Project Overview and Economic Assessment

This report draws on information presented to the MfE for consideration of the Matawii Project being included in the fast track legislation and to MBIE for the shovel ready project list.

Executive summary

The Far North district is one of the most economically deprived parts of NZ. Kaikohe, in 2018, was ranked as the most deprived area in the Far North.

Despite this the land around and adjacent to Kaikohe has some of the country’s best horticultural soils and ample water supply, although a lot of this water falls over short periods and not always during times of the year when needed to support crops.

Starting in 2013 the Northland Regional Council looked at opportunities to provide economic benefits in Northland through land use change based on water. Originally funded through the crown irrigation investment fund, this work identified that the Kaikohe area in the Mid-North as being one that would benefit the most from investment.

In July 2019 the Ministry of Business Innovation and Employment entered into an agreement with the Northland Regional Council to deliver staged reports, leading to construction, that considered the technical feasibility and benefits of building storage reservoirs, harvesting water in times of plenty, and distributing it to stimulate conversion from existing land use to higher value, primarily through horticulture.

The prefeasibility reports, delivered in March 2020, identified that the schemes could provide economic benefits over and above existing land use of an estimated $150 million per annum lift in Gross Domestic Product (GDP) and an additional 877 jobs. The Mid-North scheme alone has the potential to increase the area’s GDP by 22% and employment by 12%.

The Matawii project, now being managed by the Te Tai Tokerau Water Trust, forms a small part of the mid-north scheme, storing approximately 10% of the water ultimately needed. Its strategic location close to Kaikohe and the Ngawha Innovation and Enterprise Park and its elevated position above Maori freehold land not only makes it’s a critical part of the full scheme but also an important piece of infrastructure in itself.

The estimated GDP lift from Matawii is $9 million per annum with an increase in annual household income of $4 million per annum. Once operational Matawii reservoir is estimated to sustain 60 new jobs associated with land uses changes. In the short term its design and construction is predicted to employ 39 people.

The reservoir will also support the Ngawha Innovation and Enterprise Park. New business and workforce training activities establishing on the site is projected at 333 jobs/trainees in Stage 1, rising to 550 jobs/trainees at Stage 3.

The Far North has also just come out of one its worst ever droughts. The impact of this on the council included; diversion of staff to crisis management, costs of $870,000 to provide a temporary supplementary water supply for Kaikohe, and executing contingency operations to continue operation of the Northland Regional Corrections Facility, accommodating 548 inmates and 180 staff. This excludes the impact of residents living under extended water restrictions. The drought, on top of COVID-19, has added to Kaikohe existing economic hardships.
There is a need in Kaikohe for a reliable water supply to help improve its economic opportunities, the communities wellbeing, and reduce its vulnerability to droughts.

**Pre-feasibility Phase**

The objective of the Pre-feasibility Phase was to assess whether there are viable water storage and distribution scheme options in both the Mid-North and Kaipara command areas that are worth pursuing and which meet the PGF investment principles for water storage (Water Principles). This work commissioned by Northland Regional Council and funded by the Provincial Growth Fund (97%) and council’s Investment and Growth Reserve (3%) was undertaken following the conclusion of two previous studies: The Northland Strategic Irrigation Infrastructure Study and the Scoping of Irrigation Scheme Options in Northland.

This phase was governed by a Project Steering Group (consisting of the Chief Executive Officers from the Northland Regional Council, Far North District Council and the Kaipara District Council and two Crown appointed representatives) and a Project Advisory Group (made up of invited representatives from iwi and hapu, Lake Ōmāpere Trust, landowners, primary industry sectors, environmental agencies and community).

The overall conclusion of the Pre-feasibility assessment was that a viable scheme option exists in both areas, and that the preferred options will consist of multiple water storage sites connected through a distribution system rather than based on one or two large reservoirs.

The Matawii reservoir was identified during this work as part of the mid-north distributed scheme.

The following discussion provides and overview of the Northland Water Storage and use Project and includes an analysis of the economic benefit of the scheme to Kaipara and the mid-north, including the Matawii project specifically.

**Demand**

Around half of the land in both the Mid-North (54%) and Kaipara (46%) command areas has been identified as being very suitable for horticulture production (Table 1). This finding was based on detailed analysis of soil types, land gradient and solar aspect.

Face to face discussions were had with approximately forty of the larger landowners with suitable horticulture land. Four public drop-in day sessions (two in each area) were held. Interviews were conducted with nineteen horticultural industry representatives across a range of fruit and vegetable crops. In the Mid-North, there are clusters of existing landowners eager to advance water storage and distribution opportunities for around 300 hectares of land. Strong support has also been expressed by landowners in Kaipara.
Table 1  **Summary of potential demand factors**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mid North</th>
<th>Kaipara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command area (ha)</td>
<td>6,000</td>
<td>10,150</td>
</tr>
<tr>
<td>Irrigation area – Farm (ha)</td>
<td>2,700</td>
<td>3,700</td>
</tr>
<tr>
<td>Irrigation area – Canopy (ha)</td>
<td>1,900</td>
<td>2,600</td>
</tr>
<tr>
<td>Land in command area identified as very suitable for horticulture (ha)</td>
<td>3,220</td>
<td>4,714</td>
</tr>
<tr>
<td>Land in command area identified as very suitable for horticulture (%)</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>Canopy area as share of very suitable land area (%)</td>
<td>59%</td>
<td>55%</td>
</tr>
</tbody>
</table>

There is strong interest in this project from the wider primary sector, and belief that there is significant potential to grow high value horticulture in the region if more water was available including kiwifruit, avocado, citrus, blueberries and market garden vegetables. This assessment included a financial contribution to the capital construction cost, an ongoing operational and maintenance charge, and on-property development costs associated with converting pastoral land into the specific horticultural crops.

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1 Williamson Water & Land Advisory Ltd, March 2020
Supply and storage of water

In order to quantify the volume of water available for harvesting and storage, calibrated catchment models were developed for 14 sub-catchments in the Mid-North and 20 sub-catchments in Kaipara, ranging in size from 10 km² to 52 km². These models, using NRC flow data, NIWA’s virtual climate station network and consented take data, indicate that there is likely to be sufficient surface water available to typically capture water during high flow events (predominately in winter) and collect it in storage reservoirs. Analysis suggests an overall scheme reliability of 97-99%.

More than 100 possible storage sites were initially identified using a geospatial analysis tool, avoiding areas of significance. These were whittled down to 20 sites in each area using multi-criteria analysis (MCA) to ensure that only sites with the best combination of physical characteristics and low risk are advanced. Each of these 40 sites was subject to field observation, including a site walkover where possible, and a second, more detailed MCA and a fatal flaws analysis.

Based on these 40 sites, the team developed two water storage scenarios in each area (Large Storage and Distributed Storage). The Large Storage scenarios seek to provide a likely lower limit on total scheme cost through capturing economies of scale particularly in dam location and storage volume, i.e. just one or two reservoirs in each command area.

The Distributed Storage scenarios seeks to compartmentalise the overall scheme so that they could be developed in a progressive manner, i.e. four or five reservoirs in each command area. While more expensive, the advantage of this scenario is that it reduced the quantum of funds required for each construction stage and limits the risk associated with uptake by progressing with subsequent stages when the uptake demand had been confirmed.

The Matawii reservoir was identified as part of the distributed scheme. Its strategic location near Kaikohe where there is domestic need for water, its largely self-filling nature, and its elevation above soils suitable for horticulture means it forms a valuable part of the long term water scheme.
Community
The scale of the schemes developed fit within the PGF Water Principles criteria for developing small-scale projects. There are also real opportunities to address municipal water supply issues. Both scheme areas include storage opportunities within realistic supply proximity to their respective urban centres.

Both Kaipara and Far North District council are developing their municipal water supply options and looking at how they can be configured to benefit from water available through the storage schemes, and how to fund this work through their forthcoming Long Term Plans.

Environment
The use of water to shift away from intensive pastoral farming in both areas will likely benefit the environment from improved water quality due to less sediment and bacterial run-off.

Table 2 presents the current land use in each of the command areas. Both areas are dominated by high producing grassland. In the Kaipara the water storage sites are predominantly in modified catchments that have been drained as part of flood supply schemes and as such the scheme is likely to provide improvement in habitat.

Table 2 **Current land cover of command area**

<table>
<thead>
<tr>
<th>Selected land cover type</th>
<th>Mid North % command area</th>
<th>Kaipara % command area</th>
</tr>
</thead>
<tbody>
<tr>
<td>High producing exotic grassland</td>
<td>83%</td>
<td>80%</td>
</tr>
<tr>
<td>Short rotation crop land</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td>Indigenous forest or scrub</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>Exotic forest</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Orchard, vineyard or other perennial crop</td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Long Term Economic Benefit Assessment

*Strengthen economies by shifting land use to higher value*

The findings of the Pre-feasibility Phase confirm that there are substantial economic opportunities to be realised through the development of water storage and use schemes in Northland. These benefits arise from both a substantial lift in horticultural production and the flow-on effects to other sectors. Analysis suggests a good return on investment: that for every $1 million spent on building the schemes, there will be an on-going annual lift in economic activity (measured by Gross Domestic Product (GDP)) of $1.3 million and a rise in economic well-being (measured by household income) of $0.6 million each year.

Using assumptions about the different types of horticultural crops that will be developed in each scheme area, the value of output and employment per hectare for these crops, and an inter-industry input-output table and associated multipliers developed by Insight Economics, the following tables

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2 Northland Regional Council, 2020
3 Letter to MBIE, 30 March 2020, Appendix 1
4 Materials relied upon summarised in Appendix 3
show for each scheme area the annual direct and total impacts\(^5\) that are estimated to occur in terms of value of output, GDP, employment (measured on a full time equivalent basis) and gross household income.

The tables show the net gains from moving to high value horticulture, i.e. it accounts for the loss of pastoral farming activity. The analysis does not consider the increased output associated with water supplied for industrial output and assumes that the total area able to be supplied with water undergoes a land use change from pastoral to horticultural production. These estimates are not forecasts or predictions as uptake, prices and volumes may differ from the assumptions. However, they do illustrate the scale of benefits and the economic consequences of developing the schemes.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$143M</td>
<td>$178M</td>
</tr>
<tr>
<td>GDP</td>
<td>$52M</td>
<td>$67M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>350</td>
<td>440</td>
</tr>
<tr>
<td>Household income</td>
<td>$22M</td>
<td>$29M</td>
</tr>
</tbody>
</table>

The analysis indicates an increase in GDP of $67 million per annum in the Far North, equivalent to a 2.4% increase in the district’s current GDP (valued at $2451 million in the year ended March 2019). The additional 440 FTE filled jobs represents a 1.5% increase over current employment levels in the district.

The economic impact will be considerably greater on the smaller Mid-North area. Defining this in terms of the four SA2 in and around Kaikohe, the scheme would lift the area’s GDP by 22% and employment by 12%\(^7\).

An assessment of the economic uplift provided by the Matawii component of the Mid-North scheme is provided in Table 4.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$19M</td>
<td>$24M</td>
</tr>
<tr>
<td>GDP</td>
<td>$7M</td>
<td>$9M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Household income</td>
<td>$3M</td>
<td>$4M</td>
</tr>
</tbody>
</table>

The reservoir will also be available to support development of the Ngawha Innovation and Enterprise Park adjacent to the reservoir. New business and workforce training activities establishing on the site, providing accelerated pathways to employment for the local labour-force, projected at 333

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\(^5\) The total impact considers the direct effect as well as the indirect effect (production linkages associated with additional output) and the induced effect (consumption linkages resulting from increased household income).

\(^6\) Economist, Northland Regional Council, March 2020. Refer Appendix A.

\(^7\) The four Statistical Area 2 are: Kaikohe, Ngapuhi, Okaihau and Ohaeawai-Waimate North.
jobs/trainees in Stage 1, rising to 550 jobs/trainees at Stage 3. The inclusion of skills training operations reflects a deliberate effort to ground the Park as an asset for the Kaikohe/Ngawha community by providing:

- pathways to employment for the existing workforce, including those currently unemployed or not in education, employment or training, and
- business to business pathways for the significant primary production landholdings (both Māori and non-Māori owned) and providers of raw materials in the surrounding area.

The analysis indicates an increase in GDP of $83 million per annum in Kaipara, equivalent to a 9% increase in the district’s current GDP (valued at $914 million in the year ended March 2019). The additional 437 FTE filled jobs represents a 5% increase over current employment levels in the district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$176M</td>
<td>$220M</td>
</tr>
<tr>
<td>GDP</td>
<td>$64M</td>
<td>$83M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>360</td>
<td>437</td>
</tr>
<tr>
<td>Household income</td>
<td>$28M</td>
<td>$36M</td>
</tr>
</tbody>
</table>

**Table 5**  
Potential annual economic impacts of the Kaipara Scheme

**Table 6**  
Estimate of on the ground jobs during construction

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Short Term Job Opportunities - Construction

As part of the COVID-19 shovel ready projects application an estimate was made with regard to the jobs created during construction of the schemes. This included two phases in the Kaipara and three in the Mid-north, of which the Matawii Reservoir was part of phase 1.

An estimate of full-time equivalents is provided in Table 6. Note this estimate is for those directly employed in design and construction and does not include overheads or support services. A pro-rata estimate for the Matawii project is provided in Table 7.

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9 Northland Regional Council, Shovel Ready Projects job creation assessment, May 2020
Table 7  
**Estimate of on the ground job creation during construction of the Matawii Scheme**

<table>
<thead>
<tr>
<th>Component</th>
<th>Estimate expenditure ($’000)</th>
<th>% Labour</th>
<th>Cost ($ per hr)</th>
<th>Hours</th>
<th>FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reservoirs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feasibility investigation + consenting</td>
<td>$1,200</td>
<td>100%</td>
<td>$200</td>
<td>6,000</td>
<td>3</td>
</tr>
<tr>
<td>Land procurement</td>
<td>$1,000</td>
<td>0%</td>
<td>$200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Design and tender</td>
<td>$500</td>
<td>100%</td>
<td>$200</td>
<td>2,500</td>
<td>1</td>
</tr>
<tr>
<td>Construct + procure</td>
<td>$5,000</td>
<td>30%</td>
<td>$50</td>
<td>30,000</td>
<td>14</td>
</tr>
<tr>
<td>Total reservoirs</td>
<td>$7,700</td>
<td></td>
<td></td>
<td>38,500</td>
<td>19</td>
</tr>
<tr>
<td><strong>Distribution</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design and tender</td>
<td>$400</td>
<td>100%</td>
<td>$200</td>
<td>2,000</td>
<td>1</td>
</tr>
<tr>
<td>Easements and land access rights</td>
<td>$200</td>
<td>0%</td>
<td>$200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pipe Manufacture</td>
<td>$500</td>
<td>50%</td>
<td>$50</td>
<td>5,000</td>
<td>2</td>
</tr>
<tr>
<td>Construct + procure</td>
<td>$5,000</td>
<td>30%</td>
<td>$50</td>
<td>30,000</td>
<td>14</td>
</tr>
<tr>
<td>Total distribution</td>
<td>$6,100</td>
<td></td>
<td></td>
<td>37,000</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$13,800</td>
<td></td>
<td></td>
<td>75,500</td>
<td>36</td>
</tr>
</tbody>
</table>

*FTE = Full Time Equivalent (2,080 hrs per annum)*

Based on the information in Table 7 the Matawii project is estimated to create 19 FTE in the dam construction and 18 FTE in design and construction for the distribution network. As these estimates are based on a 12 month period, and construction is likely to be 6 to 8 months, the actual jobs created are estimated at 29 to 38 to build the reservoir and 28 to 36 to build the distribution network.

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10 Te Tai Tokerau Water Trust July 2020. Pro-rata estimate based on NRC May 2020 figures
Water storage will help address disparities in Māori access to water for land development

A key focus has been to ensure the project will deliver opportunities for Māori landowners to develop their land through the delivery of a secure water source. The Pre-Feasibility Phase of the project has confirmed that there are Māori landowners within the area of benefit and initial discussions have confirmed that those landowners are interest to develop their land should a reliable water source be available. A key focus of the Feasibility Phase will be to continue to work with these landowners to further explore these development opportunities and address potential barriers that may exist for those Māori landowners.

Multiple hui have been held throughout the Pre-feasibility Phase with various Māori groups, including trusts, marae, and hapū, and input from hapū and Iwi on the Project Advisory Group has helped identify opportunities and challenges for Māori to benefit from investment in a water supply scheme.

Opportunities arise for example from the extent of Māori Freehold Land (MFL) around Kaikohe and adjacent to the Matawii storage project, as shown in Figure 4. Trustees of Rangihamama NA89C/55 have considered access to water with potential to develop land south of Kaikohe that would also make use of existing infrastructure from previous horticultural operations.
There is less extent of MFL in Kaipara. Work is currently underway with Oturei, Ripia and Waikartu Marae to develop a more in depth understanding of the impact of the scheme on cultural values and where the opportunities arise to benefit Maori directly.

### Table 8: Māori Freehold Land and population within command areas

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mid North</th>
<th>Kaipara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori Freehold Land (ha)</td>
<td>1,000</td>
<td>300</td>
</tr>
<tr>
<td>Māori Freehold Land (% command area)</td>
<td>17%</td>
<td>3%</td>
</tr>
<tr>
<td>Māori population (total)</td>
<td>5,232</td>
<td>2,732</td>
</tr>
<tr>
<td>Māori population (% total population)</td>
<td>71%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Initial discussions with some of these landowners have confirmed that they are interested in developing their land should a reliable water source be available. Multiple hui have been held with various Māori groups, including trusts, marae, and hapū. Input from hapū and Iwi on the Project Advisory Group has helped identify opportunities and challenges for Māori to benefit from a water supply scheme.

**Figure 4** Example of how the Matawii Project could supply water near Kaikohe

![Example of how the Matawii Project could supply water near Kaikohe](image_url)
Drought Resilience

One of the most significant dry periods in Northland ended in July 2020. Statistical analysis on its severity has not yet been completed however discussion with Northland Regional Council Hydrology staff has indicated it is likely more severe that the 2009/10 drought in Kaikohe which was estimated at a 1 in 90 year event.

A paper presented to the Far North District Councils 25 June 2020 meeting by its infrastructure planning staff is appended to this document (Appendix 2). This paper identifies learnings from the 2020 drought and looks at options to improve the resilience if the Far North districts drinking water supplies.

Points of note include:

- The severity of the event as indicated by rainfall accumulation data collected during 2019 and 2020;
- The impact of the event on council staff. 20 staff were part of the crisis response team;
- The extent of interagency involvement;
- The risk of the water shortage on firefighting ability;
- Implications for the Ngawha Regional Corrections Facility (accommodating 548 inmates and 180 staff), serviced by the Kaikohe town water supply, and the need for them to develop alternative water supply options.
- The cost of bring in temporary water supplies. $878,128 alone was spent on the Lake Omapere temporary supply for Kaikohe.
- Kaikohe was deemed one of two towns at greatest risk in the Far North District of having insufficient water supply.
- Inclusion of an irrigation dam in the mid-north with the capacity to supplement the town water supply as part of the actions to improve resilience.

Effects of COVID-19

The number of filled wage and salary jobs in Northland (i.e. not including self-employed) fell from almost 69,000 in March to 67,550 in May, a fall of just over 1400 people or 2.1%. Compared to other regions, the 2.1% drop from March to May ranks Northland as the 10th largest, with the change ranging from 0% in Bay of Plenty to a 3.8% drop in Gisborne. Nationally, the number of wage and salary jobs fell by 0.8% between March and May. Changes in employment numbers below the regional level are not available.

The change in filled wage and salary jobs in Northland has not be even across age groups and gender, with the impact falling harder on younger people and females. Of the 1435 fewer wage and salary jobs, 662 (46% of the total) were filled by people aged below 24 years old. A further 276 (19%) were aged 25-34 years old. People under 35 years therefore accounted for two-thirds of the drop in filled wage and salary jobs. Females accounted for 60% of the drop in these jobs, with the drop in female employment being 50% greater than for males. Given the demographic age structure of Kaikohe and the surrounding area, the area is likely to be significantly impacted not only by the

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11 Prepared by Northland Regional Council economist, July 2020
immediate job losses but also the longer-term opportunities for youth to enter into the labour market.

![Image of Kaikohe COVID-19 Testing](From Northern Advocate 4 May 2020)

Between March and June, the total number of Jobseeker Support recipients in Northland increased by 1928 (20%), rising to 11,358. The initial “wave” of unemployment appears to have tapered off, with numbers near to this current level being recorded since the beginning of May and a peak of 11,484 recorded at the beginning of June. Nationally, the number of Jobseeker Support recipients has increased by 26% between March and June. Northland ranks as having the 12th largest increase across the 16 regions, with Tasman recording the highest (39%) and Gisborne the lowest (18%).

