porirua city

# Construction Demolition Waste Minimisation Investment

**Better Business Case**

**June 2021**

# Contents

# Executive summary

Porirua City Council (PCC), alongside their partner agencies, Kāinga Ora, Hutt City Council (HCC) and Kāpiti Coast District Council (KCDC), have developed this report to inform future investment in waste minimisation infrastructure in the district. The primary outcome of this work is to encourage collaboration to collectively and proactively contribute to the reduction of construction and demolition (C&D) waste in the region.

This report details the business case which includes findings from a series of background investigative reports. These reports have been specifically produced to develop a final recommendation for the C&D waste infrastructure required to support C&D waste diversion from landfill.

The business case is underpinned by three investment objectives which support the decision-making process:

1. An increase in materials recovery and diversion of waste from landfill
2. A collaborative approach to waste diversion
3. Enhanced community wellbeing
4. Fit for purpose, efficient and adaptable services

The strategic, economic, financial, commercial and management cases have been thoroughly investigated to evaluate potential options for the delivery of C&D diversion operations in the region. These have been assessed through using a Better Business Case (BBC) approach.

Four options were shortlisted for the economic case as outlined below. From the economic case, Option 3 was identified as the preferred option and was also considered in the financial, commercial and management cases.

| Status quo – Option 0 | Small Scale – Option 1 | Medium Scale – Option 2 | Large Scale – Option 3 |
|---|---|---|---|
| 9(2)(b)(ii) | | | |
| Do nothing approach whereby the Partners continue to have no formalised involvement in C&D diversion in the district. | A small-scale operation that limits acceptance of material to that produced in the immediate Porirua district.<br><br>The operation is based out of a single, existing council owned site, engaging a private contractor for operations.<br><br>Development of the operation is staged, and funding is generated from multiple sources. | A medium scale operation that accepts material produced locally, extended to Hutt and Kāpiti regions<br><br>The operation is based out of facilities that are established across multiple currently available council sites and a coordinated network is established between the Partners.<br><br>Development of the operation is staged, and funding is generated from multiple sources. | A large-scale operation that targets material produced through the wider Wellington region including that received at Southern Landfill.<br><br>The operation is established at a new site (not currently owned by Council) and a coordinated network is established between the Partners.<br><br>Development of the operation is staged, and funding is generated from multiple sources. |

However, to best mitigate risk, Option 2 is recommended and that it be developed in a staged manner. Option 2 has the lowest net present value (NPV) and through assessment against the investment objectives it demonstrates the greatest ability to deliver the outcomes sought.

The key risks have been identified and can be mitigated. The primary risks are:

1. Handling unknown material quantities and composition
2. Dealing with unstable or unavailable product cycles for materials.

Materials which are particularly problematic are treated timber and plasterboard as they are a high percentage component of the C&D waste stream.

In order to manage and mitigate the risks identified, the recommended staged approach includes the following features:

- An initial three-year research and development period
- Use of the site currently occupied by PCC's transfer station on Spicer Landfill, enabled by PCC's funding of the relocation work
- Strategic integration with Kāinga Ora's site clearance and redevelopment programme. This approach will allow the initial three-year period to inform the ongoing operational and management and specifications for acceptance and processing of materials

Hold points with the ability to expand or reduce the operation as more knowledge becomes available. The next steps for delivery of the project are:

- Formalising partnerships and funding arrangements
- Establishing a market approach for procurement of services for the research and development period.
- Relocation of the transfer station and development and operation of the C&D facility in conjunction with resource recovery hubs.

# 1 Introduction

Porirua City Council (PCC), and its partners (Kāinga Ora, Hutt City Council (HCC) and Kāpiti Coast District Council (KCDC) - “the Partners”) are seeking to establish whether a commercially viable construction and demolition (C&D) facility with solid community outcomes can be established in Porirua.

To inform the business case, seven reports have been commissioned, ultimately culminating in one consolidated report (eight reports in total). The reports form Appendix 1 of this business case where Report 8 – Consolidated Report provides the executive summary. The eight reports are referenced throughout this document.

Appendix 1 is therefore structured as follows:

- 1 – Material Composition
- 2 – Markets
- 3 – Business Model Options
- 4 – Labour Market Analysis
- 5 – Financial Feasibility
- 6 – Site selection - location options
- 7 – Resource Recovery hub feasibility
- 8 – Consolidated Report

Report 8 summarises the overall outputs of the background research, providing context to the recommendations of this Business Case. With the complete context of the background reports, a Better Business Case methodology has been adopted to support the Expression of Interest for funding towards investment in C&D infrastructure in the Wellington region, submitted to the Ministry for Environment (MfE) by the Partners on 14 May 2021. The underlying premises of that application are:

- C&D infrastructure equivalent to that in Auckland, to an appropriate local scale is required to allow waste minimisation targets to be met
- No formal C&D diversion infrastructure exists within the Wellington Region which is a significant barrier to private investment
- Coordinated effort is required to establish a functional supply and demand network in the region
- Local and Central Government are integral to leadership by providing both drivers and support for change in the region

# 2 The Better Business Case (BBC) Approach

The BBC approach, developed initially by the New Zealand Treasury, is an accurate method to ensure that the full range of options as part of a review process have been explored, and are assessed in a systematic way.

The aim of this approach is to provide objective analysis and consistent information to decision-makers, enabling them to make smart investment decisions for public value. It is an ideal tool for the public sector to make long term decisions regarding service delivery. The approach looks at financial measures but in a weighted, balanced context with four other factors (strategic, economic, commercial and management) as shown in Figure 1.

