Attachment 5

Analysis of the Significant Benefits to the Region

Relevant to Fast-track Referral Application Form Section 2.6

Public

Whiterock Quarry and Managed Fill

Analysis of the Significant Benefits to the Region

21 May 2025

1-E0087.00

Whiterock Quarry and Managed Fill

Analysis of the Significant Benefits to the Region

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REV	DATE	DETAILS
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	NAME	POSITION	DATE
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1 PROJECT OVERVIEW

The purpose of this short report is to articulate the various benefits associated with the development of a Class 3 Managed Fill Landfill, by Whiterock Lime Limited (WLL), at the Whiterock Lime Quarry, located at 150, 154 and 174 Quarry Road, Loburn (hereafter referred to as 'the Whiterock site', or 'Whiterock'). The Whiterock site is located approximately 23.5km from the centre of Rangiora and 50km to the centre of Christchurch.

The primary waste material to be received at the Whiterock site would be sorted inert construction and demolition (C&D) materials, contaminated soils and asbestos. No degradable organics would be accepted at the Whiterock site.

The proposed Class 3 Managed Fill at Whiterock would have a total capacity of approximately 500,000m^3. Considering the relevant waste density and cover requirements, this accounts for an equivalent capacity of approximately 800,000 tonnes of waste (based on an average fill density of 1.6t/m^3).

The Waste Minimisation Association of New Zealand (WasteMINZ) Disposal to Land Guidelines 2023, replaces earlier versions and is the current endorsed guidance for the disposal to land sector, establishing best practice approaches for the management of solid waste (disposal facilities). The current landfill classification system, Classes 1-5, was established to reflect the difference in controls associated with each waste stream and to provide clear guidance on waste acceptance and engineered containment. Based on the WasteMINZ Guidelines the proposed facility meets the Class 3 classification, providing critical infrastructure for the diversion of inert materials from Class 1 Landfills in Canterbury.

The development of the proposed Class 3 Managed Fill would expand the disposal options available in Canterbury, to facilitate a more efficient disposal to land sector by:

- Providing a dedicated facility for the safe management of inert waste streams;
- Reducing transport distances (compared to other disposal options for equivalent materials); and
- Ensuring the optimisation of filling across landfill disposal types in the Canterbury Region (i.e. by sites with the appropriate level of containment relevant to waste material accepted – essentially putting the right waste in the right place).

2 STRATEGIC NEED & POLICY ALIGNMENT

2.1 NATIONAL POLICY

In New Zealand, several key national strategic documents guide waste disposal and management. This provides a consistent framework for the safe management of waste and prioritises the efficient use of resources and maximised diversion of waste from landfill by effectively ensuring the right waste goes to the right place. Key documents include:

- Waste Minimisation Act (MfE, 2008)
- New Zealand Waste and Resource Efficiency Strategy (MfE, 2025)
- Waste Disposal Levy Expansion (2021-2024)
- Disposal to Land Guidelines (WasteMINZ, 2023)

These overarching strategic documents provide the framework for managing solid waste in New Zealand and are supported by local Waste Minimisation and Management Plans (completed by Territorial Local Authorities). The relevance of each in terms of strategic alignment is discussed below.

Nationally, the Waste Minimisation Act, provides an overarching approach that encourages waste minimisation and reducing the environmental harm of waste. Key mechanisms within the legislation include:

- Waste disposal levy (a differential rate applied per tonne based on the type of waste facility).
- Product stewardship provisions (including powers to regulate product stewardship organisations, which may lead to new processing opportunities of priority waste materials).
- Powers for local government to plan and implement waste minimisation initiatives.

The Government has recently released its Waste and Resource Efficiency Strategy (March 2025) (MfE, 2025a), This document and the associated work program (2024-2026) provides the following focus for increasing reuse and recycling of materials:

- Construction and demolition waste:
    - Prioritise levy funds to invest in construction and demolition separation and recovery infrastructure;
    - Work with industry to identify options to help manage surplus soil (generated through construction and infrastructure projects).