However, just over one-in-ten Northlanders aged 18-64 years old are estimated to be receiving Jobseeker Support, the highest among all 16 regions. Otago has the lowest at just 3.6%. Nationally, 6% of 18-64 years olds are estimated to be now receiving the Jobseeker Support benefit, up from 5% at the start of 2020.

The impact of the COVID-19 virus and the lockdown response, coupled with the current drought conditions will have a significant negative impact on economic activity in Northland. It is projected that Northland’s GDP may fall by 8% in the year ended March 2021, down from an annual average growth rate of 3.2% experienced over the five-year period 2014-19. This is a significantly larger drop than the 2% fall in activity experienced between 2009-11 as a result of the GFC crisis and various climatic events, and deeper than for New Zealand (6%). The current level of GDP in Northland ($7.9B) is not expected to be reached again until 2024 even if the recovery is as swift as projected.

The reduction in economic activity will result in a large fall in the number of jobs in Northland (both people employed and those self-employed): projected to fall from 86,400 in the year ended March 2019 to 77,500 in 2022, a drop of 9000 or 10%. This is more than twice the fall in employment that occurred in the previous recession. The experience of that recession is that the impact will fall greater on Māori than non-Māori. One of the features of the post GFC recovery was the relatively slower and jerky rise in employment compared to economic activity. The projection is that by 2024 the number of people employed in Northland will still be lower than in 2019.
Deprivation Index - Kaikohe

The 2018 Social Deprivation Index\textsuperscript{12}, commissioned by the Department of Public Health, identified Kaikohe with an index value of 1302, the highest index value in the Far North district\textsuperscript{13}. With reference to Figure 6 this value puts Kaikohe in the top 5\% of most deprived areas in NZ.

The Social Deprivation Index is used in the measurement and interpretation of socioeconomic status of communities for a wide variety of contexts such as needs assessment, resource allocation, research and advocacy. The deprivation index applies to areas rather than individuals who live in those areas\textsuperscript{13}.

![Distribution of NZDep2018 scores, with the NZDep2018 decile scale superimposed](image)

\textbf{Figure 6} Distribution of NZDep2018 scores, with the NZDep2018 decile scale superimposed \textsuperscript{12}

\section*{Summary}

A prefeasibility study into water storage schemes that enable conversion of land to pastural farming to high value horticulture in the Mid-North and Kaipara determined that viable schemes are possible. The estimated potential economic benefits of the schemes, over and above existing land use, included an increase in annual GDP of $150 million per annum and 877 jobs.

The Matawii reservoir, a component of the Mid-North scheme, is adjacent to Kaikohe, an area deemed through studies by the University of Otago as having the highest level of deprivation in the Far North District and in the upper 5\% of New Zealand. The area, like the rest of NZ, has been impacted by COVID-19.


\textsuperscript{13} https://profile.idnz.co.nz/far-north/deprivation-index - Far North District Council Community Profile
The Matawii reservoir is estimated to increase GDP by $24m per annum and create 60 new jobs. During the construction period of the reservoir and distribution piping an estimated 57 to 74 jobs will be created.

Work during the prefeasibility stage of the Water and Storage Project also identified that the Matawii project had the most potential of all the areas investigated to benefit Māori directly, given the high proportion of Māori freehold land in proximity to the reservoir.

In addition to the direct economic benefits, the Matawii reservoir is able to supplement the Kaikohe township water supply, increasing its resilience to drought. During the drought of 2019 / 2020 Kaikohe was one of the most affected areas in the country, leaving households without access to water.

The lack of water supply had a major impact on the township of Kaikohe that included:

- Limiting supply to residents;
- Diversion of staff to form part of crisis management team;
- Affecting the operation of the Ngawha Regional Corrections Facility;
- Requiring additional operational costs. A temporary alternative supply cost $878,000.
Appendix 1

Copy of a letter to MBIE dated 30 March 2020 submitted as part of the delivery of the pre-feasibility stage of the work. This included an economic assessment of the project prepared by the Northland Regional Council that included the Matawii component (previously referred to as MN10).

Some information in the letter to MBIE has not been disclosed:

- Financial details that may affect future negotiations.
- Details that may be of a personal or confidential nature.
- The information is not material to the Matawii application as it relates primarily to the wider water supply project including work in Kaipara.
30 March 2020

Richard Westbury
Investment Director
Provincial Development Unit
Ministry of Business, Innovation and Employment
15 Stout Street
WELLINGTON 6140

Send by email: Richard.Westbury@mbie.govt.nz

Dear Richard

R01.00446 Northland Water Storage and Use Project – Completion of Prefeasibility Phase

The Funding Agreement between the Northland Regional Council (NRC) and the Ministry of Business, Innovation and Employment for Northland Water Storage and Use, executed 8 July 2019, sets out milestones to be met in delivery of the project. The Pre-feasibility Phase is due for completion on 31 March 2020.

The purpose of this letter is to:

1. Provide evidence that the stop/go milestones set-out in Clause 15 of the Agreement have been satisfied, specifically:
   a. Project viability;
   b. Available funding to complete one or both projects;
   c. Alignment with the water principles;

2. Request that the Ministry of Business, Innovation and Employment (Ministry) approve commencement of the Feasibility phase.

Reference Documents
The following reports are included as attachments to this letter and are referenced throughout this letter:

- Williamson Water & Land Advisory & Riley Consultants report – Volume 3: Conceptual Design and Costing Northland Water Storage and Use Project; and
Scheme Area

The Agreement required assessment of three areas; Mid-North A, Mid-North B and Kaipara.

As the project has evolved, we have considered the Mid-North as a single area rather than as two separate areas A and B. This was due to:

- The spread-out nature of the horticultural soils in the Mid-North, making boundaries between the two areas arbitrary;
- The potential ability for a scheme to be interconnected between areas A and B.
- Future governance models are likely to consider Mid-North as a single area.

The discussion below is therefore based on two schemes; Mid-North and Kaipara.

Project viability

There are five factors that are considered fundamental to assessing the viability of the project at the end of the Pre-feasibility Phase.

- **Land Resources:** Do the land resources support a transition to higher value use?
- **Water Resources:** Is sufficient water sustainably available to support high value land use?
- **Geotech:** Is it technically feasible to build the water storage reservoirs?
- **Affordability:** Can the scheme be built and operated at a cost that can be met by the users and community?
- **Demand:** Will the land owners and community utilise the water?

A summary of the work presented in the attached reports is provided in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Project Viability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor</strong></td>
<td><strong>Mid-North</strong></td>
</tr>
<tr>
<td><strong>Land</strong></td>
<td>2,700 hectares of suitably contoured farm land currently in pasture or scrub. Includes free draining volcanic soil also evident in Kerikeri predominantly growing kiwifruit.</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>There is sufficient surface water available to capture water in winter and higher flows and collect it in storage reservoirs.</td>
</tr>
</tbody>
</table>
Examples include the Wairoro Stream, Punakitere River, Te Rua o Tehauhau Stream and potentially Lake Ōmāpere.

Examples include the Aratapu Stream, Cole Drain, and Kaihu River.

**Geotech**

Suitable storage sites have been identified. Initial studies indicate suitable ground conditions however, geology is variable.

Multiple high efficiency storage sites have been identified. Finding engineering solutions to address subsoil conditions will be a critical factor in the next stage.

**Affordability**

Total capital cost is in the range of $43-58M, approximately $16k-21k per ha or $6-8 per m$^3$ (Table 2). An assessment of return on investment for a variety of crops indicates operation of the scheme is likely to be financially viable (Table 3).

Staging the scheme construction reduces the risk of slow uptake but imposes a higher capital cost.

Total capital cost is in the range of $38-52M, approximately $10k-14k per ha or $3-5 per m$^3$ (Table 2). An assessment of return on investment for a variety of crops indicates operation of the scheme is likely to be financially viable (Table 3).

Staging the scheme construction is viable in Kaipara with a low impact on long term costs.

**Demand**

Demonstrated early adopters for around 300ha land. Potential full uptake on commissioning of small reservoir near Kaikohe, including town supply.

Full uptake of scheme is likely to be slow, recognising a variety of challenges for Maori Freehold land owners to benefit from the water in the short term.

Strong support has been expressed however early adopters unknown.

Some existing landowners would like an ability to transition to other land use options from existing pastoral farming, others have indicated a willingness to sell if water was available.

Cost of water and ability to transition land use likely a key to stimulating demand.
Overview of cost estimates

A breakdown of estimated costs is provided below in Table 2.

<table>
<thead>
<tr>
<th>Components</th>
<th>Kaipara ($000s)</th>
<th>Mid-North ($000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Large Storage</td>
<td>Distributed Storage</td>
</tr>
<tr>
<td>Intakes</td>
<td>818</td>
<td>818</td>
</tr>
<tr>
<td>Pump-stations</td>
<td>6,077</td>
<td>5,109</td>
</tr>
<tr>
<td>Reservoirs</td>
<td>10,621</td>
<td>17,650</td>
</tr>
<tr>
<td>Piping</td>
<td>19,767</td>
<td>19,711</td>
</tr>
<tr>
<td>Power Transmission</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td>Lake Ōmāpere Restoration Works</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other allowances: design, Supervision, Contingency, P and G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total +/- 15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plus land allowance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cost Mid-Point and Range (incl land and +/- 15% uncertainty)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost Midpoint and Range ($/ha) Farm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Redacted to protect the commercial position of the applicant.*
An assessment on investment opportunities is provided in Table 3.

Table 3: An estimate of return on investment for various crops

<table>
<thead>
<tr>
<th></th>
<th>Kiwifruit</th>
<th>Avocado</th>
<th>Citrus</th>
<th>Blueberries</th>
<th>Vegetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Costs ($/ha)</td>
<td>413,409</td>
<td>63,159</td>
<td>47,909</td>
<td>313,409</td>
<td>28,409</td>
</tr>
<tr>
<td>Gross Revenue ($/ha/ann)</td>
<td>119,000</td>
<td>63,580</td>
<td>42,500</td>
<td>165,000</td>
<td>41,678</td>
</tr>
<tr>
<td>Growing ($/ha/ann)</td>
<td>40,987</td>
<td>15,497</td>
<td>31,409</td>
<td>95,987</td>
<td>28,909</td>
</tr>
<tr>
<td>Debt ($/ha/ann)</td>
<td>33,880</td>
<td>5,481</td>
<td>4,346</td>
<td>25,322</td>
<td>3,218</td>
</tr>
<tr>
<td>Net Return ($/ha/ann)</td>
<td>44,133</td>
<td>42,602</td>
<td>6,745</td>
<td>43,691</td>
<td>9,551</td>
</tr>
<tr>
<td>Payback (years)</td>
<td>10</td>
<td>7</td>
<td>14</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>NPV ($/ha)</td>
<td>296,264</td>
<td>311,097</td>
<td>1,751</td>
<td>280,047</td>
<td>110,077</td>
</tr>
<tr>
<td>IRR (%)</td>
<td>10</td>
<td>19</td>
<td>6</td>
<td>11</td>
<td>22</td>
</tr>
</tbody>
</table>

Alignment with Water Principles

Strengthen economies by shifting land use to higher value

The findings of the Pre-feasibility Phase confirm that there are substantial economic opportunities to be realised through the development of water storage and use schemes in Northland. These benefits arise from both a substantial lift in horticultural production and the flow-on effects to other sectors. Analysis suggests a good return on investment: that for every $1 million spent on building the schemes, there will be an on-going annual lift in economic activity (measured by Gross Domestic Product (GDP)) of $1.3 million and a rise in economic well-being (measured by household income) of $0.6 million each year.

Using assumptions about the different types of horticultural crops that will be developed in each scheme area, the value of output and employment per hectare for these crops, and an inter-industry input-output table and associated multipliers developed by Insight Economics, the following tables show for each scheme area the annual direct and total impacts\(^1\) that are

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\(^1\) The total impact considers the direct effect as well as the indirect effect (production linkages associated with additional output) and the induced effect (consumption linkages resulting from increased household income).
estimated to occur in terms of value of output, GDP, employment (measured on a full time equivalent basis) and gross household income.

The tables show the net gains from moving to high value horticulture, i.e. it accounts for the loss of pastoral farming activity. The analysis does not consider the increased output associated with water supplied for industrial output and assumes that the total area able to be supplied with water undergoes a land use change from pastoral to horticultural production. These estimates are not forecasts or predictions as uptake, prices and volumes may differ from the assumptions. However, they do illustrate the scale of benefits and the economic consequences of developing the schemes.

- **Mid -North**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$143M</td>
<td>$178M</td>
</tr>
<tr>
<td>GDP</td>
<td>$52M</td>
<td>$67M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>350</td>
<td>440</td>
</tr>
<tr>
<td>Household income</td>
<td>$22M</td>
<td>$29M</td>
</tr>
</tbody>
</table>

The analysis indicates an increase in GDP of $67 million per annum in the Far North, equivalent to a 2.4% increase in the district’s current GDP (valued at $2451 million in the year ended March 2019). The additional 440 FTE filled jobs represents a 1.5% increase over current employment levels in the district. The economic impact will be considerably greater on the smaller Mid-North area. Defining this in terms of the four SA2 in and around Kaikohe, the scheme would lift the area’s GDP by 22% and employment by 12%.

- **Kaikohe Storage Site (MN10)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$19M</td>
<td>$24M</td>
</tr>
<tr>
<td>GDP</td>
<td>$7M</td>
<td>$9M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Household income</td>
<td>$3M</td>
<td>$4M</td>
</tr>
</tbody>
</table>

- **Kaipara**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of output</td>
<td>$176M</td>
<td>$220M</td>
</tr>
<tr>
<td>GDP</td>
<td>$64M</td>
<td>$83M</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>360</td>
<td>437</td>
</tr>
<tr>
<td>Household income</td>
<td>$28M</td>
<td>$36M</td>
</tr>
</tbody>
</table>

The analysis indicates an increase in GDP of $83 million per annum in Kaipara, equivalent to a 9% increase in the district’s current GDP (valued at $914 million in the year ended March

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2 The four Statistical Area 2 are: Kaikohe, Ngapuhi, Okaihau and Ohaeawai-Waimate North.
2019). The additional 437 FTE filled jobs represents a 5% increase over current employment levels in the district.

**Water storage will help address disparities in Māori access to water for land development**

A key focus has been to ensure the project will deliver opportunities for Māori landowners to develop their land through the delivery of a secure water source. The Pre-Feasibility Phase of the project has confirmed that there are Māori landowners within the area of benefit and initial discussions have confirmed that those landowners are interest to develop their land should a reliable water source be available. A key focus of the Feasibility Phase will be to continue to work with these landowners to further explore these development opportunities and address potential barriers that may exist for those Māori landowners. Multiple hui have been held throughout the Pre-feasibility Phase with various Māori groups, including trusts, marae, and hapū, and input from hapū and Iwi on the Project Advisory Group has helped identify opportunities and challenges for Māori to benefit from investment in a water supply scheme.

Opportunities arise for example from the extent of Māori Freehold Land (MFL) around Kaikohe and adjacent to potential water supply schemes, as shown in Figure 1. Trustees of Rangihamama NA89C/55 have asked for access to water with potential to develop up to 100 ha of land south of Kaikohe that would also make use of existing infrastructure from previous horticultural operations.

**Figure 1**

Example of how a water supply scheme could supply water near Kaikohe
There is less extent of MFL in Kaipara as shown in Figure 2 below. Work is currently underway with Oturei, Ripia and Waikartu Marae to develop a more in depth understanding of the impact of the scheme on cultural values and where the opportunities arise to benefit Maori directly.

We are also working with Te Puni Kokiri to ensure we have the best information on land ownership, ownership structures and readiness in terms of governance.

Figure 2  Example of water supply scheme in Kaipara

Te Uri o Hau Settlement Trust have indicated opportunities would arise with development of the scheme and provide Iwi opportunities for investment.

The challenges in taking up the opportunities include getting access to capital to fund on-farm conversions and development of governance entities to enable decisions on future land use.

As indicated in the economic analysis the expected increase job opportunities and increase in local investment will provide multiple opportunities for Maori.
Community

The scale of schemes developed in the prefeasibility stage fits within the criteria for small scale projects. All options have components of off-site storage and water harvesting, rather than damming of major water ways.

The pre-feasibility options incorporate the opportunity for town supply to Kaikohe and Dargaville. The Far North District Council are currently seeking funding to secure storage in a reservoir near Kaikohe to improve resilience in their town water supply. Kaipara District Council are also considering their current Long Term Plan budgets for water supply and potential to utilise some of the is funding to purchase water supply through this project.

Environment

The Pre-Feasibility Phase has confirmed that there are environmental benefits to developing a water storage scheme in both the Mid-North and Kaipara. As part of the feasibility study there will be an increased focus on environmental enhancement opportunities such as riparian planting and enhancement of wetlands.

Additionally, with alternative water sources available for the Dargaville and Kaipara townships there will be less pressure on other sources during times of drought, such as has occurred on the Wairoro this summer.

In the Mid-north the proposal for smaller scale reservoirs reduces the overall environmental effects of constructing a scheme. Because of the conducive conditions for plant growth and long history of occupation all of the storage sites identified have a variety of intrinsic values that may be impacted on by construction of a schemes. Avoiding, minimising and mitigating effects will be required as the scheme develops.

In the Kaipara the water storage sites are predominantly in modified catchments that have been drained as part of flood supply schemes and as such the scheme is likely to provide improvement in habitat.

Use of water to shift away from intensive farming in both areas will have the effects to benefit the environment from improved water quality due to less sediment and bacterial run-off.

By providing alternative water sources there is potential to reduce the current demand on water ways in summer and provide an alternative for takes that currently occur from Kaipara dune lakes. As discussed further below, there is an ongoing work programmes with the Lake Ōmāpere Trust about improving Lake water quality.

Climate Change

The water storage project provides significant opportunities to mitigate the impacts of climate change. The frequency and severity of droughts are expected to increase with climate change and having a reliable water supply, that takes water during the wet months, will become increasingly important to provide resilience and support small rural economies.
such as Kaikohe and Dargaville. Opportunities for power generation through a water supply scheme have been considered, however the small scale of the schemes is unlikely to provide a benefit to emissions.

There is low lying land in the Kaipara that is at risk from future sea level rise. An increase in land value through a shift to higher economic use and increased GDP has the potential to increase available funding for future mitigation. For example, investment in flood defences will be more cost effective if the defences protect higher value land.

Lake Ōmāpere

As required under clause 14 (d) of the Agreement there has been open and constructive engagement with Lake Ōmāpere trustees. This has included development of a draft Memorandum of Understanding, undertaking water quality assessments on the lake and Utukura River, and incorporation of Lake Ōmāpere into a potential water supply scheme option.

Further work is being scoped around how the priority of the Trust to improve water quality in the Lake may be also incorporate an opportunity to develop economic benefits through provision of water.

The cost analysis, including the potential in reduced capital costs by incorporating Lake Ōmāpere into the scheme, supports continuing work with the Trustees to improve water quality and develop the Lake as a water supply option. Funding of $500,000 towards this work is included in the forward funding assumptions.

Preferred Concept

During the pre-feasibility phase a single storage area option and a multiple storage option (distributed model) was developed. The preferred approach is set out below for each area.

Mid-North

1. Seek to progress MN-10 towards construction as fast as practical to enable water to be supplied to the area of generally Maori freehold land immediately south of Kaikohe, to address Kaikohe Municipal supply, and to seed development of horticulture needs on Ngawha Innovation and Enterprise Park. This progress however should be undertaken with a clear understanding of how this component would integrate into the overall scheme.

2. Progress feasibility works on the following storage sites to optimise a preferred network and better assess risks associated with construction, such as geotech, cultural impact, land procurement and environmental impacts:
   - MN02
   - MN06
3. Continue to work with the Lake Ômāpere Trust and stakeholders to determine how and when (or if) Lake Ômāpere forms part of a future water supply scheme.

The reasons for this approach include:
- The difficulty to access capital funding to construct a large storage reservoir and associated pipework, given the limited confirmed demand at this stage.
- That MN10 forms part of a distributed supply, a scheme that includes Lake Ômāpere, or a single storage site option.
- A distributed scheme allows time for work to be carried out with the Lake Ômāpere Trust and stakeholders to better assess the viability of the Lake becoming available as part of the scheme.

**Kaipara**

1. Progress feasibility works on the following storage sites to optimise a preferred network and better assess risks associated with construction, such as geotech, cultural impact, land procurement and environmental impacts:
   - K06
   - K10
   - K13
   - K17

The reasons for this approach include:
- A distributed approach allows the scheme to be constructed in pace with demand;
- The difficulty to access capital funding to construct a large storage reservoir and associated pipework, given the limited confirmed demand at this stage.
- There are multiple storage site options in the Kaipara. The above sites warrant further investigation however other opportunities exist.

**Funding**

An additional $12m was made available to the project in January 2020 to allow development of projects in both Kaipara and the Mid-North.

