GLASSON HUXTABLE
LANDSCAPE ARCHITECTS

Barrytown Mineral Sands Project: Southern Block

Landscape and Visual Assessment of Effects

By
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Document Quality Assurance	
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1 EXECUTIVE SUMMARY

Glasson Huxtable has been engaged by Tāiko Critical Minerals Limited (formerly TiGa Minerals and Metals Limited) to undertake a Landscape and Visual Assessment for the purposes of its application under the Fast Track Approvals Act 2024 ('**FTAA**'), and in particular Schedule 5, Clause 7(b) FTAA.

The application is to undertake mineral sands mining and processing to obtain ilmenite, garnet, and other minerals, and to construct the necessary infrastructure to do so. The proposal is to actively mine 280 hectares across an application area of 408 hectares on the Barrytown flats, within the Grey District of the West Coast of New Zealand. A 35-year resource consent is being sought to enable all pre-mining works, mining, and progressive and final rehabilitation to take place.

This assessment has determined the potential landscape and visual effects arising from the proposed application for mining, processing and associated activities. Overall, the project is considered to have a **low to moderate (minor) adverse effect on landscape character and values during pre-mining, mining and post-mining activity** and a **low adverse (less than minor) effect on landscape character in the longer term.**

This is primarily due to the previous modification of the site, including through former mining activity and vegetation clearance, the active mining disturbance area being transient and limited at any one time, the setbacks and mitigation proposed, and the ability for progressive rehabilitation to occur.

Of note, mining will follow the previously cleared pastoral areas as much as possible and exclude more heavily vegetated areas. There will be **positive effects** on landcover due to the addition of planted bunds and buffers and a new large wetland and riparian margins. It is considered that in the longer term; the benefits of large amounts of additional planting outweigh the short term disturbance.

When considering the adjacent Outstanding Natural Landscape ('**ONL**') of the Paparoa Ranges, the project will have a **very low (less than minor) adverse effect during pre-mining, mining and post-mining** and **no effect long term**. This is because the ranges are located outside the proposed mineral extraction area and are a separate landscape entity. Even though the coastal outlook from the ranges may temporarily change, the physical, perceptual, and associative values of the ONL will remain intact.

In regard to natural character, the project will avoid significant adverse effects. It will result in a **low (less than minor) adverse effect during pre-mining, mining and post-mining activity.** Longer term,

there will be a **low to moderate (minor) positive effect on natural character.** This is because the currently declining natural character of the application area is able to be reversed by the creation of a new large wetland and the rehabilitation of multiple riparian margins.

Effects on amenity as a result of the project, arise from the gradual transition in landuse from pastoral to mining, and changes to vegetation and the landform with the addition of stockpiles, bunds, the pit, tracks, and limited lighting. The visibility of the transient mining activity (bare earth), vehicles and machinery as they move across the application area and/or the change in character from open to more enclosed as a result of planting and/or bunding generally determines the resulting effect.

When considering the visual effects generated by the project, these are largely influenced by the observer's position relative to the mining, how close the mining is at any one time, how much of the activity is visible, and the screening provided by landscape mitigation. The number of viewers, whether they are static or moving, the time of day, and the weather conditions also all play a part.

For audiences with a longer viewing distance, mining elements will appear diminished in scale as well as partially filtered and softened by intervening vegetation, topography and structures. Elevated residences offer more direct views of the project. However, mining will usually only occupy a relatively narrow portion of the overall vista at any one time. For this reason, effects will be greatest when mining is closest to a viewer and decrease when activity is further away.

Visual effects arising from the project will range from their being **no visual effect as a result of the project, to very low or low effects (less than minor), to low to moderate effects (minor), through to moderate to high effects (more than minor),** at the most affected locations**.**

For the latter, there are two properties identified where the project will have 'more than minor' effects. This is for the residents of 101 Cargill Road and LOT2 DP2178. **Neither of these are considered 'significant' under the FTAA as the effects are relatively short term and are reversible.**

A summary table illustrating the identified level and nature of landscape effects as a result of the Project is included on the following pages.

1.1 Summary of the landscape effects as a result of the Project

Figure 1: Summary of the identified level and nature of landscape effects as a result of the Project

Landscape character	**Reasoning:**
Effects on landuse *Low to moderate (minor) adverse effect* – During pre-mining, mining and post-mining activity *Low (less than minor) adverse effect* – Following final rehabilitation	• Mining activity not being uncharacteristic or unexpected. • The mining disturbance area being limited at any one time. • Activity being transient and moving across the area over time. • The 35 year duration of the activity (14 years of active mining). • Rehabilitation being progressively undertaken. • Effects being dependent on when and where mining activity is occurring.
Effects on landform *Low to moderate (minor) adverse effect* – During pre-mining, mining and post-mining activity *Low (less than minor) adverse effect* – Following final rehabilitation	• The landscape being previously modified. • Various setbacks being imposed from the mining activity. • The effect of pre-mining, mining and post mining earthworks. • Active mining being limited to 16ha at any one time. • The mine pit being substantially lower and different to the surrounding landform, although temporary and transitioning. • The final landform being 0.63m lower (on average) due to extraction having taken place, with improved drainage, accounting for material for redistribution being brought in from the terraces to the east for rehabilitation. • The landform continuing to evolve due to ongoing coastal and geological processes.
Effects on landcover *Low (less than minor) positive effect* – During pre-mining, mining and post-mining activity *Low to moderate (minor) positive effect* – Following final rehabilitation	• The previous clearance of the majority of indigenous forest. • The majority of change being from pastoral grassland to mining. • Mining excluding more heavily vegetated areas. • The avoidance of Granite Creek and no loss of creek extent overall once the five creek diversions are completed. • Ability for progressive rehabilitation. • The addition of mitigation bunds and screening planting. • Ability to develop a large connected new wetland area and rehabilitate riparian margins. • The long-term benefits of additional planting outweighing the short-term disturbance.
Outstanding Natural Landscapes	**Reasoning:**
Effects on the ONL: Paparoa Ranges *Very low (less than minor) adverse effect* – During pre-mining, mining and post-mining *No effect* long term.	• The ONL area being located outside of the mining area. • The ranges being considered a separate landscape entity. • The contrast between the very high quality/intact nature of the ranges with the modified character of the application area. • The separation distance between ranges and the application area, with SH6 and vehicle movements dividing the two. • Even though the coastal outlook may temporarily change, the physical, perceptual, and associative values of the ONL remaining intact.

Natural Character	Reasoning:
Low (less than minor) adverse effect – During pre-mining, mining and post-mining activity *Low to moderate (minor) positive effect* – After mining is complete and all rehabilitation measures are implemented	• The application area having downgraded natural character and the opportunity to reverse this. • Higher natural character existing outside of the application area, with the landscape being dominated by the sea/ranges. • Limiting the mining disturbance area, adopting progressive rehabilitation measures, and implementing setbacks. • That significant adverse effects on natural character will be avoided. • The opportunity to create a large new wetland and rehabilitate riparian margins.

Visual Amenity: The assessment has broken down the neighbouring areas into smaller clusters to assist with assessing the effects over such a large application area.

Cluster 1: Further afield

- Residents further afield: *No adverse effect*

Cluster 2: Barrytown Township

- Residents east of Coast Road/SH6: *Very low (less than minor) adverse effect*
- Residents west of Coast Road/SH6 and Barrytown School: *Ranges from very low (less than minor) to low (less than minor) adverse effect*

Cluster 3: Cargill Road, Barrytown Cemetery and Freedom Camping Area

- Residents of Cargill Road (beyond the township): *Ranges from low (minor), low to moderate (minor) to moderate to high (more than minor) adverse effect.*
  - The 'more than minor' adverse effect relates to a single dwelling at 101 Cargill Road. For these residents, mining will be closest at the start and end of year 12, throughout year 13, and at the start of year 14. A visual and nose bund will be constructed immediately in front of this property when mining activity occurs at the southern end of Section 2 and throughout Section 3. This bund will temporarily obstruct all outward views towards and along the coast, meaning the visual outlook from this property will markedly change during years 8-14 of mining.
  - The above effect is not considered 'significant' under the FTAA process as it is relatively short term and is reversible.
- Users of Cargill Road: *Low to moderate (minor) adverse effect*
- Visitors to Barrytown Cemetery: *Very low (less than minor) adverse effect*
- Users of the Cargill Road Freedom Camping Area: *Low (minor) adverse effect*

Cluster 4: Pakiroa Beach and the Tasman Sea

- Users of Pakiroa Beach – South of Cargill Road: *Very low (less than minor) adverse effect*
- Users of Pakiroa Beach – North of Cargill Road to Granite Creek: *Very low (less than minor) adverse effect*
- Users of Pakiroa Beach – North of Granite Creek: *Low to moderate (minor) adverse effect*
- Users of Pakiroa Beach – South of Canoe Creek: *Low to moderate (minor) adverse effect*

Cluster 5: Canoe Creek

- *Negligible (less than minor) adverse effect*

Cluster 6: Prospector Place and Coast Road/SH6

- Residents west of Coast Road/SH6: *Low (less than minor) adverse effect*
- Residents residing within the valley/base of the hill: *Ranges from no effect to low (less than minor) adverse effect*
- Residents residing on the hillside: *Ranges from very low (less than minor) to low (minor) adverse effect*

Reasoning:

- The gradual change in landuse from pastoral to mining to pastoral/wetland.
- Changes to the landform, particularly the creek diversions, addition of stockpiles, bunds, the transient mining pit, and the bringing in of material from higher terraces.
- The addition of internal tracks.
- The change in character from open to more enclosed along some boundaries.
- Vegetation removal and new planting.
- The visibility of mining activity (bare earth), vehicles and machinery as they move across the application area.

In terms of effects, it should be noted that:

- Mining activity is transient.
- Existing vegetation plus landscape mitigation will restrict views of the mining activity from some locations.
- Lighting will be minimal – activities occur during daylight, and there will only be a small amount of lighting on equipment at night.
- Effects will be greatest when mining is closest and decrease when activity is further away.
- Elevated houses have more direct views of the mining area. However, often mining will occupy only a relatively narrow portion of the overall vista at any one time.
- For those with a long viewing distance, mining elements will be diminished in scale as well as partially filtered and softened by topography, vegetation and structures.

Cluster 7: Coast Road/SH6 (North) • Users of Coast Road/SH6 between 3081 Coast Road/SH6 and Warren Road: *Very low (less than minor) adverse effect* • Residents of Coast Road/SH6 (North): *Ranges from very low to low (less than minor) adverse effect*	
Cluster 8: Warren Road and bush to the north • Residents along Warren Road: *Ranges from no effect to very low (less than minor) adverse effect* • 2975 Coast Road/SH6: *Low (less than minor) adverse effect* • Lot 2 DP2178 (address number unknown): *Moderate (more than minor) adverse effect.* o The 'more than minor' effect on Lot 2 DP2178 is because mining activity will be visible across the flats at varying distances between years 1-6 until a new planted bund is constructed along the western boundary of this property. During year 9 of the project, mining will come within 24 metres of the boundary of this property (up to the western edge of the bund). Whilst the new bund will provide noise and visual mitigation, screening views of the mining activity from this dwelling, it will also temporarily obstruct the residents open coastal vista that they currently experience. o <u>The above effect is not considered 'significant' under the FTAA process as it is relatively short term and is reversible.</u>	
Cluster 9: Coast Road/SH6 (Centre) • Users of Coast Road/SH6 from north of Barrytown Township to Warren Road: *Ranges from no effect to very low (less than minor) adverse effect* • Residents of Coast Road/SH6 (centre): *Ranges from very low to low (less than minor) adverse effect*	
Cluster 10: Coast Road/SH6 (south) • Residents of Coast Road/SH6 (south): *Ranges from no effect to very low (less than minor) adverse effect*	
Cluster 11: Fagans Creek • Residents of Coast Road/SH6 and Glen Road: *Ranges from no effect to very low (less than minor) adverse effect*	
Cluster 12: Croesus Track and the Paparoa Ranges • Users of Croesus Track: *Very low (less than minor) adverse effect* • Users of the Paparoa Ranges and Pororari Hut: *No effect.*	

2 INTRODUCTION

Glasson Huxtable has been engaged by Tāiko Critical Minerals Limited ('**Tāiko**' or **'the applicant'**) to undertake a Landscape and Visual Assessment ('**LVA**') for the purposes of its application under the Fast Track Approvals Act 2024 ('**FTAA**') ('**the application**').

The applicant proposes to undertake mineral sands mining and processing to obtain ilmenite, garnet, and other minerals, and to construct the necessary infrastructure to do so. The application area comprises of approximately 408 hectares of land located on the Barrytown flats, within the Grey District on the West Coast of New Zealand. Of this area, around 280 hectares is proposed to be subject to active mining. A consent term of 35 years is sought to enable all pre-mining works, mining, and progressive and final rehabilitation to take place.

The land, which is currently owned by Moir Farms Maimai Limited, Cargill Rd Barrytown Limited, Barrytown Farms Limited, and Nikau Deer Farm Limited, and a small portion of road reserve, is referred to as the Southern Block ('**SB**'), '**site**' or '**application area**' throughout this assessment.

The aim of this assessment is to determine the potential landscape and visual effects arising from the mining activity itself. This has involved understanding the existing landscape and natural character, outstanding natural features and landscapes, and amenity value of the area and locality. Landscape and visual effects during and at the end of the mining activity have then been assessed against these values and alongside the relevant statutory provisions. Where values may potentially be affected, design principles have been incorporated through mitigation and rehabilitation measures.

This LVA is one of a number of specialist assessments prepared for Tāiko's application under the FTAA and forms part of the overall application for an approval under Schedule 5 of the FTAA.

3 METHODOLOGY

3.1 Previous work completed

Originally the author's colleague, Mr Christopher Glasson, completed work for Barrytown JV Limited (the Applicants previous venture) as part of a previous resource consent application on the Barrytown flats.[1] It was during a project redesign in September 2022, that the author began working with TiGA Minerals and Metals, now known as Tāiko Critical Minerals Limited (the applicant).

The author (Ms Naomi Crawford) has completed the following work for the consented Central Block ('**CB**') at Barrytown:

- Delivering a Landscape and Visual Assessment (April 2023).
- Supervising preparation of a Graphic Supplement, Visual Simulations, and a Landscape Mitigation Planting Package (April 2023).
- Compiling a Section 92 response and issuing an amended Landscape and Visual Assessment (July 2023).
- Taking part in expert conferencing and delivering a joint witness statement (January 2024).
- Preparing a statement of evidence and summary of evidence (January 2024).
- Providing expert evidence at the hearing (February 2024).
- Providing supplementary evidence and contributing to consent conditions (February 2024).

Resource consent for the CB Mineral Sands application was granted by independent commissioners in April 2024 but was subsequently appealed. A successful resolution was reached in October 2024 via consent order. In addition, the author has also produced a Landscape and Visual Assessment for the Wet Concentrator Plant ('**WCP**'), utility buildings, and site access, already consented and to be established towards the northern end of the SB. For the avoidance of doubt, this application relates to mining activity only. For completeness, I have considered the effects cumulative with the existing consented operations (not yet established) and still reach the same conclusions.

3.2 Southern Block (SB) application

This Landscape and Visual Assessment covers the extended mining area at Barrytown, referred to as the SB. It is located on the Barrytown flats, between Canoe Creek in the north and Fagans Creek in the south (Refer to page 3 of **Appendix 2, Graphic Supplement, Plan 1.0: Wider Context Plan**).

[1] Christopher Glasson (Fellow of the NZILA) prepared a LVA contributing to a former Resource Consent application for the CB at 3261 Coast Road/SH6, Barrytown. He also prepared and presented Landscape and Visual Evidence and Supplementary Evidence for a hearing held in September 2021. The outcome of this consent process was unsuccessful.

This LVA has been prepared in accordance with the concepts and principles outlined within **Te Tangi a te Manu: Aotearoa Landscape Assessment Guidelines (TTatM)**.[2] It is accompanied by three appendices:

- Appendix 1: **Landscape and Visual Assessment Criteria** (included at the end of this document).
- Appendix 2: **Graphic Supplement** (attached separately).
- Appendix 3: **Landscape Mitigation Package** (attached separately).

3.3 Desktop study

As part of preparing to undertake this assessment, information was initially compiled through a desktop study. This included understanding and collating the following:

- Relevant planning information and statutory provisions.
- Existing aerials, topography, vegetation, neighbouring properties, and land uses.
- Site layout (including boundaries and mining areas), staging, and mining methodology.
- Final levels and rehabilitation information, including input from other disciplines such as ecology and hydrology.

3.4 Site visits

Three visits to the Barrytown area were undertaken on 10 November 2022, 24 May 2023, and 4 February 2024 for the purposes of assessing the CB. For the purposes of assessment of the SB application, Naomi Crawford (accompanied on some trips by Erina Metcalf) of Glasson Huxtable alongside Luke McNeish of Tai Poutini Resources, visited the application area and surrounding areas on 22 and 23 May 2024, and 6 December 2024. The weather on all trips was generally overcast or fine. The site visits assisted with understanding the application area and wider context in further detail and taking photographs within the area and its wider context. They also informed the assessment of effects and recommendations for mitigation.

[2] Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, 2022. For further information, refer to: https://nzila.co.nz/about/te-tangi-a-te-manu.

4 THE EXISTING LANDSCAPE

This chapter of the assessment includes two parts:

- Identifying the relevant landscape context. It is important to understand the existing landscape context from a broad perspective to the immediate mining locality to ensure that any modification can be integrated without unacceptable effect.
- Describing, and interpreting the character and the values of the area – physical, associative, and perceptual. Analysing these attributes is pertinent to understanding the potential effects of the application on these values.

Definition of the term 'landscape'

TTatM recommends the following definition for landscape: *"Landscape embodies the relationship between people and place. It is the character of an area, how the area is experienced and perceived, and the meanings associated with it."*[3] This definition focuses on landscape as the relationship between people and place. The following sections outline the relevant landscape context and describe the landscape character – at a Wider Context (West Coast), Intermediate Context (Barrytown) and for the application area itself.

4.1 Wider context – West Coast of the South Island

The application is located on the West Coast (Te Tai Poutini) of the South Island of New Zealand. The West Coast is one of the more remote areas of the country and stretches from Kahurangi Point in the north to Awarua Point in the south, a distance of 600 kilometres covering an area of 23,276km^2. To the west is the Tasman Sea and to the east are the Southern Alps. Much of the land is rugged, and the sea is rough, with the majority of the population residing on the coastal plains. The landscape is scenic, with wild coastlines, mountains, rivers, and a high proportion of native bush. The West Coast is the only part of New Zealand where significant tracts of lowland forest remain. There is high rainfall due to the prevailing north-westerly wind pattern and the location of the Southern Alps.

The region has an important history which is associated with prospecting materials and minerals. This includes the West Coast Gold Rush (between 1864 and 1867), the mining of coal (beginning in 1860's, hitting a peak in the 1880's and with several coal mines still in operation today), and the felling of native timber.

[3] Te Tangi a te Manu: Aotearoa Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022, refer to page 76, section 4.20.

These days, the region is valued for its abundance of greenstone (pounamu), mining opportunities, tourism ventures, and small-scale farming. The main centres of Westport, Greymouth and Hokitika (also home to the three local government districts of Buller, Grey and Westland), are located on the coast and at river mouths. The establishment of businesses in these locations is due to the availability of flat land, ease of access and proximity to transportation (sea, river and road).[4] The flat coastal land is also more productive than the steep hill country and forested areas.

4.2 Intermediate context – Barrytown flats

The intermediate context is known as the 'Barrytown flats' and is well defined on four sides. It includes the 17-kilometre stretch of coastline between Razorback Point in the north to Seventeen Mile Bluff in the south, and the skyline above the Paparoa Ranges in the east to the Pakiroa Beach coastline in the west. Here, the thin stretch of coastal plain reaches just 1.5 kilometres wide at its widest point between the coast and the ranges.

Barrytown itself (originally known as Seventeen Mile Beach, Fosebery and Barryville) is situated on State Highway 6 ('**SH6**'), between the township of Greymouth (30 kilometres to the south) and the famous tourist attraction of Punakaiki, home of the 'Pancake Rocks' (16 kilometres to the north). The area has a rich Māori and European history. The local hapū, Ngāti Waewae of Ngāi Tahu, historically travelled through and occupied the Barrytown flats. This area was a vital food source for them, as evidenced by the presence of historical middens containing tuatua (clam) shells.

European history included the clearing of native forest along the coastal plain, the mining of alluvial gold and pastoral farming. The gold rush in the 1860's led to the dramatic growth of the area. By 1879, approximately 2000 miners were associated with a Catholic Church, a state school, two lodging houses, a blacksmith, a hotel and two general stores. However, by 1901 the gold rush was over, and the population declined to just 64 residents (with an additional 60 residents in the surrounding area). This scattered population spread is similar to the present day.

The landform of the Barrytown flats is in distinct contrast to the areas along the coast, both north and south, where the coastal landscape is made up of bluffs, islets, deep ravines, vertical river cliffs and an often-pounding sea. Along the Barrytown flats, which is wider and more open by comparison, the land is undulating, with several streams dividing the flats and the Barrytown hills and Paparoa Ranges rising up behind. Canoe Creek, which has a large catchment in the hinterland, becomes a fast-flowing

[4] Many industries are well established, but there are also instances where activities have now closed down.

river emptying into the sea. Elsewhere, there are creeks, open water bodies (some of which are remnant dredge ponds), wetlands and springs. In places, the surface drainage of the coastal plains has been altered to improve farming production. Coast Road/SH6 traverses the length of the coastal plain.

