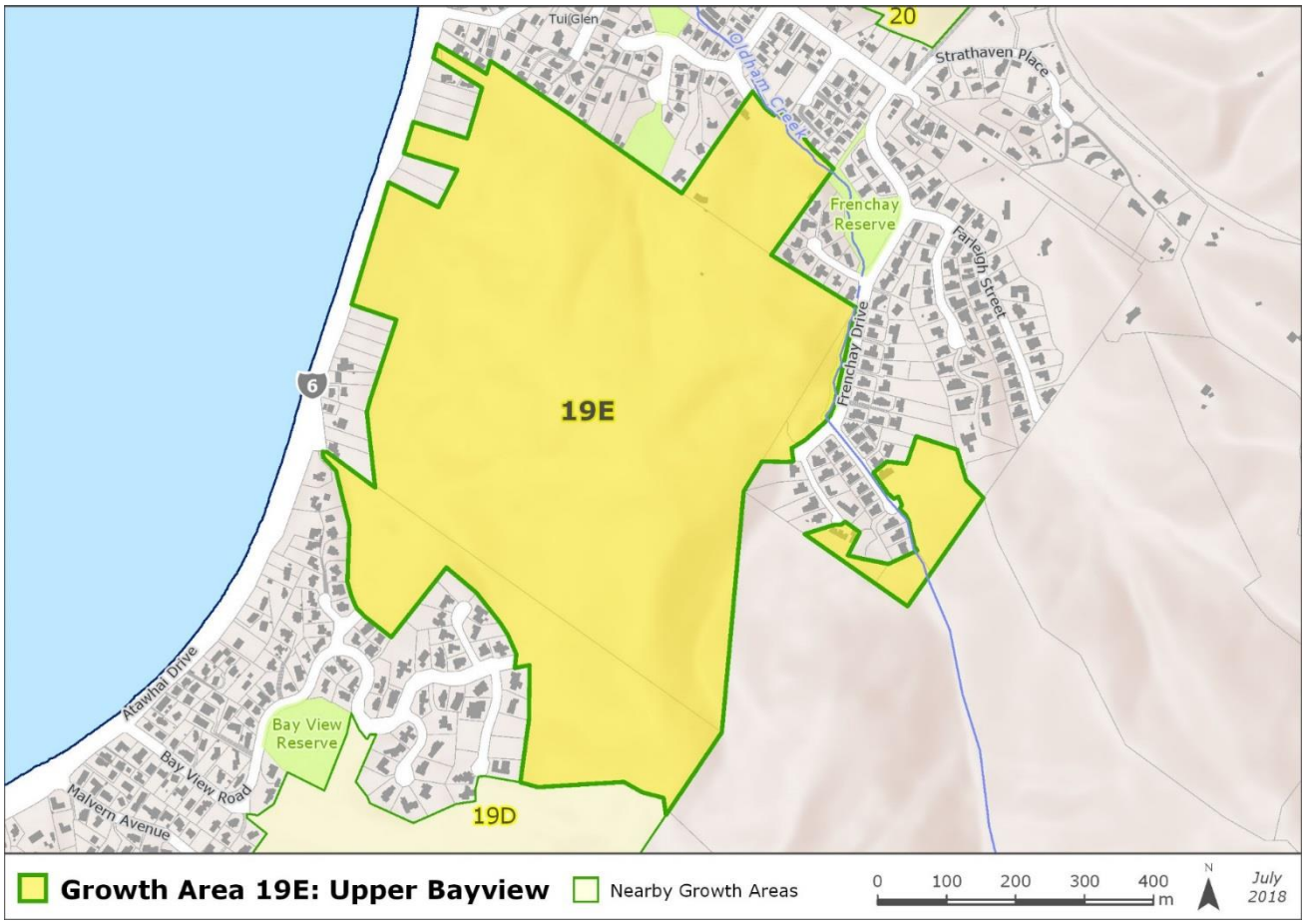
### Description

Growth area 19e sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is moderately steep to very steep with a number of gullies containing unstable soils that require careful geotechnical work prior to subdivision.

Access to the growth area is via Bayview Road which in turn intersects with State Highway 6 at the bottom of the hill. An additional connection is expected to be established to Frenchay Drive at the top of the hill once development takes place. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

Area 19e is held by a single owner syndicate that also owns Bayview area 19d. The owner syndicate has been gradually developing the combined areas 19d and 19e over the last 15-20 years, releasing a small number of lots in each stage.

## Location plan




## Servicing constraints

As shown in the table below, growth area 19e is constrained by transport, stormwater and wastewater services. All Council projects needed to release the remaining capacity will be completed in 2028 according to the project list in the 2018 Nelson Long Term Plan. The unknown at this stage is what requirements NZTA will have and what the timing of any works on State Highway 6 will be.

If the developer chooses to deal with stormwater on the site and not rely on the Council system during rain events development of the site could potentially occur any time after 2025 dependant of course on NZTA.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $1,200,140 | Yes | 2028 |
| Water | No | | | |
| Wastewater | Yes | $694,228 | Yes | 2025 |
| | Total | $1,894,368 | Final completion | 2028 |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare. The number of lots estimated for the capacity assessment is for a density of around 5 lots per Hectare. The MBIE feasibility assessment tool indicates that either the land value is well below average market value at $9,276,984 (or being valued much lower by the owner) or that the sections will sell for a higher price than average for Nelson for this development to be feasible.

**Area 19e Upper Bayview**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 53.0 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $9,276,984 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $244,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $272,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.157 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 9.81 | 10.60 | 11.40 | 12.19 | 12.99 |
| | *Landscape Reserve Area* | ha of land | 2.52 | 2.65 | 2.78 | 2.92 | 3.05 |
| | *Stormwater Reserve Area* | ha of land | 2.65 | 2.65 | 2.65 | 2.65 | 2.65 |
| | *Other constraints that reduce net site area* | ha of land | 7.95 | 7.95 | 7.95 | 7.95 | 7.95 |
| | *Net Developable land Area* | ha of land | 30.08 | 29.15 | 28.22 | 27.30 | 26.37 |
| Revenue | *Subdivision Lots created* | total lots | 301 | 437 | 564 | 682 | 791 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | *Average sales price (ex GST)* | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | *Total revenue* | | $ 73,671,764 | $ 100,505,808 | $ 124,024,000 | $ 144,782,174 | $ 163,106,953 |
| Costs | *1 Rawland purchase and holding cost* | | $11,225,151 | $11,225,151 | $11,225,151 | $11,225,151 | $11,225,151 |
| | *2 Civil works, incl holding costs* | | $37,696,355 | $39,622,560 | $41,535,204 | $43,434,286 | $45,319,807 |
| | *3 Fees and charges, incl holding costs* | | $19,899,904 | $25,229,665 | $32,519,232 | $37,635,617 | $42,195,629 |
| | *4 Project contingency* | | $6,882,141 | $7,607,738 | $8,527,959 | $9,229,505 | $9,874,059 |
| | *Total costs* | | $75,703,551 | $83,685,113 | $93,807,545 | $101,524,559 | $108,614,644 |
| | *per section costs (excl rawland)* | | $214,374 | $165,717 | $146,306 | $132,331 | $123,118 |
| | *per section (total)* | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | *Pre tax profit $* | | -$2,031,786 | $16,820,696 | $30,216,455 | $43,257,615 | $54,492,309 |
| | *Pre tax margin %* | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Growth Area 22: Todd Valley

| | |
|---|---|
| Projected Yield | 4 lots |
| Gross site area | 1.4Ha |
| Priority decade | Years 4-10 |
| Servicing cost per lot | $388,677 |

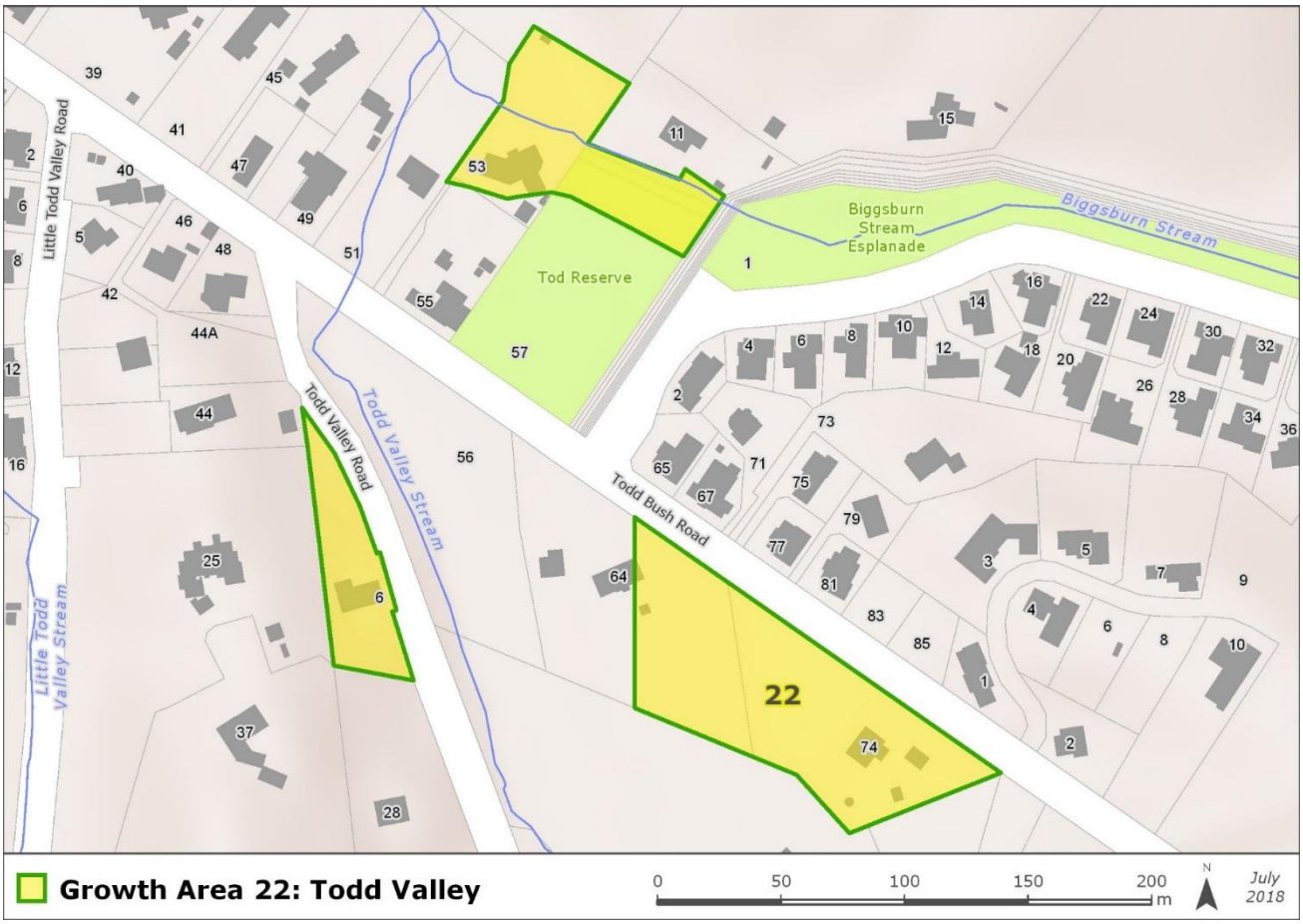
### Description

Growth area 22 sits in Todd Valley approximately 7km north east of Nelson. The area is made up of three separate land parcels divided by Todd Valley Road and Todd Bush Road. The majority of the area is relatively flat other than a small portion (6 Todd Valley Road) that is moderately steep.

Access to the growth area is available via Todd Valley Road and Todd Bush Road with connection to the wider transport network being via the intersection of Todd Bush Road and State Highway 6. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

The undeveloped part of Area 22 is held by a four independent owners.

## Location plan




## Servicing constraints

As shown in the table below, growth area 22 is constrained by the three waters with the last project expected to be completed in 2028. The unknown at this stage is what requirements NZTA will have and what the timing of any works on State Highway 6 will be.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $222,404 | Yes | 2028 |
| Water | Yes | $0 | Yes | 2024 |
| Wastewater | Yes | $1,332,305 | Yes | 2025 |
| | Total | $1,554,709 | Final completion | 2028 |

## Feasibility

Given the small number of lots that are likely to be developed, no feasibility assessment of this site has been undertaken.

# Part 2: Future Residential Capacity Areas

# Long Term years 11 to 30

## Area 10a: Emano

| | |
|---|---|
| Projected Yield | 96 lots |
| Gross site area | 22Ha |
| Estimated Net developable area | 12Ha |
| Priority decade | Years 10-30 |
| Servicing cost per lot | $11,640 |

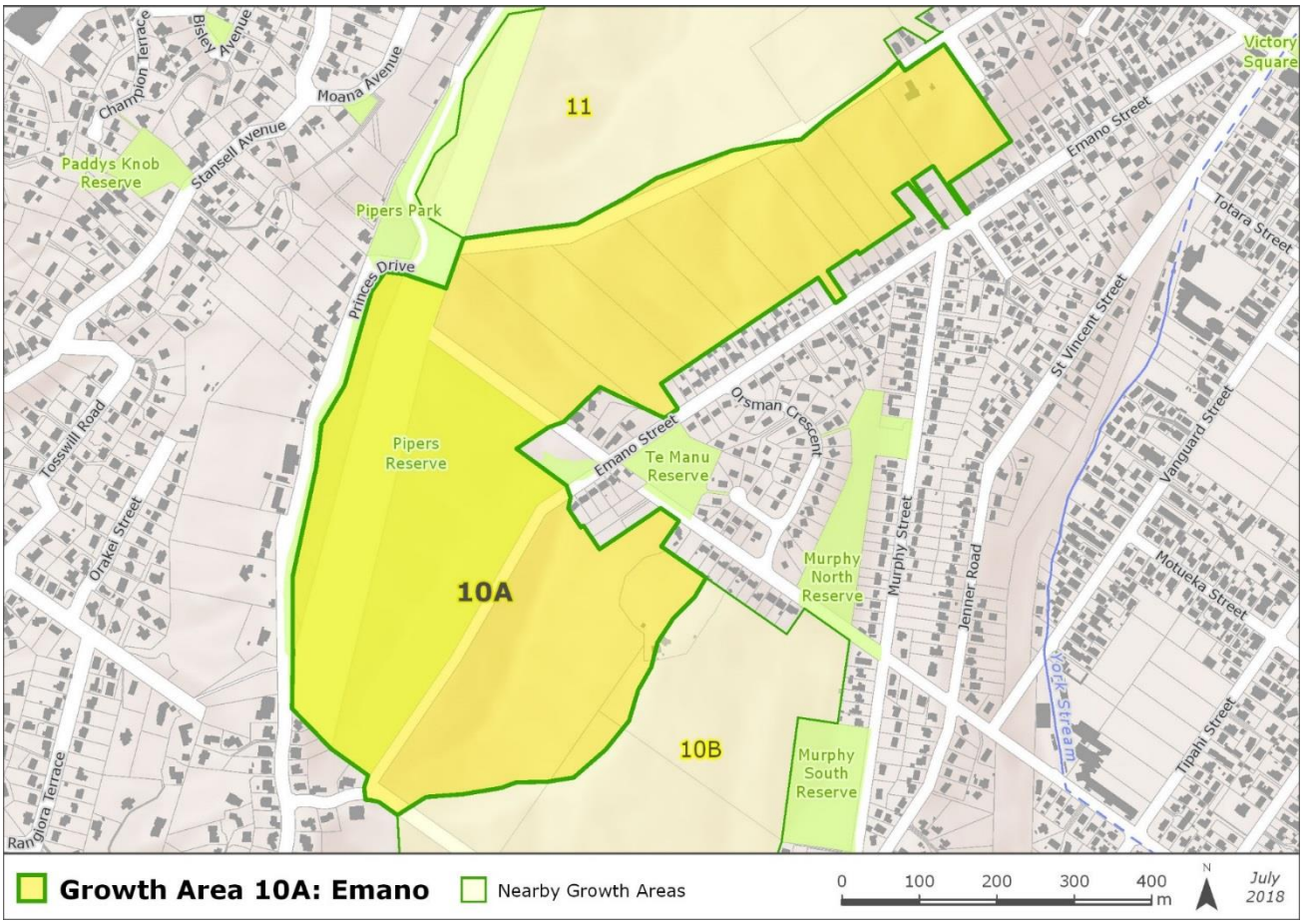
### Description

Area 10a extends from the top of the port hills down to and around the southern end of Emano Street in the Victory area. The terrain is moderately steep to very steep and generally east facing. The Pipers Park Council reserve is included in the boundary of this growth area but has been excluded for the purposes of the capacity and feasibility assessments.

Currently, none of the land has been developed with little indication from the owners that this is likely to take place in the near future. The undeveloped land is owned by three entities with two of them owning the majority.

It is anticipated that the final lot sizes will be relatively large due to the steep terrain. This is unlikely to significantly influence the prices of the lots as the useful area in each lot will remain at around 400sqm as typically seen in other developments on steeper ground in Nelson.

## Location plan




## Servicing constraints

As shown in the table below, growth area 10a is constrained by transport and wastewater services. The transport constraint is shared with areas 10b and 11 with the potential to release up to 210 lots in total in 2023 depending on which area is developed first. All projects needed to release the remaining capacity will be completed sometime in the period beyond year ten of the 2018 LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $174,895 | No | Beyond 10 years |
| Transport | Yes | $140,285 | Yes | 2023 |
| Stormwater | No | $713,123 | Yes | 2026 |
| Water | No | | | |
| Wastewater | Yes | $89,112 | No | Beyond 10 years |
| | Total | $1,117,414 | Final completion | Beyond 10 years |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare. The section price for lots in this area are expected to be marginally lower than average due to the shaded aspect of the land.

