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Dear Rowan

## **Proposed Omahu Road North Industrial Zone Land Extension for Industrial Development and Servicing/Other Purposes –Economic Impact Assessment**

### **1. Introduction**

The Hastings District Council has requested ESL to provide a formal assessment of the net economic impacts of its proposal to increase the total land area covered by the Omahu Road North Industrial Zone.

ESL understands that the Council's initial intention was to increase the land area in the Zone by 36 hectares (Deferred Industrial Zone), under Plan Change 57. However, the Council is now proposing to extend this area by another 31 hectares, providing for 67 hectares in total. It is understood that the reasons for this include the provision of a consistent on-site storm-water treatment and disposal system to support the further development of the industrial land in the Zone (it is understood that this will require a 7 hectare land corridor) and also to meet other future industrial development requirements in the Zone.

In the first instance, the Council has requested an assessment of the economic impacts of the proposed land extension, in terms of the resulting loss of rural production land. However, given the close association between the land in question and future industrial development in the rest of the Zone, the economic impact analysis provided in this report also covers the loss of existing Plains agricultural land in the Zone and its use for new industrial development.

Prior to indicating the findings of the economic impact assessments, the next two sections of the report briefly indicate the nature of Economic Impact Assessment and the Assessment approach used for the purposes of this report, as background information.

### **2. Nature of Economic Impact Assessment**

Economic Impact Assessment (EIA), in the context of this report, is concerned with measuring the total multiplied economic impacts for a particular geographical area, of a significant new development project and its associated flow-on effects.

Total economic impacts comprise the initial direct economic impacts associated with a project and the flow-on or 'multiplied' economic impacts. The latter incorporate both production and consumption impacts. The production impacts are concerned with the effects for business suppliers whilst the consumption impacts are concerned with the effects on the household spending of business employees.

Economic impacts are traditionally measured using four different variables, these being:

- Total Revenue or Gross Output (i.e. the total value of the economic impact including the value of any imported items required to support a significant project activity).
- Net Household Income (disposable household income left after removing taxation, savings, superannuation, etc).
- Total Employment (measured in terms of persons or person-years) including both full and part-time employment.
- Total Value Added/regional Gross Domestic Product (or Gross Regional Product).

The Value Added/GRP impact best measures the true multiplied change in total economic activity in an area as a result of a particular project, as it excludes the value of imported items required for operating the project. An economic impact or input-output table/model for a particular area is required in order to calculate multiplied or flow-on economic impacts within the area.

### **3. Assessment Methodology**

The main elements of the approach taken in this report to assessing the economic impacts of the Hastings District Council's proposal for the Omaha Road North Industrial Zone, are as follows:

- a) The three aspects of the proposal covered by the economic impact assessment are:
  - The impact of the loss of agricultural production potential associated with the proposed zoning of an additional 31 hectares of Plains land for future industrial development purposes;
  - The impact of the loss of agricultural production potential on the other land (currently assessed for the purposes of this report at a total of 27ha after removing the land area already being used for industrial and residential operation purposes) within the existing Deferred Industrial Zone; and
  - The impact of the new industrial development occurring in the proposed new Zone in the future;
- b) In respect of the first and second items above, the required base information concerning agricultural production values was obtained from the local office of AgFirst Consultants. In terms of the third aspect, relevant base information was obtained from the Hastings District Council GIS and Environmental Policy Divisions, Logan Stone (Hastings) Property/Valuers and Statistics New Zealand business demography and GDP statistics for the Hastings District and Hawke's Bay region;
- c) The necessary modelling work for the economic impact assessment was undertaken by Dr Warren Hughes, Consulting Economist of Auckland. Dr Hughes used an 88-sector model of the Hawke's Bay Region for his economic impact calculations. His results are provided in **Appendix 1** to this report and are used as the basis for the economic impact assessment results presented in Sections 4-6 of the report. ESL provided Dr Hughes with the necessary base data for his modelling work; and
- d) It is noted that consistent with other economic impact assessment work undertaken by ESL in the past for the Hastings District Council, the assessment results are provided at the Hawke's Bay Region level.