The landcover is made up of the high and steep forested hills of the Paparoa Ranges, incised by several rivers. In stark contrast to these hills, is the undulating green pasture of the coastal plain, with smaller pockets of vegetation and swampland. This coastal plain has largely been cleared of its indigenous coastal forest, although some isolated remnant stands of bush remain.[5]

Notable landscape features within the wider area (illustrated within page 5 of **Appendix 2, Graphic Supplement, Plan 3.0: Public Conservation Areas, Scenic Reserves and Walkways** include:

- Te Aro Taiko Nature Reserve.
- Punakaiki Scenic Reserve.
- Nikau Scenic Reserve (directly adjacent to Punakaiki Scenic Reserve).
- Barrytown Flat Conservation Area.
- Lawson Creek Scenic Reserve.
- Lawsons Creek – also called 'Waiwhero', north of Maher Swamp.
- Maher Swamp – north of the application area.
- Coast Road Scenic Reserve (directly adjacent to the Barrytown Flat Conservation Area).
- Langridge Scenic Reserve (adjoining the northern boundary of the application area).
- A Significant Natural Area ('**SNA**') at Barrytown just north of Cargill Road adjacent to the application area, listed as **SNA PUN-049** in the Te Tai o Poutini Plan ('**TTPP**').[6]
- Five further SNAs within the Punakaiki Ecological District including PUN-W033, and PUN-W034 (both under appeal in the TTPP), and PUN-044, PUN-123 and PUN-124.[7]
- The west facing slopes of the Barrytown hills and the Paparoa Ranges (between Razorback Point and Seventeen Mile Flat) to the east of Coast Road/SH6, which are identified within the Grey District Plan ('**GDP**') and the TTPP (ONL Chapter under appeal) as an Outstanding Natural Landscape ('**ONL**').

[5] In pre-European times, the vegetation on the flats was dominated by podocarp forest, mainly kahikatea and rata, along with swamp vegetation. The latter is still in existence today due to the difficulty in draining the coastal plains.
[6] TTPP, Schedule 4 lists SNA PUN-049 as being important because it has *"lowland kahikatea forest with some wetland character and scrub on the fringes."* It *"provides a connecting stepping stone between the coast and the forested ranges."*
[7] These areas include coastal wetlands, lagoons, series of small waterbodies, a lowland coastal forest, broadleaved and rimu forest, and multiple connecting corridors between the coast and the ranges.

Over the years the landuse of the Barrytown flats has been substantially modified by vegetation clearance, farming, and gold mining. Today, pastoral farming (sheep, deer, beef, and dairy cattle), cropping and forestry occurs on the coastal plain. This is supported by a scattering of farm dwellings and residences on the flat and houses or holiday homes on the lower slopes of the forested hillside.

Human incursions onto the Barrytown coastal plain are well established, but relatively tentative on the hillside. The flanks of the hillside lead to Paparoa National Park. This 43,000-hectare park was created in 1987 in order to protect a limestone karst area as well as increase the tourism potential for the district. The Paparoa Track (a nationally recognised 'Great Walk') can be accessed from Barrytown Village via the Croesus Track, which is a former miners track.

Today Barrytown village has a number of residential dwellings, a Settlers Hall, and a small school. It is known for its stone carving, knife making and horse drawn wagon tours. Several roads in the vicinity come off Coast Road/SH6 and lead across to the coast, providing access to the beach. There is a freedom camping area at the western end of Cargill Road.

4.3 West Coast Landscape Study

The West Coast Landscape Study known as the **Brown Landscape Study** was commissioned by Grey District Council ('**GDC**') to identify outstanding landscapes and natural features located in areas outside of the public conservation lands administered by the Department of Conservation ('**DoC**'), which are already offered some protection. Brown produced a number of documents which have contributed to understanding the existing landscape context through mapping and describing landscape values for the Barrytown area.[8] These documents identify various Outstanding and High Natural Character Areas and Natural Character Areas for the Barrytown area as well as the extent of the coastal environment. Key attributes identified include:

<u>Seventeen Mile Bluff (south of the Barrytown flats), which includes:</u>

- A sequence of coastal bluffs and escarpments interspersed by rocky shoals and sandy bays.
- A strong sense of naturalness.
- Raw and exposed coastal landforms.

[8] Brown NZ Limited delivered the following documents: West Coast Landscape Study: Maps, Photos and Schedules (May 2013), West Coast Landscape and Natural Character Study (2012 and 2013), Explanation of Assessment Methodologies (March 2021), and the West Coast Landscape Study, Review of Outstanding Natural Landscapes and Areas of High and Outstanding Natural Character (March 2022).

Paparoa foothills (east of the Barrytown flats), which includes:

- A sequence of rolling to steep coastal hills/valleys that form foothills to the Paparoa Range.
- Exposed limestone outcrops and deeply incised river gorges and valleys.
- The interplay of mature indigenous forest. From lowland beech forest to alpine scrub.
- A coastal outlook, exposure, dramatic and expressive nature.
- The unmodified mountain range with strong sense of naturalness.
- The contrast with the coastal flats.
- Wetland areas of flax and native shrublands

Pakiroa Beach (at the northern end of the beach), which includes:

- A broad sweeping sandy/stony beach backed by extensive dune field, coastal scrub and forest.
- Natural qualities evident in the dune landform, wind swept vegetation cover.
- An intact sequence of vegetation from dune fields through to coastal forest.

The effect of the application on the values identified above, especially for the Paparoa foothills which is an identified ONL in the GDP and situated adjacent to the application area, is assessed within **Section 9** of this report. Both Seventeen Mile Bluff and the Paparoa Foothills are also proposed as ONLs within the TTPP (and under appeal).

4.4 The application area

Physical attributes

The 408 hectare application area (with 280 hectares proposed as the active mining disturbance area) is located on the Barrytown flats. To the north is Langridge Scenic Reserve and Canoe Creek. Pakiroa Beach is located to the west, and Fagans Creek to the south. The eastern boundary runs parallel to, (but setback from) Coast Road/SH6. Part of the area is divided by Warren and Cargill Roads, and the faster flowing Granite Creek, which provide useful points of reference.

Over the years there has been significant modification as a result of vegetation removal, recontouring for better drainage, dredge mining, farming practices and intensive cattle grazing. Today, the area is used for dairy farming. Internal gravel tracks provide vehicle access across each of the farms. There are also a number of farm sheds accompanied by farming infrastructure, fencing and one mobile phone tower. Fencing is generally reliable, including around most waterways.

Resource consents have been granted for mining activity on the CB to the north of the site, and a Wet Concentrator Plant ('**WCP**'), Mine Water Facility ('**MWF**') and associated mining facilities and site access within northern part of the SB. These activities will be implemented and form part of the reasonably foreseeable future environment. Both the previous CB and the proposed SB associated with this application are illustrated on page 4 of **Appendix 2, Graphic Supplement, Plan 2.0: Proposed Mining Area Plan**.

The landform of the application area slopes gently away from Coast Road/SH6 towards the sea with a change in height of approximately 27 metres between the road and the coast at the northern end and 33 metres between the road and the coast at the southern end. The landform also slopes inwards from the southern and northern ends towards the middle of the application area. There are wetlands and creeks as well as man-made mining dredge paths, humped and hollowed drainage channels and small farm ponds. Together these result in an application area that has been highly modified as a result of man-made, coastal, geological and historical processes.

There are also a number of other landscape features onsite and nearby. They include Canoe Creek, Northern Creek, Central Creek, Granite Creek, Little Granite Creek, Clarke Creek, Wasabi Creek, Southern Creek, Fagans Creek, and many other smaller tributaries and natural springs which eventually drain into the sea. Natural processes are constant, with the erosion of the coastal edge and scouring on the banks of waterbodies. At times, the sea can intrude into the mouths of the creeks. Often though, the outward flow onto the beach is impeded by northward longshore drift. This causes creek mouths to be closed by narrow shingle ridges or for the creeks to bubble out onto the beach from underneath the shingle.

The original landcover within the application area would have been lowland forest and swamp species. Today, it is predominantly modified pasture accompanied by smaller amounts of flax, rushes, sedges, ferns, thistles and gorse located along riparian margins and along some areas of the coast. Stands of lowland forest are also present nearby and vary in size. These have kahikatea, rata, rimu, kamahi and totara amongst other bush species. Towards the southern end of the application area, the vegetation also includes clusters of nikau trees. This is the southern-most place in New Zealand where these trees grow.

Larger clusters of vegetation which border parts of the application area include:

- Langridge Scenic Reserve adjacent to Canoe Creek, which is indigenous forest.
- A stand of exotic old man pine trees situated near the WCP.
- Indigenous forestry areas south of the proposed access road and north of Warren Road.
- Broadleaf indigenous hardwoods north of Cargill Road within SNA PUN-049.
- A mixture of wetland riparian and other dense planting areas.

Associative attributes

The application area has a history of gold mining and Ngāti Waewae of Ngāi Tahu occupation. In addition, two historic sites have been identified within the application area. They include:

- K31/11: a findspot in the northern portion of the application area.
- K31/12: a findspot in the south, for which a greenstone shaped like a brown trout and a pendant were located in 1980.

Perceptual attributes

In its simplest form, perceptual attributes can be summarised by the sensory experience of the environment as experienced by humans. For the application area this includes:

- The feeling of remoteness being in a rural area away from a busy urban centre.
- The memorable contrast between the mainly pastoral valley floor and the forested hillsides.
- The sound of the waves, wind, water, cicadas, and birdlife.
- The earthy smell of the farm activity, mud and swamp water.
- The darkness of the night sky.
- The scenic quality of the surrounding landscape including the coast, rivers and the ranges.
- The movement of the waves, wind in the rushes, water, birdlife and mist encasing the hills.
- The opportunity for long distance views up and down the coast or outwards towards the sea, with the ranges behind.

4.5 Neighbouring properties

The majority of neighbouring properties at Barrytown are located within the Barrytown flats, along Coast Road/SH6 or accessed from the side roads which come off it. Nearly all properties are orientated towards the coast, with outward views sometimes limited by the surrounding vegetation a property is nestled into. This assessment has broken down the neighbouring areas into smaller clusters to assist with assessing the effects over such a large application area. This corresponds with the different areas assessed under **Section 12** of this report.

Page 34 of **Appendix 2, Graphic Supplement, Plan 10: Viewpoint clusters** illustrates the location of each of the property clusters described below. Where clusters have **accompanying panoramas**, references are also included to the relevant parts of the **Graphic Supplement, pages 15-33.**

Figure 2: Property clusters and addresses

Property clusters and addresses
Cluster 1: Approaching Barrytown flats ***Viewpoint 1 in Appendix 2, Graphic Supplement, page 14***
• 3172 and 3195 Coast Road/SH6 (Northern residential properties) • 2364 and 2404 Coast Road/SH6 (Southern residential properties) • 2, 2a, 4, 6, 20, 21, 26, 28, 30, 32 and 34 Golden Sands Road (Properties beyond Glen Road)
Cluster 2: Barrytown Township ***Viewpoints 3 and 4 in Appendix 2, Graphic Supplement, page 16***
• 2796, 2800, 2802, and 2822 Coast Road/SH6 (Residential Properties East of Coast Road/SH6) • 4, 6, 7, 8, 9, 10, 11, 12, 12a, 13, 13a, 14, 15, 16, 17, and 22 Cargill Road (Properties west of Coast Road/SH6) • 2787 (Backpackers) and 2801 (Residential property) Coast Road/SH6 • 21 Cargill Road (Barrytown School)
Cluster 3: Cargill Road, Barrytown Cemetery and Freedom Camping Area ***Viewpoints 5-8 and 29-31 in Appendix 2, Graphic Supplement, pages 17-18 and 30-31***
• 64, 86, 101 Cargill Road (Residential properties) • Cargill Road • Barrytown Cemetery • Cargill Road Freedom Camping Area
Cluster 4: Pakiroa Beach ***Viewpoints 9-16 and 32-34 in Appendix 2, Graphic Supplement, pages 19–22 and 32-33***
• Pakiroa Beach – South of Cargill Road • Pakiroa Beach – North of Cargill Road • Pakiroa Beach – North of Granite Creek • Pakiroa Beach – South of Canoe Creek
Cluster 5: Canoe Creek
• Along Canoe Creek and it's margins
Cluster 6: Prospector Place and Coast Road/SH6 ***Viewpoints 17-19 in Appendix 2, Graphic Supplement, pages 23-24***
• 3103, 3108, and 3067 Coast Road/SH6 (Residential properties west of Coast Road/SH6) • 5, 6, 10, 15, 17 (also known as 3142 Coast Road), 19, 21, 26, 28 and 28a Prospector Place and 3068, 3092, 3118, and 3142 Coast Road/SH6 (Residential properties within the valley and base of the hill) • 3094 (x2 dwellings), 3094b, and 3094c Coast Road/SH6 (Residential properties on the hillside)
Cluster 7: Coast Road/SH6 (North) ***Viewpoints 20-22 in Appendix 2, Graphic Supplement, pages 24-25***
• Coast Road/SH6: between 3081 Coast Road/SH6 and Warren Road • 2967a, 2967b, 2978, 2980, 2987, 2998, 3008, 3010, and 3012 Coast Road/SH6 (Residential properties)
Cluster 8: Warren Road ***Viewpoints 23 and 24 in Appendix 2, Graphic Supplement, page 26***
• Warren Road • 2, 23, 37, 41, 43, 43a, 2x unknown addresses and 50 Warren Road (Residential properties) • 2975 Coast Road/SH6 (hut in the bush)

• Lot 2 DP 2178 - Unknown number Coast Road/SH6 (associated with the motorbikes and dirt track)-)
Cluster 9: Coast Road/SH6 (Centre) ***Viewpoint 25 in Appendix 2, Graphic Supplement, page 27***
• Coast Road/SH6 - north of Barrytown Township to Warren Road • 2828, 2866 and 2888 Coast Road/SH6 (Residential properties)
Cluster 10: Coast Road/SH6 (South) ***Viewpoints 26-28 in Appendix 2, Graphic Supplement, pages 29-30***
• 2790 Coast Road/SH6 • 2751 Coast Road/SH6 • 2724, 2726, and 2742 Coast Road/SH6 (Residential properties)
Cluster 11: Fagans Creek ***Viewpoint 35 in Appendix 2, Graphic Supplement, page 33***
• 2522, 2538, 2538a, 2583, 2588, 2611, 2617, 2622, 2623, 2624, 2624a, 2626 and 2630 Coast Road/SH6. • 13a, 13b, 13c, 18 and 52 Glen Road.
Cluster 12: Croesus Track and the Paparoa Ranges ***Viewpoint 2 in Appendix 2, Graphic Supplement, page 14***
• Croesus Track and the Paparoa Ranges.

Note: Every effort has been made to include all relevant addresses in the table above. Information has been extracted from the GDC Spatial Planning Maps, Google Earth, Google Maps, ArcGIS and from observations on site. Of note, where property owners own more than one parcel of land, the property numbers given in the table above relate to the dwelling associated with each address.

5 PROPOSAL

This section highlights those aspects of the proposal pertinent to understanding the potential landscape and visual effects of the proposed mining activity. A full description of the proposal accompanied by a number of plans is contained within the **project description** which sits within the wider application.

5.1 Background to the application

Mining activity has occurred on the West Coast of the South Island of New Zealand (and in other regions such as Central Otago and Marlborough) since early European settlement. Although new mines have been established in recent years, a number of these are limited in size, depth and/or duration, restricting the amount of material which is available for extraction. A mining proposal for the whole of the Barrytown flats was proposed in the early 1990's. The current application revives the possibility of mining the same area and adds to the recently consented CB.

The Barrytown flats (primarily the land between Coast Road/SH6 and the coast) is known to contain mineral concentrations of ilmenite, garnet, gold, and other associated heavy minerals. These concentrations are a result of longshore drift and subsequent wave action, which has transported minerals inland. The sandy barriers along the coast have resulted in mineral deposits accumulating into a series of concentrated strandlines along and behind the beachfront. In this case, the majority of the strandlines have been previously dredged resulting in a more homogeneous distribution of minerals across much of the application area.

5.2 Application overview

Mining activity is proposed to be undertaken on 280 hectares across an application area of 408 hectares. This land extends from Canoe Creek in the north to just south of Cargill Road (north of Fagans Creek). It is a distance of almost 6 kilometres and extends approximately 700 metres inland. Mining on the SB will be undertaken using a floating dredge of modern design. The proposed activities will also utilise the recently consented WCP, MWF, utility buildings and site access to be established towards the northern end of the SB. For the avoidance of doubt, this application relates to mining activity only but considers for completeness any cumulative effects of the mining activity with the existing consented activities.

Mining sequence

The indicative mining sequence, showing the anticipated route and extent of mining over time is illustrated on page 9 of **Appendix 2, Graphic Supplement, Plan 7.0: Indicative Mining Sequence.** Mining will generally progress in a north/south direction, although there will be some mining in an east/west direction where the dredge turns to commence a new strip. Mining will be undertaken in three sections (also illustrated on the above plan), with one mining section being worked on at a time: Section 1: Granite Creek North, Section 2: Granite Creek South, and finally Section 3: Cargill Road.

Duration

Mining of the SB is expected to commence in 2035 once the mineral resource on the CB has been exhausted. A consent term of 35 years is being sought to enable all pre-mining works, mining and final rehabilitation. The 35 year term is anticipated to include:

- Bunding and initial mitigation planting – 1 year (2027).
- Mining Section 1: Granite Creek North – 7 years (2035-2042).
- Mining Section 2: Granite Creek South – 4 years (2043-2047).
- Mining Section 3: Cargill Road – 3 years (2047-2050).
- Final rehabilitation – 3 years (2050-2053).
- An operational contingency period of 6 years is available (2050-2056). This would be followed by the final rehabilitation proposed above.

Mining setbacks

Mining will be setback from landscape features and boundaries as follows:

- 20 metres from the consent boundary.
- 20 metres from Granite Creek.
- 20 metres from Fagan Creek.
- 50 metres from Mean High Water Springs (MHWS)
- 20 metres from SNA PUN-049, adjacent to Section 2 (Granite Creek South).
- 20 metres from all private property boundaries not within the application area.
- 200 metres from dwellings other than where noise bunds are proposed.

5.3 Pre-mining activities

Prior to mining excavations beginning, initial site works will occur. For landscape this means:

1. The retention of some areas of existing vegetation.
2. The addition of new areas of vegetation for mitigation.

3. The addition of the first two planted noise/visual bunds (described in further detail below).

Vegetation to be retained

Key vegetation to be retained is illustrated on pages 4 to 11 within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining** and includes:

- The stand of Old Man Pines and the large cluster of vegetation near the consented WCP.
- Clusters of vegetation along the eastern application area boundary north of Cargill Road.
- The patch of vegetation adjacent to 101 Cargill Road.
- The stand of trees and other riparian vegetation adjacent to Granite Creek.

Vegetation to be added

The proposed pre-mining landscape vegetation and planted bunds are illustrated on pages 4 to 11 within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining.** Along with the planted bunds, new vegetation is proposed to be added beside the:

- Freedom Camping Area – a cluster of dense new native planting is to be implemented either side of the camping area. The purpose of this planting is to screen the mining activity when it is closest to the camping area and to direct views out and along the coast.
- Cargill Road – staggered 3.5m wide clusters of native vegetation are to be implemented along the northern and southern edges of Cargill Road within the mining setback area. The purpose of this planting is to provide a softening effect from the mining activity for the users and residents of Cargill Road, without creating a vegetated 'tunnel' effect along the road corridor.

Planted bunds

Four new planted bunds are required across the life of the project. These are illustrated on pages 5 to 8, within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining**. They are located:

- Adjacent to Lot 2 DP2178.
- Near Warren Road (separated by Granite Creek).
- Beside Cargill Road at the eastern edge of the mining disturbance area stretching north.
- Beside Cargill Road at the eastern edge of the mining disturbance area stretching south, alongside the dwelling at 101 Cargill Road.

The first two bunds (located within Sections 1 and 2) will be constructed during the pre-mining phase using material from the starter pit on the northern side of Granite Creek and from pre-stripped

material. Additional material may also be used from the redistribution area located between the mining disturbance boundary and the application boundary.

The third bund on the northern side of Cargill Road (located within mining Section 2) will be constructed during mining using pre-stripped material from in front of mining and material from the redistribution area located between the mining disturbance boundary and the application boundary.

The fourth bund on the southern side of Cargill Road (located within mining Section 3) will be constructed during mining using material from the starter pit on the southern side Cargill Road. Additional material may also be needed from the redistribution area located between the mining disturbance boundary and the application boundary on the upper terrace.

Each bund will be 3.0 metres high and 24.0 metres wide with an inward facing grassed slope and dense planting on the crest and outward facing slopes toward neighbouring properties. While primarily required for noise mitigation, the bunds will also provide visual screening of mining activity. When the bunds are deconstructed, their material will either be processed if containing run of mine material or used in rehabilitation.

5.4 During mining activities

Hours of operation

The proposed mining activities will occur during daylight hours only, with daylight hours defined as being 30 minutes before sunrise to 30 minutes after sunset.

Access and vehicle movements

The recently consented access for the WCP and MWF will be utilised. Access tracks will be constructed within the mining area to facilitate entry to the preparation, mining, and rehabilitation areas. These tracks will move across the application area as mining progresses. The existing farm access off Cargill Road will be retained for farming activities for the duration of the mining activity. This will separate any ongoing farming activity from mine traffic.

Noise and machinery

Planted bunds across parts of the eastern boundary of the SB will assist in reducing noise levels. These actions will also work to reduce visual effects. Various mining equipment will be used on site including

a Bucketwheel Cutter Suction Dredge, Dozers, Grader, Integrated Tool Carrier, Trucks, Excavators, a Field Screening Unit and 4-wheel drive vehicles.