**Area 10a Emano**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 22.4 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $2,689,525 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $230,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $250,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.120 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 12 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 4.14 | 4.48 | 4.82 | 5.15 | 5.49 |
| | *Landscape Reserve Area* | ha of land | 1.06 | 1.12 | 1.18 | 1.23 | 1.29 |
| | *Stormwater Reserve Area* | ha of land | 1.12 | 1.12 | 1.12 | 1.12 | 1.12 |
| | *Other constraints that reduce net site area* | ha of land | 3.36 | 3.36 | 3.36 | 3.36 | 3.36 |
| | *Net Developable land Area* | ha of land | 12.71 | 12.32 | 11.93 | 11.54 | 11.14 |
| Revenue | *Subdivision Lots created* | total lots | 127 | 185 | 239 | 288 | 334 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $256,802 | $244,577 | $236,257 | $230,000 | $225,011 |
| | *Average sales price (ex GST)* | per section | $223,306 | $212,675 | $205,441 | $200,000 | $195,661 |
| | *Total revenue* | | $ 28,386,626 | $ 39,302,401 | $ 49,010,072 | $ 57,680,000 | $ 65,413,488 |
| Costs | *1 Rawland purchase and holding cost* | | $3,254,325 | $3,254,325 | $3,254,325 | $3,254,325 | $3,254,325 |
| | *2 Civil works, incl holding costs* | | $15,342,504 | $16,156,598 | $16,964,961 | $17,767,592 | $18,564,491 |
| | *3 Fees and charges, incl holding costs* | | $8,125,335 | $10,338,836 | $13,398,389 | $15,551,293 | $17,477,503 |
| | *4 Project contingency* | | $2,672,216 | $2,974,976 | $3,361,767 | $3,657,321 | $3,929,632 |
| | *Total costs* | | $29,394,381 | $32,724,735 | $36,979,442 | $40,230,531 | $43,225,951 |
| | *per section costs (excl rawland)* | | $205,633 | $159,472 | $141,370 | $128,212 | $119,561 |
| | *per section (total)* | | $231,233 | $177,082 | $155,011 | $139,496 | $129,295 |
| Profit | *Pre tax profit $* | | -$1,007,755 | $6,577,667 | $12,030,629 | $17,449,469 | $22,187,537 |
| | *Pre tax margin %* | | -3.4% | 20.1% | 32.5% | 43.4% | 51.3% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 10b: Murphy

| | |
|---|---|
| Projected Yield | 75 lots |
| Gross site area | 27Ha |
| Estimated Net developable area | 15Ha |
| Priority decade | Years 10-30 |
| Servicing cost per lot | $18,239 |

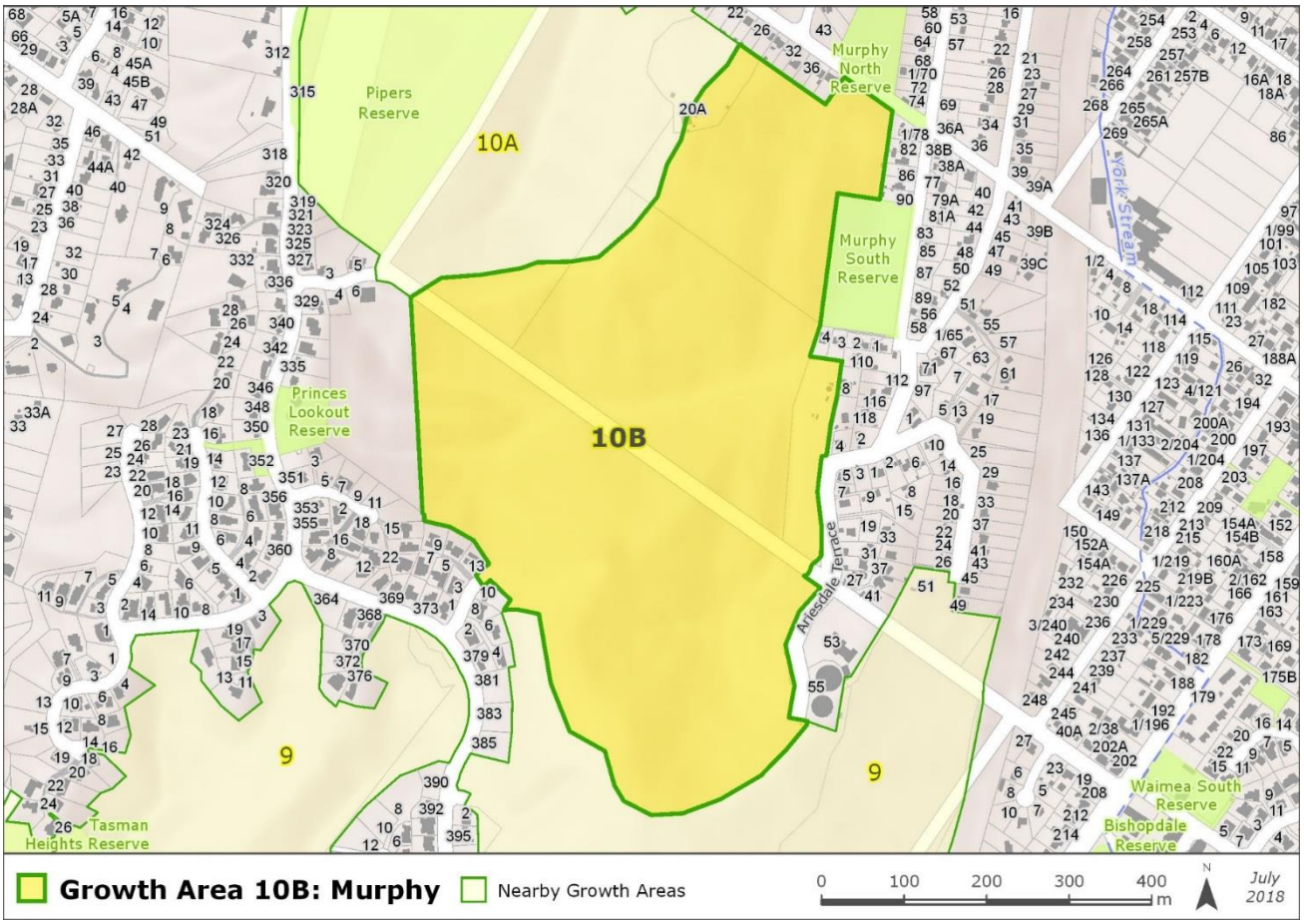
### Description

Area 10b sits between the Tasman Heights and Emano growth areas in the Victory area of Nelson. The terrain in this growth area is moderately steep to very steep with slopes a mixed aspect.

The undeveloped land is owned by two entities. Currently, none of the land has been developed with little indication from the owners that this is likely to take place in the near future.

It is anticipated that the final lot sizes will be relatively large due to the steep terrain. This is unlikely to significantly influence the prices of the lots as the useful area in each lot will remain at around 400sqm as typically seen in other developments on steeper ground in Nelson.

## Location plan




## Servicing constraints

As shown in the table below, growth area 10b is constrained by transport, stormwater and wastewater services. The transport constraint is shared with areas 10a and 11 with the potential to release up to 210 lots in total in 2023 depending on which area is developed first. All projects needed to release the remaining capacity will be completed sometime in the period beyond year ten of the 2018 LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $119,247 | Yes | Beyond 10 years |
| Transport | Yes | $95,649 | Yes | 2023 |
| Stormwater | Yes | $1,083,443 | Yes | 2028 |
| Water | No | | | |
| Wastewater | Yes | $69,618 | No | Beyond 10 years |
| | Total | $1,367,957 | Final completion | Beyond 10 years |

## Feasibility

With the pre-tax margin for the 15 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin doubles with an increase in density to 25 dwellings per hectare. The section price for lots in this area are expected to be marginally lower than average due to the shaded aspect of the land.

**Area 10b Murphy**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 27.0 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $2,176,417 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $220,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $240,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.126 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 12 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 5.00 | 5.40 | 5.81 | 6.21 | 6.62 |
| | *Landscape Reserve Area* | ha of land | 1.28 | 1.35 | 1.42 | 1.49 | 1.55 |
| | *Stormwater Reserve Area* | ha of land | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 |
| | *Other constraints that reduce net site area* | ha of land | 4.05 | 4.05 | 4.05 | 4.05 | 4.05 |
| | *Net Developable land Area* | ha of land | 15.32 | 14.85 | 14.38 | 13.91 | 13.43 |
| Revenue | *Subdivision Lots created* | total lots | 153 | 223 | 288 | 348 | 403 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $246,818 | $234,570 | $226,250 | $220,000 | $215,022 |
| | *Average sales price (ex GST)* | per section | $214,624 | $203,973 | $196,739 | $191,304 | $186,976 |
| | *Total revenue* | | $ 32,885,786 | $ 45,435,093 | $ 56,572,245 | $ 66,502,174 | $ 75,346,529 |
| Costs | *1 Rawland purchase and holding cost* | | $2,633,464 | $2,633,464 | $2,633,464 | $2,633,464 | $2,633,464 |
| | *2 Civil works, incl holding costs* | | $18,493,197 | $19,474,471 | $20,448,837 | $21,416,294 | $22,376,842 |
| | *3 Fees and charges, incl holding costs* | | $9,671,735 | $12,283,933 | $15,919,973 | $18,467,184 | $20,745,114 |
| | *4 Project contingency* | | $3,079,840 | $3,439,187 | $3,900,227 | $4,251,694 | $4,575,542 |
| | *Total costs* | | $33,878,236 | $37,831,055 | $42,902,501 | $46,768,636 | $50,330,962 |
| | *per section costs (excl rawland)* | | $203,914 | $158,014 | $140,042 | $126,962 | $118,363 |
| | *per section (total)* | | $221,101 | $169,836 | $149,200 | $134,538 | $124,898 |
| Profit | *Pre tax profit $* | | -$992,449 | $7,604,038 | $13,669,743 | $19,733,538 | $25,015,567 |
| | *Pre tax margin %* | | -2.9% | 20.1% | 31.9% | 42.2% | 49.7% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 16: Atmore Terrace/Cleveland Terrace

| | |
|---|---|
| Projected Yield | 15 lots |
| Gross site area | 6.7Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $133,436 |

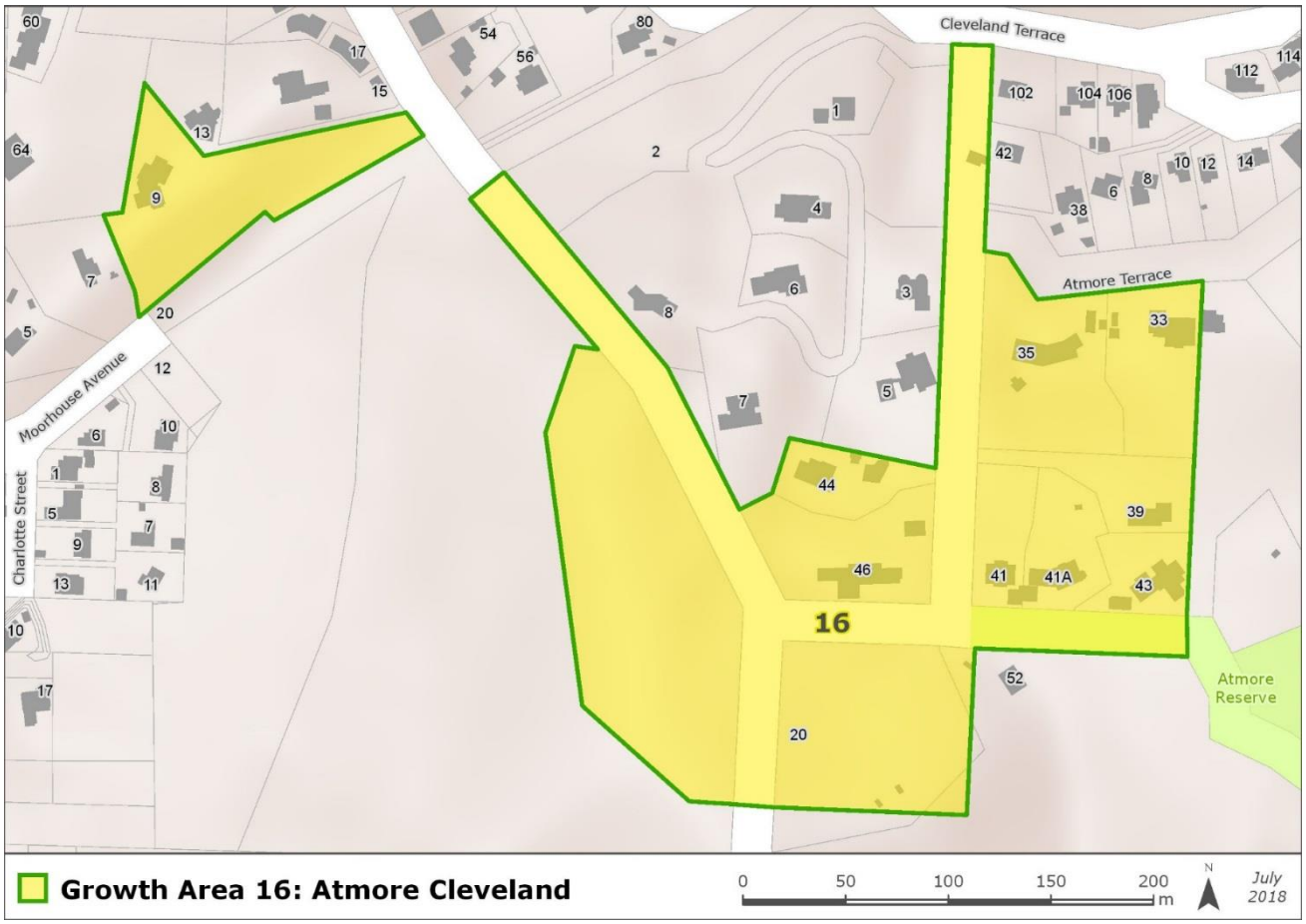
### Description

Area 16 sits on the hills to the east of Nelson overlooking the main Nelson city centre. The land is moderately steep for the most part but with significant geotechnical work required prior to subdivision.

Access to the growth area is via City Heights and Atmore Terrace which provide transport links to the bottom of the hill.

The undeveloped portions of Area 16 are held by two owners. Approximately half of the growth area has been developed over the last five years with section sizes of around 2,000-5,000sqm. This density is what was anticipated in determining the projected yield prior to development taking place.

## Location plan




## Servicing constraints

As shown in the table below, growth area 16 is constrained by Transport and stormwater services. All of the necessary projects are not included in the first ten years of the 2018 Nelson Long Term Plan so further development of this growth area is not anticipated until sometime in the period 2028-2048.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $1,800,000 | No | Beyond 10 years |
| Stormwater | Yes | $201,540 | No | Beyond 10 years |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $2,001,540 | Final completion | Beyond 10 years |

## Feasibility

Given the small number of lots that are likely to be developed, no feasibility assessment of this site has been undertaken.

## Area 17: Upper Nile Street

| | |
|---|---|
| Projected Yield | 10 lots |
| Gross area | 12Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $76,500 |

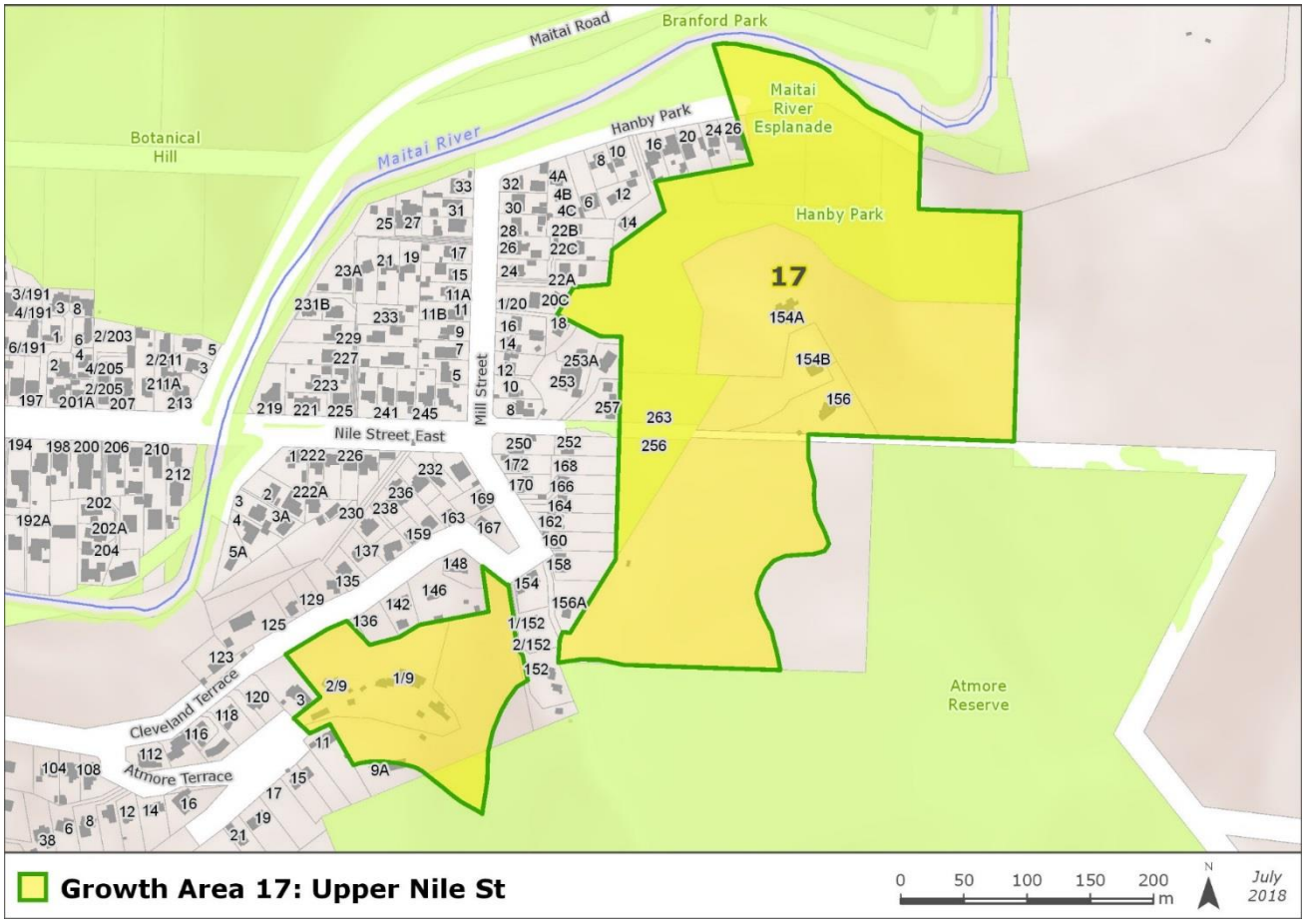
### Description

Area 17 sits on the hills to the east of Nelson overlooking the main Nelson city centre. The land is steep for the most part with significant geotechnical work required prior to subdivision.

Access to the growth area is via Cleveland Terrace which provides transport links to the bottom of the hill, to Nile Street East and across the Maitai River to Nelson.

The undeveloped portions of Area 17 are held by four owners.

### Location plan



## Servicing constraints

As shown in the table below, growth area 17 is constrained by transport infrastructure needs which are not planned to be completed within the term of the current LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $765,000 | No | Beyond 10 years |
| Stormwater | No | | | |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $765,000 | Final completion | Beyond 10 years |

## Feasibility

Given the small number of lots that are likely to be developed, no feasibility assessment of this site has been undertaken.

## Area 19a: Brooklands

| | |
|---|---|
| Projected Yield | 15 lots |
| Net developable area | 7.4Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $35,232 |

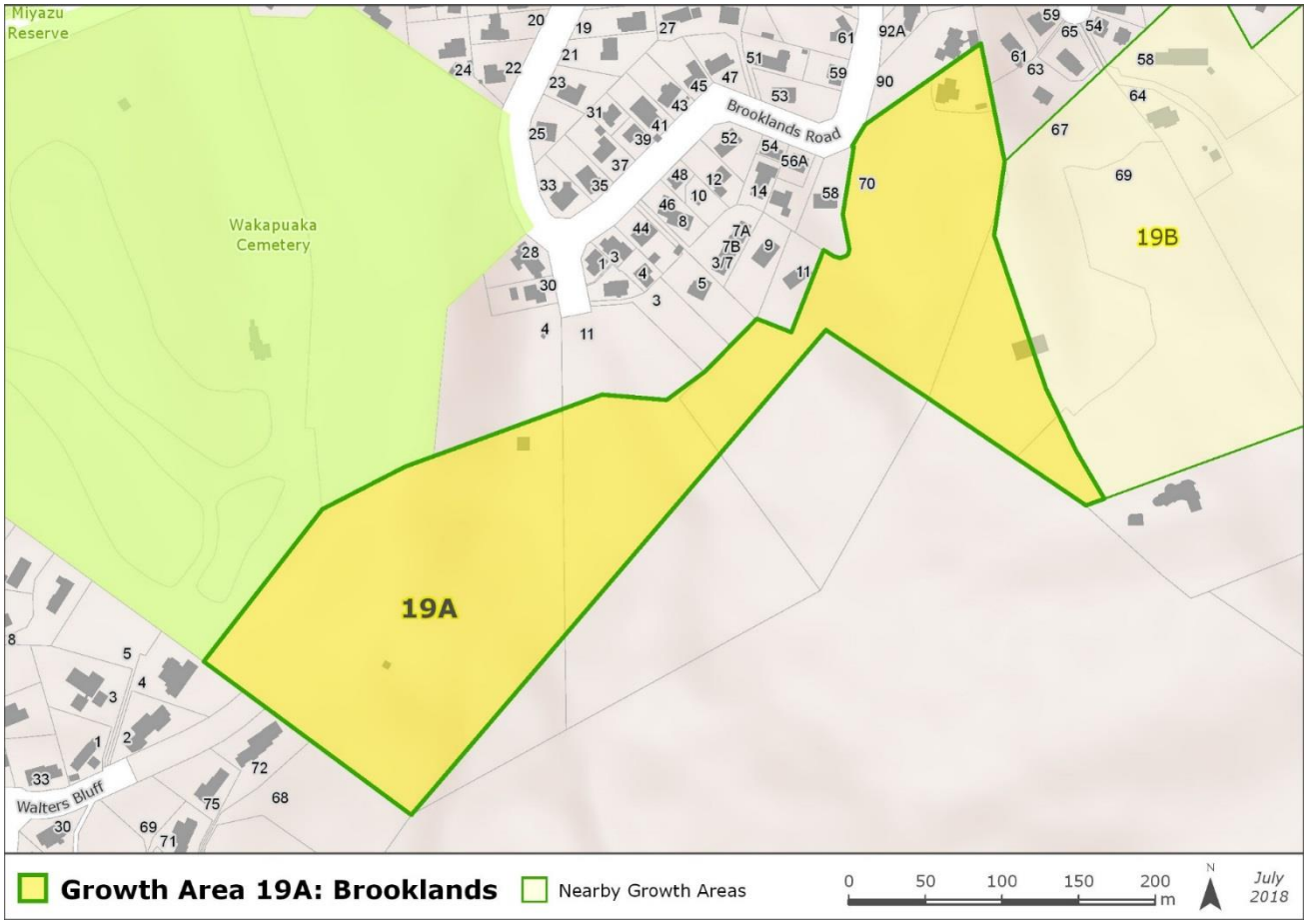
### Description

Area 19a sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is moderately steep to very steep with a number of gullies containing unstable soils that require careful geotechnical work prior to subdivision.