Since 2021, the Government of the day has utilised existing provisions within the Waste Minimisation Act to further levy the disposal of solid waste, with a staged increase by landfill classification initiated. MfE has progressively extended the waste disposal levy to:

- Class 1 (Municipal Solid Waste) from July 2021 (From $10/tonne to $75/tonne in 2027).
- Class 2 (C&D and industrial fills) from July 2022 (Up to $45/tonne in 2027).
- Class 3 and 4 (Managed and controlled fills) from July 2023 (Up to $20/tonne in 2027).

A summary of the planned increases by year and landfill classification is in Table 1.

Table 1: Waste Disposal Levy settings (March 2024) (MfE, 2024)

Landfill Classification	1-Jul-24	1-Jul-25	1-Jul-26	1-Jul-27
Class 1	$ 60.00	$ 65.00	$ 70.00	$ 75.00
Class 2	$ 30.00	$ 35.00	$ 40.00	$ 45.00
Class 3-4	$ 10.00	$ 15.00	$ 15.00	$ 20.00

2.2 REGIONAL POLICY

In Canterbury each Territorial Authority (TA) produces a Waste Minimisation and Management Plan (WMMP). Each plan provides the strategic approach to managing waste in their respective jurisdictions, inclusive of waste under and not under their control. In eight out of nine of each TA WMMP documents, the relevant councils specifically mention a strategic vision for enhancing resource efficiency or promoting the circular economy.

The availability of a range of disposal facilities will enhance local separation and resource recovery, through positive incentives to reduce the volume of waste disposed of to Class 1 Landfills. Critical to the delivery of a more circular economy is investment in waste sorting and appropriate material offtakes. Establishment of the proposed Class 3 facility at Whiterock would encourage investment in local waste sorting (due to lower disposal costs available for sorted waste), encouraging greater diversion of C&D materials in the Canterbury Region. This would have additional benefits through the reduction in transport costs (and emissions) associated with longer haulage distances to less proximate facilities.

The diversion of waste from Class 1 Landfill is important because fill sites offer a finite resource and preserving the airspace across Class 1 facilities is an important, strategic objective to ensure these critical pieces of infrastructure last for as long as possible and that society does not pay more than it needs to, in disposing of its waste. As the industry grows and further investment into resource recovery arises, it is likely that more materials will be utilised rather than disposed of. It is anticipated that these benefits will support local TAs to meet the strategic objectives outlined in their respective WMMPs as waste and recovered materials are better utilised, and the volume of residual waste disposed of to Class 1 Landfill minimised.

There is currently no overarching regional strategy, although the Canterbury Regional Council (Environment Canterbury), as a member of the Canterbury Joint Waste Committee have acknowledged the need for greater collaboration and alignment for regional waste minimisation and management (ECan, 2024).

2.3 CONTRIBUTION BY THE PROPOSED FACILITY

Strategically the Whiterock site would result in a broader range of disposal options for waste in Canterbury, with access to an additional disposal facility for inert materials and sorted C&D waste. Indirectly it is assumed that through an increase in available disposal options, further investment in waste sorting is likely to arise, as suppliers seek more efficient disposal options than are currently available.

The investment in dedicated alternative disposal facilities and increased sorting and recovery of valuable resources will have a cumulative effect of reducing the overall volume of inert and recoverable materials disposed of to Class 1 Landfill – a key metric for waste diversion and minimisation in New Zealand.

3 DEMAND FOR A CLASS 3 WASTE FACILITY

3.1 INTRODUCTION

Nationally, the disposal of inert waste (including contaminated soil and sorted C&D materials) has more than doubled in volume since 2010, with an estimated two million tonnes per annum being disposed of at Class 1 Landfills across New Zealand (MfE, 2025). This increase in demand for appropriate waste disposal facilities is heavily influenced by:

- Levels of commercial and residential development activity; and
- The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health 2011. This legislation seeks to provide national consistency in the investigation of potentially contaminated sites, which are listed in relevant jurisdictions in accordance with the defined Hazardous Activities and Industries List (HAIL), and appropriate disposal of any contaminated soils.