Lighting

There will be limited fixed lighting in the mine area, which may include lighting around the pump to allow for the pump circuit to be checked overnight. Lighting will not exceed 2.0 lux spill of light onto any adjoining property. This will assist with preserving the natural character of the coastal environment in terms of reducing light pollution, preserving the dark night sky, and avoiding risk of adverse effects on the Westland Petrel Colony. This is the same as the approach taken at the CB.

Creek diversions

Diversions to the existing creeks and drainage channels across the site will be required to enable mining. The five specific creeks requiring diversion are the Northern Creek, Central Creek, Clarke Creek, Wasabi Creek, and Southern Creek. Little Granite Creek and Granite Creek will remain undisturbed and are not proposed to be diverted as part of the mining operation. Similarly, Canoe Creek and Fagan Creek will also remain unaffected by the activity.

Progressive rehabilitation of the mining void

Progressive rehabilitation will be undertaken as the mining advances across the application area. The total area of disturbed land is proposed to be limited to 16 hectares within the SB at any one time. As the mine pit 'snakes' through the site, the land beyond the mining pit (known as the completed or post mining areas) will be progressively rehabilitated by filling the mining void with waste material, recontouring, replacing topsoil and re-grassing.

Material will be sourced from approximately 72 hectares of 'recontour and borrow material areas' located outside the mining disturbance area to the east. This will be used for bunding and as fill to reconstruct the final landform. Material will be transported by scraper, bulldozer and dump truck. This transfer of material will occur at approximately 2 hectares per year. This will fit within the maximum disturbed area of 16 hectares at any one time.

Wetland and riparian planting

A large wetland approximately 53.1 hectares in size will be gradually established during mining Sections 1 and 2, working with Little Granite Creek and Granite Creek. The proposed wetland is

illustrated in detail on pages 12 to 19 within **Appendix 3, Landscape Mitigation Package, Landscape Rehabilitation – During Mining.**

Riparian planting will occur for 5 metres in width either side of Granite Creek and a minimum of 3 metres in width for all other reconstructed creeks. A typical cross section illustrating the intention of the riparian rehabilitation is included in **Appendix 3, Landscape Mitigation Package, Plan 15.0, Landscape Rehabilitation – During Mining Section 2.**

5.5 Post mining and closure

As progressive rehabilitation will be undertaken across the SB there will be limited final contouring and blending required once mining is complete. Post mining, the land will be reinstated to a similar, or improved, pre-mining landform alongside a large connected wetland and rehabilitated creeks. The end product is illustrated on pages 20 to 21 within **Appendix 3, Landscape Mitigation Package, Landscape Rehabilitation – Post Mining.**

6 STATUTORY PROVISIONS

6.1 Preface

This section of the assessment reviews and summarises the statutory provisions relevant to landscape matters. The purpose of setting out the provisions here is to assist the Panel by framing the landscape and visual assessment. A full planning assessment of the application against the provisions is not undertaken here.[9] The identified statutory provisions relevant to this assessment include the:

- Resource Management Act 1991 ('**RMA**').
- New Zealand Coastal Policy Statement 2010 ('**NZCPS**').
- West Coast Regional Policy Statement 2022 ('**WCRPS**').
- Grey District Plan ('**GDP**'), updated 2014.
- Proposed Te Tai o Poutini Plan ('**TTPP**'), decisions version notified on 10 October 2025 (with large parts under appeal).

The following sections summarise each of the statutory provisions alongside comments about the project in response. The protection of Outstanding Natural Landscapes, preservation of natural character, and maintenance and enhancement of amenity values are all addressed under separate headings in **Sections 8 to 12** later in this report.

6.2 Resource Management Act

This assessment addresses RMA section 6 and 7. An evaluation against the applicable landscape objectives and policies of the relevant planning instruments is included in the following sections.

Figure 3: Applicable provisions within the RMA

RMA	Applicable provisions	Comment
Section 6 – Matters of National Importance: *"…managing the use, development, and protection of natural and physical resources…"*	*a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development.*	The preservation and protection of natural character has been addressed in **Section 10** of this report.
	b) The protection of outstanding natural features and landscapes (ONF/ONLs) *from inappropriate subdivision, use, and development.*	The protection of ONF/Ls has been addressed in **Section 9** of this report**.**
Section 7 – Other Matters *"…managing the use, development, and protection of natural and physical resources…"*	*c) The maintenance and enhancement of amenity values.*	The maintenance and enhancement of amenity values and the quality of the environment has been addressed in **Sections 11 and 12** of this report**.**
	f) The maintenance and enhancement of the quality of the environment.	

[9] As recommended by the Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines on page 237.

6.3 New Zealand Coastal Policy Statement

The NZCPS includes objectives and policies with respect to the preservation of the natural character of the coastal environment. It recognises the tension between the need to maintain and enhance natural character, landscapes, open space, and recreational values in coastal areas, with the functional need for primary production activities to be located in appropriate places.

Figure 4: Applicable policies within the NZCPS

Applicable policies	Comment
Policy 1: Extent and characteristics of the coastal environment	
(1) Recognise that the extent and characteristics of the coastal environment vary from region to region and locality to locality; and the issues that arise may have different effects in different localities. *(2) Recognise that the coastal environment includes:* *a) The coastal marine area…* *b) …* *c) Areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these.* *d) Areas at risk from coastal hazards.* *e) Coastal vegetation and the habitat of indigenous coastal species including migratory birds.* *f) Elements and features that contribute to the natural character, landscape, visual qualities or amenity values …* *For succinctness, only areas which correspond to the application area at Barrytown have been listed under Policy 1(2) above*	For this assessment, the entire area in and around the application area has been considered part of the coastal environment. Page 3 of **Appendix 2, Graphic Supplement, Plan 1.0: Wider Context Plan** visually illustrates this. This finding concurs with the coastal environment mapped within the Brown Landscape Study: **Map 7/10, Coastal Natural Character Areas, of the Brown West Coast Region Natural Character Study**. The same coastal extent is also mapped within the TTPP. Refer to Page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini Plan: Environmental and Cultural Values Plan.**
Policy 13: Preservation of natural character	
(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development: *a) Avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and* *b) Avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment, including by:* *c) Assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character...* *(2) Recognise that natural character is not the* same *as natural features and landscapes or amenity values and may include matters such as:* *a) Natural elements, processes and patterns.* *a) Biophysical, ecological, geological and geomorphological aspects.* *b) Natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks.* *c) The natural movement of water and sediment.* *d) The natural darkness of the night sky.* *e) Places or areas that are wild or scenic.* *f) A range of natural character from pristine to modified.* *g) Experiential attributes… sounds and smell… and context or setting.*	*For succinctness, the end of Policy 13, Point 1(d) in the adjacent column has been removed as it does not apply to this application.* The important questions raised by Policies 13, 14 and 15 in a landscape context are: • Will the Project cause adverse effects (including cumulative effects) on the natural character, natural features, or landscape of the Barrytown flats area and Pakiroa Beach coastal environment? • If there are any adverse effects, will any of those be significant? **A detailed response to the criteria listed under Policy 13 is provided in Section 10 of this report.**

Policy 14: Restoration of natural character	
Promote restoration or rehabilitation of the natural character of the coastal environment, including by: *a) Identifying areas and opportunities for restoration or rehabilitation.* *b) …* *c) Where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents … approaches include:* *i. Restoring indigenous habitats and ecosystems, using local genetic stock where practicable; or* *ii. Encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or* *iii. Creating or enhancing habitat for indigenous species; or* *iv. Rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh.* *v. Restoring and protecting riparian and intertidal margins …*	*For succinctness, paraphrasing has been used in the adjacent column to limit the quoted text to only that which relates to this application.* Restoration and rehabilitation of the natural character of the coastal environment at Barrytown has been considered through: • Riparian and wetland planting and fencing. • Using local genetic stock. • Encouraging regeneration. • Promoting weed and pest management.
Policy 15: Natural features and natural landscapes	
To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development: *a) Avoid adverse effects of activities on ONF/ONLs in the coastal environment.* *b) Avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment, including by:* *c) Identifying and assessing the natural features and natural landscapes of the coastal environment … having regard to:* *i. Natural science factors, including geological, topographical, ecological and dynamic components.* *ii. The presence of water including in seas, lakes, rivers and streams.* *iii. Legibility or expressiveness—how obviously the feature or landscape demonstrates its formative processes.* *iv. Aesthetic values including memorability and naturalness.* *v. Vegetation (native and exotic).* *vi. Transient values, including presence of wildlife or other values at certain times…* *vii. Whether the values are shared and recognised.* *viii. Cultural and spiritual values for tangata whenua … including their expression as cultural landscapes and features.* *ix. Historical and heritage associations.* *x. Wild or scenic values...*	*For succinctness, paraphrasing has been used in the adjacent column to limit the quoted text to only that which relates to this particular application.* Policy 15 requires the avoidance of adverse effects of activities on ONF/Ls in the coastal environment AND avoidance of significant adverse effects on other natural features and landscapes. **A detailed response is provided in Section 10 of this report.**

6.4 West Coast Regional Policy Statement

The WCRPS provides a broad framework for managing the West Coast's natural and physical resources under the RMA. It includes the significant resource management issues that are important to the West Coast, and identifies regionally significant objectives, policies, and methods. An assessment of the relevant sections of the RPS is as follows:

Figure 5: Applicable policies within the WCRPS

Applicable policies	Comment
Section 7A: Natural character	
Policy 2: Protect the elements, patterns, processes, and qualities that together contribute to the natural character of wetlands, and lakes and rivers and their margins from inappropriate subdivision, use and development. *Policy 3: When determining if an activity is appropriate, the following matters must be considered:* *a) The degree and significance of actual or potential adverse effects on the elements, patterns, processes and qualities that contribute to natural character.* *b) The value, importance or significance of the natural character at the local, or regional level.* *c) The degree of naturalness.* *d) The potential for cumulative effects to diminish natural character, and the efficacy of measures proposed to avoid, remedy or mitigate such effects.* *e) The vulnerability of the natural character to change, and its capacity to accommodate change, without compromising its values.* *Policy 4: Allow activities which have no more than minor adverse effects on natural character.*	*For succinctness, paraphrasing has been used in the adjacent column to limit the quoted text to only that which relates to this application.* Effects on natural character are assessed in detail in **Section 10** of this report. Within this assessment the following factors have been considered: • Patterns, processes and qualities. • Natural character. • Degree of naturalness. • Cumulative effects. • Vulnerability of the natural character.
Section 7B: Natural features and landscapes	
Policy 2: Protect the values which together contribute to the ONF/L being outstanding, from inappropriate subdivision, use and development. *Policy 3: When determining if an activity is appropriate, the following matters must be considered:* *a) Whether the activity will cause the loss of values that contribute to making the natural feature or landscape outstanding.* *b) The extent to which the ONF/L will be modified or damaged including the duration, frequency, magnitude or scale of effect.* *c) The irreversibility of any adverse effects on the values that contribute to making the feature or landscape outstanding.* *d) The resilience of the ONF/L to change.* *e) Whether the activity will lead to cumulative adverse effects…* *Policy 4: Allow activities in outstanding natural features and outstanding natural landscapes which have no more than minor adverse effects.*	Policy 2 seeks to protect the values of ONF/Ls from inappropriate subdivision, use and development. Policy 3 provides matters which must be considered to determine if an activity is appropriate. Policy 4 allows activities to take place within ONF/Ls which have 'no more than minor' adverse effects. The Project area is not listed as part of an ONL or ONF, but the adjacent Paparoa Ranges are identified as one. Effects on this identified ONL are assessed in **Section 9** of this report.

Section 9: Coastal environment	
Policy 1: Within the coastal environment protect indigenous biological diversity, and natural character, natural features and natural landscapes from inappropriate subdivision, use and development by: *a) Identifying in regional and district plans areas of significant indigenous biological diversity, outstanding and high natural character and outstanding natural features and landscapes, recognising the matters set out in Policies 11, 13 and 15 of the NZCPS.* *b) Avoiding adverse effects on significant indigenous biological diversity, areas of outstanding natural character and ONF/L.* *c) Avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects on indigenous biological diversity, natural character, natural features and natural landscapes.* *Policy 3: Provide for subdivision, use or development in the coastal environment: …* *c) Recognising that minor or transitory effects associated with subdivision, use and development may not be an adverse effect within those areas described in Policy 1b.* *d) By allowing subdivision, use and development where the adverse effects are no more than minor within those areas described in Policy 1c.*	Policy 1 gives effect to Policies 11, 13, and 15 of the NZCPS to protect indigenous biological diversity, landscape and natural character values. In response to Policy 1b: • Adverse effects on the identified Paparoa Ranges ONL (adjacent to the project) are avoided. • Adverse effects on areas of outstanding natural character are avoided. In response to Policy 1c: • Significant adverse effects on natural character, natural features and natural landscapes are avoided. Other adverse effects are avoided, remedied or mitigated. In response to Policy 3c: • The transitory nature of the mining has been considered.

6.5 Grey District Plan

The GDP provides a framework of objectives, policies, and standards for managing the natural and physical resources across the district to achieve the purpose of the RMA. The application area is in the Rural Zone (refer to page 6, **Appendix 2, Graphic Supplement, Plan 4.0: Grey District Council: Operative District Plan Zoning**).

This rural zone anticipates mining as demonstrated in Section 19.1 of the GDP: "*The principal activities associated with mineral resources are coal mining, gold mining, and gravel and limestone. There are also ilmenite mining and petroleum resources that have potential for future development. There are several coalmines presently operating, both State and private, and other projects are being progressed. Much of the gold and bituminous coal resources of the West Coast are contained in the Grey District. Underground hydro mining and open cast mining are the most commonly used methods of extraction, with mines having crushing and screening facilities onsite.*

Extraction of gold from alluvial fans and terraces is the principal means of gold recovery in the Grey District. Although the presence of hard rock gold has been identified in the Grey River catchment, present prospective areas are few. The size of operations varies, from the large dredging operations to recreational or hobby mining using cradles, sluice boxes and other handheld equipment. The majority of operators mining alluvial deposits use hydraulic diggers and rotary screens that either float in a pond or are skid mounted."

Objectives and policies relevant to landscape are as follows:

Figure 6: Applicable policies within the GDP

Applicable Policies	Comment
Chapter 4: Landscape	
Objective 4.3: The protection of outstanding natural features and landscapes in the Grey District from inappropriate subdivision, use and development.	The application area itself is not listed as having either ONL or ONF values. However, **GDC has identified in table 4.1** that the *"west facing slopes of the Barrytown hills behind the flats* (behind the application area) *between Razorback Point and Seventeen Mile Flat to the east of SH6"* are outstanding. Of note, **this ONL area is not mapped in GDC plans but is described in the GDP.** Nevertheless, it is these west facing hills above Barrytown, adjacent to the application area that should be protected from adverse effects. This is assessed in **Section 9** of this report.
Policy 4.4: Proposed subdivision, use and development should be undertaken in… a manner that avoids, remedies, or mitigates adverse effects on outstanding natural features and landscapes identified in Table 4.1 or… 4.2.	
Chapter 6: Waterways and margins	
Policy 6.4: (3) Preservation of the natural character of lakes, rivers and wetlands and their margins from inappropriate use, development and subdivision.	The preservation and protection of natural character in relation to waterways and margins has been addressed in detail in **Section 10** of this report.

Chapter 7: The coastal environment	
Objective 7.3: To preserve the natural character of the coastal environment and protect it from inappropriate subdivision, use or development. *Policy 7.4: Development or use affecting the natural character of the coastal environment shall have regard to (paraphrased):* • *Extent of modification.* • *Presence of significant vegetation.* • *Presence of distinctive landscapes, seascapes and landforms.* • *Presence of spiritual, heritage, and cultural values.*	This is similar to the provisions of the RMA and NZCPS to preserve the natural character of the environment and protect it from inappropriate use and development. For this application, the coastal environment also includes the rural productive zone. The preservation and protection of natural character has been addressed in **Section 10** of this report.
Chapter 19: Rural environment	
Policy 19.4: … Patterns of development should ensure that the openness of the rural environment is retained… Activities should not adversely affect the amenities of the rural area or adjoining properties in terms of such matters as effluent disposal, noise, traffic generation, air emissions, odour, shading and visual impact.	The rural environment chapter anticipates mining. The ONL and coastal chapters need to be considered alongside this. Effects on landscape character have been addressed in **Sections 8 and 10** of this report. Amenity values are discussed in **Sections 11 and 12** of this report.

Figure 7: Applicable rules within the GDP

Rules	Evaluation
Setbacks	
The GDP requires: • *25m setbacks from any wetland <2ha.* • *10m setback from the bank of a river or stream >3m in width.*	All setbacks listed in the GDP are achieved. Refer to the setback amounts listed under **Section 5.2** of this report.
Landscape mitigation	
The GDP requires: • *The ability to mitigate any adverse effects of a proposal on adjoining sites, including through the provision of landscape plantings.*	The proposed landscape mitigation is illustrated in **Appendix 3: Landscape Mitigation Package.**
Natural character	
The GDP requires consideration of: • *The effect of a proposal on the natural character of the coastline and rivers, wetlands, and their margins.* • *The extent to which the character of the site will remain dominated by open space rather than buildings.*	The preservation and protection of natural character has been addressed in **Section 10** of this report.
Amenity	
The GDP requires consideration of: • *The effect of a proposal on the amenity of the coastline.* • *The effects on adjoining sites… visual, sunlight, noise and privacy.* • *The visibility of activities including traffic movement.* • *The ability to mitigate adverse effects, such as through increased separation distances or the provision of screening.*	The maintenance and enhancement of amenity values has been addressed in **Sections 11 and 12** of this report.
Lighting	
The GDP states: • *No activity shall result in a greater than 2.5 lux spill (horizontal and vertical) of light onto any adjoining property, measured at any point more than 2m inside the boundary of the adjoining property or the closest window on the adjoining property whichever is the closest.*	The application has sought to minimise the extent, frequency, and intensity of light spill and glare. Refer to **Section 13** of this report as well as the proposed **conditions of consent**, which translate the recommendations into conditions.

6.6 Te Tai o Poutini Plan

The TTPP is the proposed combined District Plan for the Buller, Grey, and Westland District Councils. Once adopted, it will replace the individual District Plans. The TTPP sets out the objectives and policies to manage landuse activities. The decisions version of the TTPP was notified on the 10th of October 2025 and the appeals period closed in February 2026. As most of the rules and associated provisions relevant to mining are still under appeal, they are not deemed operative. For completeness, I have considered both the TTPP and the Grey District Plan rules.