Access to the growth area is via Brooklands Road which in turn intersects with State Highway 6 at the bottom of the hill. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

The undeveloped portion of Area 19a is held by a two owners.

### Location plan



## Servicing constraints

As shown in the table below, growth area 19a is constrained by all four services. There are no plans to resolve this in the current LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $276,000 | Yes | 2021 |
| Water | Yes | $85,680 | No | Beyond 10 years |
| Wastewater | Yes | $166,809 | No | Beyond 10 years |
| | Total | $528,489 | Final completion | Beyond 10 years |

## Feasibility

Given the small number of lots that are likely to be developed, no feasibility assessment of this site has been undertaken.

## Area 19b: Paremata

| | |
|---|---|
| Projected Yield | 10 lots |
| Net developable area | 10.6Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $31,553 |

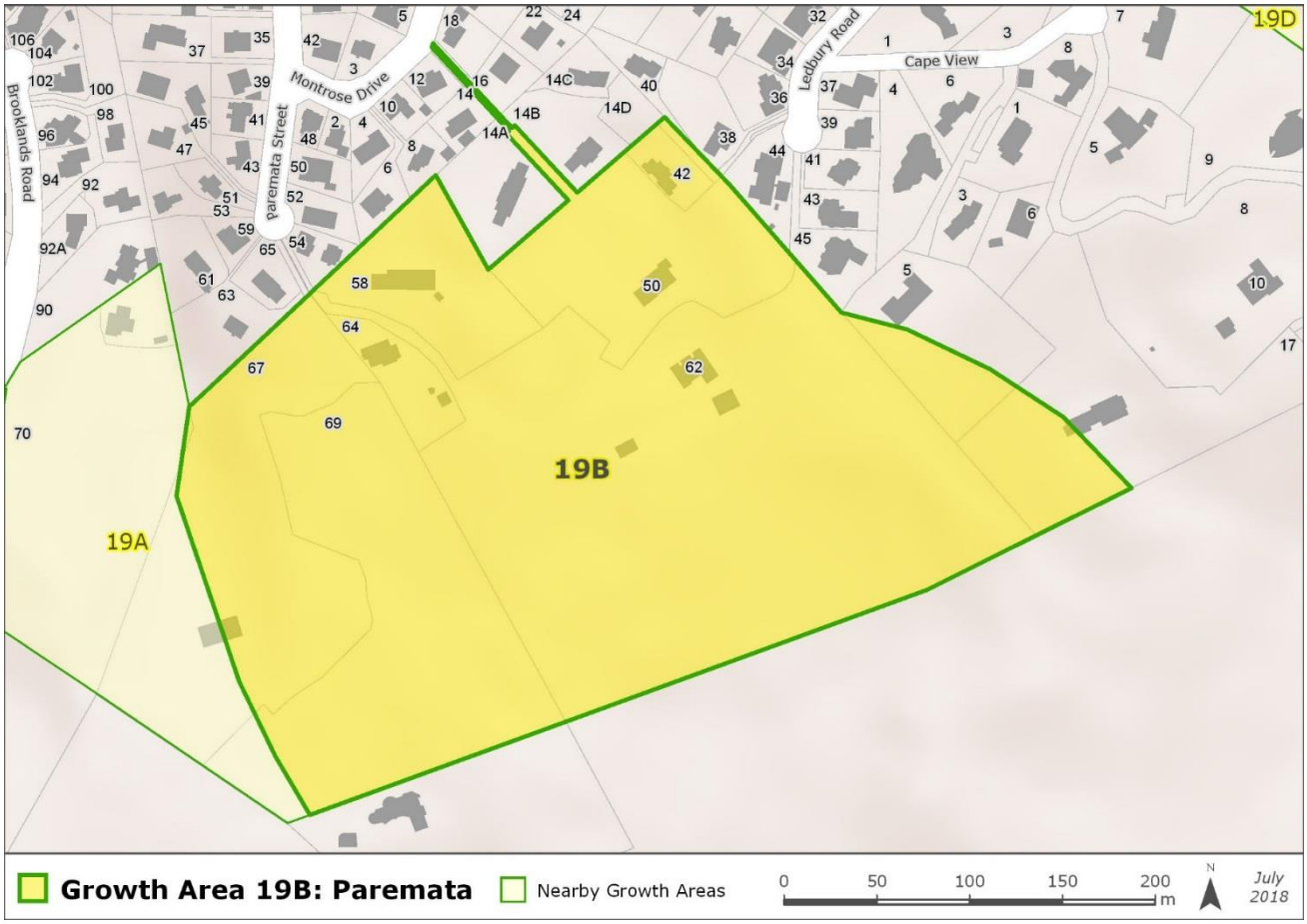
### Description

Area 19b sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is moderately steep to very steep with a number of gullies containing unstable soils that require careful geotechnical work prior to subdivision.

Access to the growth area is via Paremata Street which in turn intersects with State Highway 6 at the bottom of the hill. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

The undeveloped portion of Area 19b is held by a four independent owners.

### Location plan



### Servicing constraints

As shown in the table below, growth area 19b is constrained by all four services. There are no plans to resolve this in the current LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $264,480 | No | Beyond 10 years |
| Water | Yes | $0 | Yes | 2024 |
| Wastewater | Yes | $51,046 | Yes | 2025 |
| | Total | $315,526 | Final completion | Beyond 10 years |

### Feasibility

Given the small number of lots that are likely to be developed, no feasibility assessment of this site has been undertaken.

## Area 20: Werneth

| | |
|---|---|
| Projected Yield | 20 lots |
| Gross site area | 32Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $17,847 |

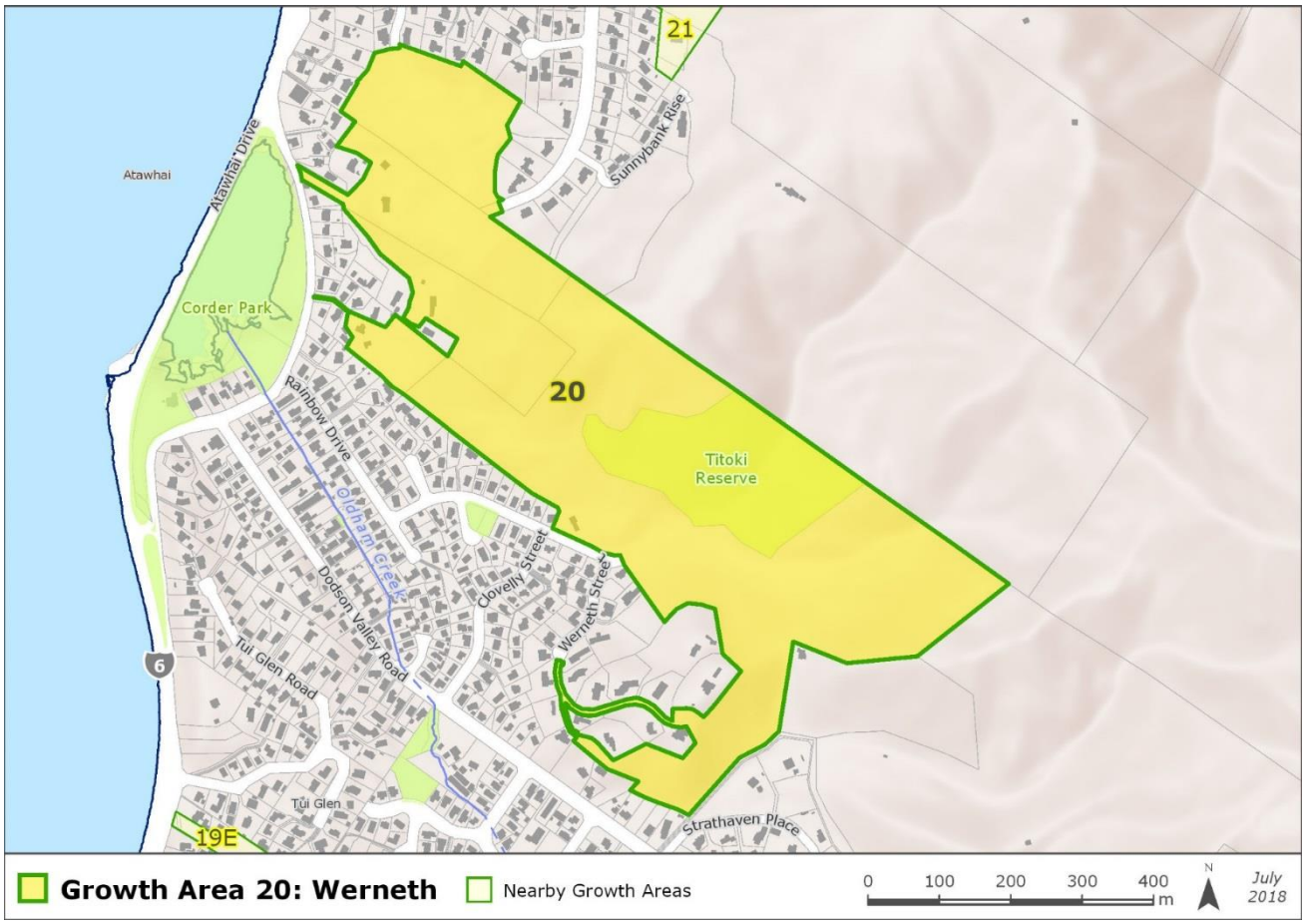
## Description

Area 20 sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is moderately steep to very steep and faces generally west to south west with Dodson Valley immediately to the south.

Access to the growth area is available via Werneth Street and Atawhai Crescent with connection to the wider transport network being via the intersection of Atawhai Crescent and State Highway 6. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

The majority of the undeveloped part of Area 20 is held by a three independent owners. Small pockets of residential subdivision have occurred in the last 5-10 years in the growth area at the end of Glenbrae Street and off a long ROW from Atawhai Crescent.

## Location plan




## Servicing constraints

As shown in the table below, growth area 20 is constrained by transport and stormwater services. All Council projects needed to release the remaining capacity are expected to be completed in the 11-30 year period (base year 2018). The unknown at this stage is what requirements NZTA will have and what the timing of any works on State Highway 6 will be.

If the developer chooses to deal with stormwater on the site and not rely on the Council system during rain events development of the site could potentially occur any time dependant of course on NZTA.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $356,940 | No | Beyond 10 years |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $356,940 | Final completion | Beyond 10 years |

### Feasibility

Given the small number of lots that are likely to be developed and the timeframe for development, no feasibility assessment of this site has been undertaken.

## Area 21: Wastney Terrace

| | |
|---|---|
| Projected Yield | 29 lots |
| Gross site area | 12.5Ha |
| Estimated Net developable area | 4.9Ha |
| Priority decade | Years 10-30 |
| Servicing cost per lot | $131,786 |

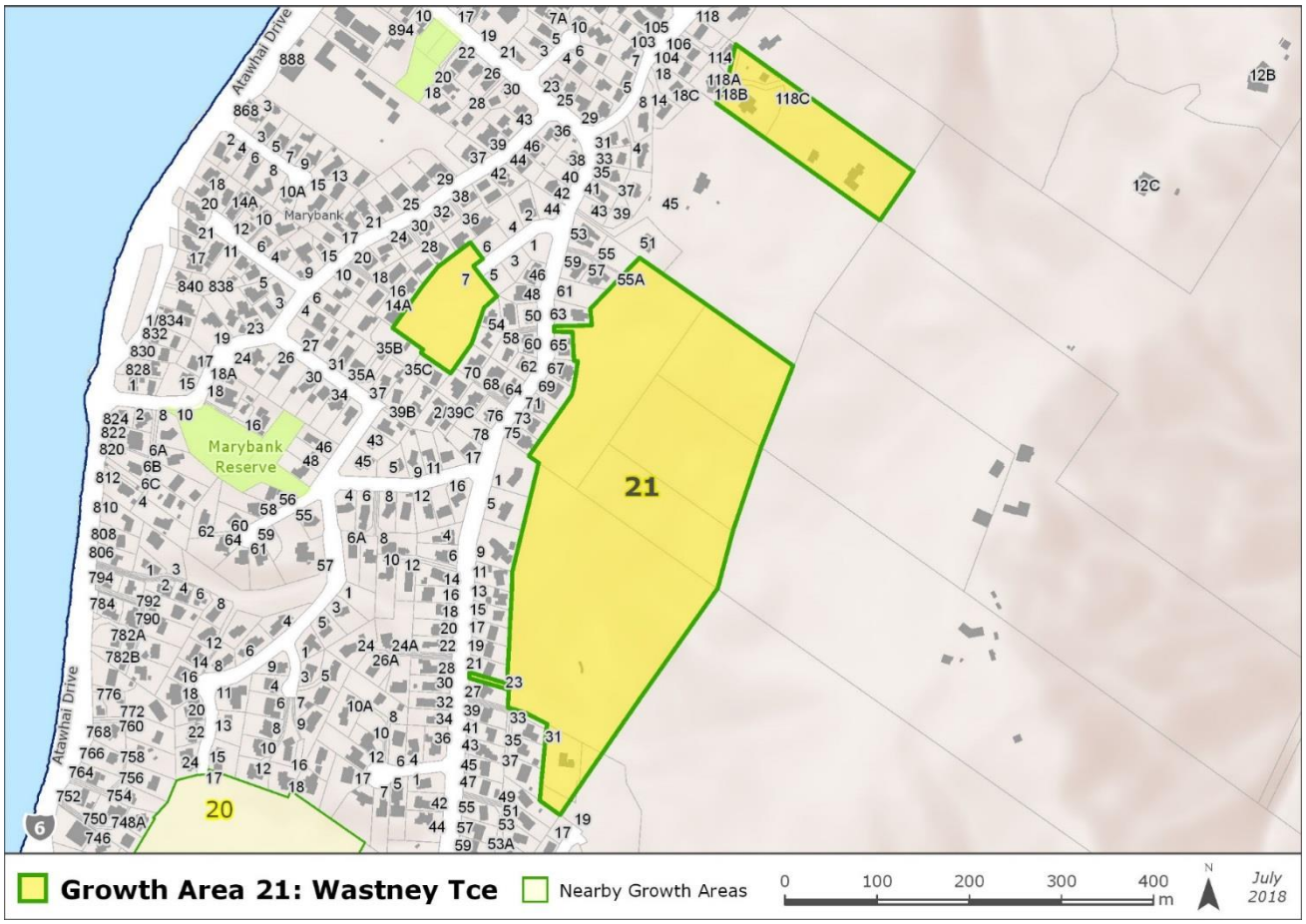
### Description

Area 21 sits on the hills to the north of Nelson overlooking the boulder bank and estuary. The land is very steep and faces generally west to North West. The steepness of the site is expected to limit the development density in the main bulk of the growth area which will likely impact feasibility unless particularly high prices are achieved for the finished sections.

Access to the growth area is available via Maybank Road with connection to the wider transport network being via the intersection of Marybank Road and State Highway 6. NZTA are the road controlling authority for all state highways and as a result there maybe requirements on the developer to contribute to intersection improvements works prior to subdivision.

The undeveloped part of Area 21 is held by a three independent owners. Small pockets of residential subdivision have occurred in the last 5-10 years adjacent to the growth area at the end of Sunnybank Rise and off Tresillian Avenue.

## Location plan




## Servicing constraints

As shown in the table below, growth area 21 is constrained by transport and stormwater services. All Council projects needed to release the remaining capacity are expected to be completed in 2024 according to the project list in the 2018 Nelson Long Term Plan. The unknown at this stage is what requirements NZTA will have and what the timing of any works on State Highway 6 will be.

The site is too steep for the developer to be able to retain stormwater onsite so no development can take place until after 2024.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Likely | NZTA project | | |
| Stormwater | Yes | $3,821,781 | Yes | 2024 |
| Water | No | | | |
| Wastewater | No | | | |
| | Total | $3,821,781 | Final completion | 2024 |

## Feasibility

With the pre-tax margin for the 10 dwellings per hectare set at just over 20% the MBIE feasibility model indicates that the profit and margin maximising option would be to develop at a higher density than typically adopted in Nelson. The profit margin more than doubles with an increase in density to 15 dwellings per hectare. The number of lots estimated for the capacity assessment is for a density of around 2.3 dwellings per hectare which is too low to make any development feasible. Instead, a modified method of assessment has been used which looked at just the 7.1Ha area proposed to be developed in the last resource consent application. This results in a density of 3.7 dwellings per hectare. The MBIE feasibility assessment tool indicates that either the land value is well below average market value at $1,831 (or being valued much lower by the owner) or that the sections will sell for a higher price than average for Nelson for this development to be feasible.