Taking into account soils disposed of to Class 2-5 facilities, WasteMINZ estimates that between 4.5 - 7.5 million tonnes of soil was disposed of in 2022-23 (WasteMINZ, 2024). This highlights the significant volume of inert waste requiring disposal annually. The introduction of mandatory reporting for transfer stations and Class 1-5 facilities from 2024 is expected to improve the accuracy of waste disposal data and therefore confirm the significant demand for suitable disposal facilities.

Across New Zealand there is an increasing demand for Class 2-4 sites, with operational costs associated with a Class 1 Municipal Landfill (landfill gas capture, operational controls etc.) and external levies placed on Class 1 Landfills driving up the cost of disposal. By way of example the nearest facility which could take the Whiterock proposed waste stream is the Kate Valley Regional Landfill in Waipara. This Class 1 facility has a public gate fee of approximately $198 per tonne (with higher rates charged for specified or special waste). The gate fees for Class 1 Landfills (including Kate Valley) are likely to increase in line with planned national increases to the Waste Disposal Levy and any additional Emissions Trading Scheme (ETS) charges.

For the proposed Whiterock Managed Fill site the gate fee is indicated to sit around $110.00 per tonne.

This increasing demand for Class 2-4 sites is also reflected in the Canterbury Region. Growth in the Greater Christchurch area, through to 2048 is projected to be between 0.5-0.9% per year, which is the highest in the Canterbury Region (StatsNZ, 2025). By 2048, the Canterbury Region is estimated to accommodate 57% of the South Island's population (StatsNZ, 2025a). Given the significant infrastructure deficit (NZIC, 2021) and projected population growth of the region it is likely that demand for suitable disposal locations for inert C&D materials and contaminated soils will continue.

3.2 SOURCES OF CLASS 3 WASTE

The main sources of waste generated in the Greater Christchurch and North Canterbury area seeking disposal at a Class 3 Managed Fill facility are likely to include:

- Greenfield development (residential and commercial), where historic land-use has created potentially contaminated soil (contaminant concentrations meeting the proposed Waste Acceptance Criteria[1] (WAC) only).
- Construction and demolition projects, inclusive of residential, commercial and industrial sites, where site clearance and construction activities generate inert waste streams listed in the proposed WAC. This is likely to include previous structures and soils impacted by hazardous materials onsite (including asbestos, lead based paint, hydrocarbons and heavy metals).
- Infrastructure projects including roading and three waters horizontal renewals projects where historic contaminants such as coal tar in existing roading pavement have the potential to add significant and potentially unplanned disposal costs. In Christchurch alone it is estimated that around half of the city's streets are affected (NZTA, 2010).
- Landfill remediation (and removal) projects – a number of historic landfills in Canterbury have been marked for remediation in respective council's annual planning. Excavated historic fill is likely to be largely inert (due to degradation of organics over time) but still contain contaminants that require suitable containment. The Whiterock site could significantly reduce the cost of these remediation projects compared to disposal at a Class 1 facility.

There are 22 Fast-track listed projects[2] in the Canterbury Region, providing an indication of the significant amount of infrastructure planned. The listed infrastructure and land development projects that will generate waste for disposal at a Class 3 Managed Fill facility include:

TRANSPORT INFRASTRUCTURE

- SH1 Belfast to Pegasus Motorway and Woodend Bypass:
  - This Road of National Significance (RONS) project includes a 10km extension on SH1 north of Christchurch from the SH1/SH71 Lineside Road interchange to just north of the Pegasus roundabout. It includes a 6km bypass of Woodend (NZTA, 2025).
  - The project will cut through large sections of existing rural lots and areas of commercial/industrial activity which is likely to include multiple HAIL sites. The surplus soils generated in this preparation of the roading corridor, will likely require disposal at appropriate disposal facilities, of which the proposed facility at Whiterock is likely to be the closest managed fill facility.

RESIDENTIAL AND COMMERCIAL DEVELOPMENT

- Rolleston West Residential Development
  - Subdivide land and develop approximately 4,200 residential dwellings and 4 commercial centres and upgrade the intersection at Dunns Crossing Road and State Highway 1.
- West Rangiora Residential Development
  - Subdivide land and develop (in stages) approximately 700 to 780 residential dwellings (400 to 480 in Stage 1 and 300 in Stage 2).
- Pound Road Industrial Development

[1] WSP. (2024). Waste Acceptance Criteria for Proposed Managed Fill (Class 3) Landfill. Rev0.