### **4. Economic Impacts For Proposed Land Extension**

This section presents the regional economic impacts associated with the lost agricultural production on the 31ha which is proposed to be added to the area zoned 'Deferred Industrial' in the proposed Hastings District Plan. AgFirst Consultants HB Ltd has advised that given the general soil profile of this area, which comprises some Twyford sandy loam but mainly Karamu silt loam and Hastings silt loam on sand, it is well-suited to typical Heretaunga Plains land uses such as intensive vegetable production and pip and stone fruit orcharding. After removing land required for shelter-belts and access tracks, etc, approximately 75-80% of

the 31ha would be available for actual horticultural production. AgFirst has also advised ‘ballpark’ current gross annual returns for the general crops that could typically be grown on the land in question as follows-vegetable crops plus some grazing (\$10,000 per hectare), pip-fruit (FAS value of \$65,000 per hectare) and summer-fruit (\$40,000-\$50,000 per hectare). However, AgFirst cautions that actual returns will vary depending on specific crop types, annual growing conditions, crop management quality and market conditions.

ESL’s calculations for the gross annual returns for the different cropping possibilities for the land in question range from vegetable crops/grazing \$240,250, summerfruit \$1,081,125 to pipfruit \$1,561,625.

On the basis of the economic impact/multiplier results in Table 4 of Appendix 1, the total annual regional economic impacts of the above returns are indicated in **Table 1** below. These represent the flow-on economic impact losses resulting from the lost agricultural production land. The Value Added/GRP losses range from \$210,000 for vegetable production to \$1,360,000 for pipfruit growing.

**Table 1: Omaha Road North Industrial Zone – Horticultural Production Total Annual Economic Impact Losses for Proposed Land Extension**

Total Economic Impacts	Vegetables/Grazing	Pipfruit	Summerfruit
Revenue (\$000)	540,000	3,540,000	2,450,000
Net Household Income (\$000)	90,000	590,000	410,000
Employment (Persons)	3	21	15
Value Added/GRP (\$000)	210,000	1,360,000	940,000

## 5. Economic Impacts For Deferred Industrial Zone Agricultural Land

This section presents the regional economic impacts associated with the lost agricultural production on the total land area in the Deferred Industrial Zone which is currently available for rural production. As noted in Section 3, this area is estimated at 27 hectares.

It is noted in respect of this land that AgFirst Consultants has advised ESL that this land’s soil profile is primarily Twyford sandy loam which is a versatile well-drained soil suitable for intensive cropping and orchard crops. The historical use of the land in question appears to have been devoted to dwellings, packing facilities and sheds with a limited amount of intensive cropping and orchard crops (mainly apples and stone-fruits).

After removing land required for shelter-belts and access tracks, approximately 75-80% of the 27ha would be available for actual horticultural production. ESL’s calculations for the gross annual returns for the different cropping possibilities for this land are vegetable crops/grazing \$209,250, summerfruit \$941,625 and pipfruit \$1,360,125.

On the basis of the economic impact results in Table 4 of Appendix 1, the flow-on annual regional economic impacts of the above returns are indicated in **Table 2** over-page. These represent the flow-on economic impact losses resulting from the lost agricultural production land. The ‘downside’ annual Value Added impact ranges from \$180,000 for vegetable production to approximately \$1.2 million for pipfruit growing.

**Table 2: Omahu Road North Industrial Zone – Horticultural Production Total Annual Economic Impact Losses for Available Deferred Industrial Zone Land**

Total Economic Impacts	Vegetables/Grazing	Pipfruit	Summerfruit
Revenue (\$000)	470,000	3,090,000	2,140,000
Net Household Income (\$000)	80,000	520,000	360,000
Employment (Persons)	3	18	13
Value Added/GRP (\$000)	180,000	1,190,000	820,000

## 6. Total Economic Impacts For All Agricultural Land

**Table 3** indicates the potential total ‘downside’ horticultural sector related economic impact losses resulting from the use of the existing and proposed additional Plains zone agricultural land in the Omahu Road, Hastings area for future industrial development (including storm-water treatment and other servicing). The total multiplied/flow-on GRP losses are vegetables/grazing \$390,000, summerfruit-growing \$1.76 million and pipfruit growing \$2.55 million. It is noted that these losses are expressed in 2015 \$ terms and are based on estimated current horticultural commodity price returns.