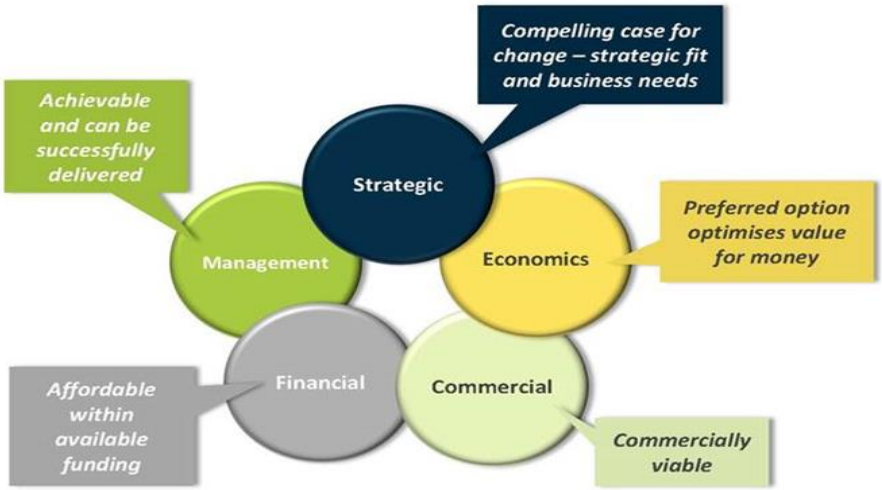


Figure 1: The Better Business Case Approach (adapted from NZ Treasury)

## 2.1 BBC assessment methodology

The following steps have been undertaken to complete the detailed business case:

- Project background information including completion of Reports 1 to 8. The information includes feedback from a Construction and Demolition Workshop held with both local industry groups and the Partners on 14 May 2021. Four workshops facilitated as part of Report 1 to 8 development were also attended by representative from the Partners.
- A Strategic Case Workshop on 14 June 2021 to review and reconfirm the key strategic drivers and discuss potential options for consideration.
- The development of strategic objectives for the business case, informed by the Strategic Case Workshop and collective strategic objectives from the Partner councils' Waste Management and Minimisation Plans (WMMP) and Kāinga Ora's own strategic objectives.
- Completion of the strategic case for change including issues and opportunities to be addressed and the strategic context.
- Development of a longlist of options for C&D waste minimisation.These options were also assessed against the strategic objectives and critical success factors. The options assessed covered the full range of available options across the dimensions shown in Figure 2.
- Shortlisting of options and an economic assessment of these options including a financial assessment (Net Present Value, NPV) and non-financial assessment (risk assessment and review of strategic objectives assessment) to identify the preferred option.
- Completion of the Financial Case, Commercial Case and Management Case for the recommended preferred option.
- Completion of this report.

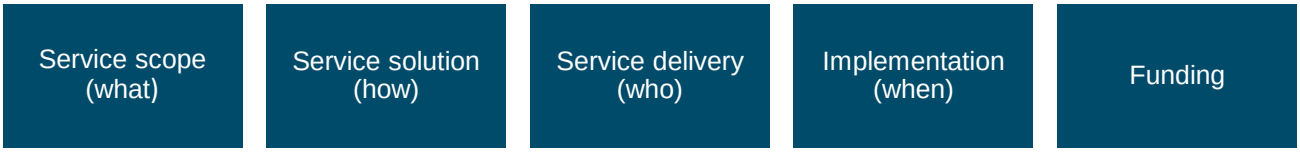


Figure 2: Longlist option dimensions

# 3 Strategic Case

## 3.1 Context

### 3.1.1 Waste Management and Minimisation Plan (WMMP) 2017-2023

The WMMP sets the strategic direction for waste services in the Wellington region. The councils of the Wellington Region share a joint WMMP. Three of the Partners to the business case are included in this strategic commitment – Porirua City Council, Hutt City Council and Kāpiti Coast District Council. As a Crown entity, Kāinga Ora do not have a statutory requirement to prepare a WMMP.

The vision of the joint WMMP is:

“Waste Free, Together”

“For people, environment and economy”

The primary regional target set by the councils in their WMMP is:

- A reduction in the total quantity of waste sent to Class 1 landfills from 600 kilograms per person per annum to 400 kilograms per person by 2026

The combination of vision, goals, objectives, and targets have been used to inform the strategic objectives for this C&D focused business case. The WMMP includes three goals, each set with their own objectives. The goals and objectives of the WMMP are:

- Waste Free
  - To reduce the total quantity of waste to landfill, with an emphasis on wastes that create the most human and environmental harm.
  - To provide environmental, social, economic and cultural benefits by increasing the amount of waste diverted from landfill via reuse, recovery and/or recycling.
  - To investigate the use of available recovery and treatment technologies and service methodologies and apply these where appropriate.
  - To take actions that will improve information on waste and recovered material activities, including both council-contracted and private sector activities.
  - To align data collection and reporting systems where possible across the districts, region and nationally.
- Working together
  - To investigate and where appropriate develop partnerships, joint working and co-operation across the private and community sectors as well territorial and regional councils, including shared services.
  - To engage the community and provide information, education and resources to support community actions.
  - To use council influence to advocate for increased or mandatory producer responsibility.
  - To work with local businesses and organisations to actively promote waste reduction at a local level.
- Benefit our communities
  - To work with service providers to identify efficiencies while maintaining or improving

service levels.

- To consider both short and long-term cost impacts of all actions across the community including economic costs and benefits.
- To consider the environmental impact of all options and ensure that the overall environmental impact is taken into account in decision making.
- To consider the public health impacts of all waste management options and seek to choose options that effectively protect human health.