Figure 8: Applicable zoning and overlays within the TTPP

Applicable Zoning and Overlays	Comment
Coastal Environment *(Cultural Values Map Book – Grey District)*	For this assessment, the entire area in and around the application area has been considered part of the coastal environment. Page 3 of **Appendix 2, Graphic Supplement, Plan 1.0: Wider Context Plan** visually illustrates this. The same coastal extent is also mapped within the TTPP. Refer to Page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini Plan: Environmental and Cultural Values Plan.**
Applicable Zoning *(Zoning Map Book – Grey District)*	Applicable zoning in and around Barrytown includes: • The Project area, which is located within a General Rural Zone. • The Barrytown Township Settlement Zone. • The Paparoa Ranges Natural Open Space Zone/Open Space Zone. • Residences along the foothills on the eastern side of Coast Road/SH6, around Warren Road and around the township, which are within a Rural Lifestyle Zone. For reference, the various zoning types are illustrated on Page 7, **Appendix 2, Graphic Supplement, Plan 5.0: Te Tai O Poutini Plan: Proposed Zoning and Development.**
Notable Trees	The application area contains no protected trees – refer to **TTPP, Part 4: Schedule 2: Notable Trees.**
Significant Natural Areas (SNAs) *(Part 4: Schedule 4: Schedule of SNAs)*	Plan 39 illustrates there are no SNAs within the application area. However, there is: • An SNA labelled PUN-049 near the southeastern corner of the application area. It includes lowland kahikatea forest with some wetland character and scrub on the fringes. It provides a stepping stone between the coast and the ranges. • Five further SNAs within the Punakaiki Ecological District including PUN-W033 and PUN-W034 (both under appeal in the TTPP), and PUN-044, PUN-123 and PUN-124. These areas include coastal wetlands, lagoons, series of small waterbodies, a lowland coastal forest, broadleaved and rimu forest, and multiple corridors between the coast and the ranges. For reference, these SNAs are illustrated on page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini Plan: Proposed Environmental and Cultural Values.**

Outstanding Natural Landscapes (ONLs) *(Schedule 5: ONL)*	The Paparoa Ranges form part of the eastern background beyond the application area. The area nearest the application area is identified as an Outstanding Natural Landscape (ONL44 Paparoa Range West). It has the following values: • Low Elevation with a sequence of coastal foothills comprising exposed limestone outcrops, deeply incised river gorges and valleys. • Mature dominant native lowland forest with wetland areas of native shrubs. • Evidence of erosion, stream/river cutting/entrenchment, and coastal exposure. • The pristine lowland forest, unmodified terrain with moderate relief, rugged gorges and valleys creates a strong sense of naturalness. For reference, the ONL is illustrated on page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini Plan: Proposed Environmental and Cultural Values.**
Outstanding Natural Features	There are no Outstanding Natural Features (ONFs) located within or near to the application area as per **TTPP, Schedule 6: Outstanding Natural Features.**
High Coastal Natural Character (HCNC) *(Part 4: Schedule 7: NCA41 Pakiroa Beach)*	Although not illustrated by either Map 34 or Map 39 of the **TTPP: Proposed Environmental and Cultural Values Maps,** the northern end of Pakiroa Beach is identified in written text as having High Coastal Natural Character (HCNC) on page 705 of **Schedule 7, Schedule of High Coastal Natural Character.** This describes the natural character as: • Being a broad sweeping sandy/stony beach backed by an extensive dune field, coastal scrub and forest. • Natural qualities are evident in the dune landform, wind-swept vegetation and the relationship with the Tasman Sea contributing to the feeling of naturalness. • Intact sequence of vegetation from dune fields through to coastal forest. • Presence of pasture and farming modification behind the coastal forest does not overly detract from the highly expressive and natural processes that are the dominant element of the unit. Given the description says the HNC applies to the northern end of Pakiroa Beach, it is assumed that this is not the section of beach adjacent to the application area.
Outstanding Coastal Natural Character (OCNC) *(Part 4: Schedule 8: NCA40 Paparoa Foothills)*	The Paparoa Foothills form part of the eastern background beyond the application area. They are classified as having Outstanding Coastal Natural Character (OCNC) due to having a sequence of rolling to steep coastal hills and valleys that form the foothills to the Paparoa Range. This includes: • Varied amalgam of exposed landforms, very strong elevated relief, windswept vegetation which impart a strong sense of naturalness. • Natural qualities clearly evident in the landform, vegetation cover and their relationship with the Tasman Sea contributing to a very endemic landscape. • Mature wind swept coastal forest across the escarpment enhances the sense of naturalness and wildness. • Presence of Coast Road/SH6 and that it does not detract from the highly expressive natural processes and elements which are the dominant feature of the unit. The OCNC chapter of the TTPP is under appeal so has limited weight. For reference, the extent of the OCNC is illustrated on page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini Plan: Proposed Environmental and Cultural Values.**

Figure 9: Applicable policies within the TTPP

Applicable policies	Comment
Part 2: Natural Environment Values *(Policies NFL P1 – P7 and NC P1 – P4)*	The natural features and landscapes chapter contains provisions that relate to the ONF/Ls. These policies are under appeal (except NC-P4) and are about protecting, maintaining and enhancing the outstanding values, whilst providing for subdivision, use and development.
	Relevant objectives focusing on the natural character values of the margins of wetlands, lakes and river include: • Recognising/providing for Poutini Ngāi Tahu and traditions, values, and interests. • Providing for activities that have a functional need to locate in the margins of waterbodies. • Preserving elements, patterns and process which contribute to natural character while providing for appropriate development where adverse effects can be avoided, remedied or mitigated. • Encouraging the restoration and enhancement of the natural character of the riparian margins of lakes, rivers and wetlands including pest plant and pest animal control (NC-P4).
Part 2: General Matters – Light *(Policies P1 to P3)*	The provisions for artificial outdoor lighting provide for adequate lighting to support activities and security, while minimising potential adverse effects.
Part 3: General Rural Zone *(RURZ – P1, P6, P7, and P18 - P25)*	There are three rural zones on the West Coast under the TTPP: General Rural Zone (GRUZ), Rural Lifestyle Zone (RLZ) and Settlement Zone (SETZ). The GRUZ covers much of the production-orientated workable land on the West Coast including the application area. This zone also provides for resource extraction stating: ***"…mineral extraction is an accepted and ongoing activity within the rural areas."*** Relevant policies include: • Enabling a variety of activities to occur in the rural zone. • Recognising that mineral resources are in a fixed location. • Maintaining rural amenity, character and the quality of the environment. • Managing adverse effects of activities and ensuring rehabilitation occurs. • Avoiding conflicts between mineral extraction and other landuse activities.

7 KEY LANDSCAPE MATTERS TO BE ASSESSED

This section of the report identifies the key landscape matters that are considered by the assessment of landscape and visual effects. The purpose of this assessment is to address the below matters, while considering the statutory planning framework which sets out certain expectations for the application area and wider setting. The key landscape matters include:

Existing environment

- The relationship of the Project with the CB – the consented mining area to the north, and the WCP.

Landscape character

- The short-term effects arising from construction activity associated with site establishment.
- The change in landscape character from rural to mining and the change in landcover.
- The addition of new structures, fences, drains, access tracks, machinery, ponds, bunds, stockpiles and planting in order to support the mining operation.
- The effects arising from the mining activity itself.

Outstanding natural landscapes

- The effect of the project on the adjacent ONL.

Natural character

- The effect of the project on the natural character of the coastal environment (including the coast, wetlands, rivers, creeks, wildlife habitats and scenic areas).
- The effectiveness of rehabilitation measures.

Visual amenity

- Changes in visual amenity:
  - Experienced from private properties nearby – for example, changes to outlook, privacy and the ability to maintain long distance views.
  - As viewed from users of the Pakiroa Beach and the Tasman Sea.
  - As experienced from users of Coast Road/SH6.
  - As experienced from users of the Barrytown township, school, cemetery, freedom camping area, local roads, Paparoa National Park, Paparoa Track and Croesus Track.

8 LANDSCAPE ASSESSMENT

8.1 Preface

Change in a landscape does not necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways. These changes are both natural and human induced. Often, they can be the result of landform or vegetation modification or the introduction of new structures, activities, infrastructure, or facilities into the landscape. What is important in managing landscape change, is that adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change.

The degree to which landscape effects are generated by the project depends on:

- The degree to which the application contrasts, or is consistent, with the landscape.
- The predictable and likely known future of the locality.
- The quality of the resultant landscape, its aesthetic values and contribution to the wider landscape character of the area.

Landscape and visual effects generated by an activity can be perceived as:

- Positive (beneficial) contributing to the visual character and quality of the environment.
- Negative (adverse), detracting from existing character and quality of the environment.
- Neutral (benign), with essentially no noticeable effect on the existing character or quality of the environment.

The landscape assessment which follows evaluates the effects of the project on the landscape character and values (physical, associative and perceptual dimensions, identified in **Section 4** of this report), natural character (covered in **Section 10**), and amenity (including visual amenity, covered in **Sections 11 and 12**) when compared to the existing rural activity. This assists in determining whether the proposed changes are appropriate for the location.

8.2 Site selection and land use

The application area was selected for its availability of suitable materials for extraction. In essence, the existing farming operations which have occurred for many years, will temporarily change from a rural activity to a mining extraction. This change in land use will affect landscape values through

earthworks,[10] the diversion and reconstruction of creeks, and the introduction of internal tracks, machinery, stockpiles, bunds, new vegetation, and the mining activity itself.

Although the proposed land use is different to any other activities currently being carried out on the Barrytown flats, it is similar to the mining activity which has been consented on the CB, north of the application area, which will occur first. Additionally, mining has previously taken place in Barrytown, with dredging having occurred within this particular location.[11] Furthermore, the GDP rural environment chapter anticipates mining and under the TTPP, mineral extraction is considered to be an accepted and ongoing activity within the rural area.

From a landscape perspective, the suitability of the land use for mining activity is influenced by:

- The 35 year consent duration (with 14 years of active mining).
- Machinery only being onsite for the life of the project.
- Mining progressing in 300 x 100 metre panels.
- The active mining disturbance area being limited to 16 hectares at any one time.
- Provision for progressive rehabilitation.
- Mining activity setback from the coast, neighbours and landscape features.
- Mining activity not being uncharacteristic or unexpected in this area.
- Retention of long-term viability of farming (or other activities such as rural subdivision) once mining is complete.

The change of land use to mining is anticipated to have a **low to moderate (minor) adverse effect on landscape values, reducing to a low (less than minor) adverse effect following final rehabilitation.** This is because the active mining disturbance area is transient and limited in size, the rehabilitation is progressive, and no new permanent buildings or structures are proposed. As such, the site's open, coastal rural qualities will largely be maintained.

8.3 Changes to the landform

The existing landform of the application area resembles the surrounding environment with the undulating coastal plain sandwiched between the Paparoa Ranges and the Tasman Sea. Topographical features (as described within **Section 4** of this report) are a result of ongoing coastal and geological

[10] Both within the mining disturbance area and within the recontour and borrow material areas to the east.
[11] Barrytown has been forever changed by the gold rush of the 1860's to 1870's. Refer to Section 4.2: Intermediate Context – Barrytown and Surrounds.

processes as well as man-made interventions. There are also remnant mining dredge paths, humped and hollowed drainage channels, creeks, and many other tributaries, springs and wetlands.

The main changes to the landform as a result of the project will include:

- Pre-mining earthworks to:
  - Construct the starter pit and two planted bunds.
- During mining earthworks to:
  - Strip and stockpile topsoil and overburden ahead of dredging.
  - Undertake mining and form 1.0 metre high moveable bunds around the pit.
  - Stockpile material for processing and transportation.
  - Backfill the mine void with sands, overburden and topsoil.
  - Progressively rehabilitate the wetland and reconstructed creeks with riparian planting.
  - Create internal tracks.
  - Construct final two planted bunds.
  - Source material for the bunds and rehabilitation.
- Post mining earthworks to:
  - Carry out final shaping of the completed landform, slope, and drainage.
  - Topsoil areas to return to pasture.

To understand the potential changes arising from the project on the coast, a separate Coastal Assessment has been completed for this application. This report has concluded that the proposed mining operation will not affect natural beach processes. This is because the Barrytown coastline is eroding at an estimated rate of 1.0 metre per year due to sediment being moved northward by littoral drift, faster than its supply. This erosion is expected to increase with sea level rise.

Changes to the landform as a result of the mining activity will occur primarily within the mining disturbance area. However, at times there will be some material taken from the 'recontour and borrow material areas' located to the east outside of the mining disturbance area. These areas are illustrated on pages 5 to 8 and page 13, within **Appendix 3, Landscape Mitigation Package.**

Material will be sourced from approximately 72 hectares of the recontour and borrow areas to be used as fill to reconstruct the final landform.[12] This transfer of material (via scraper, bulldozer and

[12] The deficit of material (needing input from the recontour and borrow material areas) will be within the mine paths on the eastern side of the mining disturbance area in close proximity to the source of the material. The recontour and borrow material areas will not disturb any creek or wetland areas and will be located on previously cleared pasture.

dump truck) will occur at approximately 2.0 hectares per year, whilst complying with the 16.0 hectare maximum disturbed area across the project at any one time.

The mine pit will be substantially lower (up to 10.0 metres) than the existing ground level, and therefore different to the surrounding landform. However, as previously mentioned, the overall size of the active mining disturbance area will be limited to 16.0 hectares at any one time.

As the mining progresses through the application area, a large wetland (approximately 53.1 hectares in size), creeks and riparian planting will be progressively constructed. This work will be carried out in stages (through Sections 1 to 3). Once all mining activity is complete, final remediation will occur. This will involve redistributing stockpiles and adding a final layer of topsoil and grass where needed.

Rehabilitation will be progressive and the final landform height is developed as part of this. When balanced against the final change in landform, there is an average reduction in land height of approximately 0.63 metres across the entire 408 hectare consent area.

For the reasons outlined above, it is anticipated that there will be a **low to moderate (minor) adverse effect on landform during mining** due to the previous landform modification, the limited active mining disturbance area, and the transient nature of mining. Following rehabilitation, effects are expected to reduce to a **low (less than minor) adverse effect.**

8.4 Existing and proposed landcover

The existing landcover is discussed under **Section 4.4** of this report with photos provided on page 12 of **Appendix 2, Landscape Graphic Supplement, 10.0: Character Panoramas Illustrating the Mining Area**. The application area has been previously cleared of the majority of its indigenous forest to make way for farming and mining dredge activity. Today most of the landcover within the application area is made up of undulating green pasture on the coastal plain with isolated stands of bush to the east.

The application area and the wider environment, including the Barrytown flats and the Paparoa Ranges to the east, exhibit a number of natural systems including the sea, wetlands, rivers, springs, wildlife habitats, and bush. Given the proximity of the Langridge Scenic Reserve, the identified SNA (near Cargill Road), and Paparoa National Park (behind the application area), the application seeks to find a balance between mining and conservation.

The main change to the landcover during mining will be the change from pastoral grassland to mining. The project has been designed to ensure that the mining disturbance area follows the previously cleared pastoral areas as far as possible and excludes more heavily vegetated areas. The only exception to this is in places where vegetation cannot be avoided, such as alongside smaller creeks and within artificial drains. All existing vegetation along Granite Creek and Little Granite Creek will be avoided by the application.

The existing coastal edge is sparsely vegetated. It has some clusters of flax and other more dispersed species amongst the shingle, but many areas have no planting at all.[13] Based on the findings in the previously introduced Coastal Assessment, the rehabilitation of the coastal edge with further planting is only likely to have short term benefit. Instead, mining activity is proposed to be setback 50 metres from the MHWS, to reduce the effects of the activity on the coastal edge.

Landscape mitigation and rehabilitation measures proposed by the application are covered in detail in **Section 5.0** and **Section 13** within this report. They are also illustrated in **Appendix 3, Landscape Mitigation Package**. Briefly they include:

- Retaining existing vegetation wherever possible.
- Adding visual/noise bunds with planting.
- Adding planting along some of Cargill Road and adjacent to the Freedom Camping Area.
- Establishing setback areas from mining.
- Progressively creating a large wetland and rehabilitating creeks with riparian planting.

While the plain's pastoral landcover will be temporarily disrupted by the project, it is recognised that the application area will be progressively rehabilitated. The addition of new vegetation will strengthen the buffer between the extraction activity and the existing landscape features, assist to visually soften and screen views, extend and develop new wetland areas and creeks, and provide numerous biodiversity benefits. For these reasons, it is anticipated that there will be an **increasingly positive effect on landcover as new planting establishes.** This is primarily due to the long-term benefits of additional planting outweighing the short-term disturbance caused by the application.

[13] The height of the coastal escarpment above the beach varies markedly, from 0.3 metres to beyond 2.0 metres.

9 OUTSTANDING NATURAL LANDSCAPES

9.1 Assessing ONLs

Section 6(b) of the RMA requires decision-makers to recognise and provide for the protection of Outstanding Natural Landscapes (ONLs) and Outstanding Natural Feature (ONFs) from inappropriate subdivision, use and development as a matter of national importance. Each ONL or ONF area is determined through an assessment process that identifies whether the landscape or feature is *"conspicuous, eminent, especially because of excellence or remarkable."*[14]

The courts have recognised that a spectrum of naturalness exists from pristine natural landscapes through to cityscapes, within which a 'cultured' landscape may still be an ONL. In general, such landscapes should be so obvious that no further need for expert analysis is required, aside from determining where the landscape begins and ends. The scale of an ONL should also be identified within the plan of the decision-making body.

The Environment Court has defined relevant criteria for assessing outstanding landscapes as being: *"The natural science factors – the geology, topography, ecological and dynamic components of the landscape; its aesthetic values including memorability and naturalness; its expressiveness (legibility); how obviously the landscape demonstrates the formative processes leading to it; transient values; occasional presence of wildlife; or its values at certain times of the day or of the year; whether the values are shared and recognised; its value to tangata whenua and its historic associations."*[15]

This criterion clearly shows that landscape is not restricted to the visual and is not merely the picturesque and scenic. The **Brown West Coast Landscape Study** considered this criterion when identifying ONLs for the West Coast. Areas such as Barrytown have been mapped, and a description of landscape values has been provided. This information has then informed the district plans.

9.2 ONL values – Paparoa Ranges

Under the GDP Planning Maps, the application area is not listed as having either ONL or ONF values. This is likely due to the previous felling of vegetation, the modified landform resulting from previous dredging, and existing farm tracks and it being zoned as a rural productive area. However, beyond the application area, the west facing slopes of the Barrytown hills and the Paparoa Ranges (between

[14] ONF/L are also referred to in TTatM on pages 187-189.
[15] As defined by: C180/99, Wakatipu Environmental Society Inc v Queenstown Lakes District Council.

Razorback Point and Seventeen Mile Flat) to the east of Coast Road/SH6 are considered to be an ONL.[16] These areas are also subject to proposed ONL overlays in the TTPP. The key attributes which contribute to the Barrytown Hill and Paparoa Ranges being classified as 'outstanding' include the:[17]

- Sequence of rolling to steep coastal hills/valleys that form foothills to the ranges.
- Exposed limestone outcrops and deeply incised river gorges and valleys.
- Coastal outlook, exposure, dramatic and expressive nature.
- Interplay of mature indigenous forest - from lowland beech forest to alpine scrub.
- Unmodified mountain range with strong sense of naturalness.
- Contrast with coastal flats
- Wetland areas of flax and native shrublands.

9.3 Effects on the identified ONL

The author agrees that **the ONL boundaries 'as drawn' and the description of values provided above accurately reflects the character of the Barrytown hills and the Paparoa Ranges.** An assessment has been undertaken in accordance with the criteria appended as **Appendix 1** to understand the effects of the proposed activity on these values. It has concluded that **any adverse effect of the mining activity on the 'outstanding-ness' of the Paparoa Ranges will be of very low significance**[18] due to:

- The separation distance between the mining activity and the hillside ranges.
- Coast Road/SH6 and vehicle movements dividing the plains from the ranges.
- The existing farming and residential activity on the coastal plain.
- The hillside ranges being considered a separate landscape entity.
- The ONL area being located outside of the planned mining area.
- The landscape mitigation and rehabilitation proposed.
- The fact that there will be a limited mining disturbance area at any one time.

The Barrytown hills and Paparoa Ranges are considered to be of very high quality due to the landscape's intact nature, rich biodiversity, and sequence of rolling to steep coastal hills/valleys. In contrast, the application area has been altered through the felling of vegetation, modification of the landform and change in landuse. Although the coastal outlook may temporarily change whilst mining moves through an area, the physical, perceptual, and associative values of the Paparoa Ranges ONL will remain intact.

[16] Refer to the Brown Landscape Study, Coastal Outstanding Natural Landscapes/Features, Map 7/10.'
[17] Values have been assessed from the Brown Landscape Study. The various Brown documents are listed in Section 4.3.
[18] There will be an adverse very low (less than minor) effect during mining, and no effect long term.

10 NATURAL CHARACTER

10.1 Defining 'natural character'

Section 6(a) of the RMA lists natural character as a matter of national importance.[19] Natural character is defined by an area's distinctive combination of natural characteristics and qualities, including degree of naturalness. Generally, the degree of natural character is highest where there is least modification. However, an area's remnant natural character may also be important even though it is highly modified. Preserving and protecting natural character does not necessarily mean maintaining the status quo or avoiding development. The purpose of assessing natural character is to inform its management.

10.2 Identifying the relevant area

For this assessment, the entire area in and around the application area has been considered part of the coastal environment. **Section 4.2** of this report describes the area as being well defined on four sides and page 3 of **Appendix 2, Graphic Supplement, Plan 1.0: Wider Context Plan** illustrates this. This is well aligned with the extent of the coastal environment that is also mapped within **Map 7/10, Coastal Natural Character Areas of the Brown West Coast Region Natural Character Study**. The same extent is also mapped within the TTPP. Refer to page 8 of **Appendix 2, Graphic Supplement, Plan 6.0: Te Tai O Poutini: Proposed Environmental and Cultural Values Plan.**

The **Coastal Environment chapter of the GDP** provides a written description and suggests that the coastal environment encompasses areas where the coast is a significant part. This typically includes the coastal marine area, all tidal waters and the foreshore above the mean high water springs, dunes, beaches, areas of coastal vegetation, areas subject to coastal erosion and flooding, salt-marshes, and estuaries.[20] The GDP also requires that consents are required within 100 metres of the coastline to enable effects on natural character to be assessed.

The author agrees that the coastal environment as drawn and the description provided above accurately reflects the extent of the coastal environment at Barrytown.

[19] This assessment defines natural character as: 'The naturalness or degree of modification of an area', which is the extent to which the natural elements, patterns and processes occur, and 'an area's distinct combination of natural characteristics and qualities,' which is consistent with Objective 2 of the NZCPS which is (amongst other things) to recognise the characteristics and qualities that contribute to natural character; and with the matters listed in Policy 13(2), of which the range of natural character between pristine and modified.

[20] Grey District Plan, Chapter 7: Coastal Environment, Part 7.1.

Natural character occurs in greater to lesser degrees in a continuum from the largely untouched landform and vegetation of the Paparoa National Park and to a lesser extent Pakiroa Beach, through to the modified pastoral flats and the settlement of Barrytown. The former generally exhibits a high value of naturalness through the forested and unmodified hillslopes, and the land and water interface of the beach and wave action.

The latter (where the application area is located), has a downgraded natural character due to vegetation removal, land disturbance to improve drainage and conduct former mine dredging, human modification reflective of its productive rural zoning, and the invasion of weeds and pests. The built environment consists of Coast Road/SH6, powerlines, farm fences, a mobile phone tower and clusters of homes and farm buildings. All of these objects are small structures in a large-scale landscape dominated by the natural elements of the sea and the ranges.

10.3 'Outstanding' coastal natural character

For reference, there are no areas of outstanding natural character within the application area so Policy 13(1) of the NZCPS to *"avoid adverse activities on natural character in areas of the coastal environment with outstanding natural character"* does not apply to the application area. However, it likely does apply to the adjacent Paparoa foothills, which is mapped as having Outstanding Coastal Natural Character ('**OCNC**') under the **TTPP, Part 4, Schedule 8: NCA40 Paparoa Foothills.**

10.4 Evaluating and determining natural character

For proposal driven assessments like this one, the approach is to describe and analyse the existing characteristics and qualities of the area and then interpret how together they form the overall natural character. The appropriateness in terms of what is to be preserved and protected, arises from the relevant statutory provisions such as NZCPS Policy 13 (Part 2) and 14, WCRPS Section 7A - Policies 3 and 4, and Chapter 7: The Coastal Environment from the GDP.[21]

The **various tables which follow** evaluate the potential effects of the application on natural character from an effects-based perspective.

[21] There are different views within the landscape profession (and in other disciplines and organisations) on what natural character is and how it should be assessed. This assessment has followed guidance from *Te Tangi a te Manu: Aotearoa Landscape Assessment Guidelines*, pages 206-217.