The current forecast for Pre-feasible phase spending is $1.65m, leaving an underspend of $1.45m to be carried forward. In addition to the prefeasibility works feasibility works have already progressed or committed, including:
- Mid-North Feasibility investigations $0.48m
- Lake Ômāpere Investigation $0.50m
- Kaipara Geotech investigations $0.10m
Up to $250,000 in total of co-funding is available from the Far North District Council, Northland Regional Council and Kaipara District Council.

Work will continue throughout the Feasibility stage to secure other funding sources, such as landowners.

**Conclusion and Recommendation to continue to the feasibility phase**

Based on the above assessment it is the opinion of the Steering Group that the stop/go milestones set-out in Clause 15 of the Agreement have been satisfied, specifically:

1. The project is viable in both the mid-North and Kaipara
2. There is funding available to complete the feasibility works for both areas as set out in Table 4;
3. The prefeasibility works demonstrate alignment with the Water Principles

Additionally, the forecast impact of the coronavirus outbreak is that in the short-term government expenditure on critical infrastructure will be needed to stimulate the local economy, and in the longer term the Northland region will need to look for economic opportunities outside of tourism to support its communities. This project provides for this through:

- An opportunity for construction of projects starting in 2020;
- Being scalable, there is an opportunity to bring forward construction stages should additional stimulus be needed and funding available;
- An ability to provide long term economic stimulus through land use transformation based on horticulture.
- An opportunity to expedite water security and industrial capacity ahead of a UN forecast food shortage post COVID-19.

It is therefore recommended that:

1. MBIE approve continuation of the project into the feasibility phase in both the Mid-North and Kaipara areas;

A letter will be sent separately on our recommendations to deliver the next stage of the project.

Yours sincerely

Malcolm Nicolson – NRC Chief Executive Officer
Jim Sephton
For Louise Miller
KDC Chief Executive Officer

Shaun Clarke
FNDC Chief Executive Officer

Dover Samuels
Crown Appointed Member

Murray McCully
Crown Appointed Member
Appendix 2

Learning From The 2020 Drought And Improving The Resilience Of Our Drinking Water Supplies.

7.3 LEARNING FROM THE 2020 DROUGHT AND IMPROVING THE RESILIENCE OF OUR DRINKING WATER SUPPLIES

File Number:  A2894873  
Author:  Melissa Parlane, Team Leader - Infrastructure Planning  
Authoriser:  Andy Finch, General Manager - Infrastructure and Asset Management

PURPOSE OF THE REPORT

The purpose of this report is to summarise the efforts and outcomes of the 2020 drought as it related to FNDC drinking water supplies. To also present for comment, a programme of urgent unbudgeted work identified as learnings from the 2020 drought.

EXECUTIVE SUMMARY

- The Northland region experienced a significant drought in the first half of 2020 and this event impacted on the Far North District Council’s ability to maintain reticulated water supply in some of its communities.
- Council responded with a variety of demand management efforts including:
  - Water restrictions
  - Extensive and varied communications to the public
  - Private leak campaign in Kaikohe
- FNDC worked closely with Regional Civil Defence Emergency Management team to roll out emergency drinking water stations in areas where the reticulation was a risk of failing.
- FNDC worked closely with local iwi to design and construct emergency alternative sources of water for the treatment plants at Kaikohe and Kaitaia.
- The experience highlighted a programme of work required to improve the resilience of water supply in the Far North. This programme will be further refined, including costings, before it is presented again for funding.

RECOMMENDATION

That Council note the report entitled Learning from the 2020 Drought and Improving the Resilience of our Drinking Water Supplies.

1) BACKGROUND

The Far North District Council own and operate eight drinking water schemes supplied by 14 primary and supplementary sources and treated with nine water treatment plants.

The meteorological drought experienced in early 2020 has been compounded by very low total rainfall in 2019. Both aquifers and surface water sources have been hit hard and the impact on our water schemes right across the District have been, and continue to be, significant.
Figure 1 - Kaikohe rainfall accumulation provided in MetService Four Week Forecast issued 12 May 2020. In mid-May Kaikohe rainfall is 44% of year to date average rainfall.

Figure 2 - Kerikeri rainfall accumulation provided in MetService Four Week Forecast issued 12 May 2020. In mid-May Kerikeri rainfall is 52% of year to date average rainfall.

FNDC have a Water Shortage Management Plan which outlines processes and provides guidance on how water restrictions can be implemented to manage demand. The plan sets out the make-up of the Water Shortage Management Committee. The current version (Nov. 2019) of the plan sets out the following roles comprise the committee (with names of staff currently filling that role/position in the committee):

Item 7.3 - Learning from the 2020 Drought and Improving the Resilience of our Drinking Water Supplies Page 113
Water restrictions are enabled by the Water Supply Bylaw. The General Manager of Infrastructure and Asset Management (GMIAM) has the appropriate delegations to issue restrictions and the committee makes recommendations for the GMIAM to consider.

The Water Shortage Management Plan lays out each scheme, key conditions of consent and learnings from previous water shortages. In an organisation which experiences high staff turnover this document has provided the structure required for a team to work effectively every year for only 3 or 4 months at a time. The Water Shortage Management Plan will be updated again this year and there are many opportunities to learn from our experiences in 2020.

This season the Water Shortage Management Committee first met in November 2019 and has met weekly or twice weekly since then. In mid-January the then chair of the committee highlighted the escalating drought as a risk to GMIAM. By the first week of February a dedicated team of four staff were managing and coordinating the district’s response to the on-going and increasing water shortage on behalf of FNDC. The workstreams identified at that time were:

- Twice weekly Water Shortage Management Committee meetings
- Weekly briefing meetings to stakeholders
- Recommending and implementing water restrictions
- Media releases and responses
- Signs, letter drops, social media campaigns
- Private leak campaign in Kaikohe
- Water restriction monitoring and enforcement
- Water Shortage Direction applications
- Contingency planning
- Water Shortage Direction compliance
- High user monitoring and reporting
- Water management plans for high users
- Reporting on leak management
- Reporting on restriction monitoring and enforcement

The need for coordination and collaboration with other agencies was quickly apparent. As a result, a Drought Response Team (later the Crisis Response Team) was formed in early March with a larger dedicated team of 20 experts from within the organisation. This structure enabled better communication with external stakeholders and a more focussed and agile response to the drought.

FNDC initiated a series of meetings with the Northland Regional Council (NRC) regulatory team and Civil Defence Emergency Management (CDEM), the Northland District Health Board (NDHB), Drinking Water Assessors (DWA), Fire and Emergency NZ (FENZ, rural and urban sectors). At these meetings agencies were able to convey the criticality of the situation much more effectively
and quickly understand how this would change the way they do business for a few months. Key changes included:

- Water storage specifically for firefighting because opening and shutting fire hydrants put the fragile reticulation at risk in the dry conditions.
- Emergency drinking water facilities set up by CDEM in case the reticulated water supply could not be maintained.
- Updated information on the whereabouts and waters needs of dialysis patients in the Far North.

Council also built on existing relationships with key stakeholders in the community and high-water users. The Waikotihe Trust is Kaitiaki of the Monument Hill aquifer and keeping them informed throughout the early stages of the drought played a key role in maintaining our reputation in Kaikohe. Early engagement with the Northland Region Corrections Facility saw it substantially change how it uses water in the facility and carry the burden of importing water from outside of the district.

Communication throughout the drought were targeted and well considered. Traditional media was well used with media releases, editorials, and a joint radio campaign with the region’s four councils. Social media was a key player and Council’s social media presence regularly featured drought related communications and posts including videos of local kaitiaki and water treatment plant operators driving home the criticality of the drought. Staff and elected members featured in person at Kaikohe and Kaitaia A&P shows, there were T-shirts, posters, display banners, signs and pamphlets to name a few.

A particularly successful program was the Kaikohe Private Leak Campaign. The drivers for the campaign were two-fold; to save water by fixing private leaks that residents had not got around to (or couldn’t afford to) fix and to promote the seriousness of the drought by getting people talking about water use and leaks. The community appreciated the assistance and saw that Council was doing their part; not just enforcing rules. The volume of water saved directly through this initiative is very difficult to quantify because domestic meters are only read every six months. However, the fact that Kaikohe regularly had the greatest water savings (compared with a pre-drought benchmark) of schemes in Level 4 is telling.
The Northland Regional Council (NRC) were supportive throughout the drought period, particularly the water compliance team and the Civil Defence Emergency Management team. In particular, the pragmatism in issuing Water Shortage Directions for five of our primary sources when we were unable to meet the conditions of consent and maintain the water supply was appreciated. Professional and productive relationships between FNDC and NRC are an essential part of our business.

Accelerated and emergency supply solutions
The Water Shortage Directions allowing FNDC to temporarily operate outside of its residual flow limits were imperative in our successful response to the drought but ultimately the severity of the drought posed too great a risk to rely on them alone. The Emergency Works section of the Resource Management Act enabled FNDC to undertake works that would normally be subject to consenting timeframes that just weren't feasible in this situation. FNDC will be applying for retrospective consents for the following activities relating to the drought in 2020:

- Installation of a rock weir immediately downstream of the Awanui River. The weir was installed to increase the water level around the intake structure to eliminate the risk of air being drawn into the network and causing an unplanned shut down or infrastructure failure.
- Temporary and emergency water take from Lake Omapere to supply Kaikohe.
- Temporary and emergency change of use for the consented water take from Te Rarawa's bore at Sweetwater.

In the hills behind Opononi and Omapere, works on the new groundwater source was accelerated in January to bring the bore online earlier.

In Kaikohe, our primary source is the Wairoro Stream which supplies the Taraire Hills Water Treatment Plant (WTP). Our secondary source is a bore in the volcanic cone of the Monument Hill aquifer which supplies another water treatment plant. The lack of rainfall in 2019, and previous operational challenges led to low levels in the Monument Hill aquifer from December. FNDC was reliant on the Wairoro Stream entering the peak of summer. The Wairoro Stream is a very small stream for a town of Kaikohe to be reliant on (without the resilience usually provided by the Monument Hill aquifer). The town typically demands approximately 2,200 m³/day; an average of 25 litres per second. The design minimum flow (DMF) for the Wairoro Stream is assumed to be the consent limit of 13 litres per second. DMF is the stream flow that has a 20 percent chance of occurring in any one year (or a likelihood of occurrence of once in every five years, also termed a '5 year return period'). There was a very real risk that Kaikohe would not have sufficient source water to maintain the reticulated supply in town.

As the significance of the event became apparent, FNDC took a three-pronged approach to mitigating the risks of a failing water supply:

1. encourage conservation to extend the time that Wairoro Stream can be used.
2. prepare an emergency water distribution system in case a reticulated supply is not feasible.
3. Exhaust all options for an alternative water supply for the Taraire Hills WTP.

Following on from public meetings and targeted online communications, Kaikohe residents and businesses have managed phenomenal water savings throughout this period. The greatest savings were 40% of typical demand during the lockdown but even while schools and businesses were open, Kaikohe regularly achieved 25-30% savings. Regional Civil Defence (Northland CDEM) supported FNDC to establish storage tanks, a manifold supply system and a stock of containers for individuals to refill in case the reticulated supply failed. And finally, FNDC exhausted many options to find an alternative supply of water for Kaikohe. All of the local streams were experiencing the same drought related low flows. We found the most promising option (downstream of our take on the Wairoro) was suffering from a significant algae bloom and contained cyanotoxins. After an exhaustive search, Lake Omapere (with all its challenges) presented the most reliable option for an emergency supply of source water for the town of Kaikohe. The Council is grateful to the Lake Omapere Trust and the Omapere Taraire E Rangihamama X3A Ahuwhenua Trust for making the lake available to the community as a temporary emergency water supply.

Item 7.3 - Learning from the 2020 Drought and Improving the Resilience of our Drinking Water Supplies
The technical nature of the solution in Kaikohe is:

A buoyancy device is attached to a pump placed in the lake. Raw water is pumped via 2 x 100 meters of 125mm MDPE pipe and 800 meters of 180mm layflat pipe to 3 x 30m³ tank farm. The raw water is then gravity fed with a 450 meters of 125mm MDPE pipe to the Taraire Hills water treatment plant.

The Taraire treatment plant is modified by installing a new 30,000 litre PAC mixing/contact tank, a new 30,000 litre ACH mixing/contact tank, new waste tank and pertaining reticulation system to accommodate treatment of the water from the lake.

In Kaitaia the drivers for an emergency supply were different. Where in Kaikohe we risked the stream having insufficient flows to supply the town, in Kaitaia the stream continued to flow with more water than the town needed. The Awanui River is the primary source for Kaitaia’s water treatment plant (WTP). The Awanui River and its tributaries drain the northern side of the Mangamuka Range and flow northwards through Kaitaia and across the Awanui flats to enter the Rangaunu Harbour. The river is the lifeforce for a vast area as it winds 30km to the sea. The NRC were quick to place a Water Shortage Direction on the entire catchment which severely limited the utilisation of the water to essential human and livestock uses. Maintaining a strong flow in the river is very important from an ecological perspective but also to provide enough dilution for Kaitaia’s wastewater treatment plant discharge downstream.

An alternative to the Awanui River had to be a groundwater source to realise any benefits. Again, Council are grateful to the Te Rarawa and Ngai Takoto Sweetwater Farm at Bonnetts Road in agreeing to provide a temporary supply solution given so much of the infrastructure accessing the Aupouri aquifer north of town was in place, and the relatively close proximity to the Te Rarawa pumping station in Bonnetts Road to the Kaitaia WTP. With this source in operation as a temporary supplementary supply for a 100-day period, the river would be spared our substantial take and allowed to flow more naturally through the intense drought.

The technical solution at Bonnetts Road, Kaitaia can be described as:

Raw water is sourced from Te Rarawa’s existing farm infrastructure on the corner of Gill Road and Bonnett Road. The raw water is pumped 3.9km to the Kaitaia treatment plant where the pipe reticulation connects alongside the existing Awanui river supply inlet line.

The total raw water reticulation system is as follows: 2 x 100 mm tapping bands was used to connect into the existing 410 mm existing farm irrigation supply. 2 x 125 MDPE pipes convey the raw water into 3 x 30m³ storage tanks. The raw water is then pumped with 2 x 125mm MDPE pipes 3km east to another 3 x 30m³ storage tanks. The raw water is then pumped via another section of 2 x 125mm pipes to the Kaitaia treatment plant inlet line.

Electricity is reticulated from the existing farm pumping shed into a 10-foot container to be used as a control unit for pump 1 and valves. A Heavy-duty diesel generator is being used to drive Pump 2.

Further drought resilience was also considered. The most unpredictable demand on the Kaitaia WTP is the demand of private water haulers supplying bulk water to homes outside of the reticulated area. The Kaitaia WTP services the entire Aupouri Peninsular, Ahipara and North Hokianga as well as out to Whatuwhiwhi on the east coast. After weeks with no substantial rain the demand from these tankers will spike dramatically as homes on rainwater tanks run dry. A dedicated supply to support bulk tankers enables the town supply to focus on providing a sustainable town supply and relieve some pressure on the infrastructure and resources managing Kaitaia’s water supply. FNDC’s bore north of Kaitaia would have been ideal for Kaitaia but the infrastructure required to get it to town was too significant to install in an emergency, whereas bulk tankers are inherently mobile and can easily take advantage of this plentiful clean water source. Installing a small water treatment plant, on loan from Watercare Services Ltd, at the bore provided bulk tankers with a plentiful potable water source without imposing any pressure on the already strained Kaitaia town supply.

The technical nature of the solution at Sweetwater Bulk Tanker fill point is:
100m deep production well and raw water bore pump, poly aluminium chloride dosing, 2 x silt busters, clarified to waste tank, ultraviolet dosing, sodium hypochlorite dosing, 2 x 30m³ contact tanks, 2 x 30m³ storage tanks, booster pumps, 700m 150mm pipeline and metered tanker filling point.

**Costs associated with the 2020 emergency supply solutions**

As at 5/6/2020

<table>
<thead>
<tr>
<th></th>
<th>Committed</th>
<th>Actual</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Te Rarawa/Bonnetts Rd, KTA</td>
<td>$ 287,329.21</td>
<td>$ 784,614.39</td>
<td>$1,071,943.60</td>
</tr>
<tr>
<td>Lake Omapere, KHO</td>
<td>$ 382,162.50</td>
<td>$ 495,965.73</td>
<td>$ 878,128.23</td>
</tr>
<tr>
<td>Sweetwater Tanker Supply, KTA</td>
<td>$ 988,561.43</td>
<td>$ 544,808.23</td>
<td>$1,533,369.66</td>
</tr>
</tbody>
</table>

In addition:

1. The agreement with Te Rarawa provides for the compensation of substantiated farm losses up to the value of $700,000
2. FNDC has entered into a funding agreement with MBIE for a PGF grant of up to $2,000,000
3. FNDC has applied for additional drought related funding from NEMA. Outcome pending.
4. Operational savings have also been identified from within the 2019/20 budgets
5. The sums relating to points 1, 2 and 4 have been excluded from the above table

**2) DISCUSSION AND OPTIONS**

The primary source for Kaikohe, Kaitaia, Opononi, Rawene, Kawakawa and Paihia are surface water takes from local rivers and streams. Kerikeri also relies heavily on surface water as its secondary source. For each of these surface water takes FNDC hold a consent issued by the Northland Regional Council (NRC). The consents have conditions relating to many things but most importantly:

- the volume of water FNDC is authorised to take, and
- the instantaneous residual flow we are required to leave in the environment.

The instantaneous residual flow rate is typically the 7 day Designed Minimum Flow (DMF). DMF is the stream flow that has a 20 percent chance of occurring in any one year (or a likelihood of occurrence of once in every five years, also termed a '5-year return period'). The DMF is calculated from the lowest seven consecutive days of flow in each year.

Therefore, irrespective of the volume of water we are consented to take, there is a 20 percent chance each year that we will not be authorised to take water from the surface water sources for a week or more.

The drought we have experienced this year is as a result of dry weather in both 2019 and 2020. The 2020 drought has not yet been defined or given a label in terms of return periods, but some rivers set new record low flows and most rivers in Northland have been flowing below DMF for more than 2 months. In theory this means there has been no consented surface water available for this period.

Fortunately, both the legislation and regulations recognise the supply of drinking water to humans to be critical. As we approach our consented limits in catchments reliant on surface water we engage with NRC and agree temporary conditions of operation using a Water Shortage Direction (s329 of the Resource Management Act). With the issuing of a Water Shortage Direction there is an expectation that our customers will use this water wisely as we are breaching the consent conditions which were developed to protect the fine balance between the ecology of the stream and the needs of the human environment.

Droughts typically cover a large geographically area; not just a single catchment or community. Having several surface water sources for a community drinking water supply does not increase its drought resilience. All the local streams are going to approach their own unique DMF at roughly the same time. Practical solutions for drought resilience are large reservoirs of water in form of

- lakes,
- man-made storage, or
- aquifers.

Our experience in 2020 was that the Kaikohe and Rawene water supplies were at the greatest risk of having insufficient source water available (even with water shortage directions in effect) to meet the demands of the town. Table 1 considers the ratio of water available in drought to water demanded by the supply. Kaikohe and Rawene both have a ratio of less than 1 meaning their respective towns have a demand greater than the residual flow of the source in a one in five-year drought (if the consent limit is DMF).

**Table 1 - Water scheme surface water consent limits and demands**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Residual Flow Consent Limits for Surface Water Sources</th>
<th>Approximate Daily Demand in Summer in m³/day</th>
<th>Equivalent Daily Demand in l/sec</th>
<th>Ratio of consent limit to demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaikohe</td>
<td>Wairoro: 13 l/sec</td>
<td>2,200 m³/day</td>
<td>25 l/sec</td>
<td>0.52</td>
</tr>
<tr>
<td>Rawene</td>
<td>Petaka: 1.9 l/sec</td>
<td>300 m³/day</td>
<td>3.5 l/sec</td>
<td>0.54</td>
</tr>
<tr>
<td>Kaitaia</td>
<td>Awanui: 460 l/sec</td>
<td>2,600 m³/day</td>
<td>30 l/sec</td>
<td>15</td>
</tr>
<tr>
<td>Kawakawa</td>
<td>Tirohanga: 170 l/sec</td>
<td>1,200 m³/day</td>
<td>14 l/sec</td>
<td>12</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>Puketotara: 113 l/sec</td>
<td>2,200 m³/day</td>
<td>25 l/sec</td>
<td>4.5</td>
</tr>
<tr>
<td>Paihia</td>
<td>Waitangi River: n/a</td>
<td>2,300 m³/day</td>
<td>26 l/sec</td>
<td>n/a</td>
</tr>
<tr>
<td>Opononi</td>
<td>Waiatemarama: 14 l/sec</td>
<td>410 m³/day</td>
<td>4.75 l/sec</td>
<td>2.9</td>
</tr>
<tr>
<td>Okaihau</td>
<td>no surface water sources</td>
<td>160 m³/day</td>
<td>1.85 l/sec</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Water Shortage Directions are a cost-effective treatment to the risk of drought but only if there is enough water remaining in the stream at the time of drought. This is not the case for Kaikohe and Rawene and drought resilient sources should be a priority for these schemes.