**Area 21 Wastney Terrace**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 7.1 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $1,831,104 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.00% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $300,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $320,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 0% | | *m* | 0.093 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 12 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 |
| | *Landscape Reserve Area* | ha of land | 0.34 | 0.36 | 0.37 | 0.39 | 0.41 |
| | *Stormwater Reserve Area* | ha of land | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 |
| | *Other constraints that reduce net site area* | ha of land | - | - | - | - | - |
| | *Net Developable land Area* | ha of land | 4.99 | 4.97 | 4.95 | 4.93 | 4.92 |
| Revenue | *Subdivision Lots created* | total lots | 50 | 75 | 99 | 123 | 148 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $326,718 | $314,614 | $306,298 | $300,000 | $294,950 |
| | *Average sales price (ex GST)* | per section | $284,103 | $273,577 | $266,346 | $260,870 | $256,478 |
| | *Total revenue* | | $ 14,170,333 | $ 20,395,167 | $ 26,380,268 | $ 32,181,522 | $ 37,831,214 |
| Costs | *1 Rawland purchase and holding cost* | | $2,215,636 | $2,215,636 | $2,215,636 | $2,215,636 | $2,215,636 |
| | *2 Civil works, incl holding costs* | | $5,096,144 | $5,144,423 | $5,192,441 | $5,240,200 | $5,287,700 |
| | *3 Fees and charges, incl holding costs* | | $3,414,381 | $4,510,139 | $6,012,124 | $7,208,298 | $8,370,908 |
| | *4 Project contingency* | | $1,072,616 | $1,187,020 | $1,342,020 | $1,466,413 | $1,587,424 |
| | *Total costs* | | $11,798,778 | $13,057,218 | $14,762,221 | $16,130,548 | $17,461,668 |
| | *per section costs (excl rawland)* | | $192,134 | $145,427 | $126,676 | $112,797 | $103,361 |
| | *per section (total)* | | $236,555 | $175,147 | $149,046 | $130,757 | $118,382 |
| Profit | *Pre tax profit $* | | $2,371,555 | $7,337,949 | $11,618,047 | $16,050,973 | $20,369,546 |
| | *Pre tax margin %* | | 20.1% | 56.2% | 78.7% | 99.5% | 116.7% |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Development feasible?** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

## Area 24: Enner Glynn

| | |
|---|---|
| Projected Yield | 110 lots |
| Gross site area | 110Ha |
| Estimated Net developable area | 60Ha |
| Priority decade | Years 10+ |
| Servicing cost per lot | $68,052 |

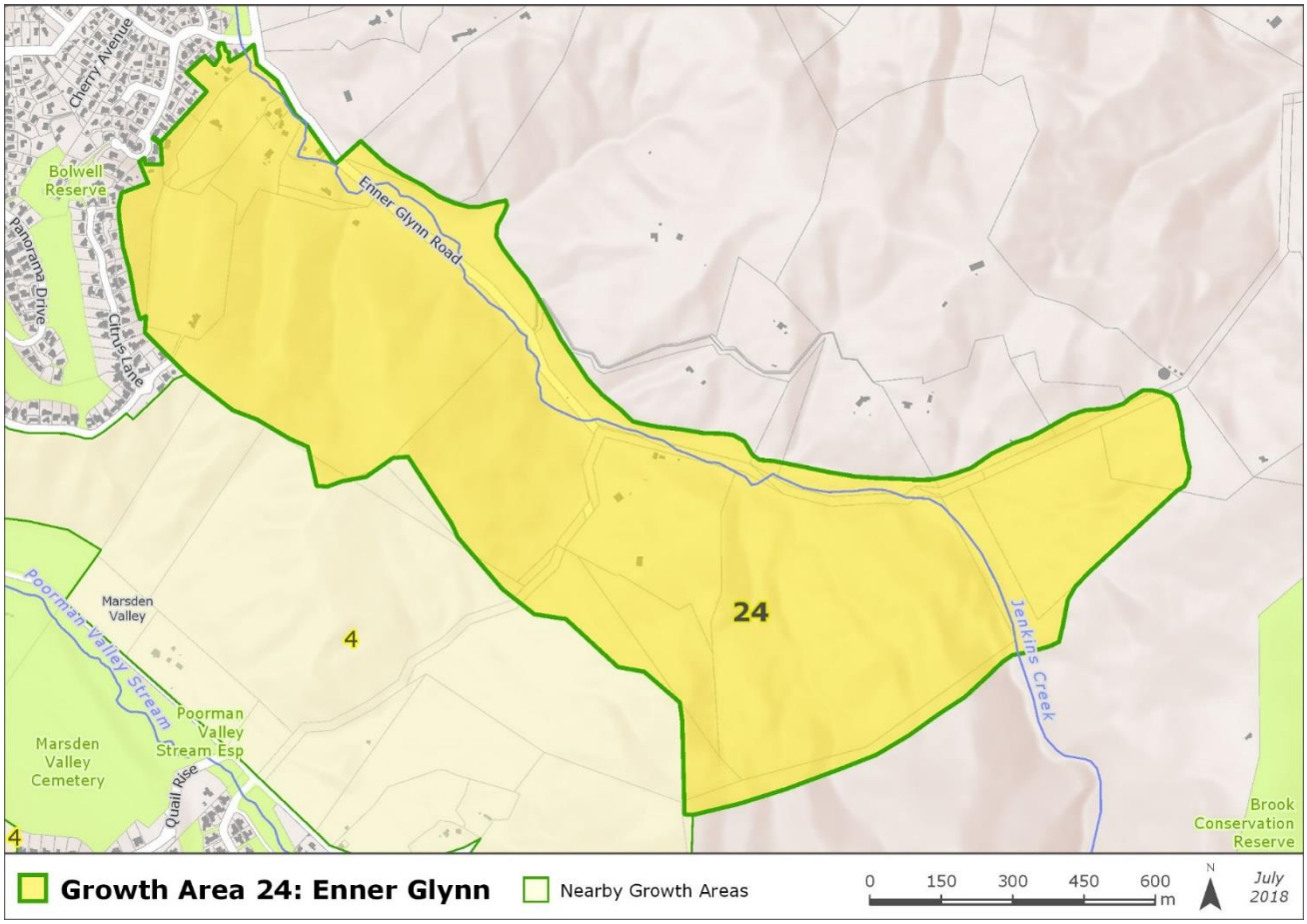
### Description

Area 24 sits on the predominantly north facing slopes above Enner Glynn Road to the east of the Wakatu area of Nelson. The land varies from almost flat nearer the bottom of the slopes to very steep on the mid-slopes. The area is zoned a mixture of Residential and Rural lower density small holdings. The top of the growth area borders growth area 4.

Access to the area is via Enner Glynn Road which connects to The Ridgeway and on to Waimea Road.

The bulk of the undeveloped land is held by three independent land owners.

### Location plan



### Servicing constraints

As shown in the table below, growth area 24 is constrained by all services other than water. The bulk of the services are not anticipated to be delivered in the term of the current LTP.

| Infrastructure | Constraint | Cost to remove constraint | In LTP | Year complete |
|---|---|---|---|---|
| Transport | Yes | $2,330,000 | No | Beyond 10 years |
| Stormwater | Yes | $2,764,812 | No | Beyond 10 years |
| Water | No | | | |
| Wastewater | Yes | $2,390,945 | Yes | 2022 |
| | Total | $7,485,757 | Final completion | Beyond 10 years |

## Feasibility

As shown in the table below, all development densities of 15 dwellings per hectare and above are feasible with pre-tax margins of between 21% and 49%.

**Area 24 Enner Glynn**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 110.3 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $21,838,295 | | | | |
| | *Land sale price relative to CV, ex GST* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *NewLot Area 1* | 400 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *NewLot Price 1* | $244,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *NewLot Area 2* | 800 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 5% | | *NewLot Price 2* | $272,000 | Section price $ |
| | *Other constraints that reduce net site area* | % of land area | 15% | | *m* | 0.157 | Section price gradient |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 11 | Section price intercept |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 20.41 | 22.06 | 23.71 | 25.37 | 27.02 |
| | *Landscape Reserve Area* | ha of land | 5.24 | 5.52 | 5.79 | 6.07 | 6.34 |
| | *Stormwater Reserve Area* | ha of land | 5.52 | 5.52 | 5.52 | 5.52 | 5.52 |
| | *Other constraints that reduce net site area* | ha of land | 16.55 | 16.55 | 16.55 | 16.55 | 16.55 |
| | *Net Developable land Area* | ha of land | 62.60 | 60.67 | 58.73 | 56.80 | 54.87 |
| Revenue | *Subdivision Lots created* | total lots | 626 | 910 | 1,175 | 1,420 | 1,646 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $281,681 | $264,338 | $252,684 | $244,000 | $237,127 |
| | *Average sales price (ex GST)* | per section | $244,940 | $229,859 | $219,725 | $212,174 | $206,197 |
| | *Total revenue* | | $ 153,320,671 | $ 209,165,862 | $ 258,110,324 | $ 301,310,826 | $ 339,447,112 |
| Costs | *1 Rawland purchase and holding cost* | | $26,424,337 | $26,424,337 | $26,424,337 | $26,424,337 | $26,424,337 |
| | *2 Civil works, incl holding costs* | | $75,548,134 | $79,556,821 | $83,537,285 | $87,489,526 | $91,413,544 |
| | *3 Fees and charges, incl holding costs* | | $41,253,985 | $52,345,921 | $67,516,474 | $78,164,346 | $87,654,332 |
| | *4 Project contingency* | | $14,322,646 | $15,832,708 | $17,747,810 | $19,207,821 | $20,549,221 |
| | *Total costs* | | $157,549,102 | $174,159,787 | $195,225,906 | $211,286,031 | $226,041,435 |
| | *per section costs (excl rawland)* | | $209,480 | $162,351 | $143,698 | $130,174 | $121,257 |
| | *per section (total)* | | $251,695 | $191,390 | $166,193 | $148,781 | $137,309 |
| Profit | *Pre tax profit $* | | -$4,228,430 | $35,006,075 | $62,884,419 | $90,024,796 | $113,405,677 |
| | *Pre tax margin %* | | -2.7% | 20.1% | 32.2% | 42.6% | 50.2% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |

# Appendix B

## Infill capacity areas

These areas are discussed further in section 4.6 of the report.

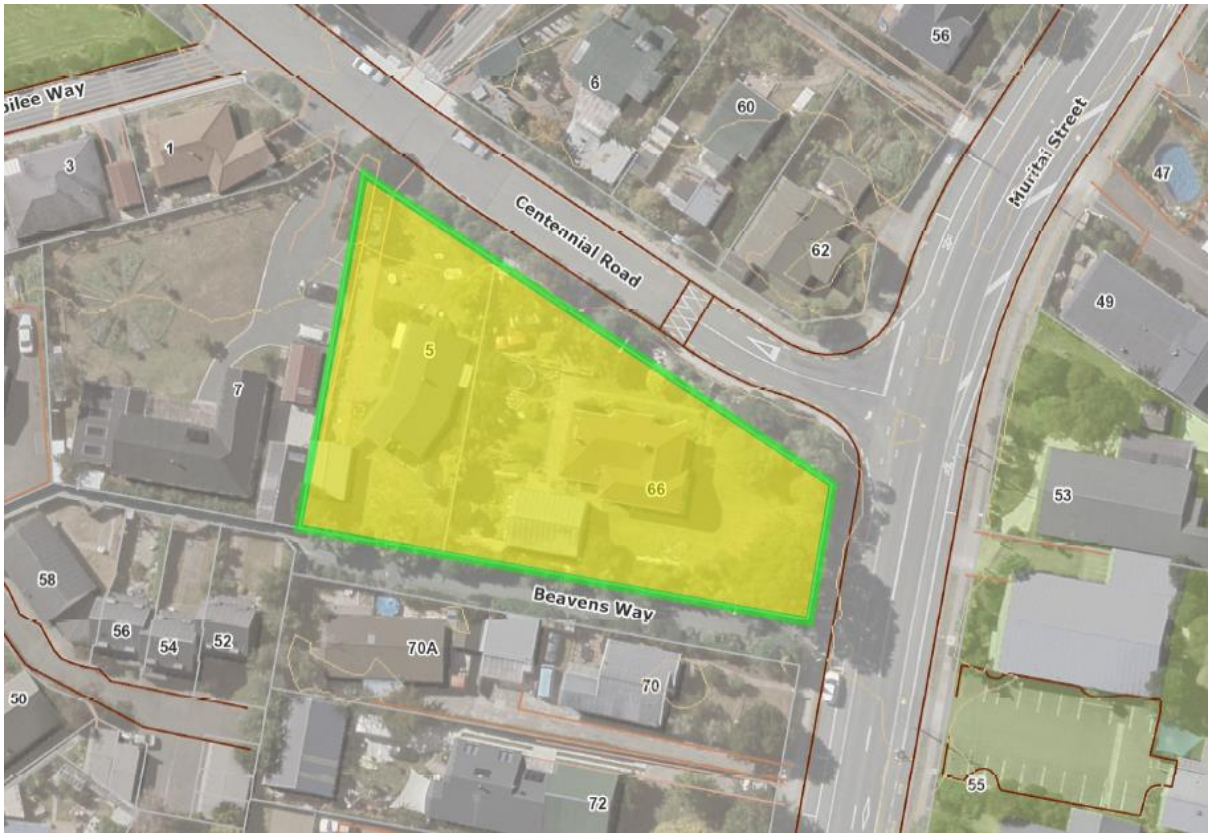
Two plan enabled sites under the NRMP have been assessed for feasibility in this appendix. One is located within the Residential Zone and the other within the Suburban Commercial Zone. The sites are relatively unconstrained by topography or hazards, and are corner sites making access and parking more viable.

The analysis of feasibility showed that in the sites analysed, plan-enabled infill development was feasible in the Suburban Commercial zone but not in the Residential zone.

## 66 Muritai Street & 5 Centennial Road

| | |
|---|---|
| NRMP Zone | Residential |
| Site area | 2100m2 |
| Purchase cost | $1080,000 |

This site is a flat, residential zoned section located 1km from Tahunanui Beach and the Tahunanui town centre, directly adjacent to a park and a primary school.




### Development feasibility and potential

None of the plan enabled developments on this site were feasible. The most feasible type was a duplex-style development adding 6 extra 178m$^2$ dwellings. As a comprehensive development this would likely be a discretionary activity due to providing 263m$^2$ land per dwelling. With a profit margin of 5%, it is well short of the 20% feasibility trigger.

In order to make a financially feasible duplex development on this particular site (assuming that land purchase, construction costs and dwelling sale price per square metre are fixed), some combination of site size, building height or site coverage factors needs to be adjusted. The table below shows resultant development options when solving different combinations for these three different criteria. The development solved for site size and coverage but maintaining zone enabled height creates the lowest cost product and also the most 'standard' dwelling size at ~150m2 GFA. There were no

apartment type developments which would work for the defined sale price per square metre in this location.

| | | Variable Criteria | | | Resultant development | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Height (storeys) | Site coverage | Site size (sqm) | GFA per dwelling | Sale price @$4550/m2 | Profit margin | Type | Site yield (Gross) |
| Fixed criteria | Site size | 2 | 54% | 400 | 456 | $ 2,077,953 | >20% | Duplex | 5 |
| | Site coverage | 3 | 40% | 150 | 180 | $ 819,000 | >20% | Duplex | 12 |
| | Height | 2 | 63% | 117 | 146 | $ 667,951 | >20% | Duplex | 18 |
| | Current rules | 2 | 40% | 400 | 320 | $ 1,456,000 | 18% | Stand alone | 5 |

**Figure 1: Muritai Street development built form sensitivity testing**

A feasible development on this site would be two storeys terraced house development, with 63% site coverage and a site size of 117m2. This would result in 16 new dwellings on the site (resulting in 18 in total).

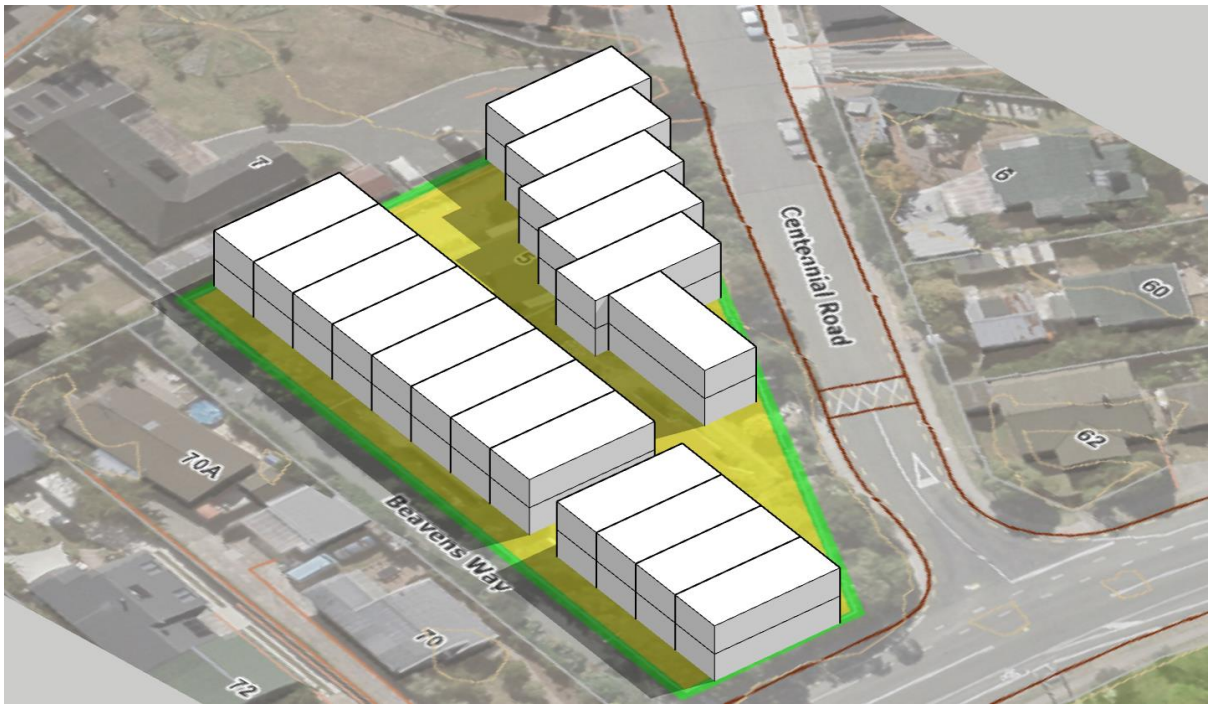



**Figure 2: Example concept development optimised for site coverage and site size**

The key Residential Zone rules that affect feasibility are bulk and location, internal and external amenity and parking requirements.

| Type | Item | Units | Detached | Duplex |
|---|---|---|---|---|
| Site area and price | Gross area of site | sqm | 2100 | 2100 |
| | Site constraints that reduce dev potential | % | 0% | 0% |
| | Net Developable Site Area | sqm | 2100 | 2100 |
| | Gross site purchase costs (CV) | $/site | $840,000 | $840,000 |
| | Site sale price relative to CV | % | 129% | 129% |
| | Actual site purchase costs | $/site | $1,080,000 | $1,080,000 |
| Development outcome | New dwellings | per site | 5 | 8 |
| | Land per dwelling | sqm/dwellinc | 420 | 263 |
| | Number of levels | per dwelling | 1.0 | 1.7 |
| | Building site coverage | % | 40% | 40% |
| | Driveway and parking site coverage | % | 15% | 15% |
| | Gross floor area per dwelling | sqm | 168 | 178.5 |
| | Time to complete | months | 9 | 12 |
| Site variables | Total floor space on site | sqm | 840 | 1,428 |
| | Total building footprint | | 840 | 840 |
| | Total paved area | sqm | 315 | 315 |
| | Total landscaped area | sqm | 945 | 945 |
| | Floor area ratio | % | 0.40 | 0.68 |
| Planning check | DC contributions factor | % | 100% | 98% |
| | Site zoning | | Residential | |
| | Max site coverage | % | 40% | 40% |
| | Height limit | Levels | 2 | 2 |
| | Minimum floor space/dwelling | sqm | 0 | 0 |
| | Minimum land/dwelling | sq / dwelling | 400 | 400 |
| Cost parameters | Land preparation costs | | | Select |
| | Construction costs | | | Select |
| | Ancillary costs | | | Select |
| Revenue assumptions | Average dwelling sales price | per m2 | $4,550 | $4,550 |
| | Average sales price | per dwelling | $764,400 | $812,175 |

| Type | Item | Detached | Duplex |
|---|---|---|---|
| Revenue | Gross Project Sales Income (incl GST) | $3,822,000 | $6,497,400 |
| | Gross Project Sales Income (excl GST) | $3,323,478 | $5,649,913 |
| Costs | 1 Raw land purchase and holding cost | $1,160,027 | $1,188,000 |
| | 2 Site preparation costs, incl holding costs | $69,521 | $98,964 |
| | 3 Construction costs, incl holding costs | $1,834,142 | $3,216,326 |
| | 4 Ancillary costs, incl holding costs | $503,343 | $879,004 |
| | Total costs | $3,567,033 | $5,382,294 |
| Profit | Pre tax profit $ | ($243,555) | $267,619 |
| | Pre tax margin % | -6.8% | 5.0% |

| | | |
|---|---|---|
| Development feasible? | No | No |
| Profit maximising? | No | No |
| Margin maximising? | No | No |
| Plan-enabled? | Yes | No |

| Type | Item | Units | Duplex | Terrace Home |
|---|---|---|---|---|
| Site area and price | Gross area of site | sqm | 2100 | 2100 |
| | Site constraints that reduce dev potential | % | 0% | 0% |
| | Net Developable Site Area | sqm | 2100 | 2100 |
| | Gross site purchase costs (CV) | $/site | $840,000 | $840,000 |
| | Site sale price relative to CV | % | 129% | 129% |
| | Actual site purchase costs | $/site | $1,080,000 | $1,080,000 |
| Development outcome | New dwellings | per site | 18 | 12 |
| | Land per dwelling | sqm/dwelling | 117 | 175 |
| | Number of levels | per dwelling | 2.0 | 3.0 |
| | Building site coverage | % | 63% | 50% |
| | Driveway and parking site coverage | % | 10% | 10% |
| | Gross floor area per dwelling | sqm | 147 | 262 |
| | Time to complete | months | 12 | 18 |
| Site variables | Total floor space on site | sqm | 2,646 | 3,144 |
| | Total building footprint | | 1,323 | 1,048 |
| | Total paved area | sqm | 210 | 210 |
| | Total landscaped area | sqm | 567 | 842 |
| | Floor area ratio | % | 1.26 | 1.50 |
| Planning check | DC contributions factor | % | 98% | 133% |
| | Site zoning | | Residential | |
| | Max site coverage | % | 40% | 40% |
| | Height limit | Levels | 2 | 2 |
| | Minimum floor space/dwelling | sqm | 0 | 0 |
| | Minimum land/dwelling | sq / dwelling | 400 | 400 |
| Cost parameters | Land preparation costs | | Select land | |
| | Construction costs | | Select construction | |
| | Ancillary costs | | Select ancillary costs | |
| Revenue assumptions | Average dwelling sales price | per m2 | $4,550 | $4,550 |
| | Average sales price | per dwelling | $668,850 | $1,192,050 |

| Type | Item | Duplex | Terrace Home |
|---|---|---|---|
| Revenue | Gross Project Sales Income (incl GST) | $12,039,300 | $14,304,597 |
| | Gross Project Sales Income (excl GST) | $10,468,957 | $12,438,780 |
| Costs | 1 Raw land purchase and holding cost | $1,188,000 | $1,245,985 |
| | 2 Site preparation costs, incl holding costs | $98,964 | $19,386 |
| | 3 Construction costs, incl holding costs | $5,757,103 | $7,312,632 |
| | 4 Ancillary costs, incl holding costs | $1,670,231 | $1,779,016 |
| | Total costs | $8,714,298 | $10,357,019 |
| Profit | Pre tax profit $ | $1,754,658 | $2,081,762 |
| | Pre tax margin % | 20.1% | 20.1% |