### 3.1.2 Kāinga Ora strategic direction

Kāinga Ora are committed to contributing to thriving communities and have a series of comprehensive strategies in place to achieve their outcomes. Specific to this work is their Sustainability Framework which consists of the following focus areas:

- Climate change mitigation
- Efficient resource use
- Sustainable transport
- Nature enhanced
- Climate change adaptation

Kāinga Ora aims to lead industry in waste minimisation practices through efficient resource use. They are seeking to relocate rather than demolish homes, deconstruct for reuse and recycling, and reduce construction-related waste through more efficient material use, on-site waste management practices and recycling.

Kāinga Ora have set a nationwide 7% relocation target for their Site Clearance and Redevelopment Programme, meaning 7% of their current, national housing stock due for clearance to redevelopment the site must be relocated as a priority.

A regional landfill diversion target specific of 80% has been set for the Auckland Region and will be rolled out to other regions once infrastructure is in place to enable the same level of diversion as in Auckland.

### 3.1.3 Legislation and global considerations

Council's input into C&D management must also have regard to the New Zealand Waste Strategy 2010 (NZWS). In addition, there is a range of applicable legislation including the Local Government Act 2002, Hazardous Substances and New Organisms Act 1996, Climate Change Response Act 2002, and the Resource Management Act 1991.

### 3.1.4 Ministry for the Environment

The Minister for the Environment has made recovering and processing C&D materials a waste minimisation priority. The increase in value and scope of waste levy charges for landfill disposal has an impact on the economics of C&D waste handling and management.

### 3.1.5 Other drivers for investment

In addition to the strategic principles, the local context also needs to be considered and applied when making decisions into investment in such a facility.  Porirua is amid a large-scale housing redevelopment and construction programme. Over the next 10 years Kāinga Ora's large-scale regeneration of Eastern Porirua will generate up to 32,000 tonnes of waste, as it demolishes 2000

homes and constructs up to 4,000 new homes in their place. Another 9,000 houses are to be constructed by other businesses over the next 10 years.

In 2018, the eight territorial authorities of the Wellington Region engaged Tonkin + Taylor to review the scope of C&D waste minimisation issues facing the Wellington Region and identify the range of options available to the councils to address the issues identified. The report authors noted that there was a good opportunity to establish a processing facility in the lower North Island and for capacity to be scaled as appropriate. Their findings are consistent with the business case and supporting reports.

## 3.2 Status quo

The Partners either together or separately, do not have established C&D management facilities or operations in the Wellington region. A component of the investigative reports (1 to 8) undertaken ahead of the development of a business case was to understand the status quo in the region.

The findings of this work are presented in Appendix 1 – Reports 1, 2 and 4 which provide a greater understanding of material amounts and composition, current markets for processing and receipt of material and the required and available workforce to deliver a C&D diversion operation.

## 3.3 Strategic objectives

Considering the strategic context together with the status quo situation, four strategic objectives were developed for the assessment of options for investment in C&D management infrastructure in the region (Table 1).

Table 1: Strategic objectives

| |
|---|
| 1. **An increase in materials recovery and diversion of waste from landfill** |
| 2. **A collaborative approach to waste diversion** |
| 3. **Enhanced community wellbeing through waste related activities** |
| 4. **Fit for purpose, efficient and adaptable services** |

## 3.4 Identification of options and longlist assessment

A longlist of delivery options for the C&D operation was developed using the BBC five option dimensions that were demonstrated in Figure 1. The longlist options were assessed against the strategic investment objectives shown in Table 1. The longlist options were also assessed against critical success factors. These critical success factors are considered standard practice for BBC analysis:

- Strategic fit and business needs: alignment with District Plan, 30-year Infrastructure Strategy & Regional Plans
- Potential value for money: right solution, right time, at the right price
- Supplier capacity and capability: is it a sustainable and viable arrangement (external)
- Potential affordability: are there any significant funding constraints
- Potential achievability: ability and skills to deliver (internal)

Options that did not meet the strategic objectives or critical success factors were discarded from further analysis. The status quo is pulled through for comparison with the shortlisted options.

The longlist options and assessment are set out below. In each table there is a description of each option, the outcome from the longlist assessment, and a key to show whether that element has been included in the status quo or any of the three shortlisted options (shown as "0", "1", "2" or "3" in the tables below). The full analysis of the longlist is detailed in Appendix 2.

Colour coding within the tables should be interpreted as follows:

Red = Discard

Yellow = Possible

Green = Preferred

### 3.4.1 Scope (what) – What scale of investment possible?

Table 2: Scope Options

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| **SC-1** | Status quo – no dedicated C&D facility available in the lower North Island | | ✓ | | | |
| **SC-2** | Facility targets C&D material limited to that produced in the immediate Porirua district. | | | ✓ | | |
| **SC-3** | Facility targets C&D material produced locally, extended to Hutt and Kāpiti regions | | | | ✓ | |
| **SC-4** | Facility targets material produced through the wider Wellington region including that received at Southern Landfill | | | | | ✓ |
| **SC-5** | Facility targets C&D material from the entire lower North Island | | ✓ | | | |

### 3.4.2 Service Solution (how) – How can services be provided?

Table 3: Service Solution Options

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| **SS-1** | Status quo – no coordinated operation or Council involvement | | ✓ | | | |
| **SS-2** | Operation is based out of a facility that is established on a single, currently available council site | | | ✓ | | |
| **SS-3** | Operation is based out of facilities that are established across multiple currently available council sites. | | | | ✓ | |
| **SS-4** | Operation is established at a new site (not currently owned by Council) | | | | | ✓ |