As a water supplier FNDC saw new challenges with the drought of 2020:

- the wide-spread nature of the drought saw resources spread thin
- the severity of the drought saw the possibility of reticulated water supply being impractical
- the harshness of the drought saw the network threatened by large cracks and moving ground
- the longevity of the drought saw massive peaks in bulk water demand and demand overwhelming the local supply of tankers
- the permanency of the drought saw resources stretched and fatigued; this was only intensified as the drought overlapped with an international pandemic and nationwide lockdown
- as infrastructure and people were pushed to their limits risks that have previously been deemed acceptable were viewed as the straw that could break the camel’s back.

The need to invest to improve the resilience of the water supply in some areas is urgent, in other areas there is important work already planned in future years. The programme of work for water infrastructure being developed in the early stages of the 2021/2031 Long Term Plan is significant and includes many renewals projects to the treatment plants and the networks.

**Appendix 1** includes a list of resilience projects compiled from learnings from the 2020 drought. The projects are identified as being in one of three categories:
• Urgent projects required to prepare for the next dry season which are not currently funded
• Important projects which will be considered in the 2021/2031 Long Term Plan prioritisation
• Important projects which are already timed and funded in the Long Term Plan.

A summary of the urgent projects is in **Table 2**. The costs are currently being refined and will be presented in a decision report for council to consider unbudgeted funding to support this work.

**Table 2 - summary of urgent projects identified as part of the 2020 drought learnings**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Issue / Problem Statement</th>
<th>Actions to improve resilience</th>
<th>Capital</th>
<th>Operational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaikohe</td>
<td>The residual flows in the primary surface water source are a fraction of the town's demand and there is high risk of the town running out of water in drought.</td>
<td>Develop a bore in the deeper aquifer under Monument Hill.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Kaikohe</td>
<td>Raw water storage is limited due to concerns about the structural integrity of the raw water reservoir (dam) at Taraire Hills WTP.</td>
<td>Structural dam inspection and design for repairs.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Kaikohe</td>
<td>The water treatment plant at Taraire Hills has relatively high losses due to backwash processes.</td>
<td>Investigate the whole of life costs and cost/benefit analysis of process modifications to reduce the water wasted in treatment.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>The condition of the clarifier is very poor.</td>
<td>Initial assessments determined that the clarifier will need to be replaced, not repaired and funding beyond what is available in the 2020/21 year will be required.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Kerikeri</td>
<td>The condition of the clarifier is very poor.</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Opononi</td>
<td>The Smoothy Road bore has high pH and may not be able to meet drinking water standards without blending or treatment</td>
<td>Installation of pH correction at the WTP would allow greater use of the bore (less blending with drought-stricken sources) and improve resilience.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Kawakawa</td>
<td>Water treatment plant operators have not seen evidence of the connection between the Tirohanga Stream and the bore source.</td>
<td>Commission hydrogeologist to investigate the connection between groundwater and surface water in the area to support a change to the resource consent residual flow limits.</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Dry and warm weather increases the algae present in the Waitangi River and each drought we experience difficulty extracting water from the river as the screen blocks. An automated screen would regularly clear the screen of any build up. This would significantly reduce the risks associated with water supply at the Paihia water treatment plant.

Paihia

The shallow, soft-bottom nature of the Awanui River makes it difficult to abstract water from the river in low flows. A permanent weir with a suitable screen and fish ladders to promote the ecological health of the stream in drought

Kaitaia

Keeping up with demand of our customers is always our goal. Some of our customers use more water than necessary. Purchase leak detection equipment to locate and repair leaks quickly. Leak detection equipment uses listening devices and vibrations to locate water leaks which can’t be seen from the surface.

All Schemes

All schemes would benefit in drought with improved leakage rates. Kaitaia and Paihia have our highest leakage rates in the Far North. More permanent, but variable, signage would improve consumer knowledge about restriction levels. Communications team is working on a plan for permanent signage in all 8 towns.

All Schemes

3) FINANCIAL IMPLICATIONS AND BUDGETARY PROVISION

Information report only

ATTACHMENTS

1. Resilience Programme Appendix - A2895547

Item 7.3 - Learning from the 2020 Drought and Improving the Resilience of our Drinking Water Supplies Page 121
Compliance schedule:
Full consideration has been given to the provisions of the Local Government Act 2002 S77 in relation to decision making, in particular:

1. A Local authority must, in the course of the decision-making process,
   a) Seek to identify all reasonably practicable options for the achievement of the objective of a decision; and
   b) Assess the options in terms of their advantages and disadvantages; and
   c) If any of the options identified under paragraph (a) involves a significant decision in relation to land or a body of water, take into account the relationship of Māori and their culture and traditions with their ancestral land, water sites, waahi tapu, valued flora and fauna and other taonga.

2. This section is subject to Section 79 - Compliance with procedures in relation to decisions.

<table>
<thead>
<tr>
<th>Compliance requirement</th>
<th>Staff assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>State the level of significance (high or low) of the issue or proposal as determined by the Council’s Significance and Engagement Policy</td>
<td>The recommended work does not meet the threshold of any criteria in the Significance and Engagement Policy. Although the aim will be to improve the level of service provided through drought, we do not consider the proposal to be “major and long-term”. These are relatively small tweaks which will lead to improved levels of service, particularly in drought conditions.</td>
</tr>
<tr>
<td>State the relevant Council policies (external or internal), legislation, and/or community outcomes (as stated in the LTP) that relate to this decision.</td>
<td>The recommendation will contribute to the community outcome “Connected and engaged communities prepared for the unexpected” by improving drought resilience in our drinking water supplies. The recommendation will contribute to the community outcome “Communities that are healthy, safe, connected and sustainable” by ensuring that safe drinking water is available at all times.</td>
</tr>
<tr>
<td>State whether this issue or proposal has a District wide relevance and, if not, the ways in which the appropriate Community Board’s views have been sought.</td>
<td>The recommendation is for a programme of work which will impact on communities differently. The Community Board’s views have not been sought.</td>
</tr>
<tr>
<td>State the possible implications for Māori and how Māori have been provided with an opportunity to contribute to decision making if this decision is significant and relates to land and/or any body of water.</td>
<td>Water is the lifeforce of Māori and the recommendation includes seeking a new source of water for Kaikohe. Waikotihe Trust are kaitiaki of the aquifer and springs around Monument Hill in Kaikohe. Their views have been sought on the proposal. It has been agreed that when further information on the potential impact this water take will have on local springs, we will consult further with the Waikotihe Trust. The requirement to consult is also included in the Resource Consent Application process.</td>
</tr>
<tr>
<td>Identify persons likely to be affected by or have an interest in the matter, and how you have given consideration to their views or preferences (for example)</td>
<td>The right to clean drinking water is universal. In time of significant drought some persons are affected more greatly. It is more difficult to maintain a small business when Council restricts the use of water. The inconvenience or extra effort required to save water are</td>
</tr>
<tr>
<td>Item 7.3 - Learning from the 2020 Drought and Improving the Resilience of our Drinking Water Supplies</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td>– youth, the aged and those with disabilities. felt more by elderly and disabled persons. The importance of abundant clean water is critical to those on dialysis at home. A more resilient water supply will reduce the barriers faced by persons identified above.</td>
<td></td>
</tr>
<tr>
<td>State the financial implications and where budgetary provisions have been made to support this decision. Financial implications are discussed in section 3 of the report and budgetary provisions are requested in the recommendation.</td>
<td></td>
</tr>
<tr>
<td>Chief Financial Officer review. The Chief Financial Officer has reviewed this report.</td>
<td></td>
</tr>
</tbody>
</table>
## Urgent projects required to prepare for the next dry season which are not currently funded.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Issue / Problem Statement</th>
<th>Actions to improve resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaikohe</td>
<td>The residual flows in the primary surface water source are a fraction of the town's demand and there is high risk of the town running out of water in drought.</td>
<td>Develop a bore in the deeper aquifer under Monument Hill.</td>
</tr>
<tr>
<td>Kaikohe</td>
<td>The residual flows in the primary surface water source are a fraction of the town’s demand and there is high risk of the town running out of water in drought.</td>
<td>Investigate the feasibility of an irrigation dam in the Mid-North with capacity to supplement Kaikohe.</td>
</tr>
<tr>
<td>Kaikohe</td>
<td>Raw water storage is limited due to concerns about the structural integrity of the raw water reservoir (dam) at Taraire Hills WTP.</td>
<td>Structural dam inspection and design for repairs.</td>
</tr>
<tr>
<td>Kaikohe</td>
<td>The water treatment plant at Taraire Hills has relatively high losses due to backwash processes.</td>
<td>Investigate the whole of life costs and cost/benefit analysis of process modifications to reduce the water wasted in treatment.</td>
</tr>
<tr>
<td>Rawene</td>
<td>The residual flows in the primary surface water source are a fraction of the town’s demand and there is high risk of the town running out of water in drought.</td>
<td>Investigate the feasibility of a bore or manmade storage facility.</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>FNDC are reliant on a third party for the supply of raw water as its primary source. The supply has proven to be unreliable in the drought of 2020 due to breaks caused by moving ground and aged infrastructure.</td>
<td>Investigate the feasibility of a bore or new FNDC dam infrastructure to eliminate the risk of third-party provisions.</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>The secondary source for Kerikeri is increasingly required as the sole supply for Kerikeri. The infrastructure from this secondary source is fragile and under-spec'd.</td>
<td>Install new: screen, electrical cabinet and rising main.</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>During peak summer demand the water treatment plant is running at capacity and any setbacks put the water supply at risk. The growth in the Kerikeri area will see the community quickly outgrow it's WTP.</td>
<td>Investigate options for a new water treatment plant for Kerikeri.</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>The condition of the clarifier is very poor.</td>
<td>Investigate options for the renewal of the clarifier alongside options for replacement of the water treatment plant.</td>
</tr>
<tr>
<td>Kerikeri</td>
<td>The condition of the clarifier is very poor.</td>
<td>Initial assessments determined that the clarifier will need to be replaced, not repaired, and funding beyond what is available in 2020/21 year will be required.</td>
</tr>
<tr>
<td>Opononi</td>
<td>The Smoothy Road bore has high pH and may not be able to meet drinking water standards without blending or treatment.</td>
<td>Installation of pH correction at the WTP would allow greater use of the bore (less blending with drought-stricken sources) and improve resilience.</td>
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<tr>
<td>Kawakawa</td>
<td>Water treatment plant operators have not seen evidence of the connection between the Tirohanga Stream and the bore source.</td>
<td>Commission hydrogeologist to investigate the connection between groundwater and surface water in the area to support a change to the resource consent residual flow limits.</td>
</tr>
<tr>
<td>Paihia</td>
<td>Dry and warm weather increases the algae present in the Waitangi River and each drought we experience difficulty extracting water from the river as the screen blocks.</td>
<td>An automated screen would regularly clear the screen of any build up. This would significantly reduce the risks associated with water supply at the Paihia water treatment plant.</td>
</tr>
<tr>
<td>Location</td>
<td>Issue Description</td>
<td>Solution Description</td>
</tr>
<tr>
<td>----------</td>
<td>------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Paihia</td>
<td>During summer demand the water treatment plant is running at capacity and any setbacks put the water supply at risk. Compared to other communities the peak demand lasts much longer and is therefore a greater risk.</td>
<td>A new water treatment plant is required for Paihia. Options assessment has been completed; a preferred location and treatment technology has been identified using TIF funding.</td>
</tr>
<tr>
<td>Kaitaia</td>
<td>The shallow, soft-bottom nature of the Awanui River makes it difficult to abstract water from the river in low flows.</td>
<td>A permanent weir with a suitable screen and fish ladders to promote the ecological health of the stream in drought.</td>
</tr>
<tr>
<td>Kaitaia</td>
<td>Water resilience</td>
<td>Long term solution for Kaitaia Water.</td>
</tr>
<tr>
<td>Okaiahu</td>
<td>The existing operational bores suffer from high sulphur content and take up solids on start-up.</td>
<td>A new well has been drilled and a consent has been obtained. Infrastructure is required to bring this new bore online.</td>
</tr>
<tr>
<td>All Schemes</td>
<td>Keeping up with demand of our customers is always our goal. Some of our customers use more water than necessary.</td>
<td>Demand management is a soft approach to infrastructure management where we try and minimise necessary upgrades and make the best use of the existing infrastructure and sources. BRANZ is undertaking a nationwide study into how water is used domestically and how we can best focus our attention on making more efficient use of water in the home.</td>
</tr>
<tr>
<td>All Schemes</td>
<td>All schemes would benefit in drought with improved leakage rates. Kaitaia and Paihia have our highest leakage rates in the Far North.</td>
<td>Purchase leak detection equipment to locate and repair leaks quickly. Leak detection equipment uses listening devices and vibrations to locate water leaks which can’t be seen from the surface.</td>
</tr>
<tr>
<td>All Schemes</td>
<td>Repairing known leaks isn’t the complete solution. Leaks that have developed overtime in old infrastructure are an indication of the need to replace the assets. They are a natural pressure relief system and fixing the leak will usually create another one somewhere else. When leaks occur on asbestos concrete pipe we can take a sample of the pipe and determine its condition using Phenolphthalein Indicator tests which provides a good indication of the deterioration of the pipe.</td>
<td>Programme of pipe renewals based on asset condition, age and failure rate.</td>
</tr>
</tbody>
</table>
Appendix 3

Insight Economics – overview of data used below.

Due to the extent of tabulated information in Excel format the full list of data is not included in this appendix. Copies can be provided if requested.
Appendix 4

NIEP Social and Economic Assessment Report

Prepared for

FAR NORTH HOLDINGS LTD.

September 2019
Version control: Final Report 25 September, 2019

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**Disclaimer**
This report has been prepared for Far North Holdings Ltd. Although every effort has been made to ensure the accuracy and integrity of information presented in this report, the author accepts no liability for any actions taken on the basis of the information or recommendations contained in the report.
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Executive summary

Introduction

This report has been commissioned by Far North Holdings Ltd. (FNHL) to support resource consent and/or plan change applications to the Far North District Council to rezone a rural zoned site in Ngawha (of 165ha) as a Ngawha Innovation and Enterprise Park (NIEP or ‘the Park’).

The proposal is for a comprehensively planned large-scale and high amenity industrial precinct to be staged over 1-3 years. The concept for the Park has been subject to a high degree of planning and co-ordination between FNHL, tenant businesses, training providers, government agencies, Crown Research Institutes and local Māori trusts. The tenant mix is designed to maximise synergies between different types of business activities and will include:

1. new businesses being developed to ensure that existing producers gain more income from their production (honey processing),
2. businesses extracting more value from what has previously been regarded as a low value plant (mānuka/kānuka),
3. businesses opening new categories in timber (native timber kiln, pre-fabricated housing),
4. businesses developing environmentally sustainable technologies new to New Zealand (green carbon manufacturing and organic glasshouses),
5. business incubator and office hubs, and skills training facilities.

Kaikohe’s population is estimated to be 4,550 (as at June 2018\(^1\)) having grown at an average annual rate of less than 1% over the past 5 years (2013-18). Over that period the Kaikohe township suffered a decline in jobs of 14.3% (from 1,750 jobs in 2013) while Far North District (FND) as a whole experienced employment growth of 13.2%. Kaikohe and Ngawha share a strong spatial pattern of labour-force and employment integration, with around half of all jobs in the combined areas (52% or 1,092 jobs) being held by people who live within that area, and the other half (48%) of total jobs filled by people who commute from a wider catchment. Within reasonable commuting proximity to Kaikohe the labour-force of ‘potential workers’ is estimated to include close to 1,500 in Kaikohe, an additional 8,600 people in a primary catchment of 5-30km, and a further 7,600 people in the wider secondary catchment area (30-40km) around Kaikohe.

---

\(^1\) StatsNZ population estimates accessed from [https://www.stats.govt.nz/topics/population](https://www.stats.govt.nz/topics/population)
Scope of the report

This report assesses the proposal in terms of its potential social and economic effects on Kaikohe and the surrounding area, to inform the council’s decision-making on resource consents and a proposed Plan Change pursuant to the Resource Management Act (RMA) 1991. The report contains:

1. analysis of demographic and economic information for Kaikohe and the surrounding area (defined to include a catchment up to 40km from Kaikohe),
2. projections of employment at the Park and its direct contribution to GDP in the local economy,
3. an assessment of the significance of positive and negative social and economic effects of the proposal,
4. recommendations for measures to be taken to avoid or mitigate negative social effects and also to maximise positive economic effects

Economic effects

In summary, the proposed Park is assessed to have a range of positive economic effects for Kaikohe/Ngawha and the surrounding area, arising from:

1. Initial construction investment in the order of $168 million to develop Stage 1 of the Park with infrastructure, buildings, and amenity planting. The direct contribution to GDP is estimated at an indicative level to be $26.9 million, or 1.4% of the FND’s baseline GDP (2018)\(^2\), and total construction jobs are estimated at 316. The economic impact would be spread over the duration of the construction period (1-2 years only).
2. New business and workforce training activities establishing on the site, providing accelerated pathways to employment for the local labour-force, projected at 333 jobs/trainees in Stage 1, rising to 550 jobs/trainees at Stage 3. The inclusion of skills training operations reflects a deliberate effort to ground the Park as an asset for the Kaikohe/Ngawha community by providing:
   - pathways to employment for the existing workforce, including those currently unemployed or not in education, employment or training, and
   - business to business pathways for the significant primary production landholdings (both Māori and non- Māori owned) and providers of raw materials in the surrounding area,
3. Based on projected FTE jobs of 450-500 at Stage 3 and average industry sector productivity levels in FND and New Zealand as a whole, the Park is estimated to make a direct contribution to FND’s GDP in

\(^2\) GDP estimate of $1,936 million (expressed in 2010 dollars) sourced from Infometrics 2018.
the order of $33.1-$41.7 million per annum (pa) on a sustainable long-term basis. That is equivalent to a growth rate of 1.7-2.2% pa on the FND’s 2018 baseline GDP,

4. Additional contributions to GDP (not estimated) from:

   i) upstream ‘indirect impacts’ due to the Park businesses increasing demand for goods and services from suppliers in Kaikohe (and elsewhere in FND),

   ii) induced final demand impacts from the additional household incomes of those working at the Park generating increased demand and expenditure on housing and local consumer goods and services,

5. While those spillover economic effects are unquantified, it is reasonable to expect they will incentivise increased utilisation and redevelopment of existing industrial and commercial premises/sites in Kaikohe, contributing to the revitalisation of the town as a business/employment centre,

6. Although not an economic benefit for FND per se, central government will stand to make savings from a reduction in income support payments to local residents transitioning to paid employment (either at the Park or elsewhere). Allowing for half of the 333 Stage 1 jobs/trainees to be filled in this way, the saving to government in income support transfers is estimated to be $30.6 million based on an actuarial average lifetime cost of $184,000 (which is higher for Māori than non-Māori),

7. Those gains will compound over time due to the annual throughput of 100 trainees moving into paid employment. For every 200 graduates the gross saving to the government would be $37 million and at 500 graduates it would reach $92 million. From a whole of government perspective an investment in the Park from the Provincial Growth Fund of $30-$38 million could be fiscally neutral for the government within 2-4 years, and significantly fiscally favourable from then on.

Social effects

The proposal is assessed to have a range of positive social effects for Kaikohe/Ngawha arising from:

1. The provision of 450-500 permanent jobs and up to 100 trainee positions annually, together with an active management approach to recruit local workers and trainees in an area which currently has a high proportion of Māori youth and a high rate of unemployment and people not in employment, education or training (NEETs). This should lead to a reduction in social costs associated with poverty, poor health, and crime.

2. Potential to encourage Māori rangatahi and older age workers to return to their whenua in Kaikohe to pursue training or work opportunities and live in the area,
3. Potential to forge stronger links with Ngawha Prison (near the Park site) by offering training or work experience for prisoners on day-release or post-release, in ways that complement the construction and nursery operations already established at the prison,

4. Increased demand for housing and utilisation of social and community facilities in Kaikohe, contributing to revitalisation of the town’s residential neighbourhoods and town centre.

The proposal is also assessed to have some potentially significant negative social effects due to:

1. The risk of a rapid increase in the resident population in Kaikohe and Ngawha if a significant share of new jobs at NIEP are filled by newcomers to the town, leading to a rapid spike in demand pressure on housing (especially private rental housing stock), education, health, and community infrastructure/facilities and services in the area.