[2] In Schedule 2 of the Fast-Track Approvals Act 2024

- Subdivide land and develop industrial lots (approximately 50 lots ranging between 2,000 square metres and 1.5 hectares and comprising approximately 84 lots across the full site).

— Ōhoka Residential Subdivision

- Subdivide land and develop approximately 850 residential dwellings, a commercial or mixed-use centre, and a polo field, and enable potential development of a school, retirement village, or both.

— Gressons Road Development

- Subdivide land and develop approximately 1,500 residential dwellings and a retail and community hub.

— Grassmere Residential Development

- Develop approximately 528 residential dwellings.

— Birchs Village

- Develop approximately 530 residential allotments and a commercial precinct, including green corridors and pedestrian and cycle links.

All these projects will generate a significant amount of waste for disposal.

3.3 SUMMARY OF DEMAND

The reason the increased demand for Class 3 waste disposal facilities in the Canterbury Region is anticipated to continue is summarised by three main factors:

— Implementation of national waste policy which seeks to achieve the efficient use of resources and to maximise the diversion of waste from Class 1 Landfills;

— Construction of multiple nationally and regionally significant projects in response to the infrastructure deficit; and

— Development required to meet forecasted population growth projections for the Canterbury Region.

4 WASTE DISPOSAL FACILITIES WITHIN THE CANTERBURY REGION

4.1 EXISTING CLASS 1 - 4 FACILITIES

There are three existing facilities that serve as alternatives to the Whiterock facility, and one less than equivalent Class 4 site, which accepts soils only (up to recreational limits), that service the Greater Christchurch area and North Canterbury sub-region. These sites include:

- Kate Valley Regional Landfill (“Site A”) – Class 1 Landfill;
- Taiko Road, Cave (“Site B”) – Class 2 Landfill;
- Plantation Road, Hororata (“Site C”) – Class 3 Managed Fill; and
- Burwood Resource Recovery Park (“Site D”) – Class 4 Controlled Fill , currently due to close in 2026.

The current gate fees at the sites above are:

- Kate Valley Regional Landfill - $198 per tonne
- Taiko Road Landfill (Cave) - $150 per tonne
- Plantation Road (Hororata) Managed Fill - $155 per tonne
- Burwood Resource Recovery Park - $110 per tonne

4.2 POTENTIAL CLASS 2 AND 3 FACILITIES

4.2.1 WOODSTOCK CLASS 2

In addition to the current alternatives, a potential additional alternative is the proposed Woodstock Quarry at Trigg Hill (approximately 16.5kms west of Oxford and 72kms northwest of Christchurch).

Based on the current application, the Woodstock facility is proposed to operate as a Class 2 Landfill, with additional engineering controls to allow acceptance of specified waste streams.

The consent application for a Class 2 Landfill at Woodstock was declined by the Councils, mainly due to the lack of information that was provided. It is currently being appealed to the Environment Court and a Court hearing is scheduled for November 2025.

4.2.2 SOUTHERN SCREENWORKS CLASS 3

A potential additional alternative is the Southern Screenworks quarry at Aylesbury (approximately 15kms northwest of Rolleston and 32kms west of Christchurch). The resource consent applications for the Class 3 Managed Fill with Councils was to be publicly notified. These were placed on hold and an application to be a listed project in the Fast-track Approvals Act 2024 (FTAA) was accepted. It is understood that at this stage Southern Screenworks are not intending to apply for the substantive approvals for the managed fill due to the costs involved.

4.3 ANALYSIS OF EXISTING AND PROPOSED FACILITIES

Since the Canterbury earthquakes, a significant volume of C&D waste has been disposed of in Canterbury, with the reopening of the Burwood Resource Recovery Park as an immediate response. While the Burwood site provided a local outlet for earthquake related C&D materials, it could not (and still cannot) accept asbestos waste or contaminated soils above recreational soil contaminant standard levels. The Burwood site has a current resource consent for the ongoing acceptance of low-level contaminated soils, which expires in 2026 and is unlikely to be extended further (CCC, 2024). Christchurch City Council (Council) has indicated it will not seek a further extension of operations and has committed to returning the area to the residents of Christchurch for the purposes of recreation.