Figure 10: Evaluation of the preservation of coastal natural character

Characteristics and qualities	Existing natural character for the application area and surrounding area	Consequential natural character for the application area and surrounding area as a result of the project
NZCPS Policy 13: Preservation of coastal natural character *Part 2: Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:*		
Natural elements, processes, and patterns.	**Section 4** of this report outlines the existing processes and patterns naturally occurring within the area and describes the movement of water along the coast and within the application area, sand strand lines and the effect of storm surges, flooding and erosion etc. The GDP also describes the natural elements of the area: *"The coastline is characterised by rugged natural features, including estuaries behind low-lying dunes, gnarled rocky outcrops and isolated sandy beaches. Mixed sand and gravel beaches dominate".*	The GDP states *"these coastal beaches are typically prone to erosion."* Coastal processes and patterns (tides, waves, sedimentation, storm surges, erosion etc.) will continue regardless of the application due to the proximity to the coast. Granite Creek and Little Granite Creek will not be interfered with by mining (there is a setback and fencing before reaching the mining disturbance area). Additional riparian planting proposed as part of the project will enhance and strengthen the banks of these creeks. Five other creeks will be reconstructed and rehabilitated as mining progresses past them. There will be no loss of creek extent once 5 creek diversions are completed.
Biophysical, ecological, geological, and geomorphological aspects.	The application area is currently comprised of multiple working farms. It is dominated by its coastal character, openness and expansiveness. There are remnant sand ridges from old shorelines running in a north to south direction, as well as man-made dredge ponds, humped and hollowed drainage channels and small farm ponds. Together these result in an application area that has been highly modified.	The modification of the application area behind the coastal edge will not detract from the highly expressive and natural processes that are the dominant element of the unit. Changes to the landform will occur within the mining disturbance area. Changes beyond this, will be limited to the identified recontour and borrow material areas located within the higher eastern terrace. The final landform will not be out of context with the existing landform or the surrounding environment, although it will have a 0.63m lower elevation (on average) due to extraction having taken place. Overall, there will be a **net positive effect with an increase in planting across wetland and riparian areas.**
Natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, springs etc.	The application area has an average change in height of +/- 27-33m from Coast Road/SH6 to the coast. This is a result of coastal and geological processes (remnant sand ridges) and human-made modifications (drainage channels, mining dredge ponds etc).	
The natural movement of water and sediment.	The Coastal Assessment accompanying the application has identified that the Barrytown beach coastline is eroding at an estimated rate of 1.0m per year due to sediment being moved northward by littoral drift faster than its supply. This is expected to increase with sea level rise.	The Coastal Assessment has concluded that the proposed mining operation will not affect the natural beach processes. The application will result in improved drainage within the recontoured application area.
The natural darkness of the night sky.	Barrytown is made up of scattered rural dwellings with limited nighttime lighting.	Limited lighting will be added to enable monitoring the mining pit at night. All lighting

	Coast Road/SH6, the Paparoa Ranges and Tasman Sea are all unlit.	will adhere to lighting conditions of consent, which are the same as for the CB.
A range of natural character from pristine to modified.	The areas either side of the application area (Pakiroa Beach and the Paparoa Ranges) have much higher natural character than the application area itself. The application area has been previously modified with vegetation clearance, dredge mining, drainage recontouring, farming practices, and intensive cattle grazing. Today, cattle have access to most of the application area, but waterbodies and tracts of bush are generally fenced.	The application area itself has highly modified natural character reflecting its working farm environment. Mining activity will result in continued modifications to the application area. Upon completion of the mining activity, the natural character will be enhanced by the creation of a large new wetland and multiple areas of riparian enhancement.
Places or areas that are wild or scenic.	The GDP states that *"All of the Greymouth coast is characterised by steep head rock outcrops and the Paparoa and Rapahoe Ranges largely resist the sea's force. The sand and gravel beaches interrupt this otherwise rugged coastline."*	The wild and scenic character is contributed by the rough nature of the sea, the remoteness of the ranges and the expansiveness of the flats. Whilst areas within the application site will change over time, the dominant qualities of the coast and the ranges will remain.
Experiential attributes, including the sounds and smell of the sea.	Experiential attributes include: • The feeling of remoteness in a rural area away from a busy urban centre. • The contrast between the pastoral valley floor and the forested hillsides. • The sound of the waves, wind, cicadas, and birdlife. • The earthy smell of the farm activity, mud and swamp water. • The scenic quality of the surrounding landscape including the coast, rivers and the ranges. • The movement of the waves, wind in the rushes, water in the creeks, birdlife and mist encasing the hills. • The opportunity for long distance views up and down the coast or outwards towards the sea, with the ranges behind.	During mining, some of the experiential attributes will change with the addition of people and machinery, noise and movement, and the mining activity itself; noting that the effects arising from some of these activities may be similar to some farming activity in the area. Some of the activity will also be concealed in the mining pit below ground. In the longer term the experiential attributes will not change. The sea will continue to be heard and seen from the western part of the application area, likewise wind swept vegetation, wave action and erosion will all still all be visible. Coastal activities such as fishing and walking on the beach will remain available throughout.

Figure 11: Evaluation of the restoration of natural character

Characteristics and qualities	Existing natural character	Consequential natural character for the application area and surrounding area as a result of the application
NZCPS Policy 14: Restoration of natural character *Promote restoration or rehabilitation of the natural character of the coastal environment by:*		
Identifying areas and opportunities for restoration or rehabilitation.	There is no restoration or rehabilitation currently occurring.	**Section 13** of this report and the accompanying **Appendix 3: Landscape Mitigation Package** outlines numerous opportunities for rehabilitation. This has been considered through: • Riparian and wetland planting and fencing. • Using local genetic stock. • Encouraging regeneration. • Promoting weed and pest management.
Where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents…	Not applicable.	This assessment has contributed to the drafting of conditions of consent. The aim of which is to return the application area to a condition which is compatible with the surrounding landscape, which will maintain or enhance natural character.
Restoring indigenous habitats and ecosystems, using local genetic stock where practicable; or	Not currently occurring.	All new planting will be propagated from seed collected from within the local area and use species suitable for the coastal environment.
Encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or	Partially occurring as beside some riparian areas.	Weed and pest management will be required and supported by conditions.
Creating or enhancing habitat for indigenous species; or	Not currently occurring.	The application provides numerous opportunities for enhancing habitat, rehabilitating features, and restoring riparian margins. These include: • Protecting key areas of existing vegetation. • Using progressive rehabilitation. • Extending and connecting wetlands. • Adding riparian planting and fencing. • Encouraging regeneration.
Rehabilitating natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or		
Restoring and protecting riparian and intertidal margins; or		
Reducing or eliminating discharges of contaminants.	Some waterways are accessible to stock.	The application proposes that all waterways and waterbodies will be fenced from stock post mining. As part of post mining rehabilitation, wetlands will be developed and wetland plants will filter water.

Figure 12: Evaluation against the regional criteria for natural character

Characteristics and qualities	Existing natural character	Consequential natural character for the application area and surrounding area as a result of the application
WCRPS Section 7A Policies 3-4: *Policies 2 and 3 provide a set of regionally consistent criteria to identify and assess the natural character of wetlands, and lakes and rivers and their margins and to determine whether an activity (application) is appropriate regionally. They include:*		
Policy 3. When determining if an activity is appropriate, the following matters must be considered:		
The degree and significance of actual or potential adverse effects on the elements, patterns, processes, and qualities that contribute to natural character.	Existing and consequential natural character has been assessed across the other two tables. Together these attributes come together to determine the natural character of the application area now and in the future. Understanding what is 'inappropriate' is assessed by reference to what is to be 'protected.'	
The value, importance, or significance of the natural character at the local, or regional level.	The application area (other than the adjacent SNA) is not of particular significance on a regional level, but the sea and ranges either side are as noted by their inclusion in the West Coast Landscape Study and status as an ONL/OCNC in the TTPP.	
The degree of naturalness.	As stated previously the existing 'naturalness' is degraded due to modification.	Natural character will be increased by the rehabilitation proposed by the project.
The potential for cumulative effects to diminish natural character, and the efficacy of measures proposed to avoid, remedy, or mitigate such effects.	There is the potential for cumulative effects across the wider Barrytown flats mining project. This includes the work on: • The NB (consent already granted). • The SB (the subject of this application). Cumulative effects have been considered with the mining design and layout. This is mitigated by the fact the active disturbance area is limited at any one time and the fact that progressive rehabilitation will occur.	
The vulnerability of the natural character to change, and its capacity to accommodate change, without compromising its values.	The application area is in a constant state of change due to its proximity to the coast. Parts of it are already vulnerable.	At the conclusion of the mining activity the application area will be left with improved natural character.
Policy 4. Allow activities which have no more than minor adverse effects on natural character.		

10.5 Recommendations to manage effects on natural character

The evaluation tables above assist with evaluating the potential effects of the mining activity on natural character. They illustrate that the extent and characteristics of the coastal environment vary and for this reason effects also vary.[22] I have also considered these findings against the context of the statutory provisions:

[22] NZCPS policy 1.

Preserving the natural character of the coastal environment[23]

It is considered the project will result in a **low (less than minor) adverse effect on the natural character of the coastal environment for both the application area and locality during mining.** Longer term, with mining activity complete and rehabilitation of the wetland and riparian areas established, there will be a **low to moderate (minor), positive effect on natural character.**

Protecting the natural character of the coastal environment, rivers, wetlands and margins from inappropriate use and development[24]

Various disciplines such as landscape, ecology and hydrology have assessed the value of the many different creeks, drains, wetlands and tributaries across the application area and adjacent to it. This is because understanding what is 'inappropriate' is assessed by reference to what is to be 'protected'.[25] All disciplines have worked together to protect areas 'of higher value'. Protection has been achieved by excluding certain areas from mining completely, including setbacks, proposing fencing, and/or implementing mitigation or rehabilitation planting.

Avoidance of all areas of outstanding natural character[26]

As previously mentioned, there are no areas of outstanding natural character within the application area. The OCNC listed for the adjacent Paparoa Ranges in the TTPP is avoided by the application.

That significant adverse effects on the natural character are avoided [27]

This will be achieved. There will be **no significant adverse effects on natural character in the coastal environment as a result of the project**. There will however be a number of **long-term positive benefits** arising from the rehabilitation proposed across the application area.

That all other adverse effects on the natural character are avoided, remedied, or mitigated[28]

The active mining disturbance area will be limited at any one time, and the application area will be progressively rehabilitated as mining is completed. Rehabilitation will ensure the application area is left with improved natural character.

[23] RMA section 6(c), NZCPS policy 13, GDP objective 7.3 and policies 19.4 and 6.4
[24] RMA section 6(c), NZCPS policy 15, WCRPS section 9 policy 1, GDP policies 19.4 and 6.4
[25] WCRPS section 7a policy 2.
[26] NZCPS, Policy 13, 1(a).
[27] The word 'significant' is referred to in the NZCPS, policy 13 and also the WCRPS section 9 policy 1.
[28] NZCPS policy 13, WCRPS section 9 policy 1, GDP policies 19.4 and 7.4.

That restoration/rehabilitation of the natural character is promoted [29]

Restoration will be achieved with the application area's currently declining natural character being reversed by the rehabilitation proposed. **Section 13** of this report outlines the proposed recommendations in order to do this and is supported by **Appendix 3: Landscape Mitigation Package.**

10.6 Natural character summary

Effects on natural character are deemed to be low (less than minor) adverse during pre-mining, mining and post-mining activity. After mining is complete and once all rehabilitation measures are established, there will be a **low to moderate (minor) positive effect on natural character.**

This is due to:

- Limiting the mining disturbance area.
- Implementing setbacks from properties, Granite Creek and the coastal edge.
- Mining undertaken outside of, and with appropriate buffers to ensure protection of the Langridge Scenic Reserve, stands of bush, and SNA PUN-049.
- Higher natural character existing outside of the application area than within it, with the landscape being dominated by the sea/ranges.
- The ability to adopt progressive rehabilitation measures, with each section rehabilitated following completion of mining.
- The opportunity to create a large new wetland and rehabilitate riparian margins.
- The application area having downgraded natural character and the ability to reverse this.
- The fact that significant adverse effects on natural character will be avoided.

[29] NZCPS policy 14.

11 AMENITY VALUES

Section 7(c) and (f) of the RMA requires decision makers to have regards to *'amenity values'* and the *'quality of the environment.'* Section 2 of the RMA defines 'amenity' as: *"…those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes."* TTatM, which is concerned about the relationship of people with the physical, associative, and perceptual dimensions of the landscape, adopts this definition.

Definition for 'environment'

Section 2(1) of the RMA defines 'environment' as ecosystems and their constituent parts, including people and communities, all natural and physical resources, amenity values and the social, economic, aesthetic, and cultural conditions which are affected by those matters.

Maintenance and enhancement

When considering the term *'maintenance and enhancement'* (Sections 7(c) and 7(f)), it is important to understand that the RMA also provides for positive effects and environmental enhancement, including restoration and rehabilitation. This is something which can sometimes be overlooked in the focus of avoiding, remedying, and mitigating adverse effects.

The physical landscape

Section 7 of the RMA involves an assessment of effects on the *physical landscape*. This has been referred to as 'landscape effects' within this assessment and is addressed in **Sections 8 to 10** of this report.

Landscape amenity

Section 7 of the RMA also requires an assessment of effects on *landscape amenity*. Amenity values have been considered under the 'visual effects' section of this assessment (refer to **Section 12**). Amenity values can be influenced by factors such as viewing position (roads or walking tracks), who is viewing it (recreationalists or travellers), the degree of change in the landscape a viewer can accommodate, and the value inhabitants and travellers place on a location.[30]

[30] Many of the issues discussed under natural character can also affect amenity values such as landform and landcover.

The amenity values for this location relate to the:

- Diverse landscape made up of many different components and characteristics.
- The feeling of remoteness being in a rural area away from a busy urban centre.
- Higher natural character around the application area than within it.
- Openness and generally unbuilt but modified landscape character.
- Contrast between the wide-open pastoral areas with long views and impermeable bush.
- The scenic quality of the surrounding landscape including the coast, rivers and the ranges.
- The opportunity for long distance views along the coast or outwards towards the sea.
- The movement of the waves, wind in the rushes, water in the creeks, birdlife and mist.
- The sound of the waves, wind, cicadas, birdlife, and occasional vehicle movements.
- The darkness of the night sky.

The following section evaluates the effect on amenity values through understanding what effect the addition of activity, noise, light, movement and machinery will have on the local ambience and outlook of residents and visitors in Barrytown.

12 VISUAL ASSESSMENT

12.1 Preface

Visual effects are a subset of landscape effects. Visual effects are consequences of changes to landscape values as experienced in views. The effect of the project on visual amenity relates to the visibility of the proposed mining activity from different viewpoints, and the effect that the temporary change in landuse from pastoral to mining might have on the locality's amenity value. Much depends upon where the project is visible from and how successful the recommendations are to mitigate any effects.

The degree to which visual effects are generated depends on:

- The proportion of the project that is visible, determined by the observer's position relative to the objects viewed.
- The distance and foreground context within which the application is viewed, and the backdrop and context within which it is viewed.
- The number of viewers, their location and whether they are static or moving.
- The time of day and weather conditions within which the application is viewed.

The visual effects of the project have been assessed from a number of public and private viewpoints. The main viewing audience consists of:

- Residents located on the Barrytown flats and within the flanks of the adjacent hillside.
- Users of Coast Road/SH6, and the local roads accessed from it.[31]
- Visitors to and residents of the Barrytown Township including the school and cemetery.
- Users of the Cargill Road Freedom Camping Area.
- Users of Pakiroa Beach and the Tasman Sea.

From a combination of detailed desktop analysis and observations from roadside viewpoints and the application area, the effect has been summarised by answering the following questions:

- What do residents/visitors currently view?
- What are the changes as a result of the project?[32]
- Do these changes create any adverse effects? If so, how could these be mitigated?

[31] This includes residences accessed off Coast Road, Prospector Place, Warren Road, Cargill Road, Golden Sands Road, and around Fagans Creek.

[32] Understanding what effect, the addition of activity, noise, light, and machinery will have on ambience and outlook.

The majority of neighbouring properties at Barrytown are located within the Barrytown flats, within the flanks of the adjacent hillside parallel to Coast Road/SH6 or accessed from the side roads which come off it. Nearly all properties are orientated towards the coast, with outward views sometimes limited by the surrounding vegetation a property is nestled into.

This assessment has broken down the neighbouring areas into smaller clusters to assist with assessing the effects over such a large application area. Information has been extracted from the GDC Spatial Planning Maps, Google Earth, Google Maps, ArcGIS and from observations on site. Of note, where property owners own more than one parcel of land, the property numbers provided in the following tables relate to the dwelling associated with each address.

Helpful references:

- Page 9 of the **Appendix 2, Graphic Supplement, Plan 7.0: Indicative Mining Sequence** visually illustrates when different sections of the mining will occur in relation to private properties.
- Pages 16-33 of **Appendix 2, Graphic Supplement** include the accompanying panoramas (photos) for each of the property clusters.
- Page 34 of **Appendix 2, Graphic Supplement, Plan 14: Viewpoint Clusters** includes a plan which illustrates the locations of all the property clusters.
- **Property plans showing the location and addresses of individual dwellings are provided after the viewpoint clusters described on the following pages.**

Figure 13: Viewpoint cluster assessment tables (multiple)

12.2 Cluster 1: Further afield

Cluster 1: Further afield ***Refer to Viewpoint 1 in Appendix 2, Graphic Supplement, page 14***	
Addresses	**Anticipated effects**
Northern residential properties 3172 and 3195 Coast Road/SH6 **Southern residential properties** 2364 and 2404 Coast Road/SH6 **Southern residential properties beyond Glen Road** 2, 2a, 4, 6, 20, 21, 26, 28, 30, 32 and 34 Golden Sands Road	This cluster encompasses areas north and south of the application area. One viewpoint has been chosen to represent the magnitude of effects that could be expected from viewpoints further afield. *Note: the Croesus Track and Paparoa Ranges are assessed separately under Cluster 12.* **Location:** Viewpoint 1 is located on Coast Road/SH6 at Seventeen Mile Bluff looking in a northeasterly direction towards the Barrytown flats. The photo is taken approximately 3.74km southwest of the application area. **Current view:** From this vantage point, there are expansive and picturesque views to the north and northeast across the Tasman Sea and Barrytown flats, with the Paparoa Ranges and Razorback Point in the distance. **Predicted view:** From this elevated position, distant views of the proposed mining activity will be possible on a clear day, with the degree of visibility determined by which stage is being mined, as well as the light, weather and sea conditions at the time. **Magnitude of effect:** From this location, there will be no adverse effect resulting from the project due to the large distance between the viewer and the application area and the transient nature of travellers using the winding road.

12.3 Cluster 2: Barrytown Township

Cluster 2: Barrytown Township ***Refer to Viewpoints 3 and 4 in Appendix 2, Graphic Supplement, page 16***	
Addresses	**Anticipated effects**
Residential properties east of Coast Road/SH6 2796, 2800, 2802, and 2822 Coast Road/SH6	**Location:** These residences are located on the lower flanks of the hillside (up to approximately 70msl) on the eastern side of Coast Road/SH6, opposite the Barrytown Township. Some dwellings appear to be two storeys high. **Current view:** Elevated dwellings appear to be nestled within established vegetation, which may restrict or frame outward views. The buildings that define the township are visible in the foreground. The straight line of Cargill Road draws the eye towards the sea and horizon in the distance. **Predicted view:** From these dwellings, long distance views of approximately 950m (at the closest point) of mining activity may be visible. Where discernible, mining activity will form a small component of the wider landscape for six years (years 8-13 of mining). Views of the mining activity will not be constant but more intermittent depending on the location of the mining path at any one time. **Magnitude of effect:** Due to the large viewing distance of 950+m and the mining activity being transient, there is anticipated to be a very low (less than minor) adverse effect of the project on residents of residential properties located east of the Barrytown Township.
Barrytown Township and residential properties west of Coast Road/SH6 4, 6, 7, 8, 9, 10, 11, 12, 12a, 13, 13a, 14, 15, 16, 17, and 22 Cargill Road. 2787 (Backpackers), 2801, Coast Road/SH6 **Barrytown School** 21 Cargill Road	**Location:** Barrytown Township is located approximately 720m from the application area at around 55msl. The township has a cluster of residential dwellings, with Barrytown School being located at the township's western extent. The pub and hall are also a meeting point. **Current view:** The buildings and vegetation that define the township are clustered west of Coast Road/SH6 and are slightly elevated above the application area. Buildings are predominantly single storey with a few two-storey dwellings. Outward views from residential properties are generally orientated north or west towards the coast. Travelling down Cargill Road towards the end of the township and in front of the Barrytown School, the view opens out to a wide rural coastal outlook with pasture in the foreground, a few structures, clusters of vegetation in the midground, and the sea/horizon in the background. **Predicted view:** From most dwellings, views of the proposed mining activity will be restricted by existing buildings or vegetation. However, from numbers 16, 21 and 22 Cargill Road and 2801 Coast Road/SH6, which are located on the outer edge of the cluster of buildings, views towards the application area are more open with a clearer northerly and/or seaward orientation. Where changes are recognisable as a result of the mining activity, they will be seen as long distance views, glimpses or through narrower viewshafts. This will be seen in the context of the scattered existing foreground vegetation, heavily vegetated SNA, and the new planted bunds. Views of the transient mining activity will be temporary for approximately 3 years (years 8 to 10) north of Cargill Road and another 3 year period (years 12 to 14) south of Cargill Road. **Magnitude of effect:** Due to the distance between the viewer and the activity, the mining activity being transient and the mitigation proposed, there is anticipated to be a very low (less than minor) to low (less than minor) adverse effect on residents of and visitors to the Barrytown Township.