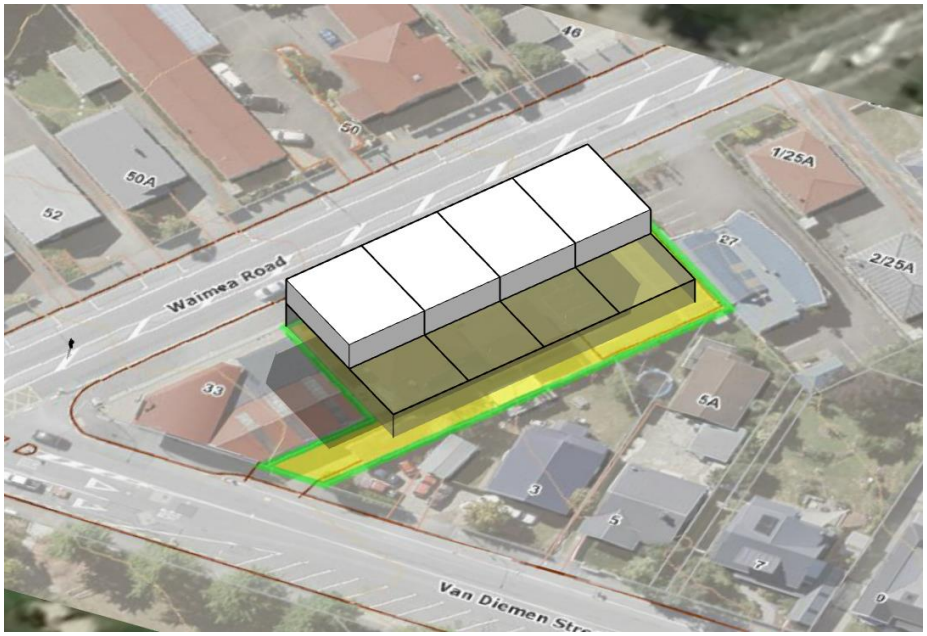
| | | |
|---|---|---|
| Development feasible? | Yes | Yes |
| Profit maximising? | No | Yes |
| Margin maximising? | Yes | No |
| Plan-enabled? | No | No |

## 31 Waimea Road

| | |
|---|---|
| NRMP Zone | Suburban Commercial |
| Site area | 1251m$^2$ |
| Purchase cost | $740,000 |


This development is in the Suburban Commercial Zone with two boundaries to the residential zone.

The plan enabled development allows 4 dwellings on the site and is feasible. The development is the residential component of a two storey mixed-use building, with four single floor residences located at the first floor.



Some assumptions are required under a mixed use scenario, which is modelled as a single floor standalone residential development using the MBIE feasibility calculator. These assumptions are:

- the marginal cost of adding a first floor to a commercial building is essentially the same as building a single floor residential building, and
- the commercial development on the ground would need to perform independently or in other words no cross-subsidisation of sales from the residential portion of the development.
- Car parking requirements for the Suburban Commercial activities at the rear of the site, along with the 8 car parking spaces required for the residential units.

| Type | Item | Units | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|---|
| Site area and price | Gross area of site | sqm | 1251 | 1251 | 1251 | 1251 | 1251 | 1251 |
| | Site constraints that reduce d | % | 19% | 19% | 19% | 19% | 19% | 19% |
| | Net Developable Site Area | sqm | 1013.31 | 1013.31 | 1013.31 | 1013.31 | 1013.31 | 1013.31 |
| | Gross site purchase costs (C | $/site | $560,000 | $560,000 | $560,000 | $560,000 | $560,000 | $560,000 |
| | Site sale price relative to CV | % | 132% | 132% | 132% | 132% | 132% | 132% |
| | Actual site purchase costs | $/site | $740,000 | $740,000 | $740,000 | $740,000 | $740,000 | $740,000 |
| Development outcome | New dwellings | per site | 4 | 9 | 9 | 14 | 20 | 30 |
| | Land per dwelling | sqm/dwelling | 253 | 113 | 113 | 72 | 51 | 34 |
| | Number of levels | per dwelling | 1.0 | 2.0 | 2.0 | 3.0 | 5.0 | 8.0 |
| | Building site coverage | % | 60% | 60% | 60% | 60% | 60% | 60% |
| | Driveway and parking site co | % | 15% | 15% | 15% | 15% | 15% | 15% |
| | Gross floor area per dwelling | sqm / dwelling | 151.9965 | 135.108 | 135.108 | 130 | 130 | 130 |
| | Time to complete | months | 9 | 12 | 15 | 18 | 20 | 24 |
| Site variables | Total floor space on site | sqm | 608 | 1,216 | 1,216 | 1,820 | 2,600 | 3,900 |
| | Total building footprint | | 608 | 608 | 608 | 608 | 608 | 608 |
| | Total paved area | sqm | 152 | 152 | 152 | 152 | 152 | 152 |
| | Total landscaped area | sqm | 491 | 491 | 491 | 491 | 491 | 491 |
| | Floor area ratio | % | 0.60 | 1.20 | 1.20 | 1.80 | 2.57 | 3.85 |
| Planning check | DC contributions factor | % | 100% | 100% | 100% | 60% | 100% | 60% |
| | Site zoning | | Suburban Commerical | | | | | |
| | Max site coverage | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Height limit | Levels | 1 | 1 | 1 | 1 | 1 | 1 |
| | Minimum floor space/dwelling | sqm | 0 | 0 | 0 | 0 | 0 | |
| | Minimum land/dwelling | sq / dwelling | 0 | 0 | 0 | 0 | 0 | 0 |
| Cost parameters | Land preparation costs | | Select land preparation costs | | | | | |
| | Construction costs | | Select construction costs | | | | | |
| | Ancillary costs | | Select ancillary costs | | | | | |
| Revenue assumptions | Average dwelling sales price | per m2 | $5,910 | $5,910 | $5,910 | $5,910 | $5,910 | $5,910 |
| | Average sales price | per dwelling | $898,236 | $798,432 | $798,432 | $768,246 | $768,246 | $768,246 |

| Type | Item | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|
| Revenue | Gross Project Sales Income (incl GST) | $3,592,946 | $7,185,891 | $7,185,891 | $10,755,447 | $15,364,924 | $23,047,386 |
| | Gross Project Sales Income (excl GST) | $3,124,301 | $6,248,601 | $6,248,601 | $9,352,562 | $3,598,519 | $20,041,205 |
| Costs | 1 Raw land purchase and holding cost | $794,834 | $814,000 | $833,629 | $853,730 | $867,400 | $895,400 |
| | 2 Site preparation costs, incl holding costs | $41,415 | $58,954 | $77,084 | $130,843 | $124,749 | $490,773 |
| | 3 Construction costs, incl holding costs | $1,297,826 | $2,677,907 | $2,943,908 | $6,346,069 | $6,790,103 | $19,315,304 |
| | 4 Ancillary costs, incl holding costs | $462,628 | $986,525 | $1,043,685 | $1,780,025 | $1,510,606 | $4,812,162 |
| | Total costs | $2,596,702 | $4,537,386 | $4,898,306 | $9,110,666 | $9,292,858 | $25,513,639 |
| Profit | Pre tax profit $ | $527,599 | $1,711,215 | $1,350,295 | $241,896 | ($5,694,339) | ($5,472,434) |
| | Pre tax margin % | 20.3% | 37.7% | 27.6% | 2.7% | -61.3% | -21.4% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Development feasible? | Yes | Yes | Yes | No | No | No |
| Profit maximising? | No | Yes | No | No | No | No |
| Margin maximising? | No | Yes | No | No | No | No |
| Plan-enabled? | Yes | No | No | No | No | No |

# Appendix C

## Expansions Areas

This section ranks three areas for assessment for rezoning to assist the Council to initiate a response as part of the Future Development Strategy and plan review. The following pages provide a description of each expansion area, an assessment of plan enablement provisions and infrastructure planning that would enable feasible development capacity. A summary of the expansion areas is provided in section 4.5 along with a graph illustrating the capacity that could be provided by these areas to meet the long term housing capacity shortage.

A way of prioritising of the growth areas for further assessment as part of the Future Development Stratgey and plan review resulting from the feasibility analysis is summarised below.

| Area Name | Feasible rollout date | Strategic significance | Ability to provide range of housing types | Efficiency to service with infrastructure | Overall assessment |
|---|---|---|---|---|---|
| 25 Kaka Valley | 2028 | H | H | M | H |
| 27 Atawhai Hills | 2028 | L | L | L | L |
| 26a & 26b Saxton | 2024 | M | M | H | M |

Definition of terms used:

*Feasible rollout date* assessment is based on the

- extent of existing and planned enabling infrastructure, and
- extent, cost and complexity of further enabling infrastructure,

leading to an estimated likely LTP year for the final stage of enabling infrastructure to be completed.

*Strategic significance* – Assessment is based on a combination of

- land use potential including access to existing services and amenities,
- ability to leverage commercial or public funding arrangements,
- ability to provide housing at a significant scale,
- ability to provide economic benefits to the City Centre

Ability to provide a range of housing types – assessed based on

- the physical attributes of the site premised on the fact that geotechnical issues and steep topography restrict the developable density

- the fact that land with coastal views attracts a certain market segment and that this tends to provide for a limited range of housing types, and
- the assumption that buyers will make trade-offs on housing types with less land for improved access to amenities and lower price points and that providing good access and amenity will enable demand for more diverse types of housing

*Efficiency to service with infrastructure* –assessed on the rough estimated cost per enabled dwelling to provide new enabling infrastructure.

## Expansion Area 25: Kaka Valley

### Summary

| | |
|---|---|
| Projected Yield | 900 dwellings |
| Net developable area | 30Ha |
| Priority decade | Years 10-30 (long term) |

This area represents an opportunity to provide for expansion close to the Nelson City Centre with excellent access to recreation, employment and services. This area is therefore of high strategic value. Council-provided infrastructure is generally available within a 1.4 kilometres of the site. It is recommended that higher density housing is provided for where topography, landscape values, flooding, and riparian values allow. This enables opportunities for a range of housing types and enables the most feasible development form. Zoning should reflect the high development potential and it is recommended that good quality medium density housing is provided for. A structure plan process will be needed to ensure the area is developed to meet a number of strategic land use objectives and infrastructure alignment. The main constraints are access to sunlight and areas of steep land. The land is in a single ownership.

### Description

Expansion area 25 lies north of Maitai Valley Road in a basin at the base of the Kaka Hill Tributary, upstream from Branford Reserve and is accessed from Ralphine Way. The developable areas of the site combines a west facing moderate slope and a gently sloping south east facing basin. The site is constrained by steep vegetated slopes on the northern and eastern side and the flooding inundation effects of the Maitai River which has formed a natural spill over basin on the outside bend at the base of this valley. The Kaka Tributary has been identified as a significant source of nutrient and sediment inflow to the Maitai/Maitahi/Mahitahi River (Referred to as Mahitahi for the purposes of this report) Kaka Hill to the east provides a strong and defining landscape feature. Dennes Hole is a popular swimming area on the Mahitahi River adjacent to this site.

The site is well located being 3km from the Nelson city centre and close to schools, recreation areas and cycle/walkways to the city. The north-west facing slopes gain access to sunlight and views down the valley. The flatter areas of the basin are relatively shaded due to the Atawhai Hills to the north-west. On 21 June, a typical site in this flatter area will receive 85% of the solar energy captured at a control site at Rabbit Island on the same day. At the equinoxes this rises to 96%, and 100% on 21 December.

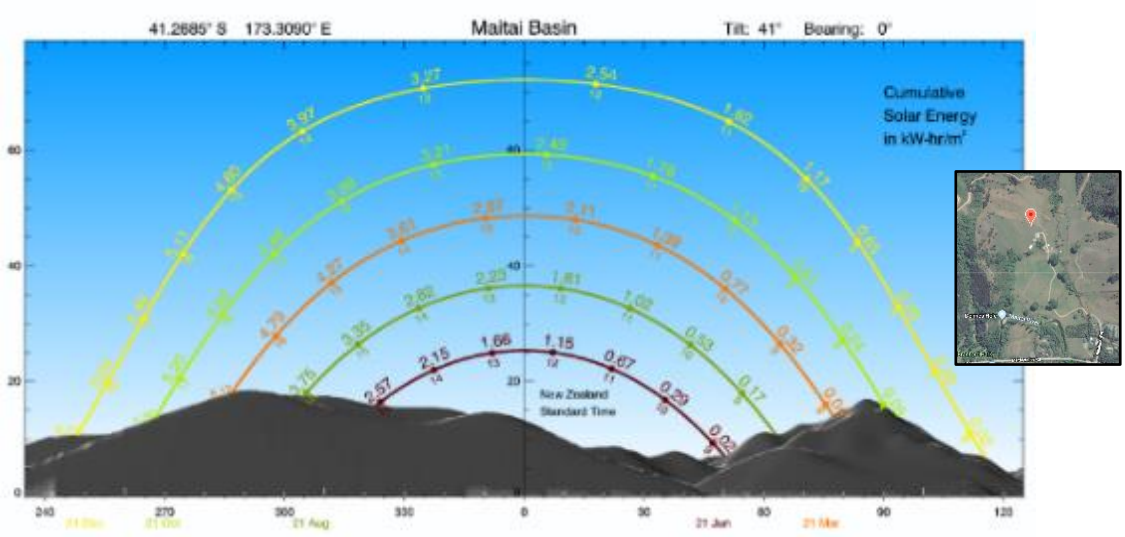
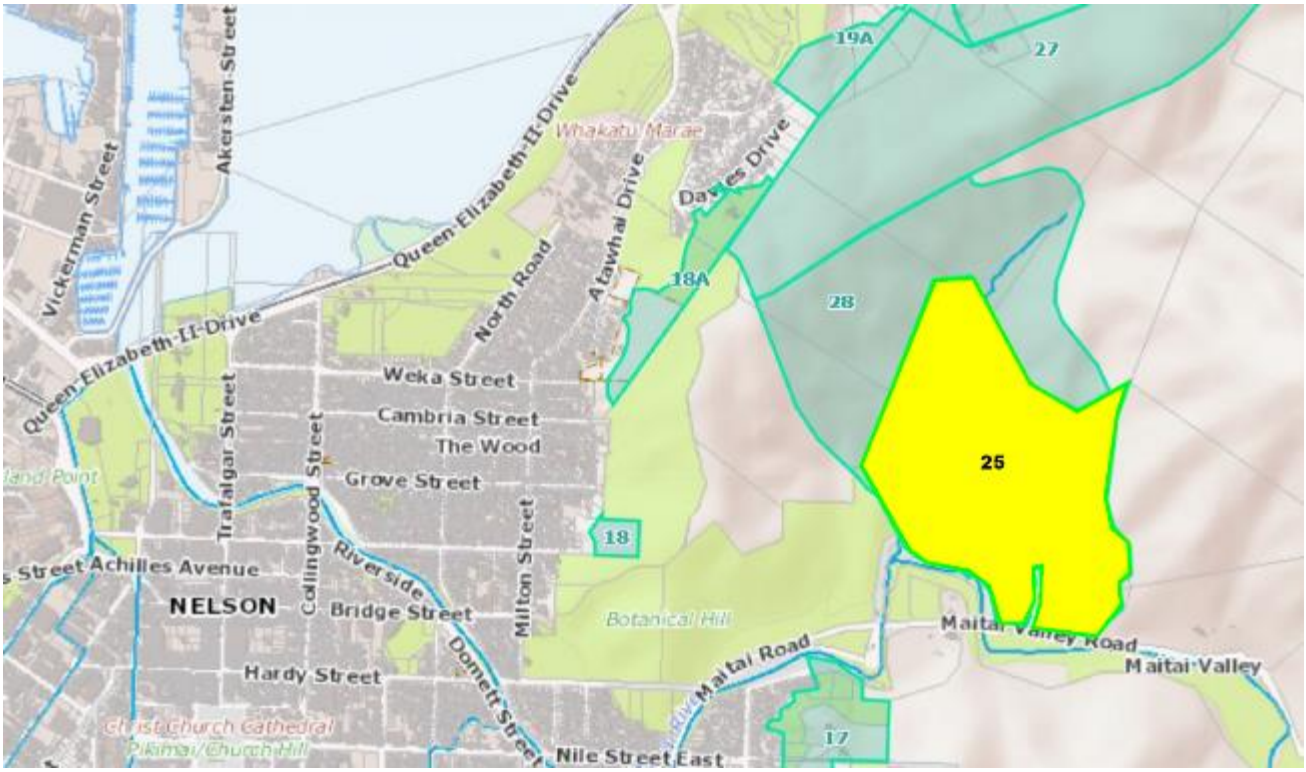



**Figure 1: Solar energy captured on typical Kaka Valley site (location inset)**

Other than extensive steep areas there are no known geotechnical issues within the site. The site has 21m frontage to Ralphine Way at the end of the existing road reserve. The land is currently a farm and much of the steeper slopes are covered in a mixture of regenerating bush and pest weeds. The Mahitahi River within the Maitai Valley and Upper Maitai landscape character areas is considered to form a significant landscape in the 2016 visual amenity landscapes report produced by Boffa Miskell In 2016. Adjacent Kaka Hill and Botanical Hill - Malvern Hill form a part of the background landscape features of the region.