### 3.4.3 Service Delivery (who) – Who can deliver the services?

Table 4: Delivery Options

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| SDO-1 | Status quo – Service is left to the private sector (no council service) | | ✓ | | | |
| SD0-2 | Each council alone, with Kāinga Ora agreement to deliver material to the PCC C&D facility | | | ✓ | | |
| SDO-3 | Coordinated network with neighbouring councils e.g. PCC, HCC, KCDC | | | | ✓ | ✓ |
| SDO-4 | Regional shared network with all Wellington region Councils | | ✓ | | | |
| SDO-5 | Council in joint venture partnership with private sector | | | ✓ | ✓ | |
| SDO-6 | Council in joint venture partnership with neighbouring councils (HCC and KCDC) and Kāinga Ora and private sector | | | | ✓ | |
| SDO-7 | Council in partnership with community sector e.g. a trust | | ✓ | | | |

### 3.4.4 Implementation (when) – When can services be delivered?

Table 5: Implementation Options

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| IO-1 | Status quo – No action required | | ✓ | | | |
| IO-2 | Bring all possible customers and C&D waste stream components on at once | | ✓ | | | |
| IO-3 | Staged, planned acceptance of waste streams and customers | | | ✓ | ✓ | ✓ |

### 3.4.5 Funding Options

Table 6: Funding Options

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| FO- 1 | Status quo – No Council involvement, Any capital and operational cost met by private sector. | | ✓ | | | |
| FO-1 | Capital cost is funded solely by PCC. Operational cost is gate fee funded (from Kāinga Ora and others) | | | ✓ | ✓ | ✓ |
| FO-2 | Capital cost is funded by PCC and Partners (HCC, KCDC) | | | ✓ | ✓ | |

| Ref. | Description of Option: | Overall Assessment | Shortlisted Option | | | |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 |
| | Operational cost is gate fee funded (from Kāinga Ora and others) | | | | | |
| **FO-3** | Capital cost is funded by PCC and Partners (HCC, KCDC, Kāinga Ora) and MfE<br>Operational cost is gate fee funded and partially subsidised through MfE. | | | ✓ | ✓ | ✓ |
| **FO-4** | Capital cost is funded by PCC and Partners (HCC, KCDC, Kāinga Ora) and MfE<br>Operational cost is funded by the private sector. | | | ✓ | ✓ | |

## 3.5 Shortlist

Table 7 provides a summary of the shortlisted options and whether they were a preferred or possible option when assessed against the strategic objectives and critical success factors. The subsequent sections provide a description of why elements have been adopted in shortlisted options. The status quo option has been brought forward to shortlisting for comparative purposes.

Table 7: Summary of longlist options

| Option | Status quo – Option 0 | Option 1 – Small | Option 2 – Medium | Option 3 – Large |
|---|---|---|---|---|
| Scope Options (What) | No dedicated C&D facility available in the lower North Island | Facility targets C&D material limited to that produced in the immediate Porirua district. | Facility targets C&D material produced locally, extended to Hutt and Kāpiti regions | Facility targets material produced through the wider Wellington region including that received at Southern Landfill |
| Service Solution (How) | No coordinated operation or Council involvement | Operation is based out of a facility that is established on a single, currently available Council site | Operation is based out of facilities that are established across multiple currently available Council sites. | Operation is established at a new site (not currently owned by Council) |
| Service Delivery Options (Who) | Service is left to the private sector (no Council service) | Each council alone, with Kāinga Ora agreement to deliver material to the PCC C&D facility | Coordinated network with neighbouring councils eg PCC, HCC, KCDC | Coordinated network with neighbouring councils eg PCC, HCC, KCDC |
| Implementation Options (When) | No action required | Staged, planned acceptance of waste streams and customers | Staged, planned acceptance of waste streams and customers | Staged, planned acceptance of waste streams and customers |
| Funding Options | No Council involvement, Any capital and operational cost met by private sector. | Capital cost is funded by PCC and Partners (HCC, KCDC, Kāinga Ora) and MfE | Capital cost is funded by PCC and Partners (HCC, KCDC, Kāinga Ora) and MfE | Capital cost is funded by PCC and Partners (HCC, KCDC, Kāinga Ora) and MfE |

### 3.5.1 Scope options

The single preferred and two possible scope of service delivery options have been shortlisted for comparison. A scope of service encompassing the entire lower North Island has been discounted due to its inability to meet three critical success factors.

### 3.5.2 Service solution options (how)

All possible and preferred options have been shortlisted for comparison. Allocation of the service solution options to the scope options across the shortlist is based on appropriateness of scale.

### 3.5.3 Service Delivery (who)

Service Delivery Option 4 – Council in partnership with the private sector has been included in Option 1 to reflect that the scope of Option 1 is restricted to the immediate Porirua district. Realistically, following assessment of the labour market (Appendix 1, Report 4) all options will require engagement with the private sector.

Options 3 and 4 consider that a form of network should be established with the councils who are partners to the Business Case. The formalisation of that relationship does not have a material influence on the option outcomes.

### 3.5.4 Implementation (when)

All shortlisted options (except the status quo) consider a staged approach to implementation. The option to bring all waste streams and customers into the operation simultaneously has limiting implications on achievability and therefore has not been considered.

### 3.5.5 Funding Options

All shortlisted options (except the status quo) obtain funding through a combination of funding sources. The expectation that the private sector would accept all operational risk (FO-5) is unrealistic.

# 4 Economic Case

The aim of the economic case is to determine the effectiveness of the shortlisted options from both a financial and non-financial perspective and identify a preferred option.

This was determined by three separate assessments:

- Whole of life cost: This takes into consideration the Capex and Opex cost of the service over the lifetime of the service. A 10-year assessment period has been used to align with LTP funding envelopes.
- Net Present Value (NPV): This is an assessment of monetary benefits and cost. Only direct costs have been considered for this BBC. A typical public sector discount rate of 5% has been used for NPVs.
- Multi Criteria Analysis: This method identifies and ranks non-monetary benefits of the shortlisted options against the investment objectives

Table 8 provides a summary of the economic assessment.

