

Riverside at Tea Gardens

Economic Impact Statement

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Crighton Properties Pty. Ltd



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Executive summary

This report applies the Input-Output methodology to assess the economic impact of Crighton Properties Pty Ltd. – Proposed additions to residential, tourism and commercial development at Riverside at Tea Gardens in the Great Lakes local government area. In particular, the report provides an economic impact assessment of the proposed construction works, operations, and the associated potential economic impacts of the operations of the expanded develop. The key results can be summarised as follows:

1. National Impact

The National benefits of the construction phase are significant totalling approximately \$640 million in output and supporting 3,893 equivalent full-time jobs. Of these, around 1,374 (EFT) jobs will be directly associated with the construction of the facilities.

2. Local Impact

The local community will benefit significantly from the proposed development as outlined below:-

Construction Conservative estimates suggest 40 percent of the aggregate total output benefit, or \$256 million, will flow directly to the local community. This translates to a local benefit of \$256 million supporting 1,557 local jobs across all sectors, spread across the anticipated 10 year life of the project.

Residential Consumption Activities will directly contribute \$19.0 million per annum to the local economy based on the increase in population of 2,612 residents. Normal consumer spending patterns would indicate that this level of spending will consequently support 113 jobs in the district upon completion of the project.

Associated Activities - There will be an associated range of benefits which come from the infrastructure that the development will create, such as jobs associated with the day-to-day operation of the site and on-going capital maintenance. The industry estimate of these annual outgoings is in the range of 1-2% of the capital value of the development. For Riverside at Tea Gardens this would be \$2,115,000 to \$4,230,000. This would represent an additional 10 full-time direct jobs and an overall jobs (direct and indirect) of 53 (based on construction industry multipliers).

1. Background

PB was engaged by Crighton Properties Pty Ltd to undertake an Economic Impact Statement for the proposed construction and operations of the following:-

- 855 residential dwellings
- Tourism based development of 50 lodge houses, 15 townhouses

This report provides a summary of that study.

Crighton Properties Pty Ltd has undertaken substantial investment into the Tea Gardens area. These proposed additional initiatives will establish this area as a preferred community development within the Great Lakes local government area.

Major operating outlays including expenditures associated with the local community are expected, supporting local commerce and employment. It is envisaged that, where possible, local suppliers and materials will be used. To this extent it is anticipated that this will provide considerable economic support to the local community. The Riverside at Tea Gardens proposed expansion is a major development initiative that offers the opportunity to create a natural commercial extension of the existing Estate. This will allow for economies of scope in terms of the infrastructure required to develop and support the range of commercial activities proposed.

The analysis presented in this report is based directly on the construction and operation of the development. It does not take into account the cost savings which will be achieved with respect to public and associated private infrastructure by developing the site as a natural extension of the existing Estate. Further, the flow-on benefits to existing businesses in the estate are also not considered, but it is expected that the development would lead to significant increased business activity at Riverside at Tea Gardens.

1.1 Goal of this report

The primary objective of this study is to estimate the overall economic impact of the development and operation of the Riverside at Tea Gardens development. The benefits from the construction phase are detailed, as well as the annual ongoing benefits from the operation of the commercial component of the development.

1.2 Structure of the economic impact report

The report will be partitioned as follows:

1. Economic Impact Construction Phase – the economic impact of constructing 920 residential and tourism dwellings will be analysed, with particular respect to the employment (both direct and indirect) associated with the construction phase and the overall economic impact of the construction outlays, both locally and nationally.

2. Economic Impact Residential Estate – the economic impact of the 920 dwelling residential and tourism estate will be analysed, with particular respect to the overall on-going economic value of the residential estate and related contribution to employment and economic activity.

3. Statement of Overall Economic Impact – the total economic value and impact of the construction, development and operation of the residential and commercial components of the development will be outlined, with particular respect to the economic stimulus (added value) to the local economy.

2. Method

The economic benefits of a particular form of activity are much greater than the output of that activity itself. There will be supplementary benefits for other sections of the economy. These flow-on effects are often much larger than the economic output of the isolated project under consideration. These flow-on impacts can be broadly classified as follows:

a) Output – the added level of production derived from increased activity within the industry in response to the initial stimulus and the added demand derived from increased consumption in the household sector as a result of wages and salaries derived from this increased activity, and

b) Employment – the overall increase in jobs that will flow from the initial stimulus. The effect is usually expressed as persons per one million dollars expended.