Cluster 2: Barrytown Township

12.4 Cluster 3: Cargill Road, Barrytown Cemetery and Freedom Camping Area

Cluster 3: Cargill Road, Barrytown Cemetery and Freedom Camping Area ***Refer to Viewpoints 5-8 and 29-31 in Appendix 2 ,Graphic Supplement, pages 17- 18 and 30-31***	
Addresses	**Anticipated effects**
Residential properties 64, 86, and 101 Cargill Road 114 Cargill Road is a farmhouse situated within the mining area and has been excluded from this assessment.	**Location:** There are three residential dwellings adjacent to Cargill Road that are located within Cluster 3. All have property boundaries bordering the application area, with their dwellings orientated towards the north or west (towards the sea). **Current view:** From these dwellings, the outlook is coastal and rural in character with green pasture and long views toward the sea and horizon. Each dwelling has vegetation around their periphery, which somewhat in inhibits outward views. **Predicted view:** These properties will view the material for distribution areas to the east of the disturbed area. Once constructed, two temporary 3m high planted bunds will screen views of the proposed mining from 64, 86 and 101 Cargill Road. These will be located either side of the road and run perpendicular to it. For numbers, 64 and 86, the new bunds will interrupt existing long viewshafts toward the coast, seen through intervening vegetation. Mining will come closest to these properties late in year 8, early year 9 and through part of year 10. **Magnitude of effect:** Effects resulting from the project will be greatest when mining is closest and decrease as the work is further away. Effects are generated by the change in outlook, the proximity to the change and the activity itself. Visual effects will range from adverse low (minor) for number 64, through to low to moderate (minor) for number 86 and moderate to high (more than minor) for number 101. These effects are a worst case scenario for the short period when mining activity is closest to these properties. **The 'more than minor' adverse effect relates to a single dwelling at 101 Cargill Road. This effect is not considered 'significant' under the FTAA process as the effect is relatively short term and is reversible.** For these residents, mining will be closest at the start and end of year 12, throughout year 13, and at the start of year 14. A visual and nose bund will be constructed immediately in front of this property when mining activity occurs at the southern end of Section 2 and throughout Section 3. This bund will temporarily obstruct all wide and open sea facing outward views towards and along the coast, meaning the visual outlook from this property will markedly change during years 8 to 14 of mining.
Cargill Road	**Location:** The stretch of Cargill Road between the end of the Barrytown Township and Pakiroa Beach is approximately 1.2km long with its western end being located adjacent to the application area on both sides of the road. The road provides access to Pakiroa Beach, the Freedom Camping Area, Barrytown Cemetery, farmland and a few dwellings. Users are transient. Traffic volumes are low as the road is a dead end, but it is used by locals and visitors for beach access due to its proximity to the Barrytown township. There are not many beach access points. **Current view:** Views from this section of Cargill Road are predominantly coastal, with long views of green pasture in the foreground. These views are punctuated by scattered buildings and clusters of vegetation, including the SNA to the northeast. **Predicted view:** Mining will extend within 20m of both sides of the lower western end of Cargill Road. From this section, partial views of the mining activity will be possible at times but will be softened by existing vegetation and proposed 3.5m wide clusters of staggered boundary planting alongside both sides of the road. The proposed bunds near the eastern mining extent will block views for approximately 100m on both sides of the road. Mining will occur closest to Cargill Road during years 8 and 9 (northern side of the road) and again in years 12 and 13 (southern side of the road). From the upper extents of Cargill Road, views of mining activity will be distant and intermittently available from locations between Barrytown School and the edge of the application area.

	Magnitude of effect: There will be a low to moderate (minor) adverse effect on the transient users of Cargill Road as a result of the project. Effects will be greatest when mining is closest and decrease when the activity is further away.
Barrytown Cemetery	**Location:** The Barrytown Cemetery is located on the north side of Cargill Road towards the beach end. From this location, the application area is located to the northwest and the southwest, spanning both sides of Cargill Road. Visits to the cemetery are of varying frequency and duration. **Current view:** Current views from the cemetery are long and of a coastal, rural pastoral character. There is some vegetation around the perimeter of the cemetery which restricts views to the east and west. **Predicted view:** To the northwest, the mining activities will be screened by a proposed 3m high planted bund, which will wrap around the corner of the application area. Until this occurs, earthworks involved with the material for distribution areas to the east will be visible. Mining activity will occur closest to this bund in Year 10, at a minimum distance of 200m from the cemetery. To the southwest, mining activity will be closest in year 13, approximately 250m from the cemetery. Intervening vegetation, along with the proposed clusters of 3.5m wide planting along the road edge will assist with softening views of the mining **Magnitude of effect:** The project will change the long views currently experienced, but given the transient nature of visitors, it will have a very low (less than minor) adverse effect on visitors to the Barrytown Cemetery.
Cargill Road Freedom Camping Area	**Location:** The Freedom Camping Area sits at the western end of Cargill Road, raised above the expansive beach, which stretches out to the north and south. To the east, the Barrytown Township and Paparoa Ranges are visible. **Current view:** Existing views from the camping area are long, predominantly coastal and of a rural pastoral character. **Predicted view:** Mining will come within 20m of both sides of Cargill Road. The proposed buffer planting in the vicinity of the freedom camping area will screen views toward the mining. Mining will be closest north of Cargill Road in late Year 8 and early Year 9, and closest south of Cargill Road at the start of years 12 and 13. A 50m MHWS setback will further separate the mining activity from the freedom camping area. **Magnitude of effect:** The project will alter the existing long views across farmland available from the freedom camping area and currently experienced by transient visitors. However, expansive views up and down the beach foreshore will remain. For this reason, the project will result in a temporary low (minor) adverse visual effect on users of the freedom camping area, diminishing when the mining is further away.

Cluster 3: Cargill Road, Barrytown Cemetery and Freedom Camping Area

12.5 Cluster 4: Pakiroa Beach

Cluster 4: Pakiroa Beach ***Refer to Viewpoints 9-16 and 32-34 in Appendix 2, Graphic Supplement, pages 19 - 22 and 30 - 33***	
Addresses	**Anticipated effects**
Viewers from the Pakiroa Beach foreshore and the Tasman Sea	Views of the application area from the Pakiroa Beach foreshore have been considered from multiple locations. Access to the coastline near the Barrytown Township is possible from Cargill Road, Canoe Creek and Fagans Creek. The availability of views inland from the beach varies greatly, depending on the position of the viewer. Topography, water bodies, and vegetation all dictate what can be seen. Four areas have been assessed (working south to north) including: • Pakiroa Beach – South of Cargill Road: Viewpoints 32 to 34. • Pakiroa Beach – North of Cargill Road: Viewpoints 9 to 12. • Pakiroa Beach – North of Granite Creek: Viewpoints 13 and 14. • Pakiroa Beach – South of Canoe Creek: Viewpoints 15 and 16. Viewpoints are discussed below. To avoid repetition, the assessment of beach viewpoints has considered the following factors: • The transitory nature and low frequency of the viewers. • The setback of the mining activity at least 50m from the MHWS.
Pakiroa Beach – South of Cargill Road	**Location:** This 1.3km section of Pakiroa Beach runs between Cargill Road and Fagans Creek. For much of the costal edge there is a tall escarpment. **Current view:** The steep eroding escarpment on the coastal edge, rising up to 2m in places, forms a natural division between the foreshore and the existing pastoral area. Along the escarpment edge, pastoral grass and post-and-wire fencing are visible. From the top of the escarpment (which wouldn't typically be climbed), views inwards are characterised by an open, rural pastoral landscape with Coast Road/SH6 and the Paparoa Ranges in the distance. While some scattered vegetation exists along the top of the escarpment, it is sparse. **Predicted view:** For much of the project, visibility of the activity from this part of the beach will be non-existent due to mining occurring in other parts of the SB. When mining comes closer in years 12 to 13 there will continue to be separation from the activity by the beach escarpment, 50m setback from the MHWS and the very limited visibility towards the disturbance area. In selected locations, machinery may become visible atop of the pit. This would likely occur in year 12 when the mining occurs closest to this section of Pakiroa Beach. **Magnitude of effect:** The project is deemed to have a very low (less than minor) adverse visual effect on users of the section of Pakiroa Beach south of Cargill Road due to the separation provided by the tall escarpment, MHWS setback, and limited opportunities for viewing inland.

Pakiroa Beach – North of Cargill Road to Granite Creek	**Location:** This 1.4km section of Pakiroa Beach extends north of Cargill Road to Granite Creek. The beach is separated from the inland area by a coastal escarpment. **Current view:** Views from the beach inwards are regularly obscured by the coastal escarpment which varies in height depending on location. Above the escarpment is a large area of open pastoral grassland, with Coast Road/SH6 and the ranges in the distance. Scattered vegetation clumps exist along the top of the escarpment. **Predicted view:** In years 8 and 9, mining activity will occur closest to this section of Pakiroa Beach. However, there will continue to be separation from the activity by the beach escarpment, 50m setback from the MHWS and the very limited visibility towards the disturbance area. In selected locations when viewing from the beach, machinery may become visible atop of the pit. As mining moves inland later in years 9 to 10, these effects will no longer be visible. **Magnitude of effect:** The project is deemed to have a very low (less than minor) adverse visual effect on users of the section of Pakiroa Beach between Cargill Road and Granite Creek due to the height separation provided by the tall escarpment, MHWS setback, and limited opportunities for viewing inland.
Pakiroa Beach – North of Granite Creek to midway to Canoe Creek	**Location:** This central section of Pakiroa Beach spans approximately 1.5km northward from Granite Creek and ends midway to Canoe Creek. **Current view:** In the central section of Pakiroa Beach, the escarpment gradually flattens out and the stony beach slopes upward to meet the pastoral edge. Clumps of vegetation such as grasses and flax become more common alongside a post and wire fence. Views inwards are very dependent on the position of the viewer on the beach, whether they are lower down and closer to the water's edge or higher up nearer to the farmland. From time to time, taller vegetation also restricts views inland. Overall, though, views inwards are broad and open across farmland. In the distance, the Paparoa Ranges are the dominant feature. **Predicted view:** Immediately north of Granite Creek perpendicular to the coast, is the location for the mining starter pit. Mining will begin here and travel inwards parallel to the creek. Following this, mining activity will occur near the beach during years 2 to 4 and move further away during years 5 and 6. In the early years, transient mining activity including machinery and earthworks will be clearly visible from the beach as operations will occur 50m from the MHWS. Following this, mining will move further inland and still be visible in the distance at approximately 350+m away. **Magnitude of effect:** Effects resulting from the project will be greatest when mining is closest to the beach and decrease as the activity moves further away. When the application is closest to the central section of Pakiroa Beach, it will result in a low to moderate (minor) adverse effect for 1-2 years. This is because there will be clear views of the activity from this part of the beach. As mining moves inland and north of this area (from midway through year 6 onwards) adverse effects will notably reduce to low (less than minor).
Pakiroa Beach – South of Canoe Creek	**Location:** This section of Pakiroa Beach spans approximately 1.2km south of Canoe Creek. **Current view:** This area features a more gradual topography compared to other sections, with the beach and pastoral land merging together at a similar level, though with some variation. From this stretch of beach, there are long open views inwards across the pastoral farmland, to the Paparoa Ranges in the distance. **Predicted view:** In this location, the topography appears relatively flat, and the lack of foreground vegetation allows for unobstructed views of the northern most section of the application area. Mining activity (such as machinery movement, the pit and bare earth) will be closest to this part of the beach in years 2 to 4, and snake further inland in years 4 to 7. **Magnitude of effect:** Effects resulting from the project will be greatest when mining is closest to the beach and decrease as the activity moves further away. Effects are generated by the change in outlook, the proximity to the change and the activity itself, which is setback 50m from the MHWS. When the application is closest to the section of Pakiroa Beach south of Canoe Creek, it will result in a low to moderate (minor) adverse effect for approximately 2 years. This is because there will be clear views of the activity from this part of the beach. As mining moves inland and north (from year 5 onwards) adverse effects will notably reduce.

12.6 Cluster 5: Canoe Creek

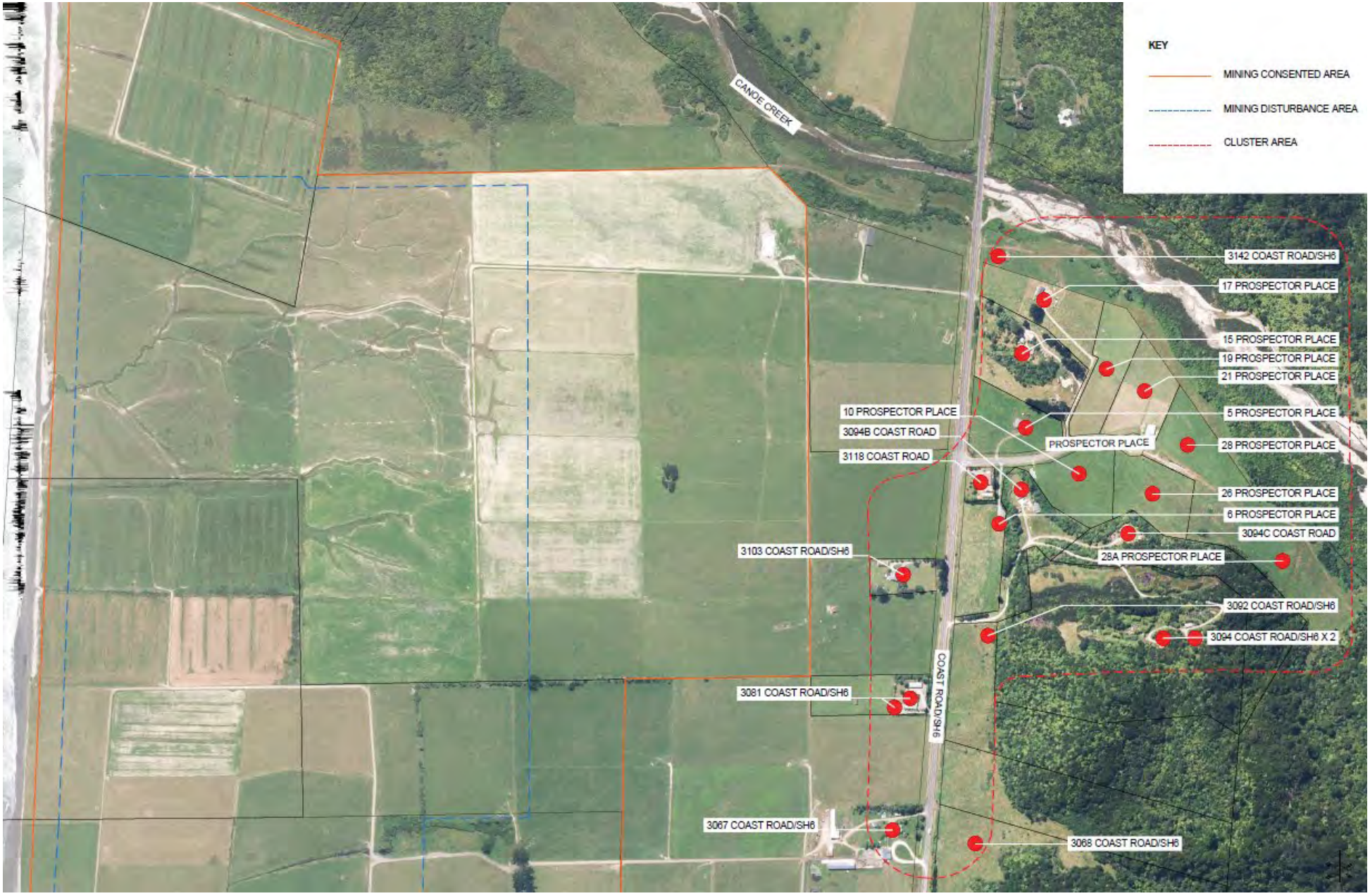
Cluster 5: Canoe Creek	
Addresses	**Anticipated effects**
Canoe Creek	**Location:** Canoe Creek is situated north of the application area, adjacent to the Langridge Scenic Reserve. Although there is no formal public access, informal entry is possible via the river corridor. The surrounding area is largely natural, with limited recreational use and low levels of public activity. **Current view:** The current view is towards open farmland and dense vegetation either side of the river corridor. **Predicted view:** Views towards the application area from much of Canoe Creek are obscured by mature vegetation within the Langridge Scenic Reserve and along the river margins. The only area where partial visibility of the application area is possible is near the mouth of the creek for 170m inland from the coast. From this location, long-distant views towards the coastal edge of the application area may be visible, although mining activity itself is setback 50m from the MHWS. Mining activity in years 3 and 5 (when closest) is likely to be hard to discern due to the distance of the viewer and the activity occurring at a lower elevation than the area itself. **Magnitude of effect:** The project is determined to have a negligible adverse effect on the users of Canoe Creek due to the dense vegetation and limited access.

12.7 Cluster 6: Prospector Place and Coast Road/SH6

Cluster 6: Prospector Place and Coast Road/SH6 ***Refer to Viewpoints 17-19 in Appendix 2, Graphic Supplement, page 23***	
Addresses	**Anticipated effects**
Residential properties to the west of Coast Road/SH6 3103, 3081 and 3067 Coast Road/SH6	**Location:** These dwellings are located on the seaward (western) side of Coast Road/SH6, south of Canoe Creek. **Current view:** Views from these dwellings are predominantly rural and coastal in character, comprising foreground pasture, scattered midground shrubs and vegetation, and long views toward the Tasman Sea and horizon. The level of visibility varies depending on the extent of perimeter vegetation associated with each property. Some clear viewshafts are available where vegetation is less dense. **Predicted view:** During the early years, mining activity will occur nearer the coast. After this, in years 5-7, narrow and intermittent views of the mining area may be visible a minimum of 550m away from these dwellings. This activity will be viewed through gaps in the existing planting. Some earthworks activity associated with the material for distribution areas to the east of the mining disturbance area may also be visible during Section 1 of mining. It is anticipated up to 2ha of material per year will be redistributed from the closer eastern areas to assist with progressive rehabilitation. **Magnitude of effect:** Due to the separation distance, partial visibility, and the transient nature of the mining activity, the project is deemed to have a low (less than minor) adverse visual effect when mining activity is closest to these properties.
Residential properties on the flat area of the valley and base of the hill 5, 6, 10, 15, 17, 19, 21, 26, 28 and 28a Prospector Place 3068, 3092, 3118, and 3142 Coast Road/SH6	**Location:** This cluster of dwellings is situated on the inland (eastern) side of Coast Road/SH6, south of Canoe Creek and around Prospector Place, across the flat valley floor and at the base of the adjacent hillside. **Current view:** The outlook from this group of dwellings is predominantly rural and coastal in nature. Views generally extend across Coast Road/SH6 and open pasture toward the sea, with varying levels of structures and vegetation (including residential plantings and intermittent roadside cover) filtering or partially screening these views. Properties located nearer to Coast Road/SH6 tend to have more open views, while those situated further inland are more enclosed by landform and landcover. **Predicted view:** While these dwellings sit slightly higher in elevation than the application area, they are generally located at a minimum distance of 250m or more from the application area and over 700m from the mining activity and WCP. Some are positioned close to Coast Road/SH6, while others are located further back within the valley. The visibility of mining activity will vary depending on each property's orientation and level of screening. For residents at properties with more open outlooks (e.g. numbers 3142, 3118, 3068 and 3092, Coast Road/SH6 and 5 and 6 Prospector Place), partial views of mining in years 6 and 7 may be available. In addition, some earthworks activity associated with the material for distribution areas to the east of the mining disturbance area may also be visible during Section 1 of mining. **Magnitude of effect:** Given the large distance from the activity, the visible elements will be diminished in scale, as well as partially filtered and softened by existing landform, landcover, and structures. For these reasons, the application is deemed to have adverse effects ranging from no effect to low (less than minor) on these properties. Residents with more direct views such as from numbers 3142, 3118, 3068, and 3092 Coast Road/SH6 and 5 and 6 Prospector Place will experience greater effects than others in this cluster.

Residential properties on the hillside 3094 (x2 dwellings), 3094b, and 3094c Coast Road/SH6	**Location:** These dwellings are located at higher elevations on the lower hillslopes, on the inland side of Coast Road/SH6. **Current view:** The properties are oriented west toward the coast and are settled into dense vegetation. Views afforded across the flats are distant and wide. **Predicted view:** Given their elevated location, mining activity and earthworks associated with mitigation and rehabilitation will be visible in the distance as it moves across the site. However, the activity will form just a small component of the broader landscape, sometimes obscured or softened by existing vegetation. **Magnitude of effect:** Views of the application area will be more extensive from these elevated properties. However, the distance to the site and the transient nature of the mining activity will be mitigating factors. When mining is closest, adverse visual effects from the project are expected to range from very low (less than minor) to low (minor).