## Location plan



## Infrastructure constraints

Expansion area 25 is constrained by a lack of servicing and therefore is not yet ready to be fully developed.

*Water supply* Current supply infrastructure is insufficient with a 25mm supply line extending to Maitai Valley Road outside 1 Ralphine Way. A new larger supply would need to be installed from Nile Street. The elevation of the land at this site is higher than what can be adequately serviced from the Maitai Valley Road system. It is likely that a dedicated pump and reservoir system would also need to be provided for this site to ensure adequate pressures and flows can be achieved.

*Wastewater* Development in the basin would gravity drain to the current network where possible. Wastewater mains do not currently extend past Hanby Park on the southern bank of the Maitai. An extension along Maitai Valley Road of approximately 1400m of new pipeline would reach the end of Ralphine way. There is insufficient capacity in the downstream wastewater network, especially during wet-weather peak flows. It is likely that increased land use intensity would result in additional overflow points and increased volumes of overflow at peak times. Modelling of the design flows would need to be undertaken to assess the exact capacity constraints and design work would be necessary to ascertain the extent of upgrading that would be required to accommodate the likely flows.

The NCC will be embarking on work in the future to address inflow and infiltration issues effecting the capacity of the existing system but it is unknown whether this work alone (when completed) would result in enough capacity in the system to accommodate the additional flows from this development proposal.

*Transport* The key transport investments would be ensuring that active mode network connections are provided, and a north-south collector road connecting Ralphine Way to the Atawhai Hills areas to the north will be required in the longer term. This collector road would include a crossing of the Kaka Hill Tributary. A section of Maitai Valley Road is within the flood overlay which may restrict access to the site during flood events. Gibbs Bridge is one lane and will need to be widened to include walking cycling and an extra traffic lane. The intersection of Maitai Valley Road and Nile Street will need to be redesigned. The arterial road network will need to be reviewed for traffic volumes, in particular outside schools.

*Stormwater* The peak flows and volumes generated in the Kaka Tributary catchment will need to be modelled to determine what management is required. Kaka Tributary is one of the more significant contributors of sediment and nutrients in to the Mahitahi River.

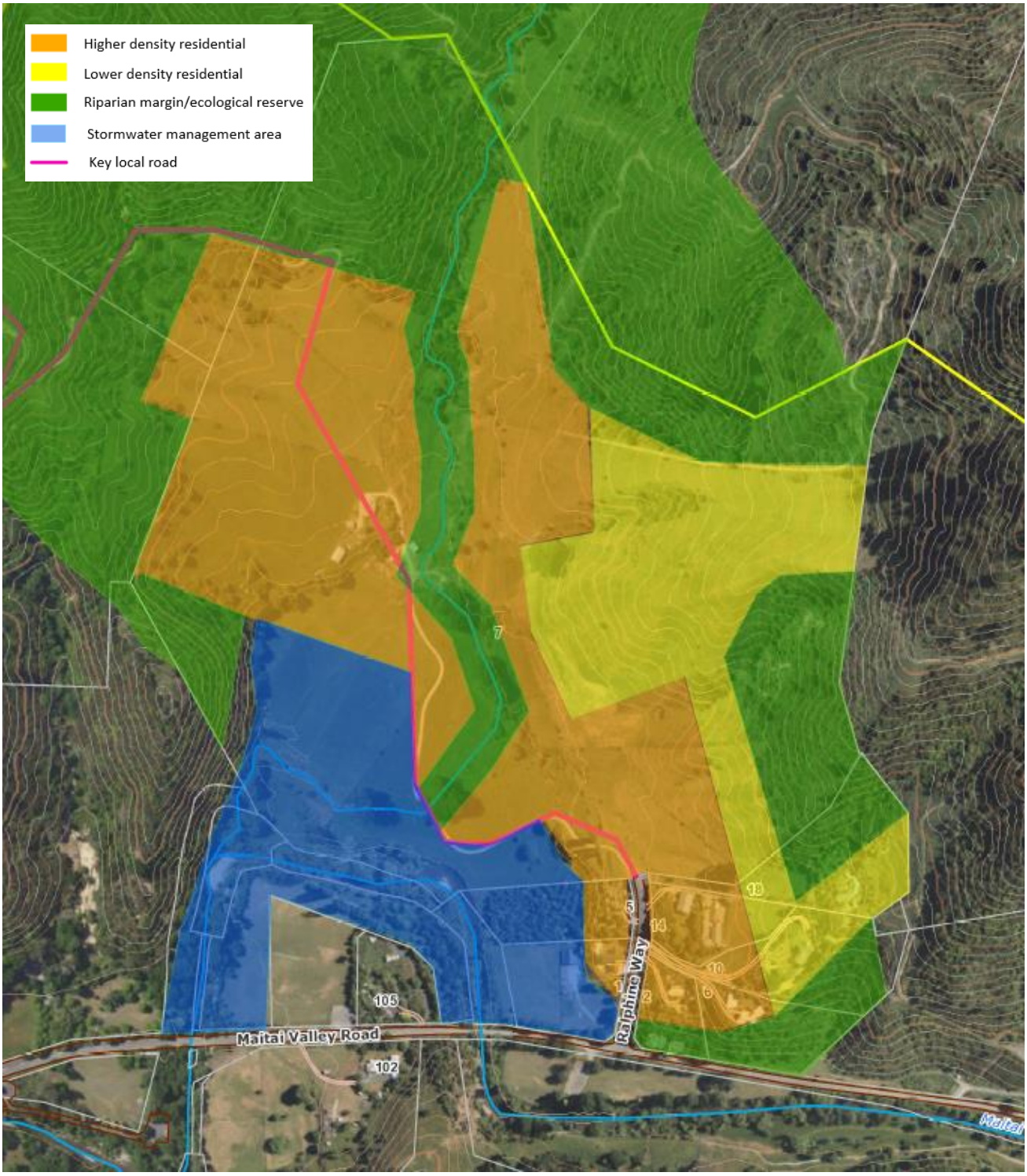



**Figure 2: Area 25 Kaka Valley - proposed zoning**

Area 25 has high potential to provide the needed feasible capacity for years 10 onwards. By virtue of its location and topography it also offers the potential to achieve a range of housing types and price points not currently brought to the market in Nelson.

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | *Gross site area* | ha | 29.5 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *Land capital value (CV)* | $ | $5,521,897 | | | | |
| | *Land sale price relative to CV, ex GS* | % | 100% | | | | |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% | | | | |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% | | *New Lot Area 1* | 445 | m2 |
| | *Landscape Reserve for 15 dw/ha* | % of area | 5% | | *New Lot Price 1* | $220,000 | Section price $ |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% | | *New Lot Area 2* | 995 | m2 |
| | *Wastewater/stormwater Reserve* | % of area | 3% | | *New Lot Price 2* | $220,000 | Section price $ |
| | *Other constraints that reduce net site* | % of land area | 12% | | *m* | - | Section price gradi |
| | *Minimum net density* | dwellings/ha | 10 | | *c* | 12 | Section price interc |
| | *Maximum net density* | dwellings/ha | 30 | | | | |
| | *Time to develop* | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 5.46 | 5.90 | 6.34 | 6.79 | 7.23 |
| | *Landscape Reserve Area* | ha of land | 1.40 | 1.48 | 1.55 | 1.62 | 1.70 |
| | *Stormwater Reserve Area* | ha of land | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| | *Other constraints that reduce net site* | ha of land | 3.54 | 3.54 | 3.54 | 3.54 | 3.54 |
| | *Net Developable land Area* | ha of land | 18.36 | 21.39 | 20.87 | 20.36 | 19.84 |
| Revenue | *Subdivision Lots created* | total lots | 184 | 321 | 417 | 509 | 595 |
| | *Average section size* | sqm / site | 1,000.00 | 666.67 | 500.00 | 400.00 | 333.33 |
| | *Average sales price (inc GST)* | per section | $220,000 | $220,000 | $220,000 | $220,000 | $220,000 |
| | *Average sales price (ex GST)* | per section | $191,304 | $191,304 | $191,304 | $191,304 | $191,304 |
| | *Total revenue* | | $ 35,130,652 | $ 61,372,826 | $ 79,855,217 | $ 97,350,000 | $ 113,857,174 |
| Costs | *1 Raw land purchase and holding cost* | | $6,681,496 | $6,681,496 | $6,681,496 | $6,681,496 | $6,681,496 |
| | *2 Civil works, incl holding costs* | | $19,722,222 | $20,883,857 | $21,986,184 | $23,080,962 | $24,168,192 |
| | *3 Fees and charges, incl holding costs* | | $12,396,171 | $18,890,508 | $25,204,022 | $29,769,546 | $34,003,443 |
| | *4 Project contingency* | | $3,879,989 | $4,645,586 | $5,387,170 | $5,953,200 | $6,485,313 |
| | *Total costs* | | $42,679,877 | $51,101,447 | $59,258,872 | $65,485,204 | $71,338,444 |
| | *per section costs (excl raw land)* | | $196,030 | $138,461 | $125,956 | $115,556 | $108,637 |
| | *per section (total)* | | $232,414 | $159,288 | $141,963 | $128,686 | $119,864 |
| Profit | *Pre tax profit $* | | -$7,549,225 | $10,271,379 | $20,596,346 | $31,864,796 | $42,518,730 |
| | *Pre tax margin %* | | -17.7% | 20.1% | 34.8% | 48.7% | 59.6% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | **No** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Profit maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| **Margin maximising?** | **No** | **No** | **No** | **No** | **Yes** |
| Lots per hectare (gross) | 6.2 | 10.88 | 14.15 | 17.25 | 20.18 |

**Figure 3: Maitai Growth Area - MBIE land development feasibility calculator**

| Type | Item | Units | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|---|
| Site area and price | *Gross area of site* | sqm | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 |
| | *Site constraints that reduce dev potential* | % | 0% | 0% | 0% | 0% | 0% | 0% |
| | *Net Developable Site Area* | sqm | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 |
| | *Gross site purchase costs (CV)* | $/site | $141,963 | $141,963 | $141,963 | $141,963 | $141,963 | $141,963 |
| | *Site sale price relative to CV* | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | *Actual site purchase costs* | $/site | $141,963 | $141,963 | $141,963 | $141,963 | $141,963 | $141,963 |
| Development outcome | *New dwellings* | per site | 1 | 2 | 3 | 4 | 12 | 24 |
| | *Land per dwelling* | sqm/dwelling | 333 | 167 | 111 | 83 | 28 | 14 |
| | *Number of levels* | per dwelling | 1.0 | 1.7 | 2.0 | 3.0 | 7.0 | 12.0 |
| | *Building site coverage* | % | 33% | 33% | 33% | 33% | 33% | 33% |
| | *Driveway and parking site coverage* | % | 28% | 28% | 28% | 28% | 28% | 28% |
| | *Gross floor area per dwelling* | sqm / level | 110 | 93.5 | 85 | 85 | 85 | 85 |
| | *Time to complete* | months | 9 | 12 | 15 | 18 | 21 | 24 |
| Site variables | *Total floor space on site* | sqm | 110 | 187 | 255 | 340 | 1,020 | 2,040 |
| | *Total building footprint* | | 110 | 110 | 110 | 110 | 110 | 110 |
| | *Total paved area* | sqm | 93 | 93 | 93 | 93 | 93 | 93 |
| | *Total landscaped area* | sqm | 130 | 130 | 130 | 130 | 130 | 130 |
| | *Floor area ratio* | % | 0.33 | 0.56 | 0.77 | 1.02 | 3.06 | 6.12 |
| Planning check | *DC contributions factor* | % | 0% | 100% | 100% | 100% | 100% | 100% |
| | *Site zoning* | | Mixed Housing Suburban | | | | | |
| | *Max site coverage* | % | 90% | 90% | 90% | 90% | 90% | 90% |
| | *Height limit* | Levels | 12 | 12 | 12 | 12 | 12 | 12 |
| | *Minimum floor space/dwelling* | sqm | 35 | 35 | 35 | 35 | 35 | 35 |
| | *Minimum land/dwelling* | sq / dwelling | 0 | 0 | 0 | 0 | 0 | 0 |
| Cost parameters | *Land preparation costs* | | Select land preparation costs | | | | | |
| | *Construction costs* | | Select construction costs | | | | | |
| | *Ancillary costs* | | Select ancillary costs | | | | | |
| Revenue assumptions | *Average dwelling sales price* | per m2 | $6,183.61 | $5,796.92 | $5,837.93 | $7,446.93 | $8,125.79 | $9,013.61 |
| | *Average sales price* | per dwelling | $680,198 | $542,012 | $496,224 | $632,989 | $690,692 | $766,157 |

| Type | Item | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|
| Revenue | *Gross Project Sales Income (incl GST)* | $680,198 | $1,084,024 | $1,488,671 | $2,531,955 | $8,288,302 | $18,387,773 |
| | *Gross Project Sales Income (excl GST)* | $591,476 | $942,629 | $1,294,496 | $2,201,700 | $7,207,219 | $15,989,368 |
| Costs | *1 Raw land purchase and holding cost* | $152,482 | $156,159 | $159,925 | $163,781 | $167,731 | $171,775 |
| | *2 Site preparation costs, incl holding costs* | $11,035 | $15,709 | $20,539 | $34,863 | $66,446 | $130,768 |
| | *3 Construction costs, incl holding costs* | $246,629 | $427,759 | $623,377 | $1,195,883 | $4,282,889 | $9,689,210 |
| | *4 Ancillary costs, incl holding costs* | $82,340 | $185,243 | $274,008 | $438,695 | $1,483,949 | $3,321,625 |
| | *Total costs* | $492,486 | $784,870 | $1,077,849 | $1,833,223 | $6,001,014 | $13,313,379 |
| Profit | *Pre tax profit $* | $98,990 | $157,759 | $216,648 | $368,478 | $1,206,204 | $2,675,989 |
| | *Pre tax margin %* | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Development feasible?** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Profit maximising?** | No | No | No | No | No | Yes |
| **Margin maximising?** | No | No | No | No | Yes | No |
| **Plan-enabled?** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Most affordable?** | | | Yes | | | |
| Dwellings per hectare (gross) | 14.2 | 28.3 | 42.5 | 56.6 | 169.8 | 339.6 |

**Figure 4: MBIE building development feasibility calculator**

## Expansion Areas 26A (excluding Summerset SHA) & 26B: (Saxton Growth Area)

### Summary

| | |
|---|---|
| Projected Yield | Up to 1760 dwellings |
| Net developable area | 39Ha |
| Priority decade | Years 5-15 (medium to long term) |

The Saxton Growth Area represents the largest significant undeveloped area of flat land within the Nelson-Tasman Urban Area and as such it is of high strategic potential. It is well located and demand for development is demonstrated by adjacent housing developments and requests for rezoning. Previous infrastructure studies have considered a standard density of development for this area of around 11 dwellings per hectare. Zoning should reflect the high development potential and adjacent open space and it is recommended that good quality medium density housing is provided for. To ensure this, a structure plan process will be needed to ensure the area is developed to meet a number of strategic land use objectives and leverage existing infrastructure and amenities. Further work is needed to ensure infrastructure capacity can be provided for higher-density development. The land is largely in a single ownership, apart from an area of residential-zoned smaller lots in area 23 which are partially developed.

### Description

The Saxton Growth Area is located between Saxton Field and the Stoke Foothills, bounded to the north by Saxton Road east and to the south by the boundary of growth area 23 and the Summerset SHA, which although originally within area 26A has now been included within the zoned and serviced areas along with area 26C. The land slopes gently to the north-west and is comprised of two catchments, with area 26B draining northwards to Orphanage Stream and 26A southwards to Saxton Creek.

The land is predominantly in rural use. On any given day of the year, a typical site in this area will receive 100% of the solar energy captured at a control site at Rabbit Island on the same day.

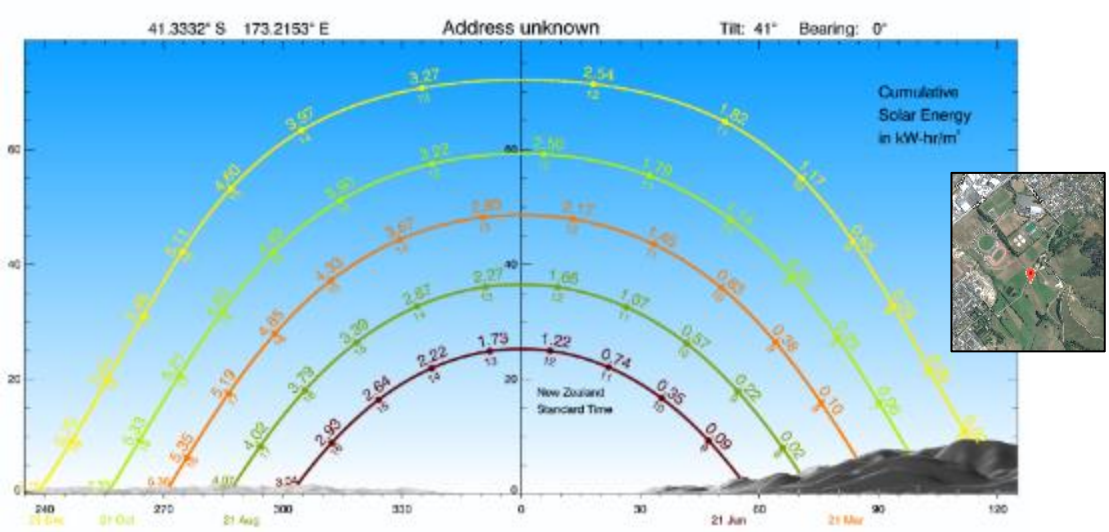
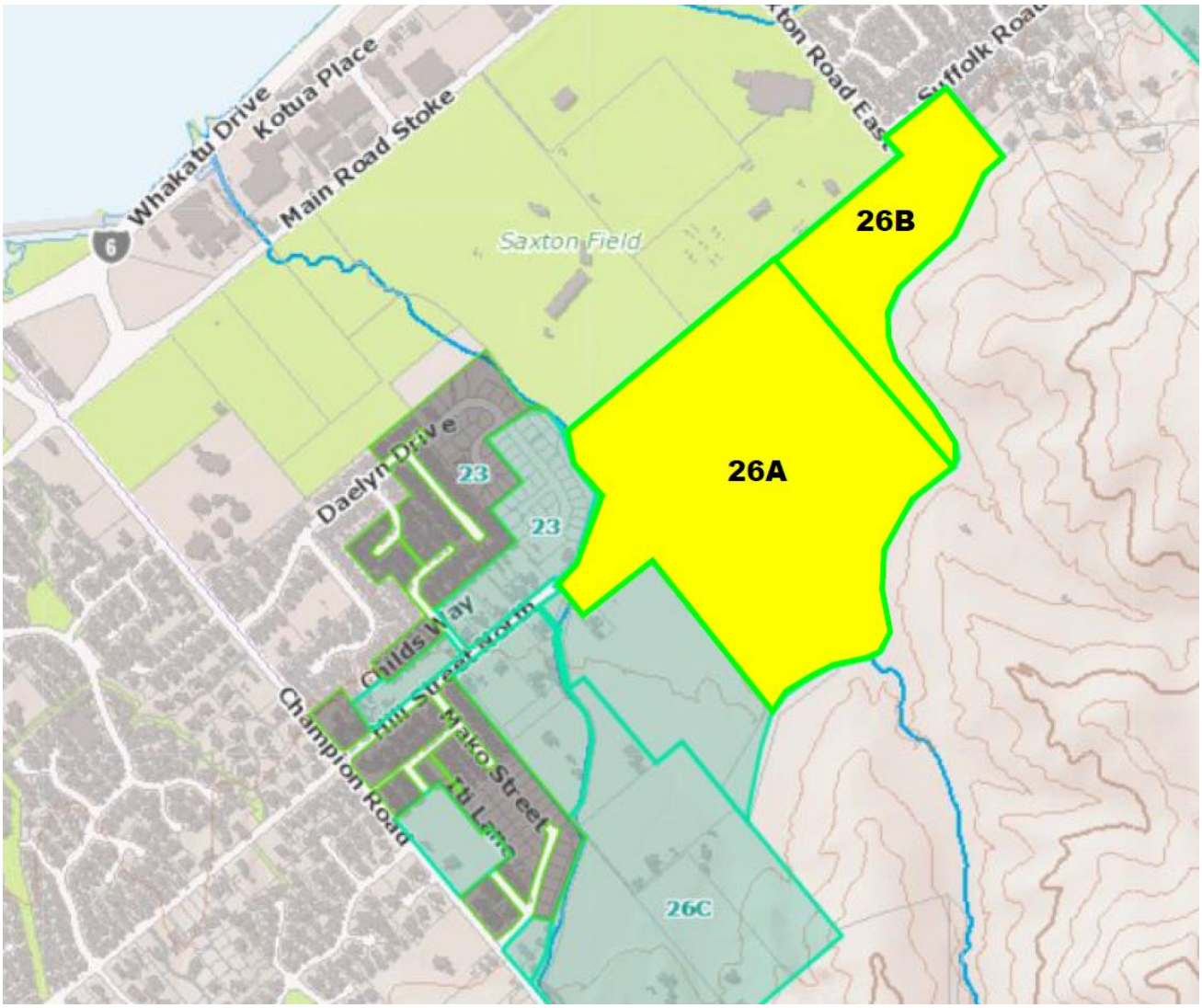



**Figure 6: Solar energy captured on typical Saxton Growth Area site (location inset)**

The site is located centrally within the Nelson Urban Area, being approximately 3km from the centre of Richmond and 13km from the Nelson city centre. It appears as a viable option for urban expansion to meet demand in the second half of the 10 year projections for Nelson City. This is supported by the existing demand for both in-zone developments and out-of-zone housing developments to the south west, for example the ~300 dwellings applied for under the Special Housing Areas legislation and the recently completed Daelyn and Wakatu developments on Champion Road.