The best way to capture this dynamic element of the economic process is through the National Accounts. These publications are the nation's economic balance sheet and are used to derive gross domestic product (GDP) and its components: the national income account, the national capital account, the national financial account and the national balance sheet. Income, capital and financial accounts and a balance sheet are provided for each sector of the economy.

Within the National Accounts there is a specific type of derived statistical tool called the Input-Output Tables. Input-Output tables present a comprehensive picture of the supply and use of goods and services (referred to collectively as 'products') in the economy and the incomes generated from production. These identify the linkages and interaction between different parts of the economy.

The possible size of these impacts can be illustrated using multipliers based on inter-industry flows in input-output tables. These multipliers indicate the proportion of inputs required to derive final output. These provide a way of answering some of the questions often asked by input-output practitioners. These queries tend to arise because of the types of "what if" analysis for which input-output tables can be used (for example, what would be the impact on employment of a 3% change in output by the manufacturing industry). This type of analysis is dependent on knowledge of input-output multipliers and their shortcomings. Using input-output tables, multipliers can be calculated to provide a simple means of working out the flow-on effects of a change in output in an industry on one or more of imports, income, employment or output in individual industries or in total. The multipliers can show just the 'first-round' effects, or the aggregated effects once all secondary effects have flowed through the system. This paper includes analysis of the secondary effects.

The multiplier itself has certain key components.

- The initial effect - an initial \$1 million of extra output of the industry, and related employment in the industry to produce that output.

- A production induced effect - the combination of:
 - The first round effect - the amount of output and employment required from all industries that supply goods and services to the industry in order for that industry to produce the initial \$1 million of extra output.
 - An industrial support effect - the induced extra output and employment from all industries to support the production of the first round effect.
 - A consumption induced effect - the subsequent inducement for extra output and employment due to increased spending by the wage and salary earners across all industries arising from the compensation received for their labour as part of the other effects above.

Some qualifications need to be made:

- These multipliers are based on the national statistics. Regional multipliers are not available in any useful form. So assumptions have to be made in applying these to a particular region.
- There is an implied reliance on the stability of the national accounts and related Input-Output tables. This assumption holds that the industrial structure of the Australian economy has remained unchanged since 1996/1997 when the Input-Output tables were originally developed. This assumption directly affects the perceived accuracy of the resultant Input-Output multipliers.
- There is a general tendency of Input-Output frameworks to ignore the presence of supply side constraints. The implications of this assumption are that the economic impact tends to be overstated in situations where there is either excess production capacity, or limitations on availability of inputs (for example – skilled labour).
- An assumption needs to be made about imports: to what extent will inputs be sourced overseas. This analysis assumes no imports will be sourced from overseas (called the Direct Allocation of Imports Method).

Overall, the approach adopted represents a simple, direct and valid means of estimating the impact of the residential estate and commercial development.

3. Impact: Construction

Table 3 below summarises the multipliers for output and employment in the construction industry. The most recent input-output tables available are for 1998-99. They show that, for every \$1 million spent on construction output (houses, non-residential buildings, etc.) in 1998-99, a possible \$2.8m in output would be generated in the economy as a whole.

The most recent input-output employment table available is for 1996-97. The table shows that every \$1 million of additional output gives rise to 6 full-time jobs in the construction industry (the initial employment effect), and 17 full-time jobs in the economy as a whole from all effects. In many cases the employment impact will be higher in terms of actual personnel as many will be employed on a part-time or casual basis (i.e. 17 full time jobs equates to 34 part-time jobs).

These flow-on effects are made up as follows:-

1. The **initial effect** of the additional construction is \$1 million;
2. The **first round effect** for the additional construction would be the increased value of activity of around \$0.5 million in those businesses manufacturing the materials needed for the additional construction, such as concrete and steel frames. The businesses supplying and servicing the concrete and steel frame businesses, such as aggregate quarrying and raw steel production, experience an increased demand for their products and services;
3. The **industrial support effect** is estimated to be an additional \$0.4 million. As activity has increased in the construction industry, as well as in the suppliers to that industry and the suppliers to the suppliers, there is an increase in wages and salaries to employees in this chain; and
4. The spending of these wages and salaries induces a further round of **consumption effects** in other areas of the economy totalling an additional \$1million.

Multiplier impacts	Initial effects	First round effects	Industrial induced effects	Production induced effect	Consumption induced effect	Total multiplier
Output (\$ millions)	1.000	0.456	0.425	0.881	0.915	2.796
Employment (EFT)	6	3	2	5	6	17

Notes: Direct Allocation of Imports method. EFT denotes equivalent full time employment as defined by the ABS. Source: Australian national Accounts: Input-Output Tables 1996-97, 1998-99 (5209.0).