Cluster 6: Prospector Place and Coast Road/SH6



12.8 Cluster 7: Coast Road/SH6 (North)

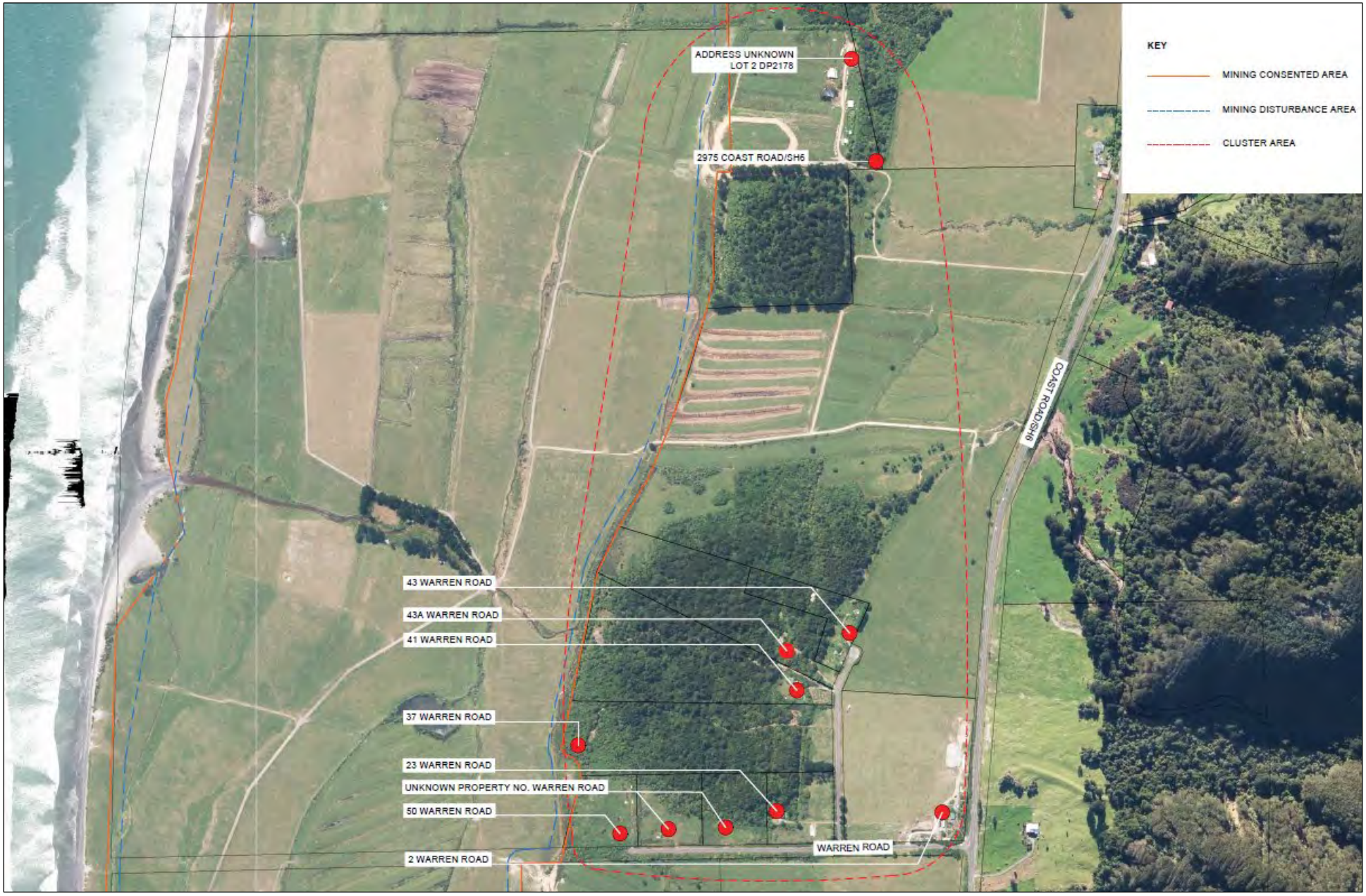
Cluster 7: Coast Road/SH6 (North) ***Refer to Viewpoints 20-22 in the Appendix 2, Graphic Supplement, pages 24 - 25***	
Addresses	**Anticipated effects**
Coast Road/SH6	**Location:** The 1.92km stretch or road between the dwelling at 3081 Coast Road/SH6 and Warren Road. **Current view:** Travellers along this stretch of Coast Road/SH6 generally experience undulating views across the wide pastoral landscape toward the coast. These vistas are intermittently interrupted or screened by roadside planting and larger strips or blocks of midground vegetation. **Predicted view:** From this part of Coast Road/SH6, Views of the mining activity in the distance, are expected to be limited and occasional beyond existing intervening landcover. Some earthworks activity associated with the material for distribution areas to the east of the mining disturbance area may be visible from time to time. **Magnitude of effect:** Due to the transient nature and speed of road users, oblique viewing angles, and the distance to the mining activity, effects will be limited. Overall, the project is anticipated to have very low (less than minor) visual effect on users of Coast Road (SH6).
Residential properties 2967a, 2967b, 2978, 2980, 2987, 2998, 3008, 3010, 3012 Coast Road/SH6.	**Location:** The residential dwellings along Coast Road/SH6 are situated between 3081 Coast Road/SH6 and 2 Warren Road. Most are located directly adjacent to the main road, with a few set back into the densely vegetated lower hillslopes. **Current view:** Most residential properties have a westward orientation with views towards the coast. Some outward views are partially obstructed by strips or blocks of vegetation in the midground, with smaller amounts of foreground screening provided by internal or roadside planting. **Predicted view:** Elevated dwellings in this area may have wider visual catchments, meaning they may be able to view mining activity for a longer duration than those nearer to road level. Mining activity will be most visible when it comes nearer to Granite Creek. Residents at numbers 3010 and 3012 Coast Road/SH6 may also view some of the earthworks activity associated with the material for distribution areas to the east **Magnitude of effect:** The existing planting and the separation distance from the mining activity will reduce visual effects. As a result, the project is deemed to have very low to low (less than minor) adverse visual effects on residents in this cluster.

Cluster 7: Coast Road/SH6 (North)

12.9 Cluster 8: Warren Road and bush to the north

Cluster 8: Warren Road and bush to the north ***Refer to Viewpoints 23 and 24 in Appendix 2, Graphic Supplement, page 26***	
Addresses	**Anticipated effects**
Residential properties 2, 23, 37, 41, 43, 43a, 2x unknown addresses, and 50 Warren Road Coast Road/SH6 near the below dwellings Warren Road near the below dwellings	**Location:** This cluster includes dwellings located on the west side of Coast Road/SH6 situated between Warren Road and the bush patches of bush to the north. Warren Road is located between the coastal farmland of 114 Cargill Road and Coast Road/SH6. It comprises of two sections; a 500m sealed road running east–west from Coast Road/SH6, and a 290m unsealed road that extends north from the main section. Both roads serve as access routes to a number of rural-residential dwellings. These roads are not through-roads and do not provide access to the beach, so the resultant traffic volume is very low. **Current view:** From the eastern end of the east–west part of Warren Road open long-distance views are available in a southwest direction toward green pasture, clusters of vegetation and the sea. Moving west, these views become intermittent, limited to brief glimpses through gaps in the vegetation. The north–south unsealed section of Warren Road is visually enclosed by mature vegetation and offers little to no outward views. Most dwellings within this cluster are embedded within private vegetation that restricts views of the application site. **Predicted view:** Views of the mining activity from Warren Road will generally be concealed by the new 3m high planted bund or will otherwise be distant. Residents within this cluster are expected to experience minimal change. **Magnitude of effect:** The project is deemed to have no to very low (less than minor) adverse visual effect on this cluster.
2975 Coast Road/SH6 (hut in the bush) Unknown number Coast Road/SH6 (associated with the motorbikes and dirt track - Lot 2 DP 2178)	**Location:** These two dwellings are located in fairly isolated positions on the edge of existing mature bush. **Current view:** Number 2975 Coast Road/SH6 is a small hut tucked into the bush, whereas the dwelling at Lot 2 DP 2178 is open toward the coast. **Predicted view:** The outward view for the residents of 2975 Coast Road/SH6 is unlikely to change much as a result of the project due to the oblique viewing angle, intervening vegetation and distance to the mining activity. They may view the northern end of the 2nd bund. In contrast, for Lot 2 DP 2178 mining activity will be visible across the flats at varying distances between years 1-6 until a new planted bund is constructed along the western boundary of this property. During year 9 of the project, mining will come within 24m of the boundary of this property (up to the western outer edge of the bund). Whilst the new bund will provide noise and visual mitigation, screening views of the mining activity from this dwelling, it will also temporarily obstruct the residents open coastal vista that they currently experience. The applicant will work with this landowner regarding the construction of this bund and the plant species that are to be planted on it to work around the existing oval track. **Magnitude of effect:** Whilst the project will have an adverse low (less than minor) effect on 2975 Coast Road/SH6, there will be adverse moderate (more than minor) visual effects on Lot 2 DP 2178 during Section 1 of mining. **The 'more than minor' effect on Lot 2 DP2178 is because** mining activity will be visible across the flats at varying distances between years 1-6 until a new planted bund is constructed along the western boundary of this property. During year 9 of the project, mining will come within 24m of the boundary of this property (up to the western edge of the bund). Whilst the new bund will provide noise and visual mitigation, screening views of the mining activity from this dwelling, it will also temporarily obstruct the residents open coastal vista that they currently experience. **This effect is not considered 'significant' under the Fast Tracks Approval Act process as the effect is relatively short term and is reversible.**

Cluster 8: Warren Road and bush to the north



12.10 Cluster 9: Coast Road/SH6 (Centre)

Cluster 9: Coast Road/SH6 (Centre) ***Refer to Viewpoint 25 in Appendix 2, Graphic Supplement, page 27***	
Addresses	**Anticipated effects**
Coast Road/SH6	**Location:** The section of Coast Road/SH6 runs north of Barrytown Township to Warren Road and is approximately 1km long. **Current view:** Views to the west from this stretch of road are currently partially obstructed or fully screened by well-established vegetation that follows Granite Creek along the seaward side of the state highway. **Predicted view:** The outlook from this part of Coast Road/SH6 is expected to remain unchanged throughout the duration of the mining activity as direct views of the mining activity will not be possible from the majority of viewpoints along this stretch of road. Occasional small gaps in the vegetation may allow for fleeting, distant views towards the application area, experienced by motorists while in transit. **Magnitude of effect:** Due to the transient nature of viewers and the large amount of existing vegetation, the project is deemed to have no to very low (less than minor) adverse visual effects on this section of Coast Road/SH6.
Residential properties 2828, 2866 and 2888 Coast Road/SH6	**Location:** There are multiple dwellings located along this central stretch of Coast Road/SH6, all positioned on the inland (eastern) side of the highway. **Current view:** These dwellings are generally elevated above the road corridor and are typically orientated west. Outward views (sometimes impeded or framed by vegetation around dwellings) include a patchwork of pasture, scattered rural structures, and clusters of midground vegetation, with long views to the horizon and sea beyond. **Predicted view:** The position of these elevated dwellings ranges from approximately 650 to over 1000m from the mining activity. It is likely that some viewshafts in between vegetation will be available of the mining activity during Section 2 (particularly from number 2888 Coast Road/SH6). However, such views will be distant and intermittent as the mining is transient, and existing vegetation along the eastern edge of the mining disturbance area in this location is identified to be retained. **Magnitude of Effect:** Given the distance to the application area, intervening vegetation, and the short duration of visible mining activity (most notably in years 10 and 11), there is deemed to be a very low to low (less than minor) adverse effect on dwellings located near the centre of Coast Road/SH6.

Cluster 9: Coast Road/SH6 (Centre)

12.11 Cluster 10: Coast Road/SH6 (South)

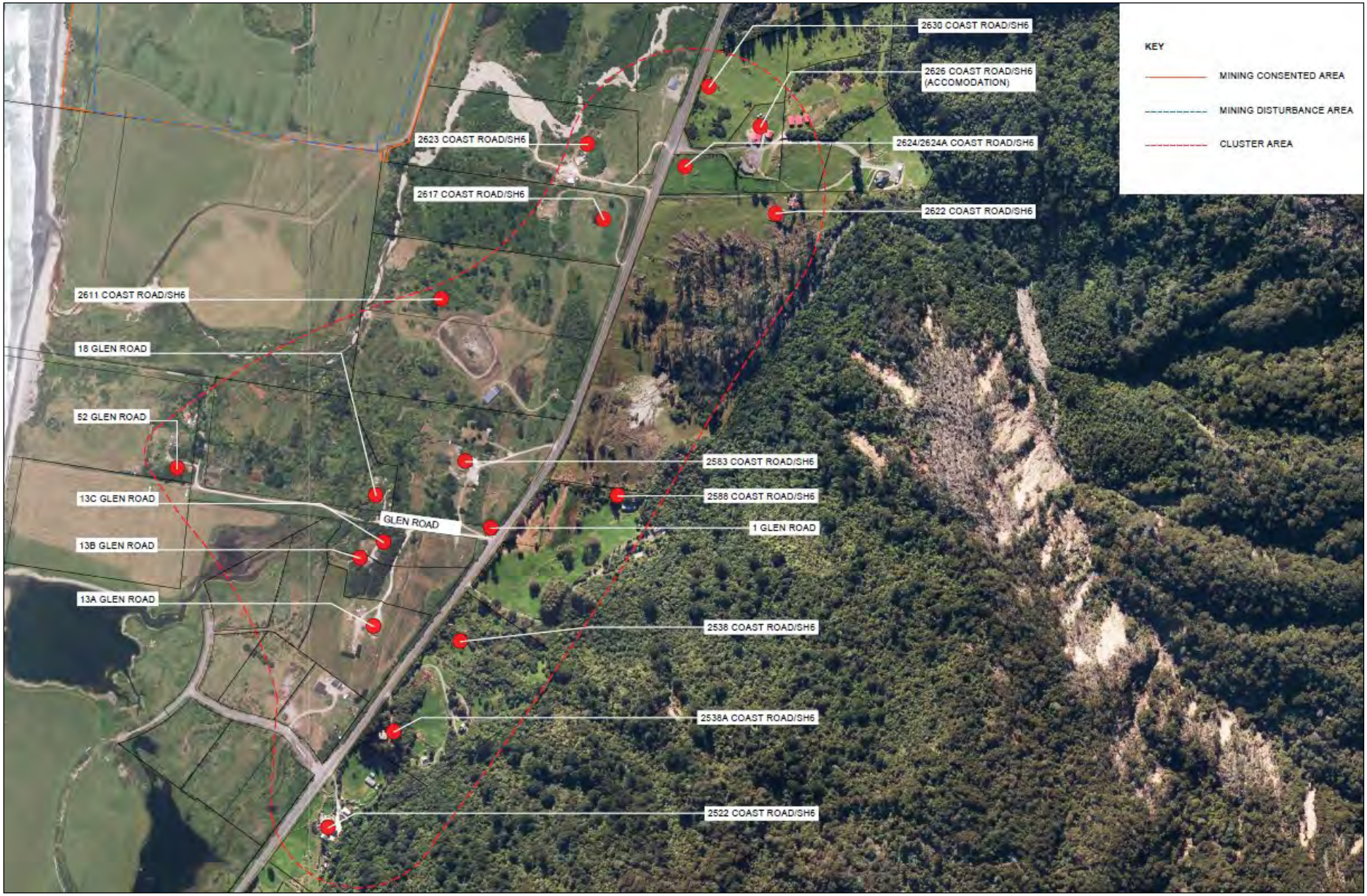
Cluster 10: Coast Road/SH6 (South) ***Refer to Viewpoints 26-28 in Appendix 2, Graphic Supplement, pages 29 - 30***	
Addresses	**Anticipated Effects**
Residential property 2790 Coast Road/SH6	**Location:** This dwelling is located just to the south of the intersection of Coast Road and Cargill Road, near the start of the Croesus Track. **Current view:** This property is the most visually enclosed of the nearby residential properties, being surrounded by dense mature planting. This vegetation screens views toward the west and the wider landscape, meaning the current outlook is within a private garden and bush surround. **Predicted view:** Given the dense vegetation, tall roadside planting, presence of other dwellings, and separation distance between 2790 Coast Road and the application area, no views of the proposed mining activity are anticipated. Views of any earthworks associated with the material for distribution areas to the east of the mining disturbance area will be very distant. **Magnitude of effect:** The application is deemed to have no adverse effect on the residents located at 2790 Coast Road/SH6.
Residential properties 2751 Coast Road/SH6	**Location:** The dwelling at 2751 Coast Road is positioned adjacent to Coast Road/SH6, south of Cargill Road on the western side of the highway. **Current view:** This property is oriented west. At present, there is little to no vegetation between the dwelling and the long distance views across pastoral farmland to the coast. Some farm structures and one cluster of buildings in the midground are present. **Predicted view:** The mining activity plus a portion of the 4th planted bund will be visible in the distance 850+m away during years 13 and 14 of mining. This dwelling has wide views of the landscape and mining will occupy only a relatively narrow portion of the overall visa at any one time. Views of any earthworks associated with the material for distribution areas to the east of the mining disturbance area will also be very distant. From Coast Road/SH6, the effect will be even less due to the transient nature of passers-by, combined with the oblique viewing angle. **Magnitude of effect:** The application is deemed to have a low (less than minor) adverse effect on the residents of 2751 due to the viewing distance and temporary and transient nature of the mining activity.
Residential properties 2724, 2726 and 2742 Coast Road/SH6	**Location:** This cluster of three dwellings are located to the east of Coast Road/SH6 and setback from the road. **Current view:** Many of these residences are nestled within and behind well-established vegetation, which restricts outward views to the west. These views are often confined to narrow openings, such as driveways. **Predicted view:** Due to the established vegetation, the proposed mining activity will not be readily visible from these dwellings. Views of any earthworks associated with the material for distribution areas to the east of the mining disturbance area will also be distant. During years 12 to 14, there may be intermittent and narrow views of the activity through driveways openings. That said, the overall visibility will remain minimal due to the large viewing distance (800+m), and the relatively short duration of mining. **Magnitude of effect:** The project is deemed to have a very low (less than minor) effect on this cluster of properties.

Cluster 10: Coast Road/SH6 (South)

12.12 Cluster 11: Fagans Creek

Cluster 11: Fagans Creek ***Refer to Viewpoint 35 in Appendix 2, Graphic Supplement, page 33***	
Addresses	**Anticipated effects**
Residential properties 2522, 2538, 2538a, 2583, 2588, 2611, 2617, 2622, 2623, 2624, 2624a, 2626 and 2630 Coast Road/SH6. 13a, 13b, 13c, 18 and 52 Glen Road.	**Location:** Fagans Creek is located near the southern boundary of the proposed application area. The area features riparian and wetland vegetation along the creek, contributing to a largely enclosed and heavily vegetated landscape character. There is informal beach access from a track off the end of Glen Road (although at times this can be impassable due to the water level and/or mud). **Current view:** From within the Fagans Creek corridor, views toward the application area are partially obstructed by dense riparian and wetland vegetation. This vegetation provides effective screening from ground-level viewpoints such as from nearby dwellings and tracks. Dwellings located at higher elevations (such as across Coast Road/SH6) have a broader coastal outlook. **Predicted view:** During years 12 to 14 there will be limited visibility of mining activity from Fagans Creek and the surrounding dwellings. From the creek itself, the mining area will continue to be mostly screened by existing vegetation and landform. However, partial glimpses of taller machinery may be visible between gaps in vegetation or when positioned at the end of the mining path. For dwellings located to the east of Coast Road/SH6, mining activity may be visible for short durations at a distance of at least 600m away, receding into the Barrytown flats landscape. Views from these dwellings are elevated and have wider views of the Barrytown flats so the transient movement and bare earth is more recognisable, but further away. **Magnitude of effect:** The application is deemed to have effects ranging from no effect through to very low adverse (less than minor) on residents residing within the Fagans Creek area and on any users of the beach access track and/or creek itself. This is because the dense riparian and wetland planting and landform provides effective screening for the short amount of time the mining is at the southern end of the application area.

Cluster 11: Fagans Creek



12.13 Cluster 12: Croesus Track and the Paparoa Ranges

Cluster 12: Croesus Track and the Paparoa Ranges ***Refer to Viewpoint 2 in Appendix 2, Graphic Supplement, page 14***	
Addresses	**Anticipated effects**
Croesus Track and the Paparoa Ranges	**Location:** The Croesus Track is a steep track leading up into the Paparoa Ranges, linking Barrytown to Blackball. It follows a ridgeline through native forest and offers intermittent views across the landscape of the Barrytown flats. Further north, the Pororari Hut is situated at a higher elevation along the Paparoa Track, a popular multi-day walking route. **Current view:** The track offers short and long distance views across, in between and from the Paparoa Ranges along the coast. **Predicted view:** From this elevated part of the ranges, views toward the application area are expansive but distant. The mining area lies well beyond the immediate foreground, and only the coastal edge of the application area is faintly discernible. **Magnitude of effect:** From the lower part of the Croesus Track itself above the Barrytown Township, it is possible that in places the mining activity may be visible. However, views will be very distant and the viewer transient. For these reasons, the application is anticipated to have very low (less than minor) adverse effects on users of the Croesus Track. From the top of the ranges, the application area is a considerable distance. This combined with the scale and complexity of the intervening landscape, means that the location of mining will be hard to distinguish, and changes will be hard to recognise. There will be no adverse visual effects from Pororari Hut.

12.14 Visual effects summary

Visual effects are largely influenced by the observer's position relative to the mining, how close the mining is at any one time, how much of the activity is visible, and the screening provided by landscape mitigation. The number of viewers, whether they are static or moving, the time of day, and the weather conditions also all play a part.

For audiences with a longer viewing distance, mining elements will appear diminished in scale as well as partially filtered and softened by intervening vegetation, topography and structures. Elevated residences offer more direct views of the project. However, mining will usually only occupy a relatively narrow portion of the overall vista at any one time. For this reason, effects will be greatest when mining is closest to a viewer and decrease when activity is further away.

Overall, visual effects will primarily arise from:

- The gradual change in landuse from pastoral to mining to pastoral/wetland.
- The addition of internal tracks.
- The change in character from open to more enclosed along some boundaries.
- Vegetation removal and new planting.
- Changes to the landform, particularly the creek diversions, addition of stockpiles, bunds, the transient mining pit, and the bringing in of material from higher terraces.
- The visibility of mining activity (bare earth), vehicles and machinery as they move across the application area.