**Table 3: Omahu Road North Industrial Zone – Horticultural Production Total Annual Economic Impact Losses for All Available Agricultural Land**

Total Economic Impacts	Vegetables/Grazing	Pipfruit	Summerfruit
Revenue (\$000)	1,010,000	6,630,000	4,590,000
Net Household Income (\$000)	170,000	1,110,000	770,000
Employment (Persons)	6	39	28
Value Added/GRP (\$000)	390,000	2,550,000	1,760,000

## 7. Economic Impacts For Future Industrial Development In The New Industrial Zone

**Table 4** indicates the estimated total regional economic impacts for the additional industries that are estimated to be operating in the new Omahu Road North Industrial Zone once the area is fully occupied. The total area of industrial land involved is estimated at 51ha.

On the basis of information recently provided to the Hastings District Council by Hastings based ‘LoganStone’ Valuers and Property specialists, concerning projected future annual levels of industrial land uptake in the new industrial zone, full capacity utilisation is anticipated to be reached by Year 2042, assuming further industrial development occurs from 2016. During this period, a minimum of 27 new industrial enterprises are expected to be established and operating in the new Zone.

Information on the nature of the current industrial operations in the Zone, total current employment for these operations and the likely future range of dry industries that could be accommodated in the Zone was obtained and analysed in the process of developing the base information required for the economic impact modelling assessment. The results of this assessment are also provided in Appendix 1.

At the end of the full capacity utilisation period, the additional industrial operations collectively will potentially generate annual multiplied regional economic impacts of additional Net/Disposable Household Income in Hawkes Bay of approximately \$44 million, total employment 1,252 persons and additional economic activity/GRP generated within the region of approximately \$109 million.

**Table 4: Total Economic Impacts for New Industrial Development in Omahu Road North Industrial Zone at Full Capacity Utilisation**

Economic Impact Measure	Direct Impacts	Indirect Impacts	Total Impacts
Revenue (\$M)	168.37	142.19	310.56
Net Household Income (\$M)	25.54	18.10	43.64
Employment (Persons)	724	528	1,252
Value Added/GRP (\$M)	60.75	48.49	109.24

## 8. Net Economic Impacts

This section indicates the net regional economic impacts of the proposed Omahu Road North Industrial Zone, taking into account its effects in terms of both expanded industrial production and reduced agricultural production, over time. The impacts for the total land area involved as well as, separately, the proposed additional land requirement and the remaining industrial land to be developed are indicated. The impact assessment also covers the period up to the achievement of full capacity utilisation in the new Zone and annually thereafter. The analysis assumes that all land not being used for industrial activity during the build-up to full capacity is applied to horticultural production. With gradual industrial development in the Zone over the forecast period, the level of horticultural production reduces commensurately.

The analysis indicates a total multiplied regional GRP impact over the 2015-2042 period of vegetable production \$5.7 million, summerfruit \$26 million and pipfruit \$37 million, in current dollar terms. These figures compare with the estimated total GRP impact for new industrial enterprises operating over the period of approximately \$1,540 million. It is emphasised that these results include both direct and indirect/flow-on GRP impacts. The GRP impacts in relation to the proposed land extension and its horticultural production implication are estimated at 53% of the above figures, that is, vegetable production \$3 million, summerfruit \$14 million and pipfruit approximately \$20 million. These compare with the total GDP impact figure of 47% or \$724 million for the new industrial development aspect.

**Table 4** above indicates the estimated total annual economic impacts for the Hawkes Bay region associated with the full portfolio of new industrial activities operating in the Omahu Road North Industrial Zone in Year 2042. The total multiplied GRP impact in that year is \$109.24 million. Assuming that at that time the available land in the Zone was being alternatively used for horticultural production, the comparative annual total multiplied GRP impacts would be vegetable production/grazing \$390,000, summerfruit production \$1.76 million and pipfruit growing \$2.55 million, in current dollar terms. These figures include the land required for the servicing corridor.

I trust that the above analysis is appropriate for your requirements and I would be only too happy to respond to any queries that you may have on it or meet with you to further discuss our findings.