Care is required in interpreting multiplier effects; their theoretical basis produces estimates which may overstate the actual impacts in terms of output and employment (Miller and Blair, 1985). Nevertheless, the estimates illustrate the high flow-on effects of construction activity to the rest of the economy. Clearly, through its multipliers, construction activity has a significant impact on the economy.

3.1 Impact of Construction Phase

The estimated construction costs are:

- 974 residential buildings (including infrastructure & tourist lodge) - \$229 million

Total estimated construction costs - \$229 million.

Based on multipliers from the national accounts the flow on effects can be summarised as follows:

- a **production induced effect** - the combination of:
 - the first round effect of $0.456 \times \$229 \text{ million}$ = \$104.4 million

This is the amount of output required from all industries that supply goods and services to the construction industry

- an **industrial support effect** of $0.425 \times \$229 \text{ million}$ = \$97.3 million

This is the induced extra output from all industries to support the production of the first round effect;

- a **consumption induced effect** of $0.915 \times \$229 \text{ million}$ = \$209.5 million

This is the subsequent inducement for extra output due to increased spending by the wage and salary earners across all industries arising from the first round effect. In summary:

The total national economic impact of the project is approximately \$640.2 million (see Figure 1 and dissection below).

Initial Effect	\$229.0 m
First Round Effect	\$104.4 m
Industrial Support Effect	\$ 97.3 m
Consumption Induced Effect	\$209.5 m

It seems reasonable to presume that 40 percent of these benefits would flow to the local region. This is an estimate of the localised content of the direct and first round effects. It is likely to be conservative. From this estimate the boost to the local economy from the project would be at least \$256.1 million.

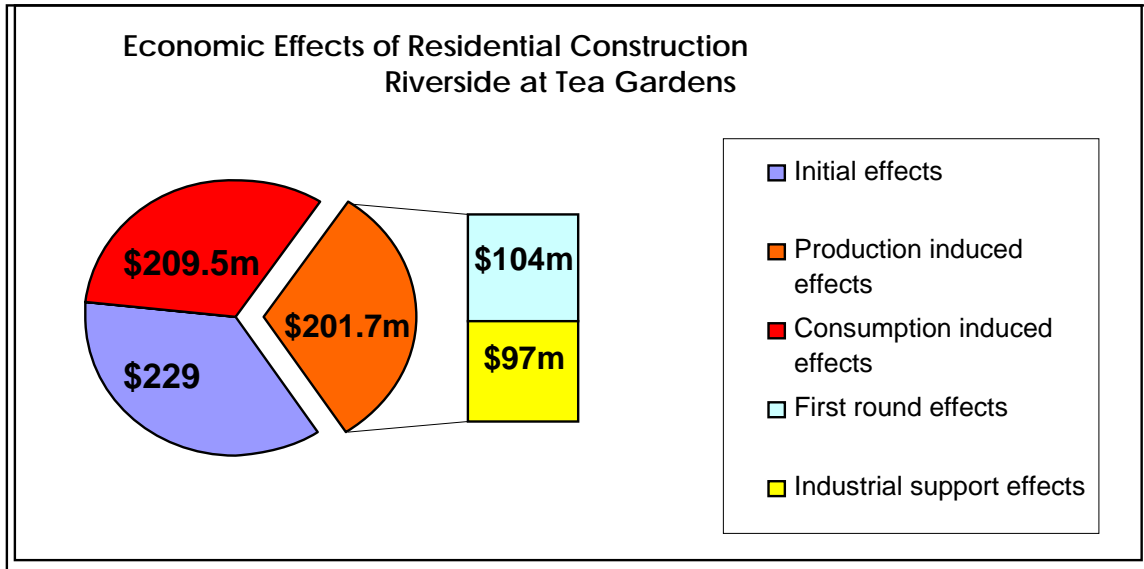


Figure 1: Economic Effects of Residential Construction, Total Output \$640.2 Million.

The chart below (Figure 2) indicates the employment impact of the construction phase.

The same basic method applies, but in this case each \$1 million of construction expenditure generates a number of new full time equivalent (FTE) positions, both directly and in flow-on effects across other sectors. The initial effect of the additional construction is the amount of additional employment in the construction sector (6 persons per \$1 million or 1,374 people). The jobs are assumed to be primarily locally based.