Due to its classification (Class 4) and limited concentrations of soil contaminants accepted, Burwood is not directly comparable to the proposed facility at Whiterock. Whether or not Council extends the Burwood operation beyond 2026, the benefits of the proposed facility at Whiterock would remain largely the same. Based on the type of waste accepted and the low likelihood that any extension would cover the period of proposed operation at Whiterock, Burwood should not be considered a viable long-term alternative for the proposed Whiterock Class 3 Managed Fill, however a conservative approach has been taken and some consideration is provided in the next section of this report.

For unsorted C&D materials, there is a Class 2 C&D Landfill located in Taiko Road, Cave (South Canterbury). However, as a Class 2 site it incurs a higher waste disposal levy per tonne and is located at some distance from Christchurch (194km). While this provides an alternative disposal option for C&D waste and soils, compared to the Class 1 Landfill facility at Kate Valley, due to its distance from demand centres in Greater Christchurch and North Canterbury, it would not necessarily encourage diversion of inert materials from the Kate Valley Landfill.

Canterbury is serviced by an operational Class 3 Managed Fill facility, located in Plantation Road, Hororata (Mid Canterbury) 62kms from Christchurch. This site is an unlined landfill and as such does not have the same degree of engineered containment as is being proposed at Whiterock. Their WAC requires a declaration from a Suitably Qualified Environmental Practitioner (SQEP), and the existing facility cannot accept the same materials being proposed at Whiterock. This facility does provide an alternative to Kate Valley, however due to the WAC does not cater for all sorted inert waste.

Should planning permission be approved for the Class 2 Landfill proposed at Woodstock Quarry at Trigg Hill it will provide additional capacity in the Canterbury Region. As a Class 2 site, the potential facility would incur the higher (Class 2) waste disposal levy than the proposed Class 3 Managed Fill facility at Whiterock. The Woodstock site location would also not offer the same transport efficiencies as Whiterock for waste generated from Central Christchurch (and North Canterbury) - due to the main haulage route across the Waimakariri River bridge at State Highway 1, it would result in an additional transport distance of 72kms each way. It is therefore assumed that waste generated in Central Christchurch and North Canterbury would have a shorter haulage distance to the proposed facility at Whiterock than the Woodstock site.

To release the full capacity proposed at the Woodstock site, significant enabling and construction works will be required. Therefore, assuming that both applications were approved timeously, the Whiterock site is likely to be available sooner and is therefore a more readily available solution for waste expected to be generated by the FTAA listed projects plus others on the immediate to medium-term radar.

The Southern Screenworks is an existing aggregate quarry, that had proposed to include a Class 3 Managed Fill operation. Areas already excavated have been subject to limited cleanfilling. Based on their Council application the managed fill was to be unlined, and their WAC would only accept lower soil concentrations and less variety of sorted inert C&D compared to Whiterock. Aggregate removal is required over the next decade before its full capacity can be realised. The Southern Screenworks managed fill site is not currently intended to be progressed. The Whiterock site will therefore be available sooner, and accepts a wide range of inert waste.

5 BENEFITS PROVIDED BY THE PROPOSED WHITEROCK FACILITY

5.1 OVERVIEW

As established in the preceding sections, demand for sites for the disposal of Class 2-4 waste is set to continue with additional facilities required to efficiently manage waste consistent with national strategy and policy. The sources of this waste are varied and include a number of regionally and nationally significant infrastructure projects as well as the acceptance of Class 3 (Managed Fill) waste that is currently being disposed at Class 1 or Class 2 (Landfill) facilities.

The Whiterock proposal seeks to respond to this demand by offering an additional relatively proximate and cost-effective solution for inert C&D materials and contaminated soil in Greater Christchurch and North Canterbury. The development of the proposed facility at Whiterock is designed to complement the existing alternative disposal options in the following ways, by:

- Enhancing competition, providing alternative options in closer proximity to Christchurch and with lower gate fees;
- Providing additional Class 3 Managed Fill waste disposal capacity, so that Class 3 waste does not need to be disposed of to Class 1 or 2 Landfills, which are designed for other waste types that generate additional leachate, landfill gas, and have a higher potential for odour; and
- Providing a facility that can receive a broader range of contaminants than the Burwood site, which is scheduled to cease operations in 2026.