Conclusions and recommendations

The scale of NIEP is such that it will be of local and sub-regional significance, putting Kaikohe/Ngawha ‘on the map’ as a business destination by attracting new and diverse types of industrial businesses to the Far North District (FND). Its positive economic and social effects are assessed to clearly outweigh its potential significant negative social effects. To maximise positive effects and to mitigate significant potential negative effects, the following measures are recommended to be included as part of the Proposed Plan Change provisions:

FNHL as owner and manager of the Park will develop and maintain:

1. an **NIEP Employment and Skills Management Plan** or suchlike that documents over the stages of construction and development of the Park, the collaborative process of engagement and efforts being made with central and local government agencies, iwi/Māori trusts and business and skills training organisations to maximise recruitment of workers and trainees from Kaikohe/Ngawha, and

2. an **NIEP Social Impact Management Plan** or suchlike, that similarly outlines engagement processes with local and central government agencies, iwi/Māori trusts, and education, healthcare and community services providers for the purpose of identifying the existing capacity of housing and social infrastructure (and any known commitments to add capacity) to meet demand from a significant increase in the resident population over the next 5-10 years. Options to provide worker/trainee housing on the Park site and other solutions could also be addressed in the course of developing the plan.
1.0 Introduction

1.1 Purpose

This Social and Economic Assessment (SEA) Report has been commissioned by Far North Holdings Ltd. (FNHL) for its proposed Northland Innovation and Enterprise Park (the Park) on a 165 hectares site at Ngawha, near Kaikohe. This SEA report is associated with a proposed Private Plan Change to enable the park to establish and provides an assessment of the potential social and economic effects (benefits and dis-benefits) of the Park.

1.2 Location context

The Far North District is predominantly rural, with urban and holiday areas in numerous small towns and settlements. Rural land is used largely for agriculture, horticulture and forestry. Kaikohe is centrally situated in relation to a cluster of towns on the east coast around the Bay of Islands (Kawakawa, Kerikeri, Moerewa, Opua, Paihia and Russell), and a cluster of small settlements on the south-west coast surrounding the Hokianga Harbour (Horeke, Kohukohu, Omapere, Opononi, Panguru and Rawene) – refer Figure 1.

The subject site proposed to be developed as an Innovation & Enterprise Park (the Park) consists of 165 hectares located at Ngawha on State Highway 12, less than 10 minutes drive to the east from Kaikohe (refer Figure 2). Kaikohe is 27km from the inter-regional ‘Bay of Islands’ airport at Kerikeri (or 22 minutes travel time by car) and 92km from Whangarei’s airport (or about 1.2 hours travel time by car). It is also around 1.5 hour’s drive time to the seaport (Northport) at Marsden Point.
Figure 1: Kaikohe/Ngawha Location map

Source: FNDC, Google maps
1.3 Project objectives

FNHL intends to develop the Park over time, and during 2018-19 they have engaged with several businesses, community stakeholder organisations, and central government agencies to develop and refine plans for the type, scale and location of specific activities and facilities on the site.

The FNHL business case for the Park indicates it will be an actively managed hub designed to co-locate complementary activities (manufacturing, growing, construction, business incubation and innovation, R&D, training and supporting pathways to employment). The Park’s aim is to improve the utilisation and value of the region’s natural assets; to protect and enhance the environmental and ecological values of the land currently operating as a dairy farm; to grow, strengthen and expand business enterprise; and increase employment in the region.

The purpose of the Park is to provide a multi-purpose site that supports:

1. Improved land use and productivity of industry/ economic activity in the region and particularly in the mid-north;
2. Establishment of businesses that are new to the region;
3. Businesses that can use existing outputs and waste streams within and outside the Park.

4. Businesses that are complementary to locally owned businesses in the region and who embrace the environmental (closed loop) and social (local employment) purposes of the Park.

5. Establishment of businesses that add value to the products already being produced within the region/ district.

6. Scale-up of existing small and medium manufacturing businesses within the region/ district.

7. Innovation through co-location of a range of businesses with symbiotic relationships.

8. R&D and education relevant to activities at the Park and to support the use and protection of the region’s natural resources (land and water in particular) across the wider region.

9. On-site and residential training/ upskilling locals to be employees for the businesses seeking to locate their activities at the Park and to support the needs of manufacturers beyond the Park.

1.4 Methodology and information sources

Preparation of this report has included the following activities:

a) Site visits to Kaikohe and the surrounding area,

b) Analysis of official data to provide a social and economic profile of Kaikohe

c) Review of published information on social and economic issues, constraints and aspirations in Kaikohe over the past five years, associated with council and central government policy and planning processes

d) Correspondence with local schools

e) Analysis of the existing business zoned land areas in Kaikohe and Ngawha, and the implications of adding the quantum of building floorspace and employment levels expected to be associated with development and occupancy of the Park

f) Identification of the statutory requirements for assessing social and economic effects in the context of resource consents or a Plan Change

g) Development of an appropriate social and economic impact assessment framework for assessing potential effects, including definition of the communities of interest and assessment criteria

h) Assessment of potential social and economic impacts (negative and positive) of development of the Park, with reference to the above information base
i) Making recommendations in respect of avoiding, remedying or mitigating any adverse social impacts of said development

The information and data sources include:

1. FNHL’s business case for the Park and other technical reports prepared for the project
2. Official statistics on the economy and demography of Kaikohe from Statistics NZ, Ministry of Education (MoE) and Far North District Council (FNDC). Note, as the 2018 NZ Census results have yet to be released (local area results are likely to be released in 2020), the ‘Kaikohe community profile’ in this report has necessarily required reference to 2013 Census data and using supplementing sources such as from StatsNZ Business demography series, Stats NZ population estimates, and MoE school enrolment counts.
3. Additional reports and data published by the FNDC, BERL, NZIER and Infometrics Ltd.

---

3 Due to the delay in releasing the 2018 Census results, the ‘data-gaps’ for this report include: current ethnicity, commuting to work patterns, dwelling numbers and tenure, and household incomes.
2.0 Kaikohe social and economic profile

2.1 Community profile

Kaikohe town consists of residential, commercial and industrial land uses, and is surrounded to the north, west, east, and south by predominantly rural land use (mainly for beef and dairy farming). The 2013 Census reported the population of the Kaikohe area unit\(^4\) at 3,915, accounting for around 7% of the Far North District’s (FND) total population of 60,600 at that time. Although the census result suggested Kaikohe’s population had declined by 198 people (or 4.8%) compared to 2006, Stats NZ population estimates (post the 2013 Census) revised Kaikohe’s usually resident’ population to 4,340 in 2013, up slightly from 4,270 in 2006.

Kaikohe’s population is now estimated to be 4,550 (as at June 2018\(^5\)). While Kaikohe’s population is estimated to have grown at an average annual rate of less than 1% over the past 5 years, by comparison the FND as a whole is estimated to have grown by an average 1.3% per annum, to reach 64,400 in 2018.

For statistical purposes the Kaikohe area unit sits within and is enclosed by the much larger Ngapuhi-Kaikou area unit (refer Figure 1). Ngawha to the east of Kaikohe is within the Ngapuhi-Kaikou area unit and contains the Park site and non-rural land uses including Top Energy’s geothermal electricity station, the Department of Corrections prison facility, and the Ngawha Springs thermal pool. This area unit contained an additional resident population estimated at 2,790 in 2018 (up 7.3% from 2,600 in 2013).

\(^4\) Geographic area defined by Statistics NZ for the 2013 Census.
\(^5\) StatsNZ population estimates accessed from [https://www.stats.govt.nz/topics/population](https://www.stats.govt.nz/topics/population)
As the 2018 Census results are not available, the profile information below for Kaikohe is based on the 2013 Census (refer Table 1).
Table 1: Kaikohe demographic indicators 2013 Census

<table>
<thead>
<tr>
<th>Headline Indicator</th>
<th>Kaikohe</th>
<th>Far North</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of occupied dwellings</td>
<td>1,293</td>
<td>22,047</td>
<td>Kaikohe only accounts for 5.8% of all occupied dwellings</td>
</tr>
<tr>
<td>Kaikohe Town Population &lt; 15yrs</td>
<td>31.6%</td>
<td>22.2%</td>
<td>Much greater % of very young, school-age, pre-teen children.</td>
</tr>
<tr>
<td>Kaikohe Town Population &gt;15 - 19yrs</td>
<td>7.6%</td>
<td>7%</td>
<td>Young adults move away from Kaikohe for work or education</td>
</tr>
<tr>
<td>Kaikohe Town Popn &lt; 24yrs</td>
<td>46%</td>
<td>36.5%</td>
<td>Nearly half the town’s residents are under 24yrs of age.</td>
</tr>
<tr>
<td>Kaikohe Town Popn &gt; 24 &lt; 49yrs</td>
<td>28%</td>
<td>26.2%</td>
<td>Household formation cohort is similar to other parts of the District.</td>
</tr>
<tr>
<td>Kaikohe Town Popn &gt; 50yrs</td>
<td>26%</td>
<td>44%</td>
<td>Kaikohe doesn’t have as many retirees as other areas, and isn’t aging as fast as other parts of the District.</td>
</tr>
<tr>
<td>Māori ethnicity 2013</td>
<td>66%</td>
<td>40%</td>
<td>cf 14% for NZ</td>
</tr>
<tr>
<td><strong>Family Structures (Households)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Parent Household</td>
<td>41%</td>
<td>23%</td>
<td>Very high rate of solo parenting</td>
</tr>
<tr>
<td>2 Parents with dependent children</td>
<td>28.7%</td>
<td>27%</td>
<td>Similar to elsewhere</td>
</tr>
<tr>
<td>Couple with no children</td>
<td>27%</td>
<td>40%</td>
<td>Retirees aren’t staying in Kaikohe; or Kaikohe residents have shorter life expectancy. Māori have shorter life expectancy than NZ average.</td>
</tr>
<tr>
<td><strong>Household incomes)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households with income &lt; $20K</td>
<td>17.9%</td>
<td>14.5%</td>
<td></td>
</tr>
<tr>
<td>HH income &gt; $21K &lt; $40K</td>
<td>21%</td>
<td>22.6%</td>
<td></td>
</tr>
<tr>
<td>HH with income &gt; $50K</td>
<td>21.4%</td>
<td>33%</td>
<td>Relatively low income households</td>
</tr>
<tr>
<td><strong>Employment status (population over 15 years old)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed Full time</td>
<td>55.7%</td>
<td>64.1%</td>
<td>cf 71% for NZ; low level of workforce participation</td>
</tr>
<tr>
<td>Unemployment</td>
<td>21.7%</td>
<td>11.5%</td>
<td>cf 7% for NZ; high unemployment rate</td>
</tr>
<tr>
<td>Part time employment</td>
<td>22.6%</td>
<td>24.4%</td>
<td></td>
</tr>
<tr>
<td>Labour-force participation rate</td>
<td>47.5%</td>
<td>54.5%</td>
<td></td>
</tr>
<tr>
<td><strong>Housing tenure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Owned</td>
<td>14.6%</td>
<td>29.8%</td>
<td>Low level of housing security</td>
</tr>
<tr>
<td>Home owned with Mortgage</td>
<td>19%</td>
<td>24.2%</td>
<td></td>
</tr>
<tr>
<td>Home rented</td>
<td>44%</td>
<td>25%</td>
<td>High level of private rental tenure</td>
</tr>
<tr>
<td>Home rented from Social Housing (HNZ)</td>
<td>16%</td>
<td>4%</td>
<td>High level of social rental tenure</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### High School Qualifications (NZQA - level 2 and above)

<table>
<thead>
<tr>
<th></th>
<th>25.1%</th>
<th>32.5%</th>
<th>Low level of qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to cell phone</td>
<td>65.3%</td>
<td></td>
<td>cf 79% for NZ; low internet access</td>
</tr>
<tr>
<td>Access to Internet</td>
<td>38%</td>
<td>50%</td>
<td>cf 73% for NZ</td>
</tr>
<tr>
<td>Access to telephone</td>
<td>53.3%</td>
<td></td>
<td>cf 81% for NZ</td>
</tr>
</tbody>
</table>

Source: Stats NZ 2013 Census

The 2013 Census suggested the average household size in Kaikohe was 3.0 people, compared with an average of 2.5 people per household for all of Far North District. The Kaikohe community has a high proportion (64%) of residents of Māori ethnicity (which increased from 2006) and is relatively ‘younger’ than other areas of the Far North, with almost a third (31.5%) of residents being under the age of 15 and just 26% over 50 yrs. of age (compared to FND as a whole with 22.2% under 15 yrs. of age, and 44% over 50 yrs of age).

It is also likely that Kaikohe accounts for a significant share of the high rate (18.5%) of 15-24 year olds not in education, employment or training (NEET) in the FND in 2018. The numbers would likely be even higher if the district didn’t lose some of its younger population. As a 2016 FND council report identified: “The statistics indicate that when young people get to a certain age (college and young professional age) they leave the district, presumably to find work. If they are to be encouraged to stay the economy needs to grow and provide more jobs”.

The vulnerable position of Kaikohe’s population is also reflected in:

1. A high proportion of households are on relatively low incomes (with two-thirds below $50,000), reflecting in part, a low workforce participation rate (47.5% of working age residents) and high unemployment (21.7%, almost twice that of the FND as a whole)
2. A relatively high rate of rental tenure and social housing, and
3. Its rank as having the highest deprivation score (of 1,237) in the FND as a whole.

Given Kaikohe’s population is estimated to have grown by less than 1% per annum since 2013, the attributes above are likely to still be valid as descriptors of Kaikohe and relative differences from the FND area as a whole.

---

6 Source: Infometrics 2018  
[https://ecoprofile.infometrics.co.nz/Far%20North%20District/Employment/Unemployment](https://ecoprofile.infometrics.co.nz/Far%20North%20District/Employment/Unemployment)  
7 FNDC 2016 Our District - a social and economic profile of the Far North p12.  
[https://profile.idnz.co.nz/far-north/deprivation-index](https://profile.idnz.co.nz/far-north/deprivation-index). The Social Deprivation Index is a measure of socio-economic status calculated for small geographic areas. The calculation uses a range of variables from the 2013 Census which represent nine dimensions of socio-economic disadvantage to create a summary deprivation score.
whole. As a check on this assumption Stats NZ estimates of Kaikohe’s 2018 population by age-band are shown below (refer Table 2).

Table 2: Kaikohe population estimates 2013-18 by age-band

<table>
<thead>
<tr>
<th>Age</th>
<th>2013</th>
<th>Percentage</th>
<th>2018</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 Years</td>
<td>1420</td>
<td>32.7%</td>
<td>1420</td>
<td>31.2%</td>
</tr>
<tr>
<td>15-39 Years</td>
<td>1330</td>
<td>30.6%</td>
<td>1420</td>
<td>31.2%</td>
</tr>
<tr>
<td>40-64 Years</td>
<td>1090</td>
<td>25.1%</td>
<td>1170</td>
<td>25.7%</td>
</tr>
<tr>
<td>65 Years and over</td>
<td>500</td>
<td>11.5%</td>
<td>550</td>
<td>12.1%</td>
</tr>
<tr>
<td>Total people</td>
<td>4340</td>
<td>100.0%</td>
<td>4550</td>
<td>100.2%</td>
</tr>
</tbody>
</table>

Source: SNZ sub-national population estimates

This data suggests that Kaikohe’s population has become slightly older in age-structure in 2018 compared with 2013, with movement down in the group aged below 15 years of age (from 32.7% to 31.2%) and movement up in the other age-bands (of only 0.6 percentage points in all cases).

While schools in Kaikohe may serve a wider area than the town’s own resident population, Ministry of Education (MoE) school enrolment counts in 2018 (refer Table 3) were static compared to 2014 (with a reduction of 1.7% from 1,386 in 2014 to 1,363 in 2018). While changes up or down were experienced by individual schools the total number of enrollees echoes the slight reduction in the younger age group of Kaikohe residents in Table 2.

Table 3: Kaikohe school enrolees 2014-18

<table>
<thead>
<tr>
<th>School</th>
<th>2014</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaikohe Christian School</td>
<td>186</td>
<td>165</td>
</tr>
<tr>
<td>Te Kura Kaupapa Māori o Kaikohe</td>
<td>190</td>
<td>216</td>
</tr>
<tr>
<td>Kaikohe West School</td>
<td>353</td>
<td>269</td>
</tr>
<tr>
<td>Kaikohe East School</td>
<td>229</td>
<td>295</td>
</tr>
<tr>
<td>Kaikohe Intermed. School</td>
<td>133</td>
<td>137</td>
</tr>
<tr>
<td>Northland College</td>
<td>295</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>1,386</td>
<td>1,363</td>
</tr>
</tbody>
</table>

2.2 Labour-force

The 2013 Census reported Kaikohe's resident labour force being 1,272, of which 288 were employed part-time and 708 full time, leaving 276 unemployed. The workforce in Kaikohe is far less likely to be employed full-time than nationally - 55.7% were in full time jobs against 72% nationally. The percentage of those not in the workforce is also much higher.

Stats NZ Commuter view data (based on journey to work patterns from the 2013 Census), shows that 252 Kaikohe resident-workers commuted to jobs outside of Kaikohe while a total 1,596 people actually worked within the Kaikohe area unit: of which over a third (35.5%) were residents in the town while almost two-thirds (64.5%) commuted ‘in’ from other area units (refer Table 4 and Figure 2). In other words, the extent of ‘skills to job’ matching on a local basis is relatively weak (i.e. people do not tend to work at their nearest work location).

Table 4: Source of workers in Kaikohe 2013

<table>
<thead>
<tr>
<th>Commuting type</th>
<th>Total 2013</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live and work in area unit</td>
<td>567</td>
<td>35.5%</td>
</tr>
<tr>
<td>Commute out</td>
<td>252</td>
<td>na</td>
</tr>
<tr>
<td>Commute in</td>
<td>1,029</td>
<td>64.5%</td>
</tr>
<tr>
<td>Total people working in area unit</td>
<td>1,596</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: SNZ Commuter view 2013
While Kaikohe can be said to have provided more than enough jobs for its labour-force members in 2013 (i.e. 1.25 jobs ‘per capita’), its degree of self-containment (i.e. the proportion of total local resident workers who work locally) was 69%, reflecting that almost a third of residents who work travel to jobs out of the town.

It is important to note the strong inter-relationship between Kaikohe and the surrounding Ngapuhi-Kaikou area unit which includes Ngawha within its boundary. There were 495 people jobs in this area unit in 2013 (refer Table 5) of which just over half (51.5%) lived there and the rest ‘commuted in’.

### Table 5: Source of workers in Ngapuhi-Kaikou 2013

<table>
<thead>
<tr>
<th>Commuting type</th>
<th>Total 2013</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live and work in area unit</td>
<td>255</td>
<td>51.5%</td>
</tr>
<tr>
<td>Commute out</td>
<td>408</td>
<td></td>
</tr>
<tr>
<td>Commute in</td>
<td>240</td>
<td>48.5%</td>
</tr>
<tr>
<td>Total people working in area unit</td>
<td>495</td>
<td></td>
</tr>
</tbody>
</table>

Source: SNZ Commuter view 2013
Kaikohe and Ngawha clearly function as an integrated area in labour market and employment terms. While 255 residents in Ngapuhi-Kaikou also work within ‘their’ area, almost as many people (225) commute from there to work in Kaikohe; and 45 resident workers travelled from Kaikohe (18% or almost a fifth of the total 252 ‘out’ commuters) to work in Ngapuhi-Kaikou (presumably including workers at Top Energy and the Ngawha Prison).

If Kaikohe and the Ngapuhi-Kaikou area unit are treated as one area, the combined total number of jobs was 2,091 in 2013, of which just over half (52% or 1,092) are held by people who live within the combined area, implying 48% of total jobs are taken by people who commute into the Kaikohe-Ngapuhi area units. This relatively low share of jobs held by the resident labour-force is reflected in a 2016 Council report \(^9\) that refers to the “high concentration of unemployment in the area where Kaikohe-Ngawha and Hokianga South meet”.

Of the 1,029 ‘commuting-in’ workers to Kaikohe, 62% originated from six area units that are in close proximity to Kaikohe: Ngapuhi-Kaikou, Ohaeawai, Okaihau, Hokianga South, Kerikeri, and Waihou Valley-Hupara. Similarly, most commuters into the Ngapuhi-Kaikou area unit come from Hokianga South, Ohaeawai, Waihou Valley, and Kerkeri. For the purposes of this report Kaikohe and Ngawha’s primary labour-force catchment is defined to comprise Kaikohe and the six area units around it. These locations are generally within 5-30km of Kaikohe by road distance or up to a half-hour travel time.

The next outer tier of area units (e.g. Paihia, Kapiro, Hokianga North) can be regarded as a secondary labour force catchment in relation to both Kaikohe and Ngawha. They are generally within a distance of approximately 30-40km by road, or a half-hour to 45 minute drive time of Kaikohe, but have weaker spatial links with Kaikohe and Ngawha based on the 2013 Census employment and commuting patterns (compared to the primary catchment).