The first round effect relates to the extra labour required for the additional construction from suppliers of the materials needed for the construction phase, such as civil construction and timber frames. This amounts to three full time positions per \$1 million or 687 positions.

The businesses supplying and servicing the material and civil works, experience an increased demand for their products and services. This industrial support effect is estimated to create an additional two full time positions per \$1 million or 458 positions. There is an increase in wages and salaries to employees in this chain valued by these induced production effects.

The spending of these wages and salaries induces a further round of consumption effects in other areas of the economy totalling an additional 6 full time positions per \$1 million spent representing 1,374 positions for the first round. The final result is an increase in the number of full time positions by 3,893.

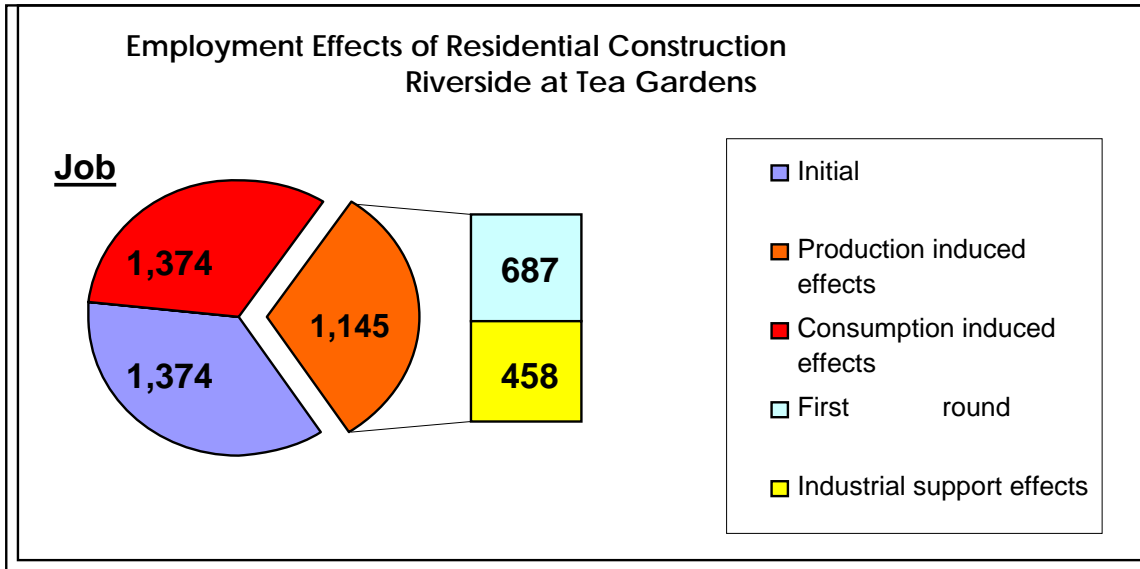


Figure 2: Employment Effects of Residential Construction, Total 3,893 Full Time Jobs (EFT).

It is expected that the employment benefits will flow to the region in a higher proportion. This is because the direct effect on employment flowing from the construction investment will be substantially captured by the local labour force. The flow-on gains will accrue according to the standard assumption of 40 percent capture by the local economy (Figure 3). This leads to an estimate of 1,557 full time jobs in the immediate region.