Yours sincerely



Sean Bevin  
**Economic Consultant**  
**Economic Solutions Ltd**  
**Napier**

**APPENDIX 1**

**OMAHU ROAD INDUSTRIAL STRIP: GDP GAINS FROM MANUFACTURING VERSUS  
LOSSES FROM HORTICULTURAL RETRENCHMENT**

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## INTRODUCTION

The present analysis concerns the development of the Omaha Industrial Strip in Hastings. Currently about 10 business enterprises are located in the Strip and it is planned to increase the capacity with an additional 30 enterprises. As a consequence, existing horticultural production in the Strip will cease. So-called “dry industry” manufacturing will replace the horticultural activity. The resulting GDP gains for Hastings and the Hawke’s Bay region from this manufacturing will be offset to some extent by losses in the horticultural sectors. These gains and losses are estimated in the analysis below using an 88-sector economic model of the Hawke’s Bay region for the year ended December 2014.

### DRY INDUSTRY PLANNED FOR THE OMAHU INDUSTRIAL STRIP

Currently the exact nature of the manufacturing to be introduced into the Omaha Industrial Strip has not been determined. It is planned that such manufacturing will be so-called “dry industries” servicing the agricultural sectors around Hastings. Current employment in the Hawke’s Bay in some of these sectors is detailed in Table 1.

**TABLE 1: DRY INDUSTRIES DEFINED & CURRENT HAWKE’S BAY EMPLOYMENT AT FEBRUARY 2015**

Industry/Sector	Employment Count
Structural Sheet & Fabricated Metal	650
Industrial Machinery	680
Construction Services	1760
Air Transport & Services to Transport & Storage	710
Road Transport	1150
Vehicle & Equipment Hire	210

The industries listed in Table 1 are taken to be representative of those that will inhabit the expanded Industrial Strip. To assess the GDP contribution to the Hastings and Hawke’s Bay economies, each sector is assumed to generate \$10 m in annual sales with the resulting impacts for the economies estimated from the economic model. The total impacts are then scaled to reflect the gross increases in employment and enterprise numbers that the Industrial Strip will accommodate after the expansion. The impacts are noted in Table 2 with Direct impacts (based on \$10 m extra revenue) and Indirect or flow-on impacts shown separately for each sector. The Direct impacts for Revenue, Net Household Income, Employment and GDP or Value Added are shown on the first line for each sector. The resulting flow-on impacts are shown on the second line.

Although the exact nature of the businesses to locate in the expanded Strip cannot be identified at this stage, the industries or sectors listed in Table 2 are judged to be representative of those that will eventually be located there.

The resulting impacts for an assumed \$10 m in sales revenue for each industry/sector are detailed in Table 2.

**TABLE 2: DIRECT & FLOW-ON IMPACTS FOR \$10 m EXTRA REVENUE BY SECTOR**

<b>Sector</b>	<b>Revenue \$ millions</b>	<b>Net Income \$ millions</b>	<b>Employment Persons</b>	<b>GDP \$ millions</b>
Structural Steel & Fab Metal	10.00	1.73	47	3.42
Flow-ons	10.04	1.19	34	3.16
Construction Services	10.00	1.87	47	3.05
Flow-ons	9.22	1.23	36	3.18
Industrial Machinery	10.00	2.08	59	4.10
Flow-ons	9.95	1.20	34	3.17
Air Transport & Services & Storage	10.00	1.43	32	3.17
Flow-ons	7.54	0.99	29	2.74
Road Transport	10.00	1.21	51	2.78
Flow-ons	8.66	1.13	34	3.02
Vehicle & Equipment Hire	10.00	0.78	22	5.13
Flow-ons	5.26	0.71	21	2.01
<b>Total Direct Impacts for 6 Sectors</b>	<b>60.00</b>	<b>9.10</b>	<b>258</b>	<b>21.65</b>
<b>Total Flow-on Impacts for 6 Sectors</b>	<b>50.67</b>	<b>6.45</b>	<b>188</b>	<b>17.28</b>
<b>TOTAL IMPACTS</b>	<b>110.67</b>	<b>15.55</b>	<b>446</b>	<b>33.93</b>
Multipliers	1.84	1.71	1.73	1.80

Note that the flow-ons in the manufacturing sectors such as *Industrial Machinery* greatly exceed the flow-ons in the service sectors such as *Vehicle & Equipment Hire*.