Table 8: Summary of economic assessment (Net Present Value and Multi Criteria Assessment)

| Assessment criteria | Option 0: Status quo | Option 1: Small model | Option 2: Medium model | Option 3: large model |
|---|---|---|---|---|
| Net Present Value (20 year) | 9(2)(b)(ii) | | | |
| Increases materials recovery and diversion of waste from landfill | NO<br>A 'do nothing' approach does not guarantee any increase in diversion | YES<br>Anticipated diversion up to 80% of targeted material | YES<br>Anticipated diversion up to 80% of targeted material | YES<br>Anticipated diversion up to 80% of targeted material |
| Allows a collaborative approach to waste diversion | NO<br>A 'do nothing' approach does not facilitate collaboration | PARTIAL<br>Investing in infrastructure, even at small scale allows for collaboration with the private sector who would operate the facility | YES<br>Facilitates the most collaboration between Councils and the private sector as operators. | PARTIAL<br>Collaboration with the private sector is possible however restrictive of wider collaboration with Partners (councils and Kāinga Ora) |
| Enhances the wellbeing of the community | NO<br>A 'do nothing' approach does not enhance wellbeing | YES<br>Provides employment opportunities and potential opportunities for community engagement | YES<br>Provides employment opportunities and potential opportunities for community engagement | YES<br>Provides employment opportunities and potential opportunities for community engagement |

| Assessment criteria | Option 0: Status quo | Option 1: Small model | Option 2: Medium model | Option 3: large model |
|---|---|---|---|---|
| | | during redevelopment activities | during redevelopment activities | during redevelopment activities |
| Provides a fit for purpose, efficient and adaptable service | NO<br>A 'do nothing' approach is not considered adaptable, efficient, or fit for purpose | PARTIAL<br>A small-scale operation is less adaptable to up-scaling | YES<br>Option has the ability to expand and contract to meet demand | PARTIAL<br>A large-scale operation is less adaptable to downscaling |

## 4.1 Whole of life costs

Detailed financial modelling has been completed across the shortlisted, small, medium and large-scale models.

The detail of the financial modelling, including the assumptions applied for each scenario, is provided in Appendix 1 – Report 5 Financial Viability and summarised in Table 9. The economic analysis set out below differs from the financial modelling included in Report 5 in the following ways:

- Financial modelling is nominal, and has been inflated at 2% per annum, the economic analysis presented in Table 10 is real (uninflated, 2021)
- Financial modelling contained within Appendix 5 includes financing costs of 4% of capital expenditure. The values included in Table exclude financing costs.

Table 9: Financial overview (real, uninflated)

| Option Economic Assessment (NPV, 20 year) | Initial capital requirement | Whole of life capital costs | NPV (5%) discount |
|---|---|---|---|
| 9(2)(b)(ii) | | | |

All three models are sensitive to fluctuations in the end markets for materials, although the medium scale model is the least sensitive to these changes. Sensitivity analysis for each of the options is outlined in more detail in Report 5.

The initial capital investment outlined in Table 9 does not include any costs associated with the relocation of the existing transfer station or any other enabling works.

## 4.2 Preferred option

The medium scale model has been identified as the preferred option as it presents the highest Net Present Value and provides the best value for money when considering the non-financial benefits outlined as part of the multi-criteria analysis.

# 5 Financial case

The financial case looks at the overall cost of the preferred option, including the funding required, whether there is any revenue to offset the funding, and whether the service is affordable overall.

The detailed assumptions underlying the financial modelling are set out in Appendix Five. The annual cash flows for the preferred option (and consequently the annual funding requirement) are set out in Table below. These cash flows exclude depreciation of capital assets and are expressed in uninflated 2021 dollars.

Table 10: Financial costing Operational and Capital – Preferred Option (Real, uninflated)

| Year | Capital expenditure | Operating expenditure | Operating revenue | Net cash flow |
|---|---|---|---|---|
| 9(2)(b)(ii) | | | | |

The key funding requirements for the preferred option include:

- Initial capital to fund the construction of the facilities and the purchase of necessary equipment
- Net cash flow deficits in the first five years of operations. Note that the cash flows outlined in Table 10 do not include the impact of any lost revenue from landfill operations which may require additional funding from ratepayers in Porirua City Council
- Capital investment to relocate the existing transfer station at Spicer landfill and other enabling works, which will be funded by Council (and are not included in the above cost estimates).

After year five it is anticipated that the facility will generate sufficient revenue from user fees and charges to cover its annual cash outgoings and accumulate reserves for future capital investment.

## 5.1 Funding commitments

Establishing a dedicated C&D facility differs in funding requirements from other typical waste services in that significant upfront capital expenditure is required and ongoing operational funding is met entirely by user pays rates (gate fees) as opposed to rates.

Initial capital will be met by the Council Partners with potential funding from the Ministry for the Environment. In the first three years of the operation, Kāinga Ora are a major customer contributing 9(2)(b)(ii) in gate fees in that period and 9(2)(b)(ii) over the first ten-year period.

The staged onboarding of waste streams means that the facility will be unlikely to generate a cash surplus within its first five years of operation, and external funding will be required during this initial period.

The funding model for the preferred option in the first ten years is:

- Initial Capital spend of 9(2)(b)(ii) (year 1)
- A total of 9(2)(b)(ii) of external funding to cover operating deficits in the first five years of operation
- A revenue of 9(2)(b)(ii) excluding GST from the receipt of gate fees from Kāinga Ora
- A revenue of 9(2)(b)(ii) excluding GST from receipt of gate fees from other sources (years 4 to 10).