The primary catchment (indicated by the ‘inner B’ ring in Figure 3) comprises area units with a total resident population estimated to be 20,260 in 2018 (on top of Kaikohe’s 4,550 residents). The secondary catchment (‘outer C’ ring) contains a further estimated 17,970 residents. The total population in the primary and secondary catchments combined (38,230) increased by 6.2% over the previous five years, stronger than Kaikohe’s growth rate, and similar to FND as a whole.\(^{10}\)

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\(^9\) Refer FNDC 2016 Our District - a social and economic profile of the Far North (p27).

\(^{10}\) Refer Stats NZ subnational population estimates (sourced July 2019). The full list of area units included in these catchments is shown in Attachment A. Note, the secondary catchment will somewhat overstate the population that is actually within 40km of Kaikohe given the outer edges of some large area units extend beyond that distance (e.g. Hokianga North, Mangapa-Matauri Bay).
Due to the 2018 Census results not being available, official estimates of the labour-force (i.e. the total population reported as employed or unemployed) are not available. However, assuming labour-force participation rates have not changed significantly since 2013, the Census 2013 age structure and labour-force participation rates (from Table 1 above) can be applied to the 2018 population estimates to indicate the current potential labour-force in each catchment. The various estimates are shown schematically in Figure 3.

**Figure 3: Estimates of population and labour-force catchment for Kaikohe 2018**
The estimated labour-force ‘pools’ of potential workers within reasonable commuting proximity to Kaikohe or Ngawha include close to 1,500 in Kaikohe alone (up from the 2013 Census figure of 1,272), an additional 8,600 people in the primary catchment, and a further 7,600 people in the wider secondary catchment area.

2.3 Employment in Kaikohe and Ngawha

Stats NZ business demography data (i.e. based on a survey rather than the census) indicates there were 1,500 jobs in Kaikohe in 2018. – refer Figure 4:
A clear majority of jobs (i.e. two-thirds, or 1,000 jobs) are accounted for by four main industry sectors:

1. Retail trade (250)
2. Public administration and safety (320)
3. Health care and social assistance (140)
4. Education and training (290)

Over 2013-18 Kaikohe suffered a decline in jobs of 14.3% (from 1,750 jobs in 2013\textsuperscript{11}) while FND as a whole experienced employment growth of 13.2% (refer Attachment B for data). Kaikohe went from accounting for 10% of total jobs in FND in 2013 to 8% five years later. While job increases in Kaikohe were generated in Manufacturing (+10 jobs) and Education and training (+30 jobs), net reductions were experienced across many individual industry sectors. Most of the job losses in absolute terms occurred in three out of four of the above ‘core’ sectors, plus a couple of others:

1. Retail trade (-30 jobs)
2. Health care and social assistance (-150 jobs)
3. Electricity, gas, water and waste services (-35 jobs)
4. Public administration and safety (-30 jobs)
5. Administrative and support services (-31 jobs)

Less significant losses in absolute job numbers also occurred in:

1. Professional, scientific and technical services
2. Agriculture, forestry and fishing
3. Accommodation and food services
4. Information media and telecommunications
5. Rental, hiring and real estate services

Within the adjacent Ngapuhi area unit there are now 410 jobs in total (less than the 2013 Census tally of 495), of which close to 70% (280) are in the Public administration and safety sector (attributable to the Ngawha Prison). A further 10% of jobs (40) are in Agriculture/forestry and only 9 jobs (2.2%) are reported for the Electricity, gas, water and waste services sector (presumably the Top Energy plant) and the remaining small numbers are spread across several other sectors.

The data suggests that even though the resident population of Kaikohe and nearby areas has grown modestly over 2013-18, Kaikohe itself has lost employment in a range of retail, accommodation and personal services sectors, as well as in public utility and community service sectors (with the exception of the ‘education and training’ sector).

\textsuperscript{11} Note the 1,750 estimate is higher than the 1,596 figure from Commuter view due to different SNZ data sources (the Commuter view series only counts respondents who stated how they travelled to work at the time of the 2013 Census).
2.4 Commercial and industrial land in Kaikohe and Ngawha

2.4.1 Kaikohe town centre

Kaikohe’s main town centre is subject to the Far North District’s Operative District Plan Commercial Zone, with a total land area estimated to comprise 24.4ha (refer Figure 5).

Figure 5: Kaikohe Commercial Zoned land

The core retail area contains two supermarkets and numerous small businesses situated along the main street (Broadway), and its immediate side streets (which runs approximately 2.5kms through the centre of the town). A good proportion of the mainstreet businesses are fast food outlets, catering to State Highways 1 and 12 traffic and locals alike. Other businesses serve the extensive rural area and primary producers.
No data is readily available from the FNDC on the gross floor area of building development within the zone, but the commercial area is generally characterised by older building stock of predominantly 1-2 storeys with low to moderate amenity, and several vacant premises.

The town is home to a significant concentration of government agencies including:

- Ministry of Education - Special Education Service;
- Child Youth & Family Service (CY&FS);
- Youth Justice;
- Work & Income New Zealand (WINZ);
- Police;
- Justice (District Court); and,
- Northland District Health Board – Community nursing

There is also a medical centre and a Māori Health Service (provided by Ngati Hine Health Trust). The Far North District Council has its head office and Council Chambers in Kaikohe, and provides the large War Memorial Community Hall and Library, as well as a large Recreational Reserve - Lindvart Park – home to Hockey, Rugby, Soccer and Netball facilities.

Around the town centre Kaikohe has six state funded schools (catering to Yrs. 1 to 13), the Te Kura Kaupapa Māori o Kaikohe school (offering Te reo Māori immersion in Yrs. 1–13), and 12 early childhood education facilities. All but the Kaikohe Christian School have a Decile 1 rating.

Northland College, the local secondary school (yrs. 9–13), incorporates a farm and forestry block and has established a partnership with Lincoln University to provide alternative courses to the norm in state secondary schools. Northland College also has a Trade Academy operating within its precinct that includes “The Hub” catering programme, supported by a fully operational catering kitchen.

Tertiary education providers include the Northland Technical Institute (North Tec) which has a Kaikohe Learning Centre (offering a limited range of courses) and Te Wanaanga o Aotearoa.

While the various education, health, social service and justice facilities serve Kaikohe as well as an extensive area from coast to coast, and south to north between Whangarei and Kaitaia, the employment data above implies that even though demand for services may be expected to have increased on the back of population growth, there has been a net decline in employment levels in several industry sectors compared to five years ago (including private sector businesses, central government agencies, and not for profit organisations).
Part of the loss of retail and service type business activity in the town centre may be due to residents in and around Kaikohe shopping at competing locations such as Waipapa and Kerikeri. Looking forward, retail and business activity in Kaikohe stands to benefit from the FND Council’s plans to redevelop its Head Office and Chambers as part of developing a major new Civic Centre (with $11.8m provided in the council’s LTP 2018-28 and a total estimated cost of $20m) which may include an information centre, café and art gallery, a museum showcasing Ngāpuhi taonga, creative and performing arts spaces, and government departments\textsuperscript{12}.

\subsection{2.4.2 Industrial land}

The land area in Kaikohe subject to the Far North District’s Operative District Plan Industrial Zone is estimated to comprise a total 42.8ha (refer Figure 6).

\textbf{Figure 6: Kaikohe Industrial Zoned land}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{Kaikohe Industrial Zone}
\end{figure}

\textsuperscript{12} Refer https://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=12110106
No data is readily available from the FNDC on the gross floor area of building development within the zone, but the area can generally be characterised as low amenity, with older buildings and a significant number of underutilised or vacant sites.

The industrial zoned land in Ngawha is significantly larger, estimated at 382.4ha (refer Figure 7) and accommodates established activities on large sites, including the Ngawha prison, Top Energy’s geothermal plant and the Ngawha Springs thermal pools. Large portions of the zone are undeveloped.

**Figure 7: Ngawha Industrial Zoned land**

Source: StrategEase Ltd.
The above estimate for Kaikohe compares to a lower figure of 32.3ha of industrial land according to a BERL report (2015)\textsuperscript{13} which identified around 27ha (or 84%) as being occupied by a mixture of light industry, warehouses and services, and 5.1ha (or 16%) being vacant land (refer Table 6).

| Table 6: Industrial land (ha) within Kaikohe and surrounds |
|---------------------------------|---|---|---|---|---|---|
| Kaikohe                        | 11.8 | 5.8 | 9.6 | 27.2 | 5.1 | 32.3 |
| Waihou Valley-Hupara            | 14.5 | 4.5 | 23.0 | 42.2 | 9.0 | 51.2 |
| Kerikeri                        | 8.0 | 8.2 | 10.0 | 26.2 | 1.4 | 27.6 |
| Moerewa                         | 10.0 | 0.2 | 10.2 |     |     | 10.2 |
| Sub-total                       | 10.0 | 34.5 | 18.5 | 42.6 | 105.8 | 15.5 | 121.3 |
| Far North Total                 | 170 | 150.9 | 19.9 | 55.6 | 400.3 | 28.2 | 428.4 |

Source: adapted from BERL Feb. 2015 Upper North Island Industrial land demand (p36).

Within the surrounding area (in the vicinity of 30km from Kaikohe), BERL identified a total 121ha of industrial land, including 15.5ha (13%) of vacant land. The areas in Table 6 combined accounted for 28% of all industrial land in the FND (121ha out of 428ha), and a high 55% of the district’s total stock of vacant industrial land (15.5ha out of 28.2ha).

BERL developed two scenarios (i.e. a ‘BAU’ and a ‘growth’ scenario) of future demand for industrial land in Northland region concluding that the Far North District could require a net increase in supply of industrial land in the order of 126ha (BAU) or 211ha (growth scenario) over the 2013 to 2031 period.

It is important to note here that the BERL report omits Ngawha’s industrial zoned land\textsuperscript{14} and based on the aerial photograph in Figure 6 there appears to be significantly more vacant land than the 5ha identified above, although much of it appears to be on sites that are occupied but underutilised.

It is understood that the FND council is currently reviewing the industrial land demand and supply situation as part of its District Plan review process and will publish the results in 2020. The update will need to take

\textsuperscript{13} BERL Feb. 2015 Upper North Island Industrial Land Demand. Note while the two respective estimates cannot be obviously reconciled to explain the 10ha gap, it may be due to the BERL figure discounting the railway corridor or other portions of industrial zoned land for various reasons (e.g. in use for non-industrial purposes).

\textsuperscript{14} It is not clear why the Ngawha industrial land is omitted from BERL (2015). In any case the author understands that the majority of the remaining vacant industrial zoned land in Ngawha is considered unsuitable for large-scale industrial development due to physical constraints (from personal communication with FND Council officers on July 15, 2019).
account of any take-up of vacant industrial land since 2013, estimate the remaining industrial development capacity and updated projections of demand.

Nonetheless, the BERL 2013 based projections indicate significant increases in demand for industrial land occurring over the next decade (2020-30), implying an average demand for 7-12ha per annum in FND as a whole. Even allowing for the vacant land in Kaikohe to have been underestimated by say 10ha (i.e. assuming a total 15ha or half of the industrial zoned land in Kaikohe is vacant, implying a total 38.2ha vacant land in FND), the demand projections would imply the supply of vacant land in the district as a whole could be exhausted within less than 4-6 years from 2019 (under the ‘growth scenario’ or the conservative BAU scenario respectively). Additional capacity will therefore require either more intensive utilisation of existing land or new industrial zoned land supply to be made available over the next decade.

**2.4.3 Market availability of commercial and industrial sites**

The extent to which business zoned sites are available for sale or lease is a generally accepted indicator of the readily available market supply of such space. Notwithstanding the significant number of apparently vacant commercial and industrial sites in Kaikohe or Ngawha, a search of real estate listings for the months of July and August 2019 indicated very few industrial or commercial sites as listed for sale or lease. As at August 22, 2019 there were six commercial sites available with a combined land area of 4,500m², and one industrial site of 1,600m², in Kaikohe. No industrial zoned sites were available in Ngawha (refer Attachment C).
3.0 The proposal

3.1 The Ngawha Innovation and Enterprise Park (NIEP)

The NIEP Feasibility and Business Case (Sept. 2019) states that:

“the Park will be an actively managed hub designed to co-locate complementary activities (manufacturing, growing, construction, business incubation and innovation, R&D, training and supporting pathways to employment). The Park’s aim is to improve the utilisation and value of the region’s natural assets; to protect and enhance the environmental and ecological values of the land currently operating as a dairy farm; to grow, strengthen and expand business enterprise; and increase employment in the region”\(^\text{15}\).

FNHL has undertaken significant engagement with around 180 prospective businesses, government agency, iwi and other stakeholder groups during 2018-19. The business case outlines a staged approach to the Park’s development beginning with an initial set of confirmed activities/tenants, followed by two subsequent stages of growth in business uses, building development, employment and training opportunities that are subject to greater uncertainty:

- **Stage 1**: Years 0-2 - Site development and Park establishment with confirmed tenants
- **Stage 2**: Years 1-3 – Working with known potential occupants that are not yet ready, establishing the R&D footprint, and expanding the business innovation/incubation usage.
- **Stage 3**: Years 3-onwards – attracting businesses in potential growth areas and investors/tenants that are not yet identified, scaling up the education and training provision including establishing residential accommodation to support it if the demand is proven.

The Park is intended to provide a place where:

- producers would be able process, market and transport their products at scale;
- businesses at the Park and beyond it would be supported through workforce training and education, research and development and space and support for business incubation for manufacturing; and
- where access to water, energy and high quality digital support would be provided within the Park at affordable rates.

A resource consent application is expected to be sought to provide for the confirmed Stage 1 tenants and associated building development, including: an Organic Horticulture facility, Honey & Manuka hub, Business Innovation & Education hub, and a Graphite Production facility (Carbonscape).

\(^{15}\) Refer NIEP Feasibility and Business Case (September 2019).
The bigger picture for the Park is to accommodate several additional business activities (in Stages 2 and 3) as well as provide room for future expansion in the GFA of established activities on their existing sites.

### 3.2 Projected employment

The FNHL business case indicates that initially seven business premises will be located at the Park, providing 288 jobs (including 58 full-time trainees who would also gain work experience on the site) and a further 45 part-time trainees (implying a total maximum ‘headcount’ on the site of 333 for Stage 1). All of the businesses are new to the region, being a mix of:

- new businesses being developed to ensure that existing producers gain more income from their production (honey processing),
- businesses extracting more value from what has previously been regarded as a low value plant (mānuka/kānuka),
- businesses opening new categories in timber (native timber kiln, pre-build housing), and
- businesses developing environmentally sustainable technologies new to New Zealand (green carbon manufacturing and organic glasshouses).

The projected level of employment associated with all business activities currently planned to be included in Stages 1-3 of the Park are summarised below (refer Table 7).

<table>
<thead>
<tr>
<th>Table 7: Projected employment at NIEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment (incl. full-time trainees)</td>
</tr>
<tr>
<td>Industrial activity</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Organic Horticulture facility</td>
</tr>
<tr>
<td>Honey &amp; Manuka hub</td>
</tr>
<tr>
<td>Business Innovation &amp; Education hub</td>
</tr>
<tr>
<td>Regent trade training</td>
</tr>
<tr>
<td>Carbonscape</td>
</tr>
<tr>
<td>Timber kiln#</td>
</tr>
<tr>
<td>Innovation Park Maintenance/Security Staff</td>
</tr>
<tr>
<td>Storage</td>
</tr>
<tr>
<td>Spindle Buildings Ltd. (pre-fab housing)</td>
</tr>
<tr>
<td>Business Office Hub (near Park Entrance)</td>
</tr>
<tr>
<td>Biodigester/Biofuel</td>
</tr>
</tbody>
</table>
Skills training activities will also be a cornerstone element of the Park, operating to supply close to 100 skilled ‘graduates’ per annum into the local workforce. The 54 trainees associated with Regent Trade Training would be in full-time training which includes on-the-job experience at the Park (e.g. in the ‘Spindle prefabricated housing construction’ operation). They would therefore directly contribute to business output/revenue and are assumed to be equivalent to a 0.5FTE in Table 7. The ‘Innovation and Education Hub’ is also planned to provide training (by Northtec) for 45 trainees per annum, but as they would be part-time and may already be in jobs (either at the Park or elsewhere in Kaikohe) they are counted in the headcount but not the FTE estimate. Over time many of the 100 trainees per annum would be expected to be hired in full-time jobs at the site.

While the total headcount on-site at any one time is projected to reach 550 in Stage 3, the estimate of full-time equivalent jobs of 478 implies a greater than 25% increase in the total ‘employment count’ of 1,910 in the combined Kaikohe and Ngapuhi area units (2018). These jobs would be genuinely new jobs (i.e. a net addition to the local economy) as the businesses are not relocating from elsewhere in FND. Occupations are expected to include a mix of executives/managers, technical professionals (e.g. site engineers), teachers, construction trades, administrators, machine operators, retail assistants, security staff, horticultural workers, and processing and packing staff.

### For the next section:

#### Table 7: On-site staff and trainees

<table>
<thead>
<tr>
<th>Café and shop</th>
<th>Incubator Hub</th>
<th>Organic hydroponic glasshouse</th>
<th>WH3/WH4/WH5 Manufacturing Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>28</td>
<td>55</td>
<td>261</td>
</tr>
</tbody>
</table>

#### Notes:

1. An additional 45 trainees per annum would also be on-site in this hub but are not included in the FTE count as they are part-time only.
2. Includes 4 FTE staff plus 27 FTEs as an adjusted allowance for 54 full-time trainees (being assumed to contribute to business production/output equivalent to a 0.5 FTE).
3. * excludes occasional visitors to the café or retail facilities.

Source: FNHL
3.4 Construction investment - Stage 1

FNHL has obtained initial estimates of development costs for components of the Park including upgrades to main road infrastructure and development of individual sites and buildings. The preliminary design estimate for Stage 1 is $168 million, associated with a total gross floor area (GFA) of buildings of around 120,000m2, on individual sites totalling 353,500m2 (i.e. 35.35ha).

If Stage 1 construction of the site is spread over 2 years it would imply investment in the order of $84 million each year. To put this estimate in context, the value of non-residential consents in the FND as a whole averaged $38.4 million per annum over the 2008-18 decade. They reached a peak of $83 million in the year to December 2018 and had a total value of $55 million during the year to June 2019\(^\text{16}\). Construction of the Park would therefore be equivalent to a repeat of the 2018 peak level of activity in the FND for two more years, and almost five times the annual scale of non-residential building experienced in FND over the previous decade. On that basis alone it can be regarded as a regionally significant development.

The proposed Plan Change seeks industrial zoning to be applied to the entire 165ha site which would represent a 39% increase in the industrial zoned land in Kaikohe and Ngawha combined. However, only a portion of the site is currently planned to be developed into sites for specific uses under Stages 1-3. Close to 80% of the GFA and land area currently allocated to individual development sites (i.e. 29.4ha out of a total 35.3ha) is for the large Organic Horticulture facility, with the other uses combined occupying 6ha of that land.

The Park could well grow to accommodate 500-600 jobs and significant additional building floorspace over the Stage 3 timeframe (i.e. after 3-4 years from opening). While the GFA and site areas in Stage 2 and 3 have yet to be determined with certainty, the total land area allocated to individual sites at the Park is expected to remain less than 40ha. That would make the area effectively in ‘business use’ similar in scale to Kaikohe’s total industrial zone, and certainly too large to be able to be accommodated within the existing zone.

Although the ultimate development of the site in terms of GFA and employment is subject to uncertainty, the projected employment for Stages 1-3 is considered a sufficient basis for assessing the Park’s potential economic effects at this time.

\(^{16}\) Source: [https://ecoprofile.infometrics.co.nz/far%20north%20district/QuarterlyEconomicMonitor/NonResidentialConsents](https://ecoprofile.infometrics.co.nz/far%20north%20district/QuarterlyEconomicMonitor/NonResidentialConsents)
3.5 Pathways to employment ‘return on investment’ - Stage 1

The preliminary Stage 1 construction cost of $168 million equates to an average cost per headcount on-site (of 333 jobs and trainees) of $500,000. Over a period of say 30 years (assuming those 333 jobs/training positions are sustained), the initial fixed cost equates to an average annual cost per job/trainee of $16,800. The majority of the Stage 1 investment is expected to be provided by FNHL, other equity investors or loan finance.

FNHL also intends to seek a portion of grant funding from the Provincial Growth Fund (PGF) in the range of $29.5-$37.7 million. The PGF grant funding would effectively leverage long-term provision of 333 jobs/training positions at an average cost to the PGF of $88,600-$113,200 each (or $2,950-$3,780 if spread over 30 years). From a whole of government perspective, the PGF funding contribution should be put alongside the foregone costs of unemployed labour-force members or NEETS shifting from income support (provided by the Ministry of Social Development) into paid employment. MSD (2017)\textsuperscript{17} estimated that the average lifetime cost of clients on ‘job-seeker support’ or ‘supported living payments’ is $147,000. That is, for every 100 people moving off income support MSD expects to save $14.7 million on average\textsuperscript{18}. The report states that the average future lifetime cost for Māori clients is $55,000 higher (about 50%) than for non-Māori clients and they make up almost a third of the total client population. On that basis the national average cost for Māori has been estimated to be $184,000.