There are issues with the existing arterial and state highway network and work currently being initiated by NCC, TDC and the NZTA will explore how to manage existing and growth related transport pressure in this area. The land sits downstream from a large unconsented private dam and there is uncertainty regarding the safety of this structure. The area directly behind Saxton Field is crossed by a pair of 50Kv power lines owned by Network Tasman and there are restrictions on residential activity and construction in close proximity to these. Wastewater and stormwater issues are specific to the gravity catchments described above further work required to determine the scope of work for servicing of both catchments.

## Location plan




## Servicing constraints

Growth areas 26A and 26B are constrained by a lack of servicing and therefore are not free to be developed.

*Wastewater* – The current projects in the LTP are sized for this 860 dwellings in this area. A wastewater network capacity study undertaken by Jeff Booth modelling for 860 residential lots in area 26A and 26B assuming residential rezoning. Area 26B was assumed to have capacity for 60 properties. Development in the Wakatu Industrial Estate connecting to the Saxton Road pump station was also taken in to account.

The balance 800 lots capacity in the wastewater growth catchment, including the subset located in Area 26A, will be partly serviced by LTP works currently being provided for by the SHA developments and connecting via the Daelyn development to the Elm St pump station.

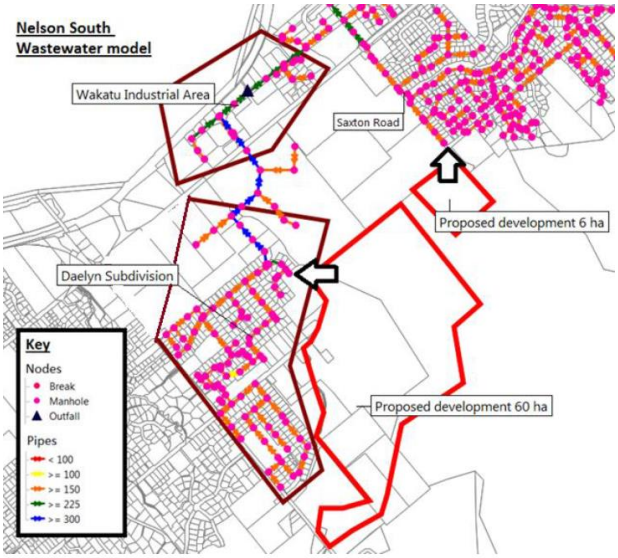



**Figure 7: Areas of interest in the Nelson South Wastewater model**

*Stormwater* – Area 26A drains into the Saxton Creek and around $12m has been committed to upgrading this area to address existing flooding. There is very limited scope for growth within this catchment with modelling required to measure impact on freeboard from any increased flow rates.

Area 26B drains to Orphanage Creek which has had issues with flooding at the point where it passes under Main Road Stoke.

*Water supply* - The entire area will be serviced by LTP projects currently being provided for by the SHA developments and connecting via Suffolk Road. Water supply capacity has been calculated for 865 lots in this growth area. Further investigation will be required regarding the capacity in this system for additional dwellings, taking in to account relatively smaller dwelling sizes.

*Transport* - Funding is in in the LTP for a programme of work to address residential growth in this area including the expected development of adjacent areas. Road network upgrades are funded in years 5-8 of the current LTP. There is currently very limited public transport access and reasonable access to cycle and walking networks. More accurate transport requirements can be identified as NOF modelling (Tracks and Saturn) and transport planning is progressed over the next year.

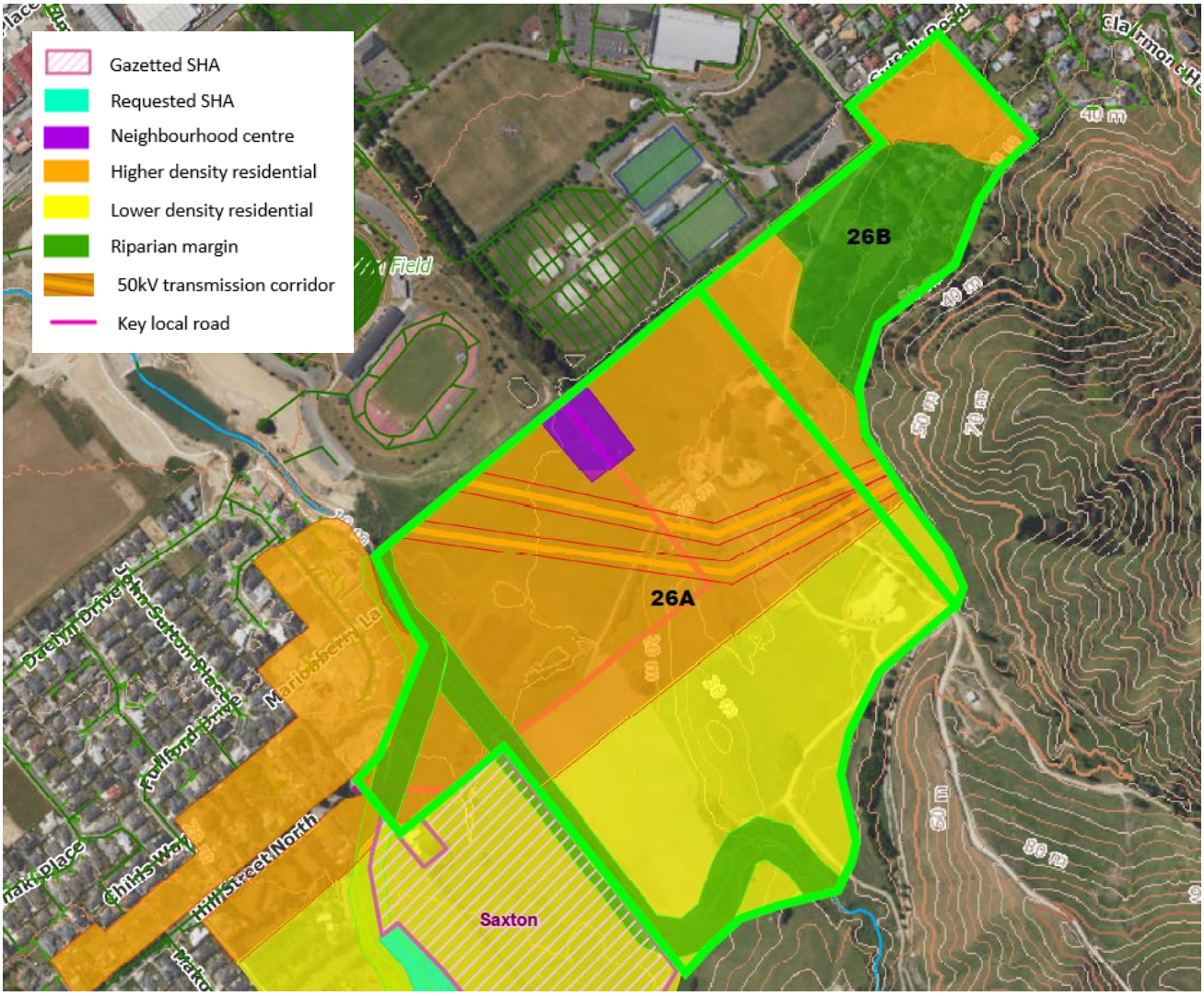



**Figure 8: Saxton Growth Area proposed zones**

| Type | Item | Units | Value | Type | Section price function | | Comment |
|---|---|---|---|---|---|---|---|
| Physical | Gross site area | ha | 39.0 | Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | Land capital value (CV) | $ | $16,298,605 | | | | |
| | Land sale price relative to CV, ex G | % | 100% | | | | |
| | Road Reserve area for 15 dw/ha | % of area | 20% | | | | |
| | Extra roading for increased dw/ha | % per dw/ha | 0.30% | | New Lot Area 1 | 586 | m2 |
| | Landscape Reserve for 15 dw/ha | % of area | 5% | | New Lot Price 1 | $260,770 | Section price $ |
| | Extra landscape reserve for dw/ha | % per dw/ha | 0.05% | | New Lot Area 2 | 762 | m2 |
| | Wastewater/stormwater Reserve | % of area | 5% | | New Lot Price 2 | $270,000 | Section price $ |
| | Other constraints that reduce net s | % of land area | 12% | | m | 0.132 | Section price gradient |
| | Minimum net density | dwellings/ha | 10 | | c | 12 | Section price intercept |
| | Maximum net density | dwellings/ha | 30 | | | | |
| | Time to develop | months | 24 | | View modelled section price gradient | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | DC contributions factor | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | Project contingency | % | 10% | 10% | 10% | 10% | 10% |
| | Civil works | | Select civil works costs | | | | |
| | Fees and charges | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | Road Reserve Area | ha of land | 7.22 | 7.80 | 8.39 | 8.97 | 9.56 |
| | Landscape Reserve Area | ha of land | 1.85 | 1.95 | 2.05 | 2.15 | 2.24 |
| | Stormwater Reserve Area | ha of land | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| | Other constraints that reduce net s | ha of land | 4.68 | 4.68 | 4.68 | 4.68 | 4.68 |
| | Net Developable land Area | ha of land | 23.30 | 27.30 | 26.62 | 25.94 | 25.25 |
| Revenue | Subdivision Lots created | total lots | 233 | 410 | 532 | 648 | 758 |
| | Average section size | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | Average sales price (inc GST) | per section | $279,897 | $265,263 | $255,346 | $247,910 | $241,995 |
| | Average sales price (ex GST) | per section | $243,389 | $230,663 | $222,040 | $215,574 | $210,430 |
| | Total revenue | | $ 56,715,624 | $ 94,456,531 | $118,202,876 | $ 139,772,573 | $ 159,416,879 |
| Costs | 1 Raw land purchase and holding cost | | $19,721,312 | $19,721,312 | $19,721,312 | $19,721,312 | $19,721,312 |
| | 2 Civil works, incl holding costs | | $24,676,639 | $26,205,232 | $27,655,417 | $29,095,623 | $30,525,850 |
| | 3 Fees and charges, incl holding costs | | $16,829,268 | $25,571,867 | $33,628,624 | $39,362,351 | $44,604,300 |
| | 4 Project contingency | | $6,122,722 | $7,149,841 | $8,100,535 | $8,817,929 | $9,485,146 |
| | Total costs | | $67,349,941 | $78,648,253 | $89,105,889 | $96,997,215 | $104,336,608 |
| | per section costs (excl raw land) | | $204,393 | $143,900 | $130,336 | $119,184 | $111,692 |
| | per section (total) | | $289,025 | $192,059 | $167,382 | $149,600 | $137,724 |
| Profit | Pre tax profit $ | | -$10,634,316 | $15,808,279 | $29,096,987 | $42,775,358 | $55,080,271 |
| | Pre tax margin % | | -15.8% | 20.1% | 32.7% | 44.1% | 52.8% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Development feasible? | No | Yes | Yes | Yes | Yes |
| Profit maximising? | No | No | No | No | Yes |
| Margin maximising? | No | No | No | No | Yes |
| Lots per hectare (gross) | 6.0 | 10.5 | 13.7 | 16.6 | 19.4 |
| Raw land value per square metre | $ 42 | | | | |

**Figure 9: Saxton Growth Area - MBIE land development feasibility calculator**

| Type | Item | Units | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|---|
| Site area and price | Gross area of site | sqm | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 |
| | Site constraints that reduce d | % | 0% | 0% | 0% | 0% | 0% | 0% |
| | Net Developable Site Area | sqm | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 | 333.33 |
| | Gross site purchase costs (C | $/site | $137,724 | $137,724 | $137,724 | $137,724 | $137,724 | $137,724 |
| | Site sale price relative to CV | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Actual site purchase costs | $/site | $137,724 | $137,724 | $137,724 | $137,724 | $137,724 | $137,724 |
| Development outcome | New dwellings | per site | 1 | 2 | 3 | 7 | 12 | 24 |
| | Land per dwelling | sqm/dwelling | 333 | 167 | 111 | 48 | 28 | 14 |
| | Number of levels | per dwelling | 1.0 | 1.7 | 3.0 | 3.0 | 7.0 | 12.0 |
| | Building site coverage | % | 33% | 33% | 33% | 66% | 66% | 66% |
| | Driveway and parking site co | % | 28% | 28% | 28% | 15% | 15% | 15% |
| | Gross floor area per dwelling | sqm / level | 110 | 93.5 | 110 | 90 | 85 | 80 |
| | Time to complete | months | 9 | 12 | 15 | 18 | 21 | 24 |
| Site variables | Total floor space on site | sqm | 110 | 187 | 330 | 630 | 1,020 | 1,920 |
| | Total building footprint | | 110 | 110 | 110 | 220 | 220 | 220 |
| | Total paved area | sqm | 93 | 93 | 93 | 50 | 50 | 50 |
| | Total landscaped area | sqm | 130 | 130 | 130 | 63 | 63 | 63 |
| | Floor area ratio | % | 0.33 | 0.56 | 0.99 | 1.89 | 3.06 | 5.76 |
| Planning check | DC contributions factor | % | 100% | 100% | 100% | 60% | 60% | 60% |
| | Site zoning | | Medium Density Zone | | | | | |
| | Max site coverage | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Height limit | Levels | 12 | 12 | 12 | 12 | 12 | 12 |
| | Minimum floor space/dwelling | sqm | 35 | 35 | 35 | 35 | 35 | 35 |
| | Minimum land/dwelling | sq / dwelling | 0 | 0 | 0 | 0 | 0 | 0 |
| Cost parameters | Land preparation costs | | Select land preparation costs | | | | | |
| | Construction costs | | Select construction costs | | | | | |
| | Ancillary costs | | Select ancillary costs | | | | | |
| Revenue assumptions | Average dwelling sales price | per m2 | $6,144.90 | $5,759.53 | $5,344.00 | $6,800.80 | $8,147.50 | $9,107.64 |
| | Average sales price | per dwelling | $675,939 | $538,516 | $587,840 | $612,072 | $692,537 | $728,611 |

| Type | Item | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|
| Revenue | Gross Project Sales Income (incl GST) | $675,939 | $1,077,032 | $1,763,521 | $4,284,502 | $8,310,449 | $17,486,666 |
| | Gross Project Sales Income (excl GST) | $587,773 | $936,550 | $1,533,496 | $3,725,654 | $7,226,477 | $15,205,797 |
| Costs | 1 Raw land purchase and holding cost | $147,930 | $151,497 | $155,150 | $158,891 | $162,723 | $166,647 |
| | 2 Site preparation costs, incl holding costs | $11,035 | $15,709 | $20,539 | $34,863 | $66,446 | $130,768 |
| | 3 Construction costs, incl holding costs | $246,629 | $427,759 | $791,487 | $2,188,562 | $4,379,812 | $9,331,630 |
| | 4 Ancillary costs, incl holding costs | $83,808 | $184,844 | $309,673 | $719,811 | $1,408,069 | $3,031,901 |
| | Total costs | $489,403 | $779,808 | $1,276,850 | $3,102,127 | $6,017,050 | $12,660,946 |
| Profit | Pre tax profit $ | $98,370 | $156,742 | $256,647 | $623,527 | $1,209,428 | $2,544,851 |
| | Pre tax margin % | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Development feasible?** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Profit maximising?** | No | No | No | No | No | Yes |
| **Margin maximising?** | No | Yes | No | No | No | No |
| **Plan-enabled?** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Most affordable?** | | Yes | | | | |
| Dwellings per hectare (gross) | 19.4 | 38.9 | 58.3 | 136.0 | 233.1 | 466.2 |

**Figure 10: MBIE building development feasibility calculator**

## Growth Area 27: Atawhai Hills

### Summary

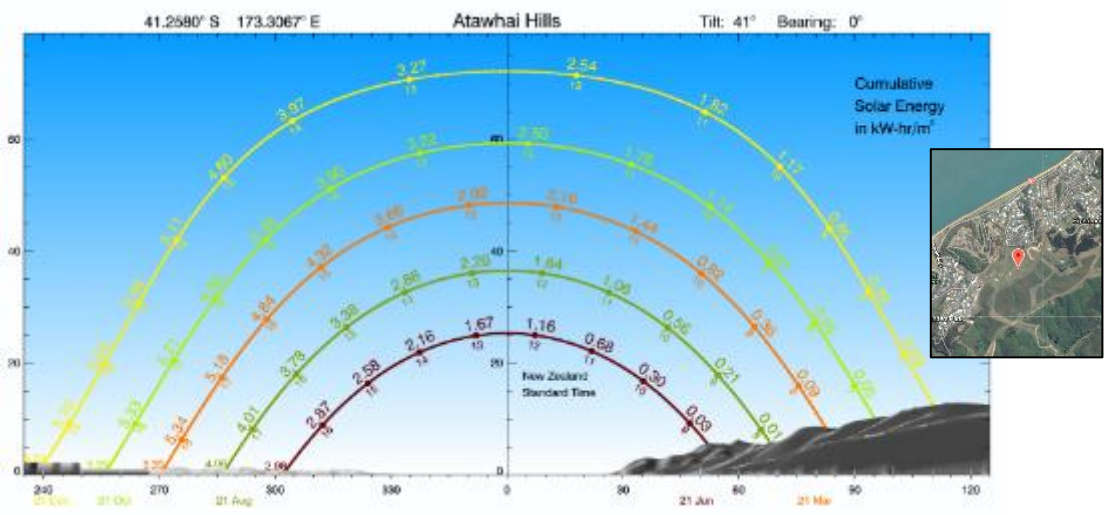
| | |
|---|---|
| Projected Yield | 820 |
| Net developable area | 51.3 hectares |
| Priority decade | Y15-25 |

The Atawhai hills represent an opportunity to continue growth north of the Nelson city centre with good access to recreation and employment. The main restrictions on growth are steep topography and natural hazards, as well as the need to protect hillsides and ridgelines from visually obtrusive development. It is recommended that a moderate to low level of density is allowed for over this entire growth area to reflect these constraints.