The proposed facility at Whiterock would provide a broader set of disposal options in Canterbury, which is likely to directly reduce the cost of disposal and encourage greater separation (and diversion) of waste.

It is likely the Whiterock facility would be an ideal disposal option for at least eight of the 22 FTAA listed projects[3] in Canterbury, based on the type of waste likely to be generated by those eight projects and the proximity of those eight projects to the Whiterock site (as compared to other disposal options). In this way, Whiterock would support and facilitate regionally or nationally significant projects. The infrastructure and land development projects most likely to be candidates for using a Class 3 Managed Fill facility at Whiterock are described in Section 3.2 and include:

- SH1 Belfast to Pegasus Motorway and Woodend Bypass
- Rolleston West Residential Development
- West Rangiora Residential Development
- Pound Road Industrial Development
- Ōhoka Residential Subdivision
- Gressons Road Development
- Grassmere Residential Development
- Birchs Village

[3] In Schedule 2 of the Fast-Track Approvals Act 2024

All these projects will, or will likely, intercept multiple HAIL sites and are therefore likely to generate surplus soils and require appropriate disposal facilities. Depending on the levels of contamination identified, surplus soils would require disposal at a Class 1-4 Landfill. The proposed facility at Whiterock would, due to its design and physical containment, be able to accept a broad range of contaminated soils, equivalent to a Class 1 Landfill. This would enable soil to be diverted to the proposed facility rather than being disposed of to a (more expensive) Class 1 or Class 2 facility.

The proposed Whiterock facility will generate economic and climate change benefits.

5.2 COMPARATIVE COSTS ASSESSMENTS

To illustrate the benefits of the proposed Whiterock facility, Table 2 lists a number of recent projects[4] which generated waste that could have been diverted from Class 1 or 2 Landfills, if the proposed Class 3 Managed Fill had been available:

Table 2: Demand for the proposed Class 3 Facility (relevant examples)

Project ID	Disposal Facility	Tonnes	Total Loads (truck and trailer)	Total Kms (actual)	Reduced KM's (to Whiterock)
Project Anvil (Burnham Military Camp)	Kate Valley	891	30	5,346	891
	Taiko Rd	3,207	107	29,932	13,897
Horizontal Infrastructure Project (Burnham Military Camp)	Kate Valley	3,070	102	18,420	3,070
	Taiko Rd	200	7	1,867	867
McAlpines Sawmill	Kate Valley	463	15	1,358	586
Halswell Road Upgrade (NZ Transport Agency Waka Kotahi)	Kate Valley	2,460	82	11,972	2,132
Waltham Mechanical Hub (KiwiRail)	Kate Valley	4,300	143	18,633	3,153
Totals		**14,591**	**486**	**87,528**	**24,596**

To further illustrate the likely benefits of the proposed facility over its life, the following analysis examines the proposed capacity and likely gate fees, inclusive of projected external costs. This analysis relies on publicly available information at the time of writing and assumes external costs are passed on to customers as part of gate fee setting. i.e. projected gate fee is scaled accordingly.

Using this basis of comparison, the cost benefits of the proposed facility includes:

- A haulage saving of between $288k and $3.5m (compared to existing landfill sites A-C)
- A gate fee saving of between $35.8m and $74.2m (compared to existing landfill sites A-C)
- A combined saving of between $36.2m and $74.5m (compared to existing landfill sites A-C)

Taking a conservative approach to this analysis by assuming operations at Burwood (considered as Site D) will be extended beyond 2026, and it could accept all waste destined for Whiterock (Burwood cannot accept asbestos or highly contaminated soils), the net result would be a combined saving of just $0.9m across the life of the proposed facility (20 years). However, not all Class 3 waste could go to Burwood, and it is very unlikely Burwood would remain a disposal option for the entire life of the proposed Whiterock facility.