The range of MSD actuarial estimates shown in Table 8 below (refer column 2) provide an appropriate basis for comparing estimates of savings in the Kaikohe context (given its high Māori and young population). It is noted that all but the ‘Youth 20-24 yrs.’ lifetime cost substantially exceed the average cost of a job/trainee at the Park (based on PGF funding of $29.5-$37.7 million at an average cost of $88,600-$113,200).

Therefore to the extent that jobs and training positions at the Park are filled by formerly unemployed labour-force members or NEETs in Kaikohe/Ngawha, PGF funding support will be offset by the demand for MSD income support reducing by a greater amount. Even just allowing for half of the 333 Stage 1 jobs/trainees to be filled over 1-2 years from people currently on income support would imply a saving to government of $30.6 million in lifetime costs (based on the average Māori cost of $184,000).

\textsuperscript{17} Refer MSD May 2017 Employment Outcomes Investment Strategy 2017/18, p14.

\textsuperscript{18} The cost depends on the age of first entering into income support, with youth in the 16-19 age group being above average, and older groups below average.
Furthermore, those gains will compound over time due to the annual throughput of trainees moving into paid employment. Even if trainees retain income support during their period of training, they could be expected to graduate to jobs at a rate of 50-100 per annum (as a low and high success scenario respectively). That means up to 200-400 graduates in 2-4 years or 250-500 in five years. As shown in Table 8, at a low level of 200 graduates, the gross saving for MSD would be $37 million and at 500 graduates it would reach $92 million.

**Table 8: Average lifetime costs of MSD income support**

<table>
<thead>
<tr>
<th>Client group</th>
<th>Cost ($000)</th>
<th>100</th>
<th>200</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>National average</td>
<td>147</td>
<td>$15</td>
<td>$29</td>
<td>$74</td>
</tr>
<tr>
<td>Nat. Youth average (16-19 yrs.)</td>
<td>178</td>
<td>$18</td>
<td>$36</td>
<td>$89</td>
</tr>
<tr>
<td>Nat. Youth average (20-24 yrs.)</td>
<td>98</td>
<td>$10</td>
<td>$20</td>
<td>$49</td>
</tr>
<tr>
<td>Maori national average</td>
<td>184</td>
<td>$18</td>
<td>$37</td>
<td>$92</td>
</tr>
</tbody>
</table>

Source: Costs from MSD 2017 except 'Maori average' calculated from statements in the report.

The implication is that the level of ‘cycling through’ of trainees is key to the rate and speed at which a return on PGF investment (in ‘foregone benefit’ terms) will be achieved. PGF funding to the magnitude of $30-$38 million could be fiscally neutral for the government within 2-4 years, and significantly fiscally favourable from then on. In other words the breakeven point would be achieved within 2-4 years, and MSD savings in income support would be more than double the initial PGF contribution once 400-500 trainees have graduated from the Park\(^\text{19}\).

**3.6 GDP ‘return on investment’ - Stages 1-3**

The Stage 1 construction would be expected to generate additional employment in Kaikohe/Ngawha on top of those at the Park, but a significant share of the workforce will likely be existing workers commuting from the wider area or shifting location temporarily. While employment levels have been forecast for the Stage 1-3 tenancies expected to set up at NIEP, the value of the output/revenue expected to be generated by those tenancies cannot be projected at this stage. In the absence of such information the following approach has been taken to estimate the economic impacts of the Park in terms of its contribution to local GDP:

\(^{19}\) This conclusion also holds regardless of the age/ethnicity of the job/trainee placements; e.g. if the lower national average cost of $147,000 is relied on, savings of $29 million occur once 200 trainees move into work, albeit that it would take slightly longer for the PGF funding to become fiscally favourable.
1. Stage 1 – Construction: by applying a national level ratio of value-add to gross output in the construction sector of 16% to the estimate of $168 million construction costs to estimate the direct contribution to FND GDP\(^{20}\),

2. Stages 1–3 – NIEP Operation: by applying industry average productivity estimates to the projected total Stage 3 employment level of 478 FTEs at the Park, to indicate the direct annual contribution to GDP in FND\(^{21}\).

At this highly indicative level, the contribution to GDP from a $168 million construction cost is estimated to be $26.9 million, and the total number of construction jobs is estimated at 316\(^{22}\); these impacts would be spread over the 1-2 year construction period (only). The direct contribution to FND GDP of the Park being fully operational is estimated at $35.32 million and $39.96 million per annum which would continue over a long-term period. The latter is estimated as follows:

1. Source industry average productivity levels per employee (at ANZSIC one digit code) from Infometrics 2018\(^{23}\) for both FND and New Zealand as a whole,
2. Assign the estimate of FTE jobs in the tenancies at the Park to the most relevant industry sector,
3. Multiply the number of jobs in that industry by the respective average productivity estimates (refer Table 9).

### Table 9: Estimate of annual GDP contribution of activities at NIEP (2010 dollars) based on Stage 3 profile

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>133</td>
<td>89,980</td>
<td>11.97</td>
<td>99,543</td>
<td>13.24</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>165</td>
<td>82,717</td>
<td>13.65</td>
<td>89,850</td>
<td>14.83</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td>68</td>
<td>67,315</td>
<td>4.58</td>
<td>84,222</td>
<td>5.73</td>
</tr>
<tr>
<td>Construction</td>
<td>53</td>
<td>49,357</td>
<td>2.62</td>
<td>62,900</td>
<td>3.33</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>9</td>
<td>48,776</td>
<td>0.44</td>
<td>53,432</td>
<td>0.48</td>
</tr>
</tbody>
</table>

\(^{20}\) Sourced from NZIER 2013 (Table 7, p17). The low ratio of value-add to the ‘output value’ of construction reflects the exclusion of intermediate inputs such as cement, joinery, planting etc. sourced from suppliers (whether they are inside or outside the district). It therefore omits multiplier or spillover impacts on ‘upstream’ suppliers in the FND as well as induced impacts from construction workers incomes increasing expenditure on local goods and services.

\(^{21}\) It is important to note that a GDP based measure is less than the total value of output/revenue produced at the Park as it is net of the value of intermediate goods and services.

\(^{22}\) Based on the national average of $85,000 gross value-add per FTE in the non-residential construction sector (NZIER 2013).

\(^{23}\) Refer Infometrics 2018: [https://ecoprofile.infometrics.co.nz/far%20north%20district/Productivity/IndustryProductivity](https://ecoprofile.infometrics.co.nz/far%20north%20district/Productivity/IndustryProductivity)

NB. GDP is in 2010 dollars so as to allow comparison in real terms over time.
The two estimates of $35.32 million and $39.96 million can be regarded as alternative expected values of the direct economic contribution of the Park once it is up and running with all of the Stage 1-3 activities and associated 478 jobs ‘on the ground’:

1. Low estimate: assuming businesses at the Park will operate at the same level of productivity as ‘their’ industry average in Far North District as a whole
2. High estimate: assumes businesses at the Park will perform at a higher level of productivity, on a par with the industry average for New Zealand as a whole

The low estimate equates to an average of $73,888 GDP per worker, and the high estimate to $83,600 GDP per worker. The aggregate GDP impact depends on the number and size of businesses and the overall mix of industry types located at the Park. The table shows that the greater the employment associated with higher value sectors of ‘Manufacturing’ and ‘Agriculture’ and ‘Professional Services’ (which tend to be more capital and knowledge intensive), the higher the resultant GDP impact.
4.0 Assessment of economic and social effects

4.1 Communities of interest

The existing resident and business community in Kaikohe and Ngawha are considered to be the core focus for assessing economic and social impacts of the Park. The social and community land-uses within those two locations (e.g. schools) are also recognised as part of this core community of interest. Residents and businesses in the wider FND area (particularly the 5-30km primary labour-force catchment) are recognised as a second-tier community of interest (refer Table 10).

Table 10: Economic and Social Impact Assessment communities of interest

<table>
<thead>
<tr>
<th>Core community</th>
<th>Kaikohe and Ngawha</th>
<th>i. Residents (including workers, students and NEETs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ii. Businesses and social and community service providers</td>
</tr>
<tr>
<td>Secondary community</td>
<td>Far North District (particularly the 5-30km primary labour-force catchment area around Kaikohe)</td>
<td>i. Residents (including workers, students, and NEETs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Businesses and social and community service providers</td>
</tr>
</tbody>
</table>

The Park may also attract tourist visitors to its retail facilities (e.g. domestic or international visitors already visiting Kaikohe or Ngawha by car or via the cycleway) but they are regarded as incidental to the main function of the Park and to the above communities of interest, and are omitted for the purposes of considering economic and social effects. As GDP is necessarily estimated at the aggregate level of FND as a whole, it is an indicator of economic welfare gains for the entire population. However, as the estimated contribution to GDP is a direct one (limited to the business activities at the Park), it is accepted as a measure of value that would largely benefit workers and employers in the two communities of interest defined above.

The following themes are considered to be the most appropriate basis for assessing social and economic impacts of a Proposed Plan Change to meet the requirements of the Resource Management Act 1991 (refer Attachment D for further explanation):
1. **Economic effects**: relating to the potential impacts on existing businesses and business areas, and employment and training opportunities for the local labour-force,

2. **Effects on people’s way of life and community cohesion**: relating to the potential impacts on how people live and work, and interact with one another, and their access to jobs, housing, and social and community facilities and services.

It is recognised that given the cross-overs between social, cultural and environmental effects care has to be taken to avoid double counting. For this reason potential effects of the proposed Park on matters such as the quality of the natural environment, protection of cultural heritage sites, infrastructure requirements, traffic impacts, or risks associated with natural hazards, are omitted from consideration on the basis that they are expected to be addressed in other technical reports.

### 4.2 Economic impacts

The GDP of FND as a whole was estimated at $1,936 million in 2018 and experienced average growth of $222 million per annum over the 2008-2018 decade\(^{24}\). Based on the Park’s initial Stage 1 construction cost of $168 million and the estimate of its direct contribution to GDP of $26.9 million, it would generate a 1.4% boost in GDP spread over the duration of the construction period (1-2 years).

Although the current projection of employment numbers once Stage 3 of the Park is up and running is 478 FTEs (including allowance for full-time trainees who also work at the Park), in order to allow for this to change as the tenant mix continues to be refined, a size range of 450-500 is used here as the basis for modelling economic impacts. The direct GDP impact of 450-500 FTEs is shown in Table 11\(^{25}\). At 450 jobs the ‘low’ Estimate 1 scenario would imply a 1.7% increase in the district’s GDP, while the ‘high’ Estimate 2 scenario implies a 1.9% increase. At 500 jobs the increase in the district’s GDP would be 1.9% and 2.2% per annum respectively.

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\(^{24}\) Infometrics 2018 ibid.

\(^{25}\) Note the range estimates are based on the same allocation of jobs to industry sectors and the two ‘low and high’ average productivity estimates in Table 9 above.
Table 11: Estimated GDP impacts (FND)

<table>
<thead>
<tr>
<th></th>
<th>Estimate 1: Total GDP ($m)</th>
<th>Estimate 2: Total GDP ($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>@450 FTEs</td>
<td>$33.25</td>
<td>$37.62</td>
</tr>
<tr>
<td>@500 FTEs</td>
<td>$36.94</td>
<td>$41.80</td>
</tr>
</tbody>
</table>

Source: StrategEase Ltd.

These long-term, sustained GDP impacts are additional to the initial construction impact on FND’s GDP. While the estimates of the Park’s GDP contribution are necessarily based on a best-fit approach using high level, aggregated industry data, they should be regarded as conservative estimates of the Park’s likely contribution to the local economy. They do not include indirect economic impacts on local GDP (due to multiplier effects) which will arise from an increase in supplies of goods and services to tenant businesses (e.g. processed timber, metal fabrication, office supplies) being sourced from Kaikohe or other locations in FND; nor do they make allowance for workers at the Park increasing demand for consumer goods and services within the local area.

Given the Park will be a new purpose-built facility designed to make the most of complementarities between individual businesses and on-the job training programmes, it is reasonable to expect the Park will operate above the average productivity level for the district. It could even exceed the national productivity average, for example by being more capital intensive or ‘leading edge’ in the application of new technology, plant and equipment compared to their industry average. For these reasons the ‘High estimate’ is considered the more appropriate indicator of the Park’s expected contribution to GDP.

In conclusion, there will be 450-500 jobs at the Park (within 3 or so years) which can be expected to generate a direct and sustained increase in the growth rate of local GDP in the vicinity of 1.7-2.2% per annum above the GDP baseline in 2018. On top of this, the Park’s construction will also generate an additional but one-off (short duration) increase in employment and 1.4% contribution to GDP.

It is assumed that the construction workforce would predominantly be drawn from Kaikohe/Ngawha and the primary catchment area, similar to the tenant businesses. Those jobs together with skills training activities on the site (catering for close to 100 people per annum) will directly benefit the local labour-force in Kaikohe/Ngawha and the wider area (including those currently unemployed and NEETs).
4.3 Social impacts on housing, education, health and community facilities

In considering the potential social impacts of the proposal it is appropriate to focus on the likelihood of demand pressure coming to bear on the capacity of Kaikohe and Ngawha’s housing stock and social (e.g. health and education) and community facilities (e.g. council parks and community centres). While any increased investment in housing and social/community facilities will have a positive economic impact, it is also appropriate to consider the magnitude and pace of change likely to arise from the proposal as a potential source of stress on the town’s housing market and social and community service providers to adequately respond to a significant increase in demand.

The provision of around 450-500 jobs at the Park would naturally lead to an increase in the local resident population of Kaikohe and Ngawha depending on the extent to which jobs may be filled by pre-existing residents in those areas. The preceding analysis of the spatial pattern of labour-force and employment locations in Kaikohe and Ngawha (refer Section 2.2) showed that just over half of all jobs in the combined Kaikohe and Ngapuhi area units (52% or 1,092 jobs) are held by people who live within the combined area, implying 48% of total jobs are taken by people who commute from outside the Kaikohe and Ngapuhi area units.

It also estimated labour-force ‘pools’ in 2018 of potential workers within reasonable commuting proximity to Kaikohe or Ngawha as comprising:

1. close to 1,500 in Kaikohe township on its own (up from the 2013 Census figure of 1,272);
2. an additional 8,600 people in the primary 5-30km catchment (including the Ngapuhi area unit); and
3. a further 7,600 people in the wider 30-40km secondary catchment area.

Based on the relatively even split between resident and non-resident jobs in 2013, it is reasonable to project that half of the jobs at the Park would be filled by locals within Kaikohe/Ngawha, and 50% would be filled by people commuting into the area (with a majority being from the 5-30km primary catchment area).

The implication is that the main demand pressure for housing and social and community services would be distributed across Kaikohe and the primary catchment area. If 225-250 jobs are attributed to members of the primary catchment’s labour-force of 8,600 they would account for less than 2.9% of that labour-force. Based on the average household size in FND of 2.5 in 2013, they would be associated with a population of up to 625, which is only 3.1% of the total population of the primary catchment in 2018 (20,300). It is plausible to expect a sizeable share of the 225-250 jobs would be taken up by the existing labour-force in the primary catchment, and no more than minor discernable pressure on housing and social and community services
would arise within particular towns and settlements across this area (i.e. in Kerikeri, Waihou Valley, Ohaeawai, Okaihau, Hokianga South).

Of the 225-250 jobs likely to be filled locally from Kaikohe/Ngawha, some proportion would be existing residents and the rest would be new residents shifting there for reasons such as convenience to work. The Park has been designed to provide work and training opportunities for the local labour-force, particularly youth, by establishing relationships with the Department of Corrections, Northtec, Regent Training, and iwi/Māori trusts to provide pathways to employment at the NIEP. This should support an outcome of a sizeable share of jobs being filled by existing local residents, a large share of whom are currently unemployed or outside the labour-force.

If the jobs attributed to residents in Kaikohe/Ngawha did lead to up to 250 new resident-workers in this area, it would represent a ‘worst-case scenario’. Running with that scenario, it would imply an additional resident population of around 750 (assuming an average household size of 3.0 in Kaikohe as in 2013). Section 2.1 referred to Stats NZ population estimate for Kaikohe of 4,550 in 2018, which had only grown by 210 people over the 5 years since 2013. More than tripling that growth by 750 people over 3 years would be a material event for the town to manage, requiring responses in housing (private and social housing), infrastructure and social/community services provision.

If 250 more resident workers in Kaikohe means demand for 250 additional dwelling units, they would be equivalent to a 19.3% increase on the 1,293 occupied dwellings in Kaikohe in 2013. That would require building an average of 83 houses each year for three years (assuming jobs locate at the Park in line with Table 10). The trend rate at which the housing stock has increased in Kaikohe over the past 5 years is not known, but 83 houses would equate to 32% of the average annual total of 260 consents for new residential buildings issued by the FND council over 2013-1826. On top of this, construction of the Park would also add demand for worker accommodation during the initial 1-2 year period (estimated to be around 300 workers).

Even though the bulk of demand for houses in Kaikohe will occur once jobs establish on the Park site (post-construction), there is a clear potential for demand pressure to arise on rental houses and rental prices in the town, given 44% of households were in private rental houses in 2013.

Regarding school rolls, an increase in Kaikohe’s population of 750 potentially implies an increase in pre-school and school age groups (i.e. less than 17 years of age) in the order of 30% or up to 225 children, many

26 Refer: https://profile.idnz.co.nz/far-north/building-consents
of who would need to be accommodated in existing pre-school and school facilities. Primary and secondary schools in Kaikohe have experienced fluctuations up or down in their enrolment counts in the past 4 years (refer Table 3) but not to this degree. From initial consultation with school principals in Kaikohe, three confirmed they have capacity to accommodate short-term roll growth (Kaikohe Intermediate, Kaikohe Christian School and Kaikohe West)\textsuperscript{27}.

As a share of school-age students in Kaikohe already attend schools in the catchment area (e.g. Kerikeri College, Bay of Islands College in Kawakawa) those schools may also have capacity to cater for growth, whether in Kaikohe or the wider area. Given uncertainty about population growth in Kaikohe and the surrounding area due to in-migration associated with the NIEP, the implications for existing schools cannot be reliably assessed at this stage.

Population growth would also increase demand for healthcare and social advisory services in Kaikohe, but some reduction in demand should also be expected as a result of the Park facilitating a reduction in the unemployed and NEET groups. Existing service providers may be able to cater for a net increase in demand by increasing their workforce in existing premises, noting there was an actual loss of 150 jobs in the ‘Health care and social assistance sector’ over 2013-18 (refer Section 2.3).

Similarly, there is uncertainty about how housing and business growth in Kaikohe would impact on the capacity of council provided infrastructure (i.e. Water/wastewater, roading and community facilities), which will also depend on the council’s own plans for upgrading such infrastructure in the next 5-10 years. Trends in population change and utilisation of existing industrial zoned land should therefore be monitored as the Park progresses from construction through to becoming operational. As part of a responsive ‘implementation management’ approach, it would be appropriate for FNHL as the owner and manager of the Park to continue to engage with local and central government agencies and other social service providers to identify and develop mitigation measures should significant impacts on social and community services emerge.

\textsuperscript{27} Based on email correspondence and personal meetings in September 2019.
5.0 Evaluation of significant economic and social effects

This section provides an evaluation of the significance of economic and social impacts based on the above assessment of effects for the defined Core and Secondary communities of interest (unless otherwise stated). The impacts are rated based on criteria of type of impact (positive or negative) and magnitude of impact (as low, moderate or high), as illustrated in Table 12 and applied in Table 13.