### Description

Area 27 is located on the upper north-west facing slopes of the Atawhai Hills between Walter's Bluff and Fenchay Drive. It adjoins growth areas 19a-19e to the north, which are zoned Residential in the NRMP. A fault corridor runs parallel to the growth area and there are some geotechnical issues with slope stability.

On 21 June, a typical site in this area will receive 98% of the solar energy captured at a control site at Rabbit Island on the same day. At the equinoxes and on 21 December this increases to 100%.

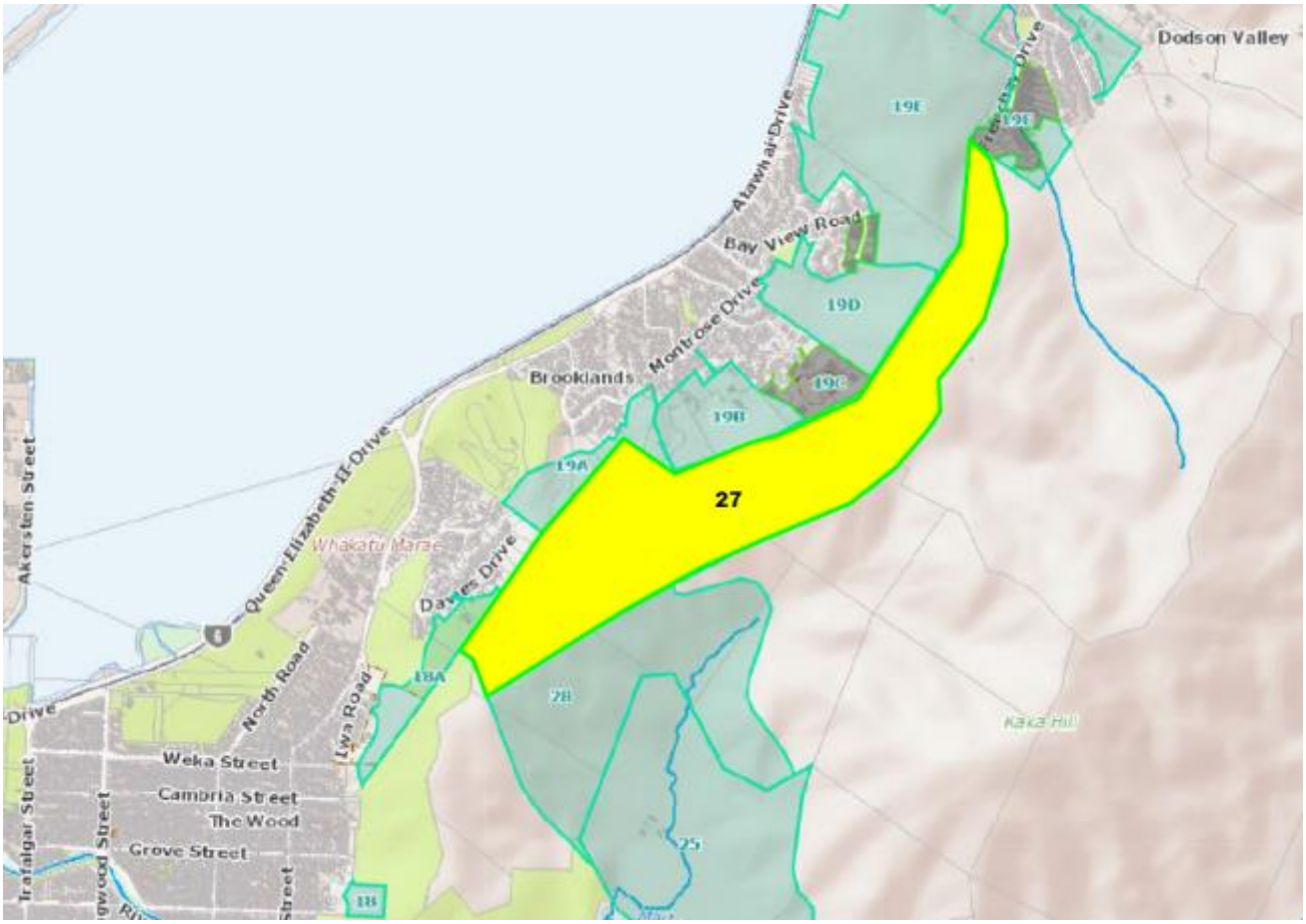



Factors influencing development capacity include constraints on water supply, wastewater and Stormwater services, and transport connections particularly to State Highway 6.

The area is well located in relation to the centre city and has high levels of sun and sea views, with the southern end being approximately 3km by road to the city centre. There are relatively few local services and amenities with the closest local shops and schools being in central Nelson or at Dodson Valley or Marybank. The topography varies from around 30% grade on the lower slopes to around 63% grade on the upper slopes. There is uncertainty around geotechnical

stability on some areas of the site, and the Flaxmore Fault line runs north-south the length of the growth area at the downhill side.

## Location plan




## Servicing constraints

Growth area 27 is constrained by a lack of servicing and therefore is not free to be developed.

## Bulk infrastructure feasibility

*Wastewater* - Development in this area will drain by gravity to the rising main in Atawhai Drive. Investment is planned for two pump stations at Brooklands and Marybank. The capacity of the existing system and the planned pump stations will need to be assessed in relation to this zoning proposal.

*Water supply* - trunk services can only supply water to approximately 100m above sea level and are only just adequate for current growth demand. Zoning up to near the 200m contour as per this proposal will require investment in new supply and storage infrastructure in excess of $3m. This will also provide security of supply for existing properties. An LTP budget is in place for a supply and storage (the Atawhai no.2 reservoir and trunk main) solution further north and it is possible that this can be re-prioritised and elevated to service area 27 as well.

*Transport* - The key transport investments would be a portion of the costs of a new collector road connection between Walter's Bluff and Fenchay Drive, and a new collector connection to the Maitai Basin. This section of road will provide a network connection between neighbourhoods but will have no development yield. The collector route via Walters Bluff should be designed for a future high quality bus route as part of a future transit network. Current sub-collector routes to connect to State Highway Six will need to be assessed for capacity. Safety and capacity upgrades will likelybe needed to intersections and connections on to and around State Highway 6.

Local connections to the school at Clifton Terrace at Marybank and shops at Dodson Valley rely on trips on State Highway 6 which is high speed rural road.

*Stormwater* – The network within some existing areas will not be adequate to cope with further development, particularly dropping across Montrose Drive and Montrose Reserve, and at Ledbury Road where the mains are 225mm but would appear to need to serve sloped housing areas up to 15Ha. Connections to gravity mains to the coast exist at Davies Drive (450mm at highest point) Walters Bluff (300mm), Brooklands Road (450mm) Paremata Street (300mm) Ledbury Road (225mm) Seawatch Way (525mm), Bayview Road (600mm) and Lighthouse View (300mm)

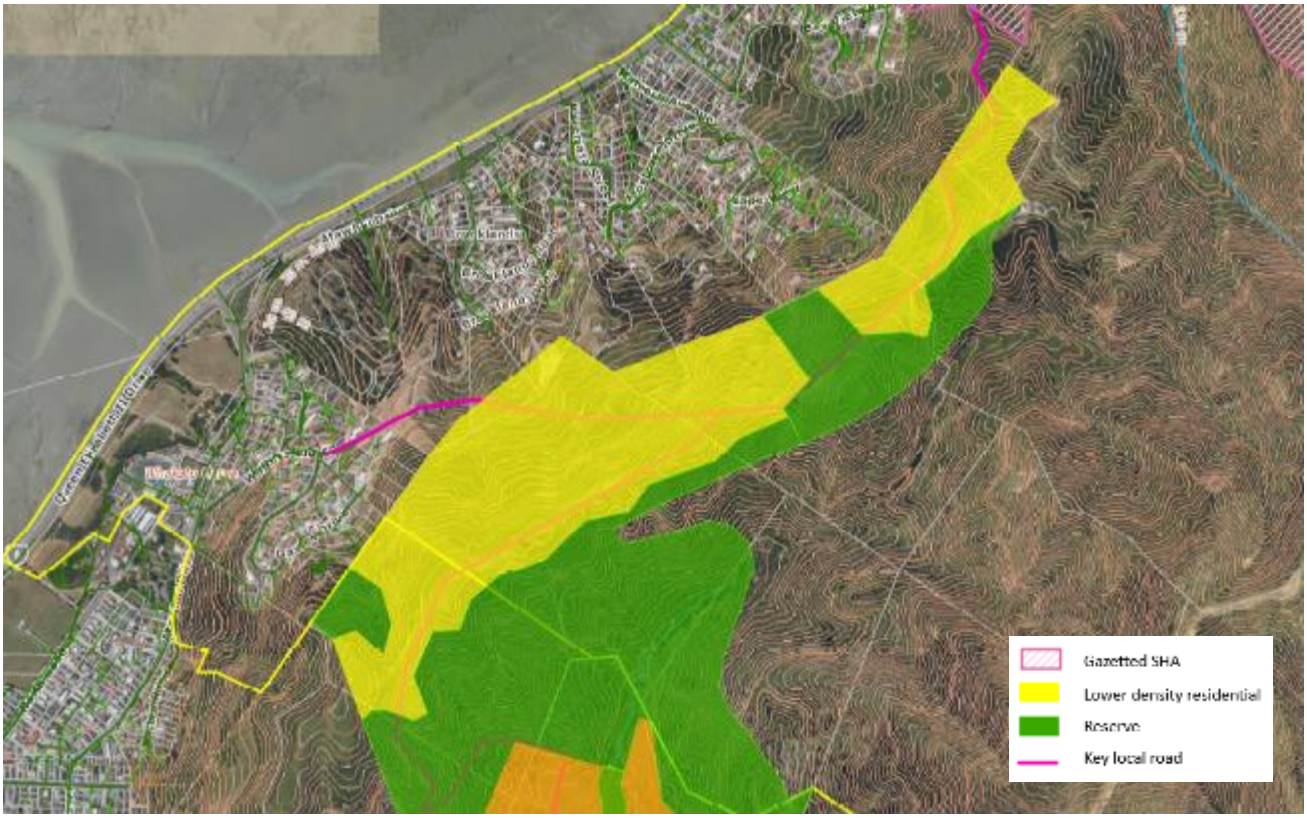



**Figure 11: Atawhai Hills - proposed zones**

| Type | Item | Units | Value |
|---|---|---|---|
| Physical | *Gross site area* | ha | 81.2 |
| | *Land capital value (CV)* | $ | $19,795,107 |
| | *Land sale price relative to CV, ex GS* | % | 100% |
| | *Road Reserve area for 15 dw/ha* | % of area | 20% |
| | *Extra roading for increased dw/ha* | % per dw/ha | 0.30% |
| | *Landscape Reserve for 15 dw/ha* | % of area | 8% |
| | *Extra landscape reserve for dw/ha* | % per dw/ha | 0.05% |
| | *Wastewater/stormwater Reserve* | % of area | 5% |
| | *Other constraints that reduce net site* | % of land area | 15% |
| | *Minimum net density* | dwellings/ha | 10 |
| | *Maximum net density* | dwellings/ha | 30 |
| | *Time to develop* | months | 24 |

| Type | Section price function | | Comment |
|---|---|---|---|
| Revenue | Note: This requires users to enter local prices for two lots of varying size, eg a price for a 400m2 and a 800m2 lot. This allows prices for sections of varying sizes to be estimated below. | | |
| | *New Lot Area 1* | 445 | m2 |
| | *New Lot Price 1* | $310,000 | Section price $ |
| | *New Lot Area 2* | 1,061 | m2 |
| | *New Lot Price 2* | $250,000 | Section price $ |
| | *m* | - 0.248 | Section price gradie |
| | *c* | 14 | Section price interc |

View modelled section price gradient

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Ancillary | *DC contributions factor* | % | 111% | 94% | 100% | 96% | 93% |
| Cost parameters | *Project contingency* | % | 10% | 10% | 10% | 10% | 10% |
| | *Civil works* | | Select civil works costs | | | | |
| | *Fees and charges* | | Select fees and charges | | | | |

| | | | Density of dwellings [dwellings / ha] | | | | |
|---|---|---|---|---|---|---|---|
| Type | Item | Units | 10 | 15 | 20 | 25 | 30 |
| Net Land Area Calcs | *Road Reserve Area* | ha of land | 15.02 | 16.23 | 17.45 | 18.67 | 19.89 |
| | *Landscape Reserve Area* | ha of land | 6.29 | 6.49 | 6.70 | 6.90 | 7.10 |
| | *Stormwater Reserve Area* | ha of land | 4.06 | 4.06 | 4.06 | 4.06 | 4.06 |
| | *Other constraints that reduce net site* | ha of land | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 |
| | *Net Developable land Area* | ha of land | 43.63 | 54.38 | 52.96 | 51.54 | 50.12 |
| Revenue | *Subdivision Lots created* | total lots | 436 | 816 | 1,059 | 1,289 | 1,504 |
| | *Average section size* | sqm / site | 1,000 | 667 | 500 | 400 | 333 |
| | *Average sales price (inc GST)* | per section | $253,692 | $280,480 | $301,184 | $318,291 | $332,987 |
| | *Average sales price (ex GST)* | per section | $220,602 | $243,895 | $261,899 | $276,775 | $289,554 |
| | *Total revenue* | | $ 96,244,611 | $ 198,956,825 | $ 277,417,794 | $ 356,639,548 | $ 435,388,391 |
| Costs | *1 Raw land purchase and holding cost* | | $23,952,079 | $23,952,079 | $23,952,079 | $23,952,079 | $23,952,079 |
| | *2 Civil works, incl holding costs* | | $59,370,015 | $62,569,205 | $65,569,605 | $68,549,235 | $71,508,096 |
| | *3 Fees and charges, incl holding costs* | | $38,639,466 | $64,078,076 | $87,357,953 | $104,728,921 | $121,162,998 |
| | *4 Project contingency* | | $12,196,156 | $15,059,936 | $17,687,964 | $19,723,023 | $21,662,317 |
| | *Total costs* | | $134,157,715 | $165,659,296 | $194,567,601 | $216,953,258 | $238,285,490 |
| | *per section costs (excl raw land)* | | $252,601 | $173,715 | $161,071 | $149,781 | $142,542 |
| | *per section (total)* | | $307,502 | $203,077 | $183,684 | $168,369 | $158,471 |
| Profit | *Pre tax profit $* | | -$37,913,104 | $33,297,529 | $82,850,193 | $139,686,290 | $197,102,901 |
| | *Pre tax margin %* | | -28.3% | 20.1% | 42.6% | 64.4% | 82.7% |

| | | | | | |
|---|---|---|---|---|---|
| **Development feasible?** | No | Yes | Yes | Yes | Yes |
| **Profit maximising?** | No | No | No | No | Yes |
| **Margin maximising?** | No | No | No | No | Yes |
| Lots per hectare (gross) | 5.4 | 10.1 | 13.1 | 15.9 | 18.5 |

**Figure 12: Atawhai Hills - MBIE land development feasibility calculator**

| Type | Item | Units | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|---|
| Site area and price | Gross area of site | sqm | 666.67 | 666.67 | 666.67 | 666.67 | 666.67 | 666.67 |
| | Site constraints that reduce d | % | 20% | 20% | 20% | 20% | 20% | 20% |
| | Net Developable Site Area | sqm | 533.33 | 533.33 | 533.33 | 533.33 | 533.33 | 533.33 |
| | Gross site purchase costs (C | $/site | $158,471 | $158,471 | $158,471 | $158,471 | $158,471 | $158,471 |
| | Site sale price relative to CV | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Actual site purchase costs | $/site | $158,471 | $158,471 | $158,471 | $158,471 | $158,471 | $158,471 |
| Development outcome | New dwellings | per site | 1 | 2 | 3 | 7 | 12 | 24 |
| | Land per dwelling | sqm/dwellinc | 533 | 267 | 178 | 76 | 44 | 22 |
| | Number of levels | per dwelling | 1.0 | 1.7 | 2.0 | 3.0 | 7.0 | 12.0 |
| | Building site coverage | % | 40% | 40% | 40% | 40% | 40% | 40% |
| | Driveway and parking site co | % | 15% | 15% | 15% | 15% | 15% | 15% |
| | Gross floor area per dwelling | sqm / level | 213 | 181 | 142 | 90 | 85 | 80 |
| | Time to complete | months | 9 | 12 | 15 | 18 | 21 | 24 |
| Site variables | Total floor space on site | sqm | 213 | 363 | 427 | 630 | 1,020 | 1,920 |
| | Total building footprint | | 213 | 213 | 213 | 213 | 213 | 213 |
| | Total paved area | sqm | 80 | 80 | 80 | 80 | 80 | 80 |
| | Total landscaped area | sqm | 373 | 373 | 373 | 373 | 373 | 373 |
| | Floor area ratio | % | 0.40 | 0.68 | 0.80 | 1.18 | 1.91 | 3.60 |
| Planning check | DC contributions factor | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Site zoning | | Medium Density Zone | | | | | |
| | Max site coverage | % | 100% | 100% | 100% | 100% | 100% | 100% |
| | Height limit | Levels | 12 | 12 | 12 | 12 | 12 | 12 |
| | Minimum floor space/dwelling | sqm | 35 | 35 | 35 | 35 | 35 | 35 |
| | Minimum land/dwelling | sq / dwelling | 0 | 0 | 0 | 0 | 0 | 0 |
| Cost parameters | Land preparation costs | | Select land preparation costs | | | | | |
| | Construction costs | | Select construction costs | | | | | |
| | Ancillary costs | | Select ancillary costs | | | | | |
| Revenue assumptions | Average dwelling sales price | per m2 | $5,207.36 | $4,980.79 | $5,339.78 | $7,162.15 | $8,470.81 | $9,398.62 |
| | Average sales price | per dwelling | $1,110,903 | $903,184 | $759,435 | $644,594 | $720,019 | $751,889 |

| Type | Item | Detached | Duplex | Terrace Home | Apartment 2-3 storeys | Apartment 4-7 storeys | Apartment 8-12 storeys |
|---|---|---|---|---|---|---|---|
| Revenue | Gross Project Sales Income (incl GST) | $1,110,903 | $1,806,367 | $2,278,306 | $4,512,157 | $8,640,230 | $18,045,342 |
| | Gross Project Sales Income (excl GST) | $966,002 | $1,570,754 | $1,981,136 | $3,923,615 | $7,513,244 | $15,691,602 |
| Costs | 1 Raw land purchase and holding cost | $170,214 | $174,318 | $178,522 | $182,826 | $187,235 | $191,750 |
| | 2 Site preparation costs, incl holding costs | $22,070 | $31,417 | $41,078 | $69,727 | $132,893 | $261,536 |
| | 3 Construction costs, incl holding costs | $480,543 | $831,871 | $1,059,149 | $2,225,171 | $4,413,789 | $9,360,247 |
| | 4 Ancillary costs, incl holding costs | $131,505 | $270,266 | $370,823 | $789,232 | $1,521,906 | $3,251,913 |
| | Total costs | $804,332 | $1,307,872 | $1,649,572 | $3,266,956 | $6,255,823 | $13,065,447 |
| Profit | Pre tax profit $ | $161,671 | $262,882 | $331,564 | $656,658 | $1,257,420 | $2,626,155 |
| | Pre tax margin % | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% | 20.1% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Development feasible? | Yes | Yes | Yes | Yes | Yes | Yes |
| Profit maximising? | No | No | No | No | No | Yes |
| Margin maximising? | No | No | Yes | No | No | No |
| Plan-enabled? | Yes | Yes | Yes | Yes | Yes | Yes |
| Most affordable? | | | | Yes | | |
| Dwellings per hectare (gross) | 18.525 | 37.05 | 55.575 | 129.675 | 222.3 | 444.6 |

**Figure 13: MBIE building development feasibility calculator**