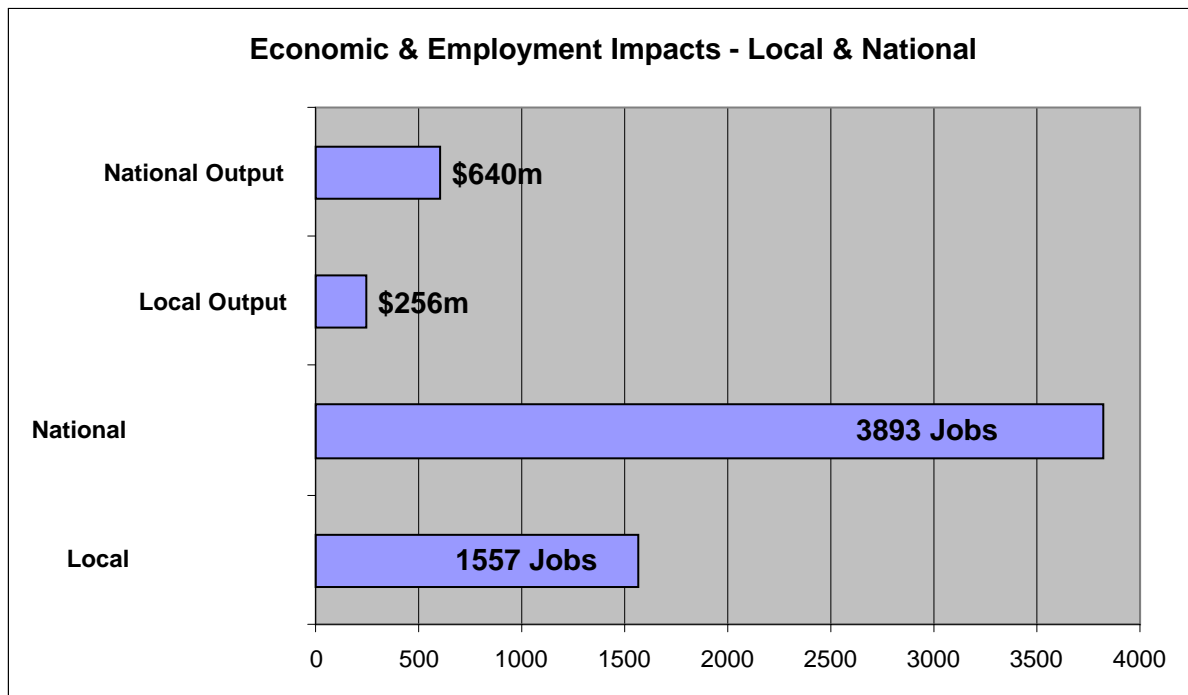


Figure 3: Economic & Employment Impacts - Local and National Effects

4. Impact: Estate Operations

The operation of the Estate has two distinct components:

1. **Sales and Marketing** - which occurs for the 8-10 years required to build the estate to capacity; and
2. **Operation of the estate** - primarily administration and co-ordination of estate maintenance and support for residents.

4.1 Sales and Marketing

This occurs over an 8 - 10 year period and involves approximately 8 full-time equivalent jobs which translate into a total pay packet of \$600,000 per annum. All sales staff will be engaged from the local community and hence there is a direct pay packet effect which is estimated to be 40 percent of wages - \$240,000 per annum and this has a multiplied effect totalling \$480,000 (adopting the simple generic multiplier of 2). Most expenditure for marketing purposes will occur outside the local area, such as advertising, promotional materials etc.

4.2 Operation of Riverside at Tea Gardens

The estimates within this section are based on estimated expenditures associated with operations, which in this case assumes 855 dwellings.

The operations of the estate will involve 7 direct full time equivalent jobs, representing a pay packet of \$490,000 per annum. In addition, labour services are contracted with respect to gardening and cleaning with a total combined cost of \$280,000. This represents a gross pay packet of \$770,000. Applying the discount rate to allow for an estimate of local spend and the generic multiplier results in a total local multiplied spend of \$616,000. In addition, although not significant in itself to allow for any direct measure of local impact, in operating the estate an additional spend of \$50,000 to \$60,000 is expended per annum within the local community.

5. Impact: Estate Residential

5.1 Employment and economic contribution

5.1.1 Residential

The proposed development supports 855 residential and tourism based dwellings representing an estimated 2,612 occupiers. The 2001 Census reported that for the Tea Gardens area the median individual income was \$300 - \$399. If this is applied to the estimated 2,612 individuals who will occupy Riverside at Tea Gardens, then the median weekly income at Riverside at Tea Gardens will be \$783,600 - \$1,042,188. If this is then extended to an annual estimate, the annual median income range would be \$40,747,200 - \$54,193,776. This is a significant annual flow of funds into the local area. The estimated 2,612 additional residents will result in an overall population increase for the Tea Gardens area of 190% from the population recorded in the 2001 Census. This will also lead to a significant level of local economic activity.

For example, if it is estimated that 40% (\$16,298,880 - \$21,677,510) of these incomes flow back into local consumption of goods and services (adjusted for taxes, non-local consumption, capital repayments and savings) then this represents a major injection of additional funds into the local economy.

While there is no definitive estimate of the proportion of wages which represent local expenditure, the 40% rate does represent a significant discount which factors in the average rates of tax and loan repayments. This expenditure will have a multiplied effect within the community. Again there is no definitive estimate, however, the flow-on is expected to be in the range from 1.25 to 2.25 times the initial expenditure, resulting in the following range estimate, based on the mid-point of the discounted local expenditure range (\$18,988,195):

Multiplier	Multiplied Impact
1.25	\$23,735,244
1.50	\$28,482,293
1.75	\$33,229,341
2.00	\$37,976,390
2.50	\$47,470,488

If the mid-point multiplier estimate of \$33,229,341 is adopted, then it is clear that the residential and tourism component of Riverside at Tea Gardens, will make a significant annual contribution to the local economy and this will be reflected by a significant increase in employment.