[4] Project data provided by Protranz Earthmoving Limited

Therefore, per year, the total savings compared to existing landfill Sites A-C could range from $1.8 to $3.7m, with a nominal cost if all waste went to Burwood (estimated at $45,000 per year).

A breakdown of the comparative costs of the alternative facilities is provided in Table 3 below. Noting the assessment quantifies haulage costs (using a fixed transport cost per km) and the known external fees relevant to landfill type to quantify the likely impact on currently publicised gate fees for the alternative facilities considered. Actual gate fees charged will depend on commercial preferences of each site. The known variable costs are used here to generate a realistic estimate of costs/savings and demonstrate the relative impact of the proposed facility to disposal costs for the tonnage expected to be received at Whiterock over the 20 year projected capacity of the site.

Table 3: Comparative Cost Assessment of Alternative Facilities

Variable Costs (20 years)	**Whiterock**	**Site A Kate Valley Regional Landfill (Class 1)**	**Site B Taiko Road, Cave (Class 2)**	**Site C Plantation Road, Hororata (Class 3)**	**Site D Burwood Resource Recovery Park (Class 4)**
Haulage (From ChCh CBD)	$1,200,000	$1,560,000	$4,656,000	$1,488,000	$288,000
Waste Disposal Levy	$15,600,000	$59,400,000	$35,400,000	$15,600,000	$15,600,000
Emissions Trading Scheme	$0	$5,605,600.00	$0.00	$0.00	$0.00
Total Gate Fee	$91,600,000	$165,800,000	$127,400,000	$127,600,000	$91,600,000
Haulage saving*		$360,000	$3,456,000	$288,000	-$912,000
Gate fee saving*		$74,200,000	$35,800,000	$36,000,000	$0
Net Cost*		$74,560,000	$39,256,000	$36,288,000	-$912,000
Net Cost/Year*		$3,728,000	$1,962,800	$1,814,400	-$45,600

*Compared to Whiterock Class 3 Managed Fill

Based on the cost information in Table 3, Whiterock would have a considerably lower total gate fee than Sites A-C, with a marginally higher cost than Site D - the Burwood Class 4 disposal facility. This analysis assumes that the alternatives sites continue to operate under their current classification and that no further increases in external levies beyond those currently published are applied. In reality, the Waste Disposal Levy (particularly for Class 1 sites) is likely to further increase over time, so this is a conservative analysis.

The above analysis demonstrates the economic efficiency of a dedicated Class 3 site compared to the existing alternatives and conservatively illustrates how the proposal would encourage competition through the ability to offer a lower gate fee and have lower transport costs than the other equivalent facilities (Class 1-3 sites). The addition of the proposed dedicated Class 3 facility would positively impact the Greater Christchurch and North Canterbury Region, with increased competition and reduced disposal costs for inert C&D waste and contaminated soils in Canterbury.

In addition, even if it were assumed that potential alternatives like the Woodstock proposal obtains consents and/or Burwood operates beyond its current expiry date, the benefits of Whiterock will still be realised. At most, the emergence of other fill sites might extend the life of the Whiterock facility, but its presence will still generate the same benefits for waste disposal in the Canterbury Region.

5.3 SUMMARY OF KEY BENEFITS

The Whiterock proposal seeks to respond to the increasing demand for waste management facilities by offering an additional relatively proximate and cost-effective solution for inert C&D materials and contaminated soil in Greater Christchurch and North Canterbury. For waste generated in these areas, Whiterock is likely to provide a lower cost of disposal than alternatives, as a result of:

- Lower operating costs associated with a Class 3 site (compared to additional controls and monitoring associated with a Class 1 or 2 Landfill);
- Reduced transport distances (than alternative facilities); and
- Lower external levies (than a Class 1 or 2 facility).

In so doing, the Whiterock facility would achieve a meaningful increase in competition for the disposal of inert waste in the Canterbury Region with a positive impact on disposal fees.