Table 11: Funding sources

| Funding source | Application | Option 2 – Medium scale amount (ten years) | Committed/uncommitted |
|---|---|---|---|
| Ministry for the Environment | Initial capital outlay and 3 years operating costs | 9(2)(b)(ii) | Uncommitted |
| Depreciation and accumulated surpluses | Capital renewals | | Uncommitted |
| Gate fees (Kāinga Ora) | Operating costs | | Uncommitted |
| Gate fees (other) | Operating costs | | Uncommitted |
| TBC | Unfunded operating deficit years 4 and 5 | | Uncommitted |

In addition to the above, Council has committed to the funding of the relocation of the existing transfer station at Spicer Landfill, and any additional enabling works at the site to allow the development of the facility. These costs have not been included within the cost estimations in this business case but are likely to be in the range of 9(2)(b)(ii)

In addition, Council may have additional lost revenue relating to its share of net income derived from the operations of the landfill (to the extent that this is recovered through the facility instead), the impact of this lost revenue will be funded by Council's ratepayers.

No funding source has been identified to cover the operating deficit in years 4 and 5 at this stage.

# 6 Commercial case

## 6.1 Overview

The commercial case is about confirming that appropriate commercial agreements can be put in place to deliver the services. This includes procurement considerations as well as wider contractual and governance arrangements, the risk-sharing approach and procurement timeframes.

Commercial consideration also needs to be given to the linked activities on the respective Council sites. This includes current operation of the transfer stations at HCC and KCDC and any associated rights to ownership of materials.

## 6.2 Partnerships

The various partnership options are presented in detail in Appendix 1 – Report 3 Business Model. The relationship between the Partners would need to be formalised as a first step in the project implementation. The most significant implication of the relationship between the Partners is the relationship between the owning entity and the operators of the various sites.

Key considerations for formalising of partnerships are:

- Who holds the relationship with the private sector (operating entities)
- How are gate fees collected (and by who)following commencement of receipt of material from the hubs
- How agreement for receipt of Kāinga Ora tonnages to the Spicer site is made
- Research and development commitment of resource by the partners
- Ownership of intellectual property resulting from the initial three-year research and development phase

## 6.3 Procurement

Engagement of an operator for the C&D facility at Spicer Landfill would occur via an open market Request for Proposal. As the preferred option seeks to implement a network of sites to facilitate both gradual expansion of the operation and consistency of handling, the operation and commercial management of the hub sites will need to be considered in the procurement activity.

Furthermore, there are advantages to procuring the operation of the Spicer C&D facility in conjunction with that of the Spicer Resource Recovery Hub and even wider advantages to combining with the Silverstream (HCC) and Otaihanga (KCDC) upgrades. A detailed Procurement Plan is required to finalise the details of the procurement activity.

Key considerations for formalising a Procurement Plan are:

- Efficiencies of a design, build and operate contract with scope inclusive of both the Spicer Landfill Resources Recovery Hub (relocated, upgraded transfer station) and the Spicer C&D facility
- Efficiencies of scope to include design, build and operate components of the Silverstream (HCC) and Otaihanga (KCDC) sites
- Current commercial arrangements at the Otaihanga transfer station site
- Market engagement approach, holding of supplier briefing sessions
- Other considerations given to partnership arrangements.

## 6.4 Market interest

The market interest in the project is anticipated to be moderate. During interviews conducted with suppliers it was identified that; while there is significant interest to engage in a C&D handling process and the availability of consented land is appealing, the land areas are small in comparison to the aspirations of the large-scale waste contractors.

It is also possible that the construction and demolition industry show interest in operating a C&D facility. The construction industry may also be better placed to understand and manage markets for product cycles.

# 7 Management case

The purpose of the Management Case is to summarise the way forward and identify the next steps to deliver the recommended approach.

## 7.1 The recommended approach

To deliver the medium scale model a controlled, four stage approach is recommended. The key features of the staged approach are:

- An initial three-year research and development (R&D) period using the known programme of clearance and construction from Kāinga Ora
- Clear hold points
- PCC make a site available for C&D processing at the current Spicer transfer station site
- Kāinga Ora contribute gate fees for receipt of their material
- Initial capital and three-year R&D investment funding contribution received from MfE
- Upgrade of HCC and KCDC transfer stations with consideration for handling of materials in a consistent manner

### 7.1.1 Stage 1

- Partnership arrangements formalised including agreement with Kāinga Ora to take material to a dedicated facility
- Partners obtain funding from MfE for C&D processing facility. This includes:
  - Site development – earthworks, concrete pads, utility upgrades
  - Initial C&D storage sheds – relocatables
  - Initial sorting equipment – loader, excavator
  - Three-year R&D resourcing requirements
- Procurement of resource to undertake PCC, HCC and KCDC operations and upgrades (details to be finalised in a Procurement Plan)

  **HOLD – Procurement may identify availability of a different site, depending on affordability funding may be reallocated**

  - Assuming no alternative site proposed, PCC upgrades their current transfer station by establishing a Resource Recovery Hub at the current Trash Palace site (see Appendix 1 Report 7 Hub Feasibility)
  - C&D facility on Spicer Landfill former transfer station site established
  - Operations continue for three years

  **HOLD – Review outcomes of the three-year R&D period and ability to expand the**

**customer base (beyond Kāinga Ora)**

### 7.1.2 Stage 2

- Enable commercial developers from the PCC area to divert waste through Spicer site
- Enable C&D waste collectors that use Spicer landfills to divert waste through C&D area
- Facility operates for another two years

  **HOLD – Review the ability of the facility to operate with a broader customer base specifically ability to manage product cycles**