Total employment for the 10 enterprises currently located in the Industrial Strip is 268. If the proposed 27 new enterprises employ at similar rates, then an additional  $27/10 \times 268$  or 724 direct jobs will locate in the expanded Strip. Using the analysis in Table 2 which is based on 258 direct jobs, we can scale up the impacts by  $724/258$  and obtain impact estimates due to the proposed expansion assuming employment rates in the new industries are similar to those currently located there.



**TABLE 3: ECONOMIC IMPACTS FROM THE EXPANDED STRIP AT FULL CAPACITY**

<b>IMPACTS SCALING</b>	<b>Revenue \$ millions</b>	<b>Net Income \$ millions</b>	<b>Employment Persons</b>	<b>GDP \$ millions</b>
Total Direct Impacts from Table 2	60.00	9.10	258	21.65
<b>Scaled Direct Impacts Using 724/258</b>	<b>168.37</b>	<b>25.54</b>	<b>724</b>	<b>60.75</b>
Total Indirect Impacts from Table 2	50.67	6.45	188	17.28
<b>Scaled Indirect Impacts Using 724/258</b>	<b>142.19</b>	<b>18.10</b>	<b>528</b>	<b>48.49</b>
<b>TOTAL IMPACTS for 724 Direct Persons</b>	<b>310.56</b>	<b>43.64</b>	<b>1,252</b>	<b>109.24</b>
Multipliers	1.84	1.71	1.73	1.80

The resulting estimates from Table 3 show an additional 1,252 persons employed and an additional \$109m in annual GDP to be realized in the Hastings and Hawke’s Bay economies as a result of expanding the Omaha Industrial Strip.

**LOSSES FROM CURTAILED HORTICULTURAL OUTPUT BY EXPANDING THE INDUSTRIAL STRIP**

With the expansion of manufacturing in the Industrial Strip (Deferred Industrial Zone), the horticultural losses in annual revenue have been estimated at \$0.209 m for vegetables and grazing, \$1.360 m for pipfruit growing and \$0.942 m for summer fruit growing. The resulting losses over the four impact measures for pipfruit growing, as an example, are summarised in Table 4. These have been estimated from the 88-sector Hawke’s Bay economic model for the year ended December 2014.

**TABLE 4: PIPFRUIT LOSSES FOR THE HASTINGS & HAWKE’S BAY ECONOMIES**

<b>Direct &amp; Flow-on Impacts</b>	<b>Revenue \$ millions</b>	<b>Net Income \$ millions</b>	<b>Employment Persons</b>	<b>GDP \$ millions</b>
Direct Losses due to curtailed prod’n	1.36	0.28	11	0.56
Flow-on Impacts lost	1.73	0.24	7	0.63
<b>TOTAL LOSSES due to curtailed prod’n</b>	<b>3.09</b>	<b>0.52</b>	<b>18</b>	<b>1.19</b>
Multipliers	2.27	1.87	1.64	2.13

With the exception of the Employment multiplier, the loss multipliers in Table 4 all exceed the manufacturing multipliers in Table 3. This reflects the importance of horticulture to the Hawke’s Bay economy. As the largest industry in the region, horticulture has expansive support industries in sectors such as *Agricultural Services*, *Other Business Services* (packing, cool stores etc.) and any loss in direct production has important consequences for these support industries resulting in higher multiplied losses in this case.

Table 5 shows the annual net economic impact gains in the Hawkes Bay region after comparing the gains associated with industrial enterprises operating in the Omaha industrial strip when full capacity is reached versus the use of the land in question for continued pipfruit growing.

**TABLE 5: ANNUAL NET GAINS FOR THE HASTINGS & HAWKE’S BAY ECONOMIES FROM STRIP EXPANSION**

<b>Gain or Loss</b>	<b>Revenue \$ millions</b>	<b>Net Income \$ millions</b>	<b>Employment Person-Jobs</b>	<b>GDP \$ millions</b>
Gains from Industrial Activity in the Strip	310.56	43.64	1252	109.24
Losses from curtailed Pipfruit Growing	6.63	1.11	39	2.55
<b>Net Gains for Hastings &amp; Hawke’s Bay</b>	<b>303.93</b>	<b>42.53</b>	<b>1,213</b>	<b>106.69</b>

The estimates show that expanding manufacturing in the Omahu Industrial Strip that is geared to servicing the agricultural sectors leads to large gains for the local and regional economies despite the curtailed horticultural production that results.