The proposed Class 3 Managed Fill at Whiterock has number of advantages over existing sites including:

- A Class 3 site does not incur the same Landfill Disposal Levy as a Class 1 or Class 2 site. Central Government set the waste disposal levy and have announced levy increases through to 2027. The Class 3 levy is $50-55 cheaper per tonne than Class 1 and $20-25 cheaper than Class 2 in this period (Current levy settings: Class 1 $60/tonne, Class 2 $30tonne, compared to $10/tonne for Class 3).
- A Class 3 site does not incur ETS charges, incurred at Class 1 sites. A Class 1 site attracts the ETS with a Default Emissions Factor of 1.023/tonne, this factor is multiplied by the current ETS rate ($77/tonne) to quantify the ETS obligation (Kate Valley has a published Unique Emissions Factor of 0.091/tonne, i.e. an additional cost of $7.01/tonne).
- The proposed site is closer to sources of waste in Greater Christchurch than existing Class 1 or 2 alternatives and can accept a different mix of contaminants from Burwood, including contaminated soils up to Class 1 limits and asbestos.
- The proposed WAC would not require a separate declaration by a SQEP, as is required by one of the comparative sites, (noting these types of conditions are likely to add to the cost of professional services associated with waste acceptance.

5.4 CLIMATE CHANGE BENEFITS

The proposed Whiterock site is located 50kms from the Christchurch CBD. The comparative distance and carbon dioxide equivalent (CO_2e) emissions for each of the current disposal facilities is shown in Table 4 below. This shows the comparative benefit of the Whiterock site compared to taking the equivalent waste (same tonnage and transport units) to three out of the four current alternative sites.

Table 4: Comparative Transport Emissions from Christchurch CBD

Disposal Facility	Total Quantity (t/year)	Trips / year	Distance	Kms / year	Transport km emissions ($kgCO_2e$/year)	Emissions saved ($kgCO_2e$/year)	$kgCO_2e$/ Tonne
Whiterock	40,000	2,000	50	100,000	150,946.90		3.77
Site A	40,000	2,000	65	130,000	196,230.97	45,284.07	4.91
Site B	40,000	2,000	194	388,000	585,673.96	434,727.06	14.64
Site C	40,000	2,000	62	124,000	187,174.15	36,227.26	4.68
Site D	40,000	2,000	12	24,000	36,227.26	-114,719.64	0.91

6 CONCLUSION

In conclusion, the addition of a new Class 3 Managed Fill at Whiterock would achieve a meaningful increase in competition for the disposal of inert waste in the Canterbury Region with a positive impact on disposal fees. The provision of a closer alternative for the disposal of waste also results in climate change benefits due to a reduction in CO_2e emissions. The proposed facility would also contribute to the ability to meet national strategic and policy aspirations regarding waste management.

The proposed Whiterock facility would achieve the following benefits:

- Increasing competition in the disposal to land sector in the Canterbury Region by:
  - Increasing investment in waste sorting and stimulating more recovery of materials/diversion from Class 1 Landfills.
  - Reducing disposal costs for inert C&D materials and contaminated soils with direct benefit to economics associated with the development of residential and commercial projects (including infrastructure).
- Generating climate change benefits by reducing the transport emissions associated with disposal compared to the equivalent alternative sites (Class 4 site excluded).
- Providing a relatively immediate solution for the disposal of inert C&D waste and contaminated soils, due to the existing void space, enabling additional capacity (and competition) in the Canterbury Region.
- Supporting the delivery of strategic initiatives to support the aspirations of the Canterbury Region, such as:
  - Facilitating a range of development projects in the short and medium term, including projects listed in the FTAA, and nationally significant infrastructure such as the recently announced RONS state highway project for Greater Christchurch.
  - Numerous landfill remediation projects, which pose a significant environmental issue due to the increased risks to these landfills from natural hazards exacerbated by climate change, i.e. landslips, river flooding, and rising sea levels at the coast.
  - The projected urban growth of the Canterbury Region by providing more low costs disposal options and a specific facility for targeted waste streams.
- Contributing to the achievement of national strategy and policy, ensuring the right waste goes to the right place by:
  - optimising the utilisation of landfill airspace at Class 1 and 2 facilities which are set-up to receive those waste streams requiring a higher level of containment.
  - ensuring these facilities remain available for the disposal of degradable organic materials not catered for at a Class 3-4 facility, noting the significant requirements for establishing a new Class 1 facility.

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