### 7.1.3 Stage 3

- Upgrade of domestic transfer stations and resource recovery areas planned at HCC and KCDC sites
  - Timing of upgrades depends on funding and approval process at HCC and KCDC (they may occur in Stage 1 and this should be established in a joint Procurement Plan)
- Acceptance of C&D material as part of upgraded sites with specific agreement to:
  - Target same material types as Spicer facility
  - Pre-sort and/or store material to specifications developed at Spicer in stage 1
  - Use same end markets as Spicer facility (coordinated through Spicer)
- Upgrade equipment, sorting or storage areas at Spicer facility to handle additional volume

  **HOLD – At end of year 10 to review the functionality of the network concept and capacity of the Spicer site**

### 7.1.4 Stage 4

- Enable acceptance of material from Southern Landfill
- Expand capability of hubs with additional capital investment if necessary

## 7.2 Resource requirements

Considering that this is a long-term commitment for the Partners there is a need to establish a Project Team with appropriate skills, expertise and representation to ensure the required outcomes are delivered. Resources identified in Table 11 will need to be agreed before starting the procurement process.

Table 12: Resource requirements of the project team

| Team member | Role |
|---|---|
| Council | The final decision-making body for this procurement. Their day-to-day involvement in the project is limited, however their role is of critical importance. The Elected Members will be the approval authority for the award of any contracts. |
| Project Sponsor | The Project Sponsor is the key link between the Project Team and their partner entity (PCC, HCC, KCDC and Kāinga Ora). The Project Sponsor will be able to make decisions within their delegations and remit and implement the recommendations by the Project Team. |
| Project Team | The Project Team will be responsible for providing recommendations to the Project Sponsor, the senior leadership team of their Council and the elected members of the Councils. |

| Team member | Role |
|---|---|
| Project Support | Project management support will ensure the necessary project controls are in place to support decision making, risk management, and adherence to timeframes, as well as preparation of all RFP documentation. |

## 7.3 Project programme

In order to successfully implement the recommended approach, the following implementation steps to commencement of contract(s) with the operating private sector are proposed, and a possible timeline is provided. The time frames are optimistic and indicates redevelopment physical works at the Spicer site commencing at the start of the winter 2022 period.

Table 13: Proposed project programme

| Activity | Date |
|---|---|
| Establish Project Team | July 2021 |
| Formalise partnerships | August 2021 |
| Procurement strategy workshop/confirm procurement approach with the Project Team | August/September 2021 |
| Final procurement strategy/programme | October 2021 |
| Preparation of Request for Proposals (RFP) documentation | November/December 2021 |
| RFP period (8 weeks) | January/February 2022 |
| Proposal evaluation, negotiation and award | February/March 2022 |
| Operational Contract commencement (Design commencement) | March 2022 |
| Build on site commences | April 2022 |
| Operations on site commence – commencement of initial three-year R&D phase | July 2022 |

## 7.4 Risk management

A high-level risk assessment has been undertaken and will need to be monitored throughout delivery. The key risks are:

- Unknown material quantities and composition
- Unstable or unavailable product cycles for materials

Table 14 is taken from Report 8 and provides a greater level of detail regarding risks and mitigation strategies for these.

Table 14: Risks and potential mitigation strategies

| Risk | Possible mitigation |
|---|---|
| **Lack of data results in:** | |
| Fewer tonnes than expected | Establish a known programme initially, for example with Kāinga Ora.<br>Set gate rate to the same value as landfill disposal rate. |
| Greater tonnes than expected | Expand operation to HCC or KCDC sites if necessary |
| **Incorrect tonnage assumption results in:** | |
| Processing equipment sized too large | Lease equipment in the first instance until tonnage is certain.<br>Establish a known programme<br>Opt for smaller or lower tech in the first instance and scale up if necessary |
| Processing equipment sized too small | Lease equipment in the first instance until tonnage is certain.<br>Establish a known programme.<br>Scale up if necessary<br>Move small equipment to ancillary site |
| Processing area and covered storage too large | Opt for a flexible building arrangement in the first instance<br>Look for alternative uses of the area |
| Processing area and covered storage too small | Opt for a flexible building arrangement in the first instance<br>Scale up and expand operation to HCC or KCDC sites if appropriate |
| **Markets are unavailable because:** | |
| Insufficient volume | Work with the market to understand the volume required and target that material from other sources. |
| Poor quality product | Understand the quality requirements required for the product to be accepted and establish a handling system to achieve this. |
| Market is not established | Material is sent to landfill until a market is established. |

| Risk | Possible mitigation |
| --- | --- |
| **Private operation is set up in competition** | Allow procurement for the C&D facility to be flexible enough to shift operation and the MfE/PCC/partner investment to a commercial site. For example, the large-scale model where the facility has the ability to process more than just C&D material. |
| **Availability of funding is restrictive, or timing is wrong** | • Establish a project plan that includes for go/no go situations or decisions to be made. For example, the above situation where the private market is looking to establish and funding can be directed to an alternative site. |