In terms of effects generated, it should be noted that:

- Mining activity is transient.
- Existing vegetation plus landscape mitigation will restrict views of the mining activity from some locations.
- Lighting will be minimal – activities occur during daylight, and there will only be a small amount of lighting at night.
- Effects will be greatest when mining is closest and decrease when activity is further away.
- Elevated houses have more direct views of the mining area. However, often mining will occupy only a relatively narrow portion of the overall vista at any one time.
- For those with a long viewing distance, mining elements will be diminished in scale as well as partially filtered and softened by topography, vegetation and structures.

Visual effects arising from the project will range from their being **no visual effect as a result of the project, to very low or low effects (less than minor), to low to moderate effects (minor), through to moderate to high effects (more than minor),** at the most affected locations**.**

For the latter, there are two properties identified where the project will have 'more than minor' effects. This is for the residents of 101 Cargill Road and LOT2 DP2178. **Neither of these effects are considered 'significant' under the FTAA as the effects are relatively short term and are reversible.**

13 RECOMMENDATIONS

13.1 Compatibility with the surrounding landscape

The tables which follow outline the proposed recommendations to mitigate potential adverse landscape and visual effects of the application. They also assist with integrating the mining activity into its rural surroundings. The main objective is to return the application area (after mining activity is complete) to a condition which is compatible with and enhances the surrounding landscape. For production (or any other type of development to occur after mining activity is complete), the landform and landcover must be suitable. This means that contouring, drainage, and plant growing medium must be able to provide for full and free root development to support pasture growth and production.

13.2 Landscape mitigation plans

Landscape mitigation measures are implemented across the application area in several stages:

- Before Mining Commences (referred to as Pre-Mining),
- During the Mining Operation (referred to as Mining), and
- Once mining is complete (referred to as Post Mining or Final Rehabilitation).

These recommendations should be read alongside the Landscape Mitigation Plans in Appendix 3, Landscape Mitigation Package.

- These plans identify areas where vegetation is proposed to be retained and additional planting and bunding is proposed to be added. This planting has also been designed to work with noise, ecology and water strategies.

13.3 Pre-mining

Figure 14: Pre-mining landscape mitigation

Activity	Location	Details	Desired outcome and timeframe
Mining disturbance areas			
Setback of mining disturbance area from key features	• Minimum 20m setback from: consent boundary, Granite Creek, Fagan Creek, SNA PUN-049, and all private property boundaries not within application area • Minimum 50m setback from: MHWS • Minimum 200m setback from: dwellings other than where noise bunds are proposed.	This will provide a buffer zone between mining activity and identified landscape features, residential dwellings and public places. Refer to pages 4 to 11 within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining**	Mitigates adverse effects generated by mining activity. (For the life of the Project).
Planted bunds			
Construction of planted bunds (x4)	Location for new bunds: • Bounding LOT 2 DP 2178 • Warren Road/Granite Creek area • Cargill Road area (northern side of the road) • 101 Cargill Road (southern side of the road)	The bunds will be 3m in height with a 4.8m wide crest (24m width). All bunds will have an inward facing grassed slope with dense planting on the crest and outward facing slope. The planting on the bund adjacent to LOT 2 DP 2178 is to be confirmed with landowner. Refer to pages 5 to 8, within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining**.	The bunds are required for noise mitigation. They have a dual benefit of also screening and softening the mining activity from nearby residential properties and roads. (For the life of the Project).
Planting areas			
Retention of key vegetation	Vegetation to be retained: • Large cluster of vegetation near the WCP. • Clusters of vegetation along the eastern application area boundary north of Cargill Road. • The vegetation adjacent to 101 Cargill Road. • The vegetation adjacent to Granite Creek.	There is the opportunity to augment existing Granite Creek treed area with additional riparian planting. Refer to pages 4 to 11 within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining**	Existing vegetation offers immediate screening and softening of the mining activity from residential properties and the surrounding roads. (For the life of the Project).
New native planting	New planting areas include: • Adjacent to Freedom Camping Area • Clusters along the edges of Cargill Road within the 20m mining disturbance setback.	Staggered informal 3.5m wide clusters of native vegetation are to be implemented along the northern and southern sides of Cargill Road. For the Freedom Camping Area, a cluster of dense new native planting is to be implemented either side of the camping area. Refer to pages 4 to 11 within **Appendix 3, Landscape Mitigation Package, Landscape Mitigation - Pre-Mining**	The purpose of the Cargill Road planting is to provide a softening effect from the mining activity for the users and residents of Cargill Road, without creating a vegetated 'tunnel' effect along the road corridor. The purpose of The Freedom Camping planting is to screen the mining activity when it is closest to the camping area and to direct views out and along the coast. (For the life of the Project).

13.4 During mining

Figure 15: During mining landscape mitigation and rehabilitation

Activity	Location	Details	Desired outcome and timeframe
Mining sequence			
Mining follows the path shown in the Mining Sequence Plan**.**	Across the active mining disturbance area (area to be mined)	The mining path will 'snake' in a north/south orientation within three mining sections, beginning in the north and moving south. Refer to page 9 of **Appendix 2, Graphic Supplement, Plan 7.0: Indicative Mining Sequence.**	The mining and rehabilitation will move progressively through the application area to minimise bare earth and allow for the staged reconstruction of the wetland and riparian areas in mining Sections 1 to 3. (For the life of the Project).
Maximum disturbed mining area			
Only disturbing part of the application area at any one time.	In selected locations across the application area depending on where mining is occurring.	The mine pit is approximately 3ha, with 1ha of stripping ahead and approximately 1ha of active rehabilitation behind.	This will ensure that the amount of bare earth is minimised. (For the life of the Project).
Recontour and borrow material areas			
Only disturbing part of the areas at any one time.	In selected locations to the east of the mining disturbance area.	The area of disturbed earthworks from the identified 72ha recontour and borrow areas will be no more than 2ha at any one time.	Minimisation of bare earth and earth movement. (For the life of the Project).
Mining void – backfilling rehabilitation			
Progressive rehabilitation.	Location dependant on the mining sequence – will follow the active mining path.	The excavated land will be backfilled, levelled, recontoured and hydroseeded as the mining path snakes through the site.	A limited disturbed mining area/footprint which is progressively levelled out, recontoured and regrassed. (For the life of the Project).
Lighting			
Avoiding light spill as much as possible.	Across the application area.	Lighting will not exceed 2.0 lux spill of light onto any adjoining property. In addition, it will: • Be pointed downward, shielded to avoid light spill and operate primarily in the yellow-orange spectrum • Be filtered to reduce light in the blue wavelength and only illuminate the object or area intended. • Be mounted as close to the ground as possible and be minimised on the seaward side of buildings. • Use the lowest intensity lighting possible, while ensuring compliance with health and safety. (For the life of the Project).	

Landscape rehabilitation – Mining Section 1			
Construction of wetland, creek and riparian areas (north of and including Granite Creek).	Eastern side of the mining disturbance area to the north of and including Granite Creek (Minimum 3m width each side).	This is the first stage of the progressive construction of a new large wetland, reconstructed creeks and riparian areas. This stage will be constructed once mining has moved south of Granite Creek into mining Section 2. **Refer specifically to page 14 of within Appendix 3, Landscape Mitigation Package, Landscape Mitigation – During Mining**	Reconstruction of the creeks that will be diverted by mining activity. Creation of new wetland area to offset those that are removed because of the mining activity. There will be a positive outcome as new habitats will have higher ecological value. (Permanent).
Landscape rehabilitation – Mining Section 2			
Construction of wetland, creeks and riparian areas (south of Granite Creek).	Eastern side of the mining disturbance area between Granite Creek and Cargill Road (Minimum 3m width each side).	This is the second stage of the progressive construction of a new large wetland including creeks flowing to existing outlets and riparian vegetation. This stage will be constructed once mining has moved south of Cargill Road into mining Section 3. The Section 2 wetland will extend the Section 1 wetland. **Refer specifically to page 15 of within Appendix 3, Landscape Mitigation Package, Landscape Mitigation – During Mining**	Reconstruction of the creeks that will be diverted by mining activity. Creation of new wetland area to offset those that are removed because of the mining activity. There will be a positive outcome as new habitats will have higher ecological value. (Permanent).
Landscape rehabilitation – Mining Section 3			
Construction of creek and riparian area.	East of 101 Cargill Road (Minimum 3m width each side).	This is the third stage of the progressive wetland, creek and riparian areas. It involves the creation of a new creek to flow to an existing outlet. **Refer specifically to page 16 of within Appendix 3, Landscape Mitigation Package, Landscape Mitigation – During Mining**	Reconstruction of the creeks that will be diverted by mining activity. Creation of new creek and riparian planting. There will be a positive outcome as new habitats will have higher ecological value. (Permanent).

13.5 Post mining

Figure 16: Post-mining landscape rehabilitation

Activity	Location	Details	Desired outcome and timeframe
Rehabilitation			
Remediation of the application area to achieve the desired landform, slope, drainage and grass cover to creating usable land.	Across the application area.	Final recontouring and re-grassing of the land. This will be completed 'where necessary', as most areas will have already been fully rehabilitated after mining has gone through them.	The final application area layout will be considered alongside the owner. Allows the application area to return to pastoral grazing once again. This limits the long-term landscape and visual effects on landform.
Retention of all new planting associated with the wetlands and riparian areas.	Across the application area.	Retaining all new vegetation. **Refer specifically to page 21 of within Appendix 3, Landscape Mitigation Package, Landscape Mitigation – Post Mining Final Outcome, Sections 1, 2 and 3 Combined.**	The rehabilitated wetlands and creeks will have ecological benefits into the future. (Permanent).

Figure 17: Planting general

Activity	Location	Details	Desired outcome and timeframe
Planting			
Ensuring all new plant species are appropriate.	Across the application area.	Plant species chosen will be: Found within the Barrytown area and suitable for the coastal environment.	This will ensure planting thrives. (For the life of the Project).
Ensuring new plants are a suitable size and health.	Across the application area.	This will promote fast-growing shrubs which will be able to provide visual screening quickly.	(For the life of the Project).
Maintenance of all new and existing planting areas within the application area.	Across the application area.	Plant maintenance includes weeding, spraying, staking, watering, fertilising, trimming, releasing, pest removal and replacement of plants (where necessary).	Plants which are vigorous and thriving, thereby providing more effective screening and typical landform cover.
Fencing of pre mining mitigation vegetation and rehabilitated wetlands and riparian areas.	Across the application area.	Stock proof post and wire fencing.	This will protect plants and water systems from stock or machinery damage. (Permanent).

The above recommendations have been developed into conditions of consent which accompany the application.

APPENDICES

Appendix 1 – Landscape and Visual Assessment Criteria

(Included after this page)

Appendix 2 – Landscape Graphic Supplement

(Separate attached document)

Appendix 3 – Landscape Mitigation Plans

(Separate attached document)

APPENDIX 1: LANDSCAPE AND VISUAL ASSESSMENT CRITERIA

An Introduction to Te Tangi a te Manu: Aotearoa Landscape Assessment Guidelines (TTatM)

This assessment has been prepared in accordance with the concepts and principles outlined within Te Tangi a te Manu: Aotearoa Landscape Assessment Guidelines ('**TTatM**'), published by Tuia Pito Ora, the New Zealand Institute of Landscape Architects ('**NZILA**') in 2022. For further information on the guidelines, refer to https://nzila.co.nz/about/te-tangi-a-te-manu.

Origins of TTatM

These national guidelines encapsulate the best collective wisdom of landscape architects working in landscape assessment under New Zealand's legislative framework. They also include insight from researching case law, reviewing findings of Landscape Assessment workshops,[33] and understanding best practice landscape guidelines from both New Zealand and overseas.[34] The guidelines are at the forefront of emerging practice internationally and will continue to evolve over time. Whilst previous assessment approaches[35] have been built on the physical, associative, and perceptual realms of landscape, the guidelines underpinning this assessment go further. They promote a Te Ao Māori and Te Ao Pākehā partnership approach to landscape, binding together the layers of people and land across time and place. In doing so, the guidelines ensure that both tāngata whenua and tāngata tiriti values and perspectives are captured and equally shared and understood.

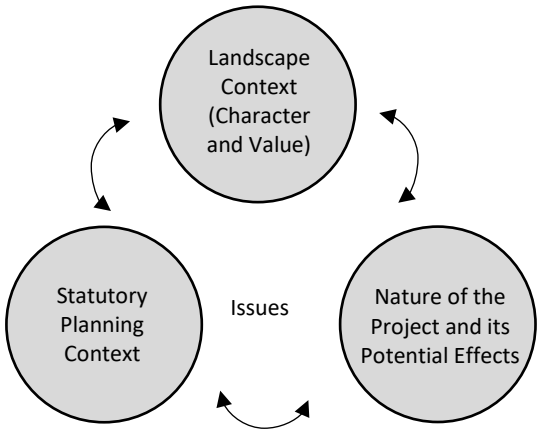
Purpose of TTatM

Ultimately these guidelines (and subsequently this assessment) seek to assist decision-makers[36] and others to manage and improve landscape values within a statutory planning context. They also provide a much stronger platform to assess and manage landscapes. As part of undertaking this assessment, the assessor has identified the landscape's character and values (and the attributes on which those values depend), assessed the effects of the Project on those values, and designed mitigation measures to maintain and improve values. Whilst undertaking this work, a structured approach has been used to ensure that findings are clear and objective. Judgement is based on skills and experience, supported by explicit evidence and reasoned argument. This approach is consistent with the Environment Court's 'Code of Conduct for Expert Witnesses.[37]

[33] Landscape Assessment Methodology workshops were held across New Zealand in November 2017 by the NZILA.
[34] This includes the New Zealand Quality Planning Landscape Guidance Note, as well as the well-known United Kingdom Landscape Institute and Institute of Environmental Management and Assessment, Guidelines for Landscape and Visual Impact Assessment (GLVIA3), 3rd Edition, published in 2013.
[35] The guidelines replace NZILA Best Practice Note 10.1: Landscape Assessment and Sustainable Management, 2010.
[36] 'Decision-makers' include the Environment Court, boards of inquiry, council commissioners, and some council officers with certain delegated authority. 'Others' means everyone else involved in statutory planning processes.
[37] Environment Court of New Zealand, Expert Witnesses Code of Conduct.

Methodology underpinning TTatM

This assessment has adopted a principles-based approach that has allowed the methodology to be tailored to the Project. This approach emphasises transparency and reason, rather than adherence to prescriptive methods. Following a prescriptive method is not possible, because all landscape assessments vary (in type and scale) and require the need to interpret the different types of information and values (objective and subjective) inherent in landscapes. This assessment focuses on the relevant issues for the decision maker. These issues arise from the drivers behind the assessment, the landscape context it is situated within, and the potential effects arising from the relevant statutory planning provisions. In addition, a concurrent iterative design process seeks to avoid, remedy, or mitigate adverse effects which may arise as a result of a Project.



Definition of the Term 'Landscape'

This assessment defines the term 'landscape' as consistent with that contained within the guidelines: *"Landscape embodies the relationship between people and place. It is the character of an area, how the area is experienced and perceived, and the meanings associated with it."* [38]

Approach to Landscape and Visual Assessment

While landscape effects and visual effects are closely related, they form separate parts of this assessment. Understanding landscape effects includes assessing the potential effects of a Project on landscape character and values. Whereas for visual effects it includes assessing how a Project might change the physical landscape and in turn affect the viewing audience. Change in a landscape does not, of itself, necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways. These changes are both natural and human induced. What is important in managing landscape change, is

[38] Refer to page 76 of TTatM.

that adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change. The aim is to provide a high amenity environment through appropriate design outcomes.

Landscape Effects

Landscape effects are measured against the existing landscape context (character and value) and the landscape and visual outcomes as anticipated by the statutory planning framework. Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character. This may in turn affect the perceived value ascribed to the landscape.

The degree to which landscape effects are generated by the Project depends on:

- The degree to which the Project contrasts, or is consistent, with the qualities of surrounding landscape.
- The predictable and likely known future of the locality.
- The quality of the resultant landscape, its aesthetic values and contribution to the wider landscape character of the area.

When determining the overall level of landscape effect, it is important to be clear about what factors have been considered when making professional judgements. The following table helps to guide this:

Contributing Factors		**Higher**	**Lower**
Landscape (sensitivity)	*Ability to absorb change*	The landscape context has limited existing landscape detractors which make it highly vulnerable to the type of change resulting from the proposed development.	The landscape context has many detractors and can easily accommodate the Project without undue consequences to landscape character.
	The value of the landscape	The landscape includes important biophysical, sensory, and shared and recognised attributes. The landscape requires protection as a matter of national importance (ONF/L).	The landscape lacks any important biophysical, sensory, or shared and recognised attributes. The landscape is of low or local importance.
Magnitude of Change	*Size or scale*	Total loss or addition of key features or elements. Major changes in the key characteristics of the landscape, including significant aesthetic or perceptual elements.	The majority of key features or elements are retained. Key characteristics of the landscape remain intact with limited aesthetic or perceptual change apparent.
	Geographical extent	Wider landscape scale.	Site scale, immediate setting.
	Duration and reversibility	Permanent. Long term (over 10 years).	Reversible. Short Term (less than 10 years)

Visual Effects

Visual effects are a subset of landscape effects. They are effects on landscape values as experienced in views. Visual effects relate to the changes that may occur to the view and visual amenity

experienced by people because of changes to the landscape. Much depends on where the Project is visible from and how successful any mitigation is to mitigate any effects.

The degree to which visual effects are generated by a Project depends on:

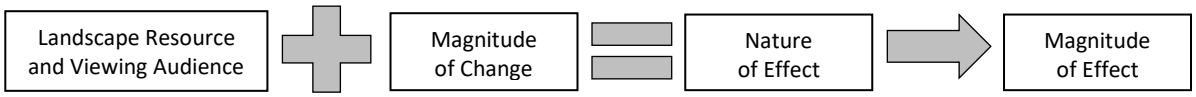
- The proportion of the Project that is visible, determined by the observer's position relative to the objects viewed.
- The distance and foreground context within which the Project is viewed and the backdrop and context within which the Project is viewed.
- The number of viewers, their location and situation (static or moving) in relation to the view.

When determining the overall level of visual effect, the nature of the viewing audience is considered together with the magnitude of change resulting from the Project.

Contributing Factors		**Higher**	**Lower**	**Examples**
The viewing audience (sensitivity)	*Ability to absorb change*	Views from dwellings and recreation areas where attention is typically focussed on the landscape.	Views from places of employment and other places where the focus is typically incidental to its landscape context. Views from transport corridors.	Dwellings, places of work, transport corridors, public tracks
	Value attached to views	Viewpoint is recognised by the community such as an important view shaft, identification on tourist maps or in art and literature. High visitor numbers.	Viewpoint is not typically recognised or valued by the community. Infrequent visitor numbers.	Acknowledged viewshafts, Lookouts
Magnitude of Change	*Size or scale*	Loss or addition of key features in the view. High degree of contrast with existing landscape elements (e.g., in terms of form scale, mass, line, height, colour and texture). Full view of the Project.	Most key features of views retained. Low degree of contrast with existing landscape elements (e.g., in terms of form scale, mass, line, height, colour and texture. Glimpse/no view of the Project.	Higher contrast/lower contrast. Open views, partial views, glimpse views (or filtered), no views (or obscured)
	Geographical extent	Front on views. Near distance views. Change visible across a wide area.	Oblique views. Long distance views. Small portion of change visible.	Front or oblique views. Near distant, middle distant and long distant views.
	Duration and reversibility	Permanent. Long term	Transient/temporary. Short Term	Permanent (fixed), transitory (moving)

Landscape and Visual Assessment – Determining the Overall Level of Effects

This assessment identifies the magnitude of landscape and visual effects that are likely to be generated by the Project. It assesses both the nature (adverse, neutral, beneficial) and magnitude of effect (low, moderate, high) and the effectiveness of any proposed mitigation.



Landscape and Visual Assessment - Nature of Effects

This assessment also considers the nature of effects in terms of whether this will be positive (beneficial), neutral (benign) or negative (adverse), in the context within which it occurs. Neutral effects can also occur where landscape or visual change is benign. Effects can also be short term or permanent and/or cumulative. [39]

Landscape and Visual Assessment - Magnitude of Effects

Each effect within the assessment has been assigned a rating (magnitude of effect) to distinguish effects from one another and to assist with determining the need for landscape mitigation. Within the assessment, the specific nature of the effect is described, its magnitude is rated, and then the evaluation is justified. The seven-point scale of effects from TTatM is: [40]

						Significant[41]
Less than Minor[42]		Minor	More than Minor			
Very low	Low	Low – Moderate	Moderate	Moderate – High	High	Very High

Widely used definitions across the landscape profession and included within TTatM include (but are not limited to):

Low: *"A slight loss to the existing character, features or landscape quality."*

Moderate: *"Partial change to the existing character or distinctive features of the landscape and a small reduction in perceived amenity."*

High: *"Noticeable change to the existing character or distinctive features of the landscape or reduction in the perceived amenity or the addition of new but uncharacteristic features and elements."*

[39] Refer to footnote 140. on page 135 of TTatM which describes the meaning of 'effect' in more detail. For more information on cumulative effects, refer to pages 153-154 of TTatM.

[40] Refer to pages 140 and 151 of TTatM which covers this in more detail.

[41] The term 'significant' is only to be used when evaluating Policy 13(1)(b) and Policy 15(b) of the New Zealand Coastal Policy Statement, where the test is 'to avoid significant adverse effects'.

[42] For more information on the terms 'minor,' 'less than minor,' and 'no more than minor', refer to pages 150-151 of TTatM.

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