An alternative approach is to consider actual expenditure estimates. The Hunter Valley Research Foundation (HVRF) reports expenditure data for Hunter households:

[†] See Jensen & West (1986) and Twohill & Sheehan (1981) for an explanation of regional multipliers
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Average Weekly Expenditure

Food & Non-Alcoholic Beverages	\$135
Alcohol	24
Clothing/Footwear	38
Household Furniture & Equipment	43
Household Services & Operations	48
Medical Care & Health Expenditure	30
Transport	145
Recreation	<u>94</u>
Total	<u>\$557</u>

If this expenditure data is applied to the 1045 households at Riverside at Tea Gardens under this scenario, then average weekly household expenditures will be \$582,065. If this is extrapolated to an annual basis the annual household spend would be \$30,267,380. The expenses which make up this estimate do not include taxes, loan repayments, major capital outlays or repayments, however, not all of these weekly expenditures will be made locally. The total expenditure estimate of \$30,267,380 is higher than the discounted income estimate adopted above of \$18,988,195, which indicates that the discounted income estimate allows for a significant level of non-local expenditures with respect to consumable spending of 30%. That is of the \$30,267,380 of total average weekly expenditure by households occupying Riverside at Tea Gardens one-third will be non-local. In addition, both estimates provide a base for the view that 2,612 residents will generate a significant economic and subsequent employment impact, estimated to be around \$20 million per annum, with a flow-on or multiplier effect estimate at \$23,735,244 to \$47,470,488 per annum.

5.1.2 Associated activities

There will be an associated range of benefits which come from the infrastructure that the development will create, such as jobs associated with the day-to-day operation of the site and on-going capital maintenance. There will also be a flow of local service charges to local utilities and service providers. The industry estimate of these annual outgoings is in the range of 1-2% of the capital value of the development[‡]. For Riverside at Tea Gardens this would be \$2,290,000 to \$4,580,000. This would represent an additional 10 full-time direct jobs and overall jobs (direct and indirect) of 53 (based on construction industry multipliers).

[‡] Estimate provided by National Project Consultants Pty Ltd - Project Managers & Property Consultants
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5.2 Summary – Residential

- Residential – local household expenditure effect of \$19.0 million per annum; multiplied economic impact of between \$23.7 million to \$47.5 million per annum.
- Associated Impact – operation, management and maintenance of site – 53 direct and indirect jobs.

6. Overall Economic Impact

The overall economic impact of the development is expected to be significant. The construction phase is expected to generate \$256 million in additional local production activity and support 1,557 equivalent full time jobs (EFT). In addition, the benefits from the estate’s operations will support 10 additional jobs. The key results are highlighted below and summarised in Tables 10 and 11.

Summary of Key Results

- Impact of construction phase - \$256 million in local output across all sectors and an additional 1,557 equivalent full time jobs (EFT).
- The Estate’s operations are expected to support 10 equivalent full time (EFT) jobs and \$0.7 million in wages per annum. Over an average 12 year project life-cycle, this translates to a total economic benefit of \$8.4 million.
- Sales and marketing will support a transitional pay-packet of \$0.6 million and 8 (EFT) permanent jobs over the 8 to 10 year construction period.
- Once in full operation, residential activity will support 113 EFT jobs and a direct pay-packet of \$19.0 million per annum. This benefit is expected to accrue throughout the economic life of the project and represents a dynamic component of the total economic benefit.

Table 1: Estimated local economic impact

Estimated Local Economic Impact			
Economic activity	Economic value (millions)	Employment (EFT)	Output (millions)
Construction (§)	\$256.1	1,557	\$ 91.6
Sales and marketing	\$ 0.4	8	\$ 0.2
Operation of the Estate (p.a.)	\$ 0.6	10	\$ 0.3
Residential Activity (p.a.)	\$ 33.2	113	\$ 19.0
Associated activities (p.a.)	\$ 2.8	53	\$ 0.6

Note: Results are model generated. It is assumed that 40% of the total national impact is absorbed at the local level

§ Relevant Time frame is 10 year construction schedule of the development

7. References

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