# Appendix 1 Background Reports

Report 1: Materials Composition

Report 2: Markets

Report 3: Business Model

Report 4: Labour Market Analysis

Report 5: Financial analysis

Report 6: Site Selection

Report 7: Resource Recovery Hub

Report 8: Consolidated report/Businesscase

# Appendix 2 Long list analysis

| | Scope Options (What) | | | | | Service Solution (How) | | | | Service Delivery Options (Who) | | | | | | | Implementation Options (When) | | | Funding Options | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC-1 | SC-2 | SC-3 | SC-4 | SC-5 | SS-1 | SS-2 | SS-3 | SS-4 | SDO-1 | SDO-2 | SDO-3 | SDO-4 | SDO-5 | SDO-6 | SDC-7 | IO-1 | IO-2 | IO-3 | FO-1 | FO-2 | FO-3 | FO-4 | FO-5 |
| **Description of Option:** | Status quo – no dedicated C&D facility available in the lower North Island | Facility targets C&D material limited to that produced in the immediate Porirua district. | Facility targets C&D material produced locally, extended to Hutt and Kapiti regions | Facility targets material produced through the wider Wellington region including that received at Southern Landfill | Facility targets C&D material from the entire lower North Island | Status quo - no coorinated operation or Council involvement | Operation is based out of a facility that is established on a single, currently available council site | Operation is based out of facilities that are established across multiple currently available council sites. | Operation is established at a new site (not currently owned by Council) | Status quo - Service is left to the private sector (no council service) | Each council alone, with Kāinga Ora agreement to deliver material to the PCC C&D facility | Coordinated network with neighbouring councils e.g. HCC, KCDC | Regional shared network with all Wellington region Councils | Council in partnership with private sector e.g. joint venture | Council in partnership with neighbouring councils (HCC and KCDC) and Kāinga Ora and private sector e.g. joint venture | Council in partnership with community sector e.g. a trust | Status quo - No action required | Bring all possible customers and C&D waste stream components on at once | Staged, planned acceptance of waste streams and customers | Status Quo – No Council involvement, Any capital and operational cost met by private sector. | Capital cost is funded solely by PCC. Operational cost is gate fee funded (from Kainga Ora and others) | Capital cost is funded by PCC and Partners (HCC, KCDC) Operational cost is gate fee funded (from Kainga Ora and others) | Capital cost is funded by PCC and Partners (HCC, KCDC) and MfE Operational cost is gate fee funded (from Kainga Ora and others) and partially subsidised through MfE. | Capital cost is funded by PCC and Partners (HCC, KCDC, Kainga Ora) and MfE Operational cost is funded by the private sector. |
| **Investment Objective:** | | | | | | | | | | | | | | | | | | | | | | | | |
| Increases materials recovery and diversion of waste from landfill | 1 | 2 | 3 | 4 | 5 | 1 | 3 | 4 | 5 | 2 | 2 | 4 | 3 | 4 | 4 | 4 | 1 | 3 | 4 | 3 | 3 | 3 | 3 | 3 |
| Allows a collaborative approach to waste diversion | 2 | 3 | 3 | 4 | 4 | 1 | 3 | 5 | 5 | 2 | 3 | 4 | 5 | 4 | 5 | 4 | 1 | 3 | 5 | 3 | 3 | 3 | 3 | 3 |
| Enhances the wellbeing of the community | 1 | 3 | 4 | 4 | 4 | 1 | 3 | 4 | 3 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 1 | 2 | 4 | 3 | 3 | 3 | 3 | 3 |
| Provides a fit for purpose, efficient and adaptable service | 1 | 3 | 4 | 4 | 4 | 1 | 2 | 4 | 5 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 1 | 2 | 4 | 3 | 3 | 3 | 3 | 3 |
| **Total Investment Objective Score** | **1.25** | **2.75** | **3.5** | **4** | **4.25** | **1** | **2.75** | **4.25** | **4.5** | **2.25** | **2.75** | **4** | **4** | **3.75** | **4** | **3.75** | **1** | **2.5** | **4.25** | **3** | **3** | **3** | **3** | **3** |
| **Critical Success Factors (as these CSFs are crucial (not just desirable) any options that score a 'no' are automatically discounted from further analysis:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Strategic fit and business needs** - *Alignment with LTP and other council and regional strategic plans* | 3 | 3 | 4 | 5 | 5 | 1 | 4 | 5 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 1 | 4 | 5 | 4 | 2 | 5 | 5 | 5 |
| **Potential value for money** - *right solution, right time at the right price* | 3 | 3 | 4 | 3 | 1 | 1 | 4 | 4 | 3 | 4 | 4 | 5 | 3 | 4 | 4 | 4 | 3 | 2 | 4 | 3 | 4 | 2 | 4 | 3 |
| **Supplier capacity and capability** - *is it a sustainable arrangement (external)* | 5 | 5 | 5 | 4 | 1 | 5 | 5 | 4 | 4 | 5 | 4 | 4 | 3 | 4 | 4 | 1 | 5 | 2 | 4 | 2 | 5 | 5 | 5 | 3 |
| **Potential affordability** - *are there no funding constraints* | 5 | 3 | 3 | 2 | 2 | 5 | 4 | 4 | 2 | 5 | 3 | 4 | 3 | 3 | 3 | 3 | 5 | 2 | 3 | 5 | 4 | 3 | 4 | 4 |
| **Potential achievability** - *ability and skills to deliver (internal)* | 5 | 4 | 3 | 2 | 1 | 5 | 4 | 3 | 3 | 5 | 3 | 4 | 3 | 3 | 2 | 2 | 5 | 2 | 3 | 5 | 3 | 2 | 3 | 4 |
| **Average Critical Success Factor Score** | **4.2** | **3.6** | **3.8** | **3.2** | **2** | **3.4** | **4.2** | **4** | **3.4** | **4.6** | **3.6** | **4.4** | **3.2** | **3.6** | **3.6** | **2.8** | **3.8** | **2.4** | **3.8** | **3.8** | **3.6** | **3.4** | **4.2** | **3.8** |
| **Summary of Advantages and Disadvantages:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Overall Score** | **5.45** | **6.35** | **7.3** | **7.2** | **6.25** | **4.4** | **6.95** | **8.25** | **7.9** | **6.85** | **6.35** | **8.4** | **7.2** | **7.35** | **7.6** | **6.55** | **4.8** | **4.9** | **8.05** | **6.8** | **6.6** | **6.4** | **7.2** | **6.8** |
| **Short-listed options:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Option 0: Status quo** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Option 1:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Option 2:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Option 3:** | | | | | | | | | | | | | | | | | | | | | | | | |