Table 12: Evaluation methodology

<table>
<thead>
<tr>
<th>Type of impact</th>
<th>Magnitude of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Small rate of change or dispersed spatially</td>
</tr>
<tr>
<td>Positive – improvement in economic or social outcomes</td>
<td>Low positive</td>
</tr>
<tr>
<td>Negative – adverse economic or social outcomes</td>
<td>Low negative</td>
</tr>
</tbody>
</table>

Only moderate to high impacts are considered to be potential significant effects in RMA terms. Where appropriate, mitigation measures are proposed for managing significant potential negative effects.
## Table 13: Summary of potential economic and social impacts

<table>
<thead>
<tr>
<th>No. ref.</th>
<th>Impact</th>
<th>Community of interest</th>
<th>Duration</th>
<th>Scale</th>
<th>Magnitude of effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Construction activity and in-flow of construction workers to Kaikohe/Ngawha creating demand for housing and goods and services</td>
<td>Core</td>
<td>1-2 years</td>
<td>Stage1 construction costs will be in the order of $168m and building GFA will be around 120,000m² on a site area of 33.5ha. Employment and GDP impact will be relatively short duration</td>
<td>Moderate-positive</td>
</tr>
<tr>
<td>2</td>
<td>Construction activity provides employment for workforce in the wider area, creating demand for housing and goods and services</td>
<td>Secondary</td>
<td>1-2 years</td>
<td>Stage1 construction costs will be in the order of $168m and building GFA will be around 120,000m² on a site area of 33.5ha. Employment and GDP impact will be relatively short duration and dispersed across towns and settlements in the 5-30km catchment area</td>
<td>Low positive</td>
</tr>
<tr>
<td>3</td>
<td>Tenant businesses provide jobs and training for the local labour-force and NEET’s</td>
<td>Core</td>
<td>2-3 years and on-going</td>
<td>Up to 250 FTEs and half of 100 trainees per annum; long duration</td>
<td>High positive</td>
</tr>
<tr>
<td>4</td>
<td>Tenant businesses provide jobs and training for the local labour-force and NEET’s</td>
<td>Secondary</td>
<td>2-3 years and on-going</td>
<td>Up to 250 FTEs and half of 100 trainees per annum from a dispersed 5-30km area; long duration</td>
<td>Moderate positive</td>
</tr>
<tr>
<td>5</td>
<td>Tenant businesses generate a direct contribution to GDP of the Far North District</td>
<td>FND</td>
<td>2-3 years and on-going</td>
<td>Estimated in the range of $33.1-41.7 million pa, adding an enduring 1.7-2.1% to the FND 2018 baseline</td>
<td>High positive</td>
</tr>
</tbody>
</table>

**ECONOMIC** - relating to potential impacts on existing businesses and business areas and the aggregate impact on the Far North District’s economy.
<table>
<thead>
<tr>
<th>No. ref.</th>
<th>Impact</th>
<th>Community of interest</th>
<th>Duration</th>
<th>Scale</th>
<th>Magnitude of effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Tenant businesses source goods and services from industrial and commercial businesses (upstream demand)</td>
<td>Core</td>
<td>2-3 years and on-going</td>
<td>Based on scale of tenant businesses, and proximity to Kaikohe, likely to boost demand for raw materials and engineering and professional services, encouraging utilisation of spare capacity and revitalisation in industrial and commercial zones</td>
<td>Moderate positive</td>
</tr>
<tr>
<td>7</td>
<td>Tenant businesses source goods and services from industrial and commercial businesses (upstream demand)</td>
<td>Secondary</td>
<td>2-3 years and on-going</td>
<td>Will increase demand but impact will be dispersed across the 5-30km catchment area (and beyond)</td>
<td>Low positive</td>
</tr>
<tr>
<td>8</td>
<td>Tenant workforce increases demand for housing and goods and services (induced demand)</td>
<td>Core</td>
<td>2-3 years for housing; goods and services on-going</td>
<td>Estimated at up to 250 houses for additional population of up to 750, depending on extent of recruitment from existing labour-force</td>
<td>Moderate positive</td>
</tr>
<tr>
<td>9</td>
<td>Tenant workforce increases demand for housing and goods and services (induced demand)</td>
<td>Secondary</td>
<td>2-3 years for housing; goods and services on-going</td>
<td>Estimated at up 250 houses for additional population of up to 625 depending on extent of recruitment from existing labour-force; dispersed over 5-30km area</td>
<td>Low-positive</td>
</tr>
<tr>
<td>Impact</td>
<td>Community of interest</td>
<td>Duration</td>
<td>Scale</td>
<td>Magnitude of effect</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------</td>
<td>----------</td>
<td>-------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td><strong>SOCIAL</strong> - relating to potential impacts on how people live and work, and interact with one another, and their access to jobs, housing, and social and community facilities and services.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>In-flow of construction worker and tenant business FTEs/households into the area creating pressure on demand for private rental or owner-occupied housing, and rental levels/prices</td>
<td>Core</td>
<td>1-3+ years</td>
<td>Construction workers estimated at around 300 of which half likely to live locally. Additional resident population estimated at up to 750, creating demand for 250 houses, depending on extent of recruitment from existing labour-force. The Park could potentially provide worker housing on-site.</td>
<td>Moderate-negative</td>
</tr>
<tr>
<td>2</td>
<td>In-flow of construction worker and tenant business FTEs/households into the area creating pressure on demand for private rental or owner-occupied housing, and rental levels/prices</td>
<td>Secondary</td>
<td>1-3+ years</td>
<td>Construction workers estimated at around 300 of which half likely to live in wider catchment area. Estimated at up 250 houses for additional population of up to 625, depending on extent of recruitment from existing labour-force; impact dispersed over 5-30km area and beyond.</td>
<td>Low negative</td>
</tr>
<tr>
<td>3</td>
<td>In-flow of construction worker and tenant business FTEs creating demand for car-pooling or public transport to the site</td>
<td>Core + Secondary</td>
<td>1-3+ years</td>
<td>Construction workers estimated at around 300 and permanent FTEs/trainees of around 500 which are likely to be split 50:50 between Kaikohe and the wider catchment. Reasonable to expect private sector providers (e.g. construction companies or private mini-van service) to cater for demand, or otherwise could be organised by FNHL.</td>
<td>Low negative</td>
</tr>
<tr>
<td>Number</td>
<td>Description</td>
<td>Core</td>
<td>Timeframe</td>
<td>Potential Impact</td>
<td>Possible Actions</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>------</td>
<td>-----------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>4</td>
<td>High resident population growth creating spike in demand for pre-school and school facilities, health care, council infrastructure and community services</td>
<td>Core</td>
<td>1-3+ years</td>
<td>Potential growth in population of up to 750, including 225 in the 0-17 year old group, in a short time. Some schools have indicated they have capacity to accommodate roll growth at a modest level; implications for social and community services should be monitored during construction and operational stages.</td>
<td>Moderate negative</td>
</tr>
<tr>
<td>5</td>
<td>Potential to encourage Māori rangatahi or older age groups to return to their whenua in Kaikohe to pursue training or work opportunities and live in the area</td>
<td>Core</td>
<td>1-3+ years</td>
<td>Not estimated. Could encourage existing whanau to provide additional housing on 'spare' land, but otherwise would increase demand on existing stock or for new houses.</td>
<td>Low positive</td>
</tr>
<tr>
<td>6</td>
<td>Potential to forge stronger links with Ngawha Prison by offering training or work experience for prisoners on day-release or post-release; could also include other people on Community Service.</td>
<td>Core</td>
<td>1-3+ years</td>
<td>Based on an inmate population of 630, could expect 10-15% (63-95) to be eligible per annum. Community Service population not estimated.</td>
<td>Moderate positive</td>
</tr>
</tbody>
</table>
6.0 Conclusions and recommendations

6.1 NIEP’s economic and social impacts

The Park has potential to make a significant positive contribution to the economic and social well-being of Kaikohe/Ngawha which is currently a low-growth town with a relatively high level of social deprivation and challenges. As well as providing pathway to employment opportunities for the existing labour-force and NEETs, it will boost demand for primary production and industrial suppliers of goods and services in Kaikohe/Ngawha and the wider surrounding area.

Based on an initial construction investment to develop Stage 1 of the Park of $168 million, it will provide employment for over 300 FTEs and make a positive direct contribution to FND GDP of $26.9 million (or 1.4% of the 2018 baseline GDP), over the duration of the construction period (1-2 years only). Once established the Park will accommodate projected employment of 450-500 FTES with on-site skills training facilities for around 100 trainees per annum. The direct impact on FND’s GDP is estimated to be in the order of 1.7-2.2% compared to the 2018 baseline. The ultimate scale of the proposed Park is likely to exceed 500 FTEs on individual sites totalling in excess of 40ha, which will make it of local as well as district-wide significance as a business and training destination.

On balance, significant positive economic impacts are identified which outweigh the potential significant negative social impacts. A risk of significant negative social impacts is identified under a ‘worst-case’ scenario of high population growth in Kaikohe (but not the surrounding 5-30km area) bringing pressure to bear on local housing, school rolls and health and community services. That scenario is not a given and will only be an issue if a low proportion of the workers and trainees at the Park are sourced from the Kaikohe/Ngawha area, and there is a significant inflow of new households to Kaikohe/Ngawha over a short period of time.

The Park itself intends to be part of the solution – with objectives to recruit and train people from the local labour-force and having secured a tenant company to build pre-fab houses which could be used to meet demand. It is therefore desirable to ensure that the Plan Change enables other solutions such as the potential to provide residential accommodation on-site (e.g. for the construction workforce and/or in Stages 1-3 for employees and trainees). In that way the Park could internalise and help to mitigate potential housing impacts.

An appropriate approach to mitigation of this risk would be for the Plan Change provisions to require FNHL as the owner and manager of the Park to develop and maintain:
1. an NIEP Employment and Skills Management Plan or suchlike that documents over the stages of construction and development of the Park, the collaborative process of engagement and efforts being made with central and local government agencies, iwi/Māori trusts and business and skills training organisations to maximise recruitment of workers and trainees from Kaikohe/Ngawha, and

2. an NIEP Social Impact Management Plan or suchlike, that similarly formalises engagement processes with local and central government agencies, iwi/Māori trusts, and education, healthcare and community services providers for the purpose of identifying the existing capacity of housing and social/community infrastructure (and any known commitments to add capacity) to meet demand from a significant increase in the resident population over the next 5-10 years. Options to provide worker/trainee housing on the Park site and other solutions could also be addressed in the course of developing the plan.

6.2 Alternative option to the Plan Change

As an input to the RMA requirement to consider alternative options to the Proposed Plan Change, the following points are made:

- The main alternative option for locating the Park in would be on existing industrial zoned land in Kaikohe or Ngawha.
- The scale of the activities to be provided at the Park is too large to accommodate in Kaikohe’s 42.8ha Industrial Zone given many existing sites are occupied and in fragmented ownership. The total land area allocated to individual sites at the Park is currently less than 40ha for Stages 1-2, but additional capacity is required for anticipated growth,
- Very few industrial or commercial sites in Kaikohe are actually available on the market (and all that were in August 2019 were small sites),
- Much of Ngawha’s industrial zoned land is understood to be constrained in terms of its suitability for general industrial development,
- BERL (2015) projections of industrial land demand for FND indicate vacant capacity in Kaikohe and elsewhere in FND could be exhausted within less than 4-6 years (from 2019). The Park would directly contribute to that scenario by generating demand for supplies of industrial goods and services (e.g. engineering, repairs, construction materials) that will incentivise increased utilisation of existing industrial zoned sites/premises in Kaikohe.
7.0 References

BERL February 2015 Upper North Island Industrial Land Demand

Infometrics 2018 Far North District Economic Profile

Infometrics Ltd April 2009 Drivers of economic growth in the Northland regional economy, prepared for Northland Regional Council

Far North District Council Three Year Economic Development Action Plan 2016 – 2018

Far North District Council 2016 Our District - a social and economic profile of the Far North

Far North District Council 2013 and 2018 ‘id:the population experts’ community profile data


FNHL Sept. 2019 NIEP Feasibility and Business Case

Ministry of Education 2018 (school enrolment counts )

Ministry of Social Development May 2017 Employment Outcomes Investment Strategy 2017/18

Statistics NZ 2013 Census, population estimates; Business Demography data.
Attachment A: Population estimates for Kaikohe labour-force catchment area units 2018

Table 1: Population estimates for SNZ area units

<table>
<thead>
<tr>
<th>Year at 30 June</th>
<th>2013</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total people</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Area unit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500402 Mangapa-Matauri Bay</td>
<td>2760</td>
<td>2850</td>
</tr>
<tr>
<td>500500 Kohukohu</td>
<td>180</td>
<td>190</td>
</tr>
<tr>
<td>500600 Rawene</td>
<td>520</td>
<td>570</td>
</tr>
<tr>
<td>500700 Omapere and Opononi</td>
<td>450</td>
<td>510</td>
</tr>
<tr>
<td>500801 Hokianga North</td>
<td>1860</td>
<td>1890</td>
</tr>
<tr>
<td>500802 Hokianga South</td>
<td>2830</td>
<td>2890</td>
</tr>
<tr>
<td>500900 Kerikeri</td>
<td>7040</td>
<td>7520</td>
</tr>
<tr>
<td>501100 Paihia</td>
<td>1850</td>
<td>2020</td>
</tr>
<tr>
<td>501200 Haruru Falls</td>
<td>940</td>
<td>990</td>
</tr>
<tr>
<td>501300 Opua East</td>
<td>310</td>
<td>360</td>
</tr>
<tr>
<td>501400 Kawakawa</td>
<td>1350</td>
<td>1520</td>
</tr>
<tr>
<td>501500 Moerewa</td>
<td>1580</td>
<td>1680</td>
</tr>
<tr>
<td>501612 Opua West</td>
<td>270</td>
<td>310</td>
</tr>
<tr>
<td>501613 Bay of Islands</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>501614 Kapiro</td>
<td>2890</td>
<td>2980</td>
</tr>
<tr>
<td>501615 Waitangi</td>
<td>880</td>
<td>980</td>
</tr>
<tr>
<td>501620 Pokere-Waihaha</td>
<td>2620</td>
<td>2790</td>
</tr>
<tr>
<td>501631 Okaihau</td>
<td>760</td>
<td>780</td>
</tr>
<tr>
<td>501632 Ohaeawai</td>
<td>770</td>
<td>840</td>
</tr>
<tr>
<td>501633 Waihou Valley-Hupara</td>
<td>3530</td>
<td>3760</td>
</tr>
<tr>
<td>501634 Ngapuhi-Kaikou</td>
<td>2600</td>
<td>2790</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36,000</td>
<td>38,230</td>
</tr>
</tbody>
</table>

NB. excludes Kaikohe; and Russell and Kaeo area units as they are outside the 40km range.
## Attachment B: Kaikohe employment profile 2018

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Kaikohe Number</th>
<th>Kaikohe %</th>
<th>Kaikohe District no.</th>
<th>2013-18 % Change Kaikohe</th>
<th>2013-18 % Change Far North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>45</td>
<td>3.0%</td>
<td>2,300</td>
<td>-10.0%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Mining</td>
<td>3</td>
<td>0.2%</td>
<td>60</td>
<td>-66.7%</td>
<td>-25.0%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>35</td>
<td>2.3%</td>
<td>1,450</td>
<td>40.0%</td>
<td>31.8%</td>
</tr>
<tr>
<td>Electricity, gas, water and waste services</td>
<td>-</td>
<td>-</td>
<td>240</td>
<td>-</td>
<td>-11.1%</td>
</tr>
<tr>
<td>Construction</td>
<td>45</td>
<td>3.0%</td>
<td>1,200</td>
<td>0.0%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>25</td>
<td>1.7%</td>
<td>330</td>
<td>0.0%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Retail trade</td>
<td>250</td>
<td>16.7%</td>
<td>2,350</td>
<td>-10.7%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>70</td>
<td>4.7%</td>
<td>2,300</td>
<td>-6.7%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
<td>45</td>
<td>3.0%</td>
<td>780</td>
<td>0.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Information media and telecommunications</td>
<td>6</td>
<td>0.4%</td>
<td>65</td>
<td>-71.4%</td>
<td>-18.8%</td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>55</td>
<td>3.7%</td>
<td>250</td>
<td>10.0%</td>
<td>-7.4%</td>
</tr>
<tr>
<td>Rental, hiring and real estate services</td>
<td>35</td>
<td>2.3%</td>
<td>410</td>
<td>-22.2%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>30</td>
<td>2.0%</td>
<td>540</td>
<td>-33.3%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>9</td>
<td>0.6%</td>
<td>740</td>
<td>-77.5%</td>
<td>94.7%</td>
</tr>
<tr>
<td>Public administration and safety</td>
<td>320</td>
<td>21.3%</td>
<td>1,050</td>
<td>-8.6%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Education and training</td>
<td>290</td>
<td>19.3%</td>
<td>2,100</td>
<td>11.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>140</td>
<td>9.3%</td>
<td>2,400</td>
<td>-51.7%</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>6</td>
<td>0.4%</td>
<td>410</td>
<td>0.0%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Other services</td>
<td>60</td>
<td>4.0%</td>
<td>650</td>
<td>9.1%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Not elsewhere included</td>
<td>31</td>
<td>2.1%</td>
<td>75</td>
<td>-</td>
<td>275.0%</td>
</tr>
<tr>
<td>Total</td>
<td>1,500</td>
<td>100%</td>
<td>19,700</td>
<td>-14.3%</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand Business Demography data 2013 and 2018

Notes: Highlighted sectors show main source of job losses over 2013-18 in absolute terms (rather than on percentage basis)
Note employment in Ngawha is not shown as it is part of the Ngapuhi area unit.
## Attachment C: Business sites for sale or lease in Kaikohe/Ngawha (August 2019)

Table x: Business sites for sale/lease in Kaikohe or Ngawha

<table>
<thead>
<tr>
<th>Address</th>
<th>Site area (m²)</th>
<th>GFA m²</th>
<th>Source (website address)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,602</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 Broadway, Kaikohe</td>
<td>645</td>
<td>900</td>
<td><a href="https://www.realestate.co.nz/3560453">https://www.realestate.co.nz/3560453</a></td>
</tr>
<tr>
<td>78 Broadway, Kaikohe</td>
<td>278</td>
<td>180</td>
<td><a href="https://www.realestate.co.nz/3588179">https://www.realestate.co.nz/3588179</a></td>
</tr>
<tr>
<td>81 Broadway, Kaikohe</td>
<td>1658</td>
<td>1000</td>
<td><a href="https://www.trademe.co.nz/property/commercial-property-for-sale/auction-2042174888.htm?rsqid=ef46694adfd1d462d8b08c15dab1171bd-002">https://www.trademe.co.nz/property/commercial-property-for-sale/auction-2042174888.htm?rsqid=ef46694adfd1d462d8b08c15dab1171bd-002</a></td>
</tr>
<tr>
<td>1 Raihara St, Kaikohe</td>
<td>170</td>
<td></td>
<td><a href="https://www.trademe.co.nz/property/commercial-property-for-lease/auction-2166891402.htm?rsqid=e430caaa0299b4b38b157f0942113ba7-003">https://www.trademe.co.nz/property/commercial-property-for-lease/auction-2166891402.htm?rsqid=e430caaa0299b4b38b157f0942113ba7-003</a></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4,519</td>
<td>2,620</td>
<td></td>
</tr>
</tbody>
</table>
Attachment D: Economic and social assessment approach

1. RMA statutory requirements

The purpose of the RMA is the sustainable management of natural and physical resources. Section 5 defines this as enabling people and communities to provide for their well-being while sustaining natural and physical resources to meet foreseeable needs, safeguarding life-supporting capacities of environmental media, and avoiding, remedying or mitigating adverse effects of activities on the environment. The Act defines environment broadly to include social, economic and cultural conditions.

Explicit economic considerations under the Act include section 5’s references to enabling communities to provide for their economic well-being, and section 7(b)’s requirement to have regard to efficient use and development of natural and physical resources. Section 32 requires consideration of alternatives, benefits and costs before a proposed planning measure is put into effect, including after recent amendments how a proposal would affect opportunities for employment and economic growth. However, section 32 is not a specific requirement under the Act when considering resource consent applications.

Schedule 4 to the Act requires an applicant for resource consent to include an assessment of:

- the actual or potential effect on the environment (which, as noted above, includes economic conditions) of the activity; and
- any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects.

Further, section 104 of the Act requires a consent authority, when considering an application for resource consent to have regard to any effects (positive or adverse) on the environment of allowing the activity. However, the RMA also requires that councils are not to have regard to trade competition or the effects of trade competition in preparing or changing policy statements or plans, or in considering applications for resource consent.

Applications for resource consent are usually assumed to benefit the applicant, so the RMA focus is on external “spillover effects” that might arise. That includes external effects on natural and physical resources and also on the economic and social conditions within the environment.
Having regard to the above the following components of social and economic assessment are recommended as being appropriate and sufficient to satisfy the RMA requirements for a Plan Change.

2. **Economic Impact Framework**

1. Assessment of alternative options to the Plan Change to input to the s32 report (the obvious option being, ‘get by’ with the existing business zoned land in Kaikohe),
2. Projections of employment and training positions on the developed site and their contribution to GDP as indicators of the direct economic welfare effects on the Kaikohe labour-force/community,
3. Assessment of the significance of any negative or positive effects of the proposed development on the wider economic role and function of Kaikohe (including the town centre and industrial areas).

3. **Social Impact Framework**

Qualitative assessment of the significance of any negative or positive effects of the proposed development on the living conditions of the existing Kaikohe community e.g. implications for schools, tertiary providers, community or social services, housing affordability, or the social role and function of Kaikohe’s existing residential, town centre and business areas.

Based on consideration of the above, as well as the other information sources that have been used to inform this report, the following themes are considered to be the most appropriate basis for assessing economic and social effects of the proposed Plan Change:

1. Economic effects: relating to the potential impacts on existing businesses and business areas, and employment and training opportunities for the local labour-force,

2. Effects on people’s way of life and community cohesion: relating to the potential impacts on how people live and work, and interact with one another, and their access to jobs, housing, and social and community facilities and services.