TĀIKO CRITICAL MINERALS

BARRYTOWN MINERALS PROJECT – SOUTHERN BLOCK

SUBSTANTIVE APPLICATION

May 2026

Contents

Part 1 - Introduction

1. Introduction

1.1 This application is made by Tāiko Critical Minerals Ltd (**Tāiko**) for the Barrytown Minerals Project – Southern Block (**Project**), which is a Schedule 2 listed project under the Fast Track Approvals Act 2024 (**FTAA**).

1.2 Tāiko Critical Minerals Ltd is the Authorised person listed in Schedule 2 of the FTAA.

1.3 A copy of the information Tāiko provided to the Minister when applying to have the project listed as a listed project is contained at **Appendix A**. Schedule 2 was subsequently amended to change the project description, authorised person and approximate geographical location via the Fast Track Approvals Amendment Act 2025. The Project is listed in Schedule 2 as follows:

Project name	Project description	Approximate geographical location
Barrytown Minerals Project	Establish and operate mine sites, processing facilities, and ancillary activities for mineral sand extraction activities, processing, and transporting product at Barrytown, West Coast. Mining may be undertaken in stages. Resource blocks include – • Southern Block (between Fagan Creek and Canoe Creek) • Central Block (north of Canoe Creek to the northern extent of Canoe Creek Lagoon) • Northern Block (south of Burke Road and north of Burke Road to Maher Swamp)	Approximately 700 hectares between Fagan Creek and Maher Swamp and between the coast and State Highway 6 at Barrytown Flats, Greymouth.

Staging of Project – Southern Block

1.4 The Minister for Infrastructure has determined pursuant to section 37A that Tāiko can lodge a substantive application for a specified stage of the Project, being the Southern Block. A copy of the Application made by Tāiko, and the Minister's determination, is contained at **Appendix B**.

1.5 The section 37A Application explained how the Project meets the section 22 FTAA criteria. The Application assessed that the Southern Block stage met the section 22(2) criteria for significant regional or national benefits. It identified that the Project aligned with relevant central and regional government strategies prioritising critical minerals, economic development and the transition to a low-carbon economy. The application relied on independent economic analysis demonstrating substantial benefits, including increased GDP, export revenue, employment, local spending and government revenue, and noted the Project's role in diversifying and strengthening the West Coast economy over its anticipated life.

1.6 The Application also assessed the extent to which the Project would support primary industries and the development of natural resources, including through value-added processing and increased use of regional infrastructure. It identified that the extraction of ilmenite and garnet would contribute to

climate change mitigation by supplying minerals essential to renewable energy and low-emissions technologies. The application further assessed consistency with relevant local and regional planning documents and concluded that the Southern Block stage aligned with those instruments, subject to appropriate environmental management.

1.7 The Application assessed that the fast-track approvals process would facilitate the Project by enabling a more timely, efficient and integrated approvals pathway compared with standard consenting and approval processes.

1.8 The Minister for Infrastructure considered the Southern Block stage (i.e. the Application) met the requirements of section 22 of the FTAA as it:

(a) Is an infrastructure project which will have significant regional and national benefits as:

i. It will contribute to the outcomes sought in the Minerals Strategy for New Zealand to 2040 (s22(2)(a)(i))

ii. It will deliver significant economic benefits including, additional GDP of $107 million; additional export revenue of $200.2 million; additional local district spending of $66.9 million; 135 additional full time equivalent direct mining jobs; 189 additional jobs supported elsewhere in the local economy; additional royalties and tax revenue of $39.8 million (s22(2)(a)(iv))

iii. It will support development of minerals, which are a natural resource, and the longevity of the mineral extraction industry (s22(2)(a)(vi)).

(b) Will be processed in a more timely and cost-effective way than under normal processes because a single panel can be appointed to consider all approvals and the timeframes under the FTAA are shorter than under standard processes.

(c) Will not materially impact the efficient operation of the fast-track system as it is not novel in the New Zealand context nor significantly different to the type of project a panel might be required to consider under standard processes.

1.9 In summary (and for the purposes of sections 43(2)(b) and 13(4)(f)):

(a) Tāiko has secured resource consents for mining of the Central Block, a Wet Concentrator Plant (WCP) on the Southern Block (for processing run-of-mine material) and a Mineral Separation Plant (MSP) for processing of heavy mineral concentrate at Rapahoe.

(b) The first stage of the Project is therefore ready to proceed and provides a complete mine to market project.

(c) The long-term financial viability of the Project is contingent upon the second stage – mining on the Southern Block (this Application) – proceeding, as this stage provides operational longevity to support the project.

1.10 Timing for the third stage – mining the Northern Block – is not yet confirmed because that stage will likely commence following the Southern Block being complete, which is not projected until approximately 2050. Drilling and environmental assessments will be undertaken on the Northern Block once mining commences on the Southern Block to enable Tāiko to apply for this stage with sufficient lead in time.

1.11 Approvals are sought for a term of 35 years to provide sufficient time for mining activity to occur over stages, final rehabilitation and operational factors to take place. The anticipated programme of works is as follows:

(a) Bunding and initial mitigation planting of the Southern Block (approvals being sought) – 1 year (2027);
(b) Mining of the Central Block (consented) – 6 years (2029 – 2034);
(c) Mining of the Southern Block (approvals being sought) – 14 years (2035 – 2050); and
(d) Final mine-closure rehabilitation of the Southern Block (approvals being sought) – 3 years (2050 – 2053)

1.12 The regional significance of the Southern Block is addressed above. Mining the Northern Block will further extend the regionally significant economic benefits of the first two stages of the Project.

1.13 Tāiko is seeking all approvals necessary to enable it to establish and operate a mine site for mineral sand extraction activities on the Southern Block (between Fagan Creek and Canoe Creek) at Barrytown on the West Coast. The total application area comprises approximately 408 hectares, with a mine disturbance area of 280 hectares. For the purposes of section 43(2)(c), this Application is within scope of the Schedule 2 listing as it is specifically for the resource stage of the Southern Block (between Fagan Creek and Canoe Creek)

Structure of application

1.14 This application is structured in six parts as follows:

Part	Details
Part 1: Introduction	• Introductory/ preliminary information • Overview of the Project • Overview of Tāiko • Brief summary of consultation • How the Project meets the purpose of the FTAA
Part 2: Project description	• Environmental context in which the Project will be undertaken • Detailed description of the Project
Part 3: Schedule 5 approvals (resource consents)	• Substantive application for approvals under Schedule 5 of the FTAA (resource consents)
Part 4: Schedule 7 approvals (wildlife approvals)	• Substantive application for approvals under Schedule 7 of the FTAA (wildlife approvals)
Part 5: Schedule 8 approvals (archaeological approvals)	• Substantive application for approvals under Schedule 8 of the FTAA (archaeological approvals)

Part	Details
Part 6: Assessment against FTAA	• Assessment of overall Project against FTAA decision-making criteria
Part 7: Appendices	• Other documentation relevant to the application

Approvals sought

1.15 The application is for all approvals necessary to establish and operate the mine site for mineral sand extraction activities on the Southern Block (between Fagan Creek and Canoe Creek) at Barrytown on the West Coast. Tāiko is eligible to apply for the authorisations being applied in under sections 42(4)(a), s42(4)(h) and (s42(4)(i) FTAA under normal legislation. The following approvals are sought under the FTAA:

Approval sought	Details
Schedule 5 - Resource consents (including a standard freshwater fisheries activity)	All resource consents required to establish and operate the mine site and a consent to take water to enable processing of run-of-mine material at the wet concentrator plant, and includes a standard freshwater fisheries activity.
Schedule 7 – Wildlife approvals	Wildlife approval for the catch and release, and incidental killing, of lizards and birds
Schedule 8 – Archaeological authority	Archaeological authority for two recorded sites and potential unrecorded sites.

1.16 Other consents, certificates, designations, concessions, or other legal authorisations required in terms of section 13(4)(t) and clause 5(1)(f) FTAA include:

(a) License or road stop for three paper roads;

(b) Building consent for the dredge.

1.17 Tāiko has considered whether an approval for complex freshwater fisheries is required, however the Statement of Evidence of Richard Montgomerie in relation to freshwater ecology (refer **Appendix L4B**) confirms that such an approval is not required because any culverts constructed as part of the project will be installed and maintained to ensure that all native fish that require access to and from the sea can do so.

Substantive application approved form and checklist of information requirements

1.18 A copy of the substantive application approved form required by the Environmental Protection Authority (EPA) is attached at **Appendix C**.

1.19 The FTAA contains a substantial list of information requirements in section 43 (including the requirements in section 13) and Schedules 5, 7 and 8. These information requirements are addressed throughout this application. **Appendix D** contains a checklist of those information requirements, and cross-references where the relevant information can be found in this application.

Priority Project

1.20 The Project is not a priority project in terms of section 38.

Eligibility

1.21 The Project does not contain any ineligible activities in terms of section 43(1)(c). An eligibility assessment is contained at **Appendix E**. The Applicant is not seeking a determination that electricity infrastructure or linear activity is not ineligible (sections 23 and 24 FTAA).

Preliminary requirements

1.22 All required preliminary steps have been taken before lodging this application as set out in the table below.

Section of FTAA	Requirement	How requirement has been met
Section 29	Consult with persons and groups identified in section 11	• Consultation has been undertaken with all required parties listed in section 11: - Te Rūnanga o Ngāti Waewae; - Te Rūnanga o Ngāi Tahu; - West Coast Regional Council; - Grey District Council; - Department of Conservation; - New Zealand Heritage Pouhere Taonga • Consultation has also been undertaken with a number of local community groups and adjacent landowners. • Formal consultation letters and a summary of consultation are contained in **Appendix F**.
Section 30(1)	In relation to a schedule 5 approval (resource consent), notify in writing each consent authority that has jurisdiction over an area where the approval would apply.	• The West Coast Regional Council and Grey District Council have been notified of approval sought • Formal section 30(1) letters are contained in the consultation material at **Appendix F**.
Section 30(3)	Obtain written notice of any existing resource consent to which section 124C(1)(c) applies (i.e. consent for the same resource) or that that there are no existing resource consents of that kind.	• West Coast Regional Council and Grey District Council have advised that there are no existing resource consents to which section 124C(1)(c) applies. • Letters from West Coast Regional Council and Grey District Council to this effect are contained in the consultation material at **Appendix F**.
Section 43(1)(j)	All fees, charges and levies payable under the regulations must be paid before lodging an application	• All fees, charges and levies have been paid.

1.23 Note in relation to consultation that the Fast Track Approvals Amendment Act 2025:

(a) Replaced the previous consultation requirements with the requirement to notify relevant local authorities on 31 March 2026. However, Tāiko commenced consultation with some parties prior to that date and was therefore required to finish that consultation and was not required to notify those parties under the new provisions (see FTAA, Schedule 1, clause 10).

(b) Removed the chief executives of the departments responsible for the administration of the Heritage New Zealand Pouhere Taonga Act 2014 and the Resource Management Act 1991 from the definition of "administering agency" on 17 December 2025 (section 4, Fast Track Approvals Amendment Act 2025). The Ministry for the Environment and Minister for Culture and Heritage were therefore not required to be consulted as "relevant administering agencies" in terms of section 29.

2. Overview of Applicant

Authorised person / Applicant details

2.1 Tāiko is a New Zealand-registered company which was formed for the purposes of mining ilmenite, garnet and other critical minerals. It holds Mining Permit 60785 over the entire Project site for this purpose. The company is the only authorised person for the project. Tāiko's details are outlined below.

Applicant details	
Authorised person	**Agent**
Tāiko Critical Minerals Limited C/- Tai Poutini Professional Services 100 Mackay Street Greymouth 7805 Attn: Robert Brand M: [redacted] E: [redacted]	Anderson Lloyd PO Box 13831 Ōtautahi | Christchurch 8141 Attn: Alex Booker M: 027 656 2647 E: alex.booker@al.nz

2.2 Tāiko is a New Zealand-registered company that originated as an initiative of New Zealand entrepreneurs and investors to develop an ilmenite mine, which was initially referred to as the 'Barrytown Project'. That Project involved a group of New Zealand investors funding the acquisition of Exploration Permit EP51803 to explore the mineral sands deposits contained in the permit that covered an area of about 1,352ha of the Barrytown Flats.

2.3 While the original company has been through various iterations, the original New Zealand shareholders remain as shareholders in Tāiko, and Tāiko continues as the original New Zealand registered company owned by investors in New Zealand and Australia along with additional shareholders.

2.4 On 5 March 2026, Tāiko Critical Minerals Ltd listed on the New Zealand Stock Exchange. The listing seeks to educate the market on the project prior to undertaking the substantive capital raise required to fund the capital requirements of the Project.

2.5 Tāiko has designed the Barrytown Minerals Project with a market entry focus, so that it can establish itself as a substantial and sustainable supplier of critical mineral products, especially ilmenite and garnet, which are the dominate minerals in the deposit.

2.6 For the purposes of section 13(4)(x) FTAA, Tāiko confirms no historical compliance or enforcement action has been taken against the company.

Sustainability

2.7 Tāiko recognises the importance and centrality of sustainability for the Project and is committed to meeting its environmental responsibilities for its mining operations. It has therefore planned a mining operation based on sustainability values, processes, actions and outcomes. Tāiko intends to undertake leading sustainable environmental practices and commissioned an initial Sustainability Report, followed by a comprehensive Environment, Sustainability and Governance Policy (ESG), to comply with the listing rules on a public exchange. Tāiko will voluntarily report emissions and energy consumption performance of its operations (which is its current standard practice).

2.8 Key ESG initiatives associated with the Barrytown Critical Minerals Project include:

(a) Powered by electricity – Tāiko has committed to connecting to the West Coast power grid instead of using diesel for its wet concentrator plant power requirements. There is currently insufficient transmission capacity on the line from Rapahoe to Punakaiki. As part of the Central Block project, Tāiko committed to upgrading the electricity transmission lines to 33 kV between Rapahoe and the mine site, at a likely cost of $8M. This will improve security of supply and future proof the network as well as enable future benefits such as a new electric vehicle (EV) charging station along this line.

(b) Minimise greenhouse gas emissions from transportation – Tāiko intends to develop a mobile fleet with a mix of low emission machines or electric vehicles and encourage the use of a mini-van service for all staff and contractors. It is currently investigating whether that service can be electric. Tāiko is also investigating the use of electric trucks in conjunction with the transport operator who will be contracted to undertake haulage.

(c) Biodiversity – Tāiko will undertake planting and restoration as part of rehabilitating the application site. The company has also committed to local and regional biodiversity initiatives through a partnership with mana whenua and local environmental groups. Specific conditions to minimise impacts on the Westland Petrel (tāiko) were adopted for the Central Block, and where effects are comparable, these are also proposed for the Southern Block.

2.9 Tāiko strongly intends this investment and operation to be an exemplar sustainable business, strongly aligned to the company's purpose and long-term interests in contributing to the sustainable development of Barrytown and the wider region.

Tāiko's commitment to Mana whenua

2.10 From the Project's inception, Tāiko (and its predecessors) have actively engaged with Te Rūnanga o Ngāti Waewae (Ngāti Waewae), commencing over 6 years ago on 24 April 2020. Tāiko has actively addressed concerns raised by Ngāti Waewae throughout the development of the Barrytown Critical Minerals Project, and the company values and respects its relationship with mana whenua.

2.11 The company has committed to a partnership with Ngāti Waewae and the community to provide funding to improve biodiversity outcomes through predator control and other conservation activities, as well as improving understanding of the Westland Petrel / tāiko through further research, with

Mātauranga Māori central to this work. The partnership will include engagement with the Department of Conservation, Westland Petrel / tāiko conservation groups, academic institutions, the community and local government. Other opportunities for collaboration to improve biodiversity will continue to be explored.

Contribution to local industry

2.12 Tāiko has supported, through its drilling campaign and analytical work, an iwi-owned research institute - the New Zealand Institute for Minerals to Materials Research (NZIMMR). NZIMMR was established in August 2017 as one of four Regional Research Institutes and is based in Greymouth on the West Coast. NZIMMR was established using seed funding under contract to the Ministry of Business, Innovation and Employment. It has a focus on adding value through its research and development works to the minerals sector.

2.13 Two state-of-the-art laboratories have been constructed at Dunollie by NZIMMR - a minerals processing laboratory and a minerals to materials laboratory. The Barrytown Critical Minerals Project will contribute to the success of the NZIMMR facilities, which will undertake day-to-day laboratory services to support the Project, as well as partnering on research to investigate environmentally sound opportunities to add value to the industry and retain as much value-add in the West Coast region as possible.

Scholarship programme and local jobs

2.14 The majority of products and services required for the mine can and will be sourced locally in the West Coast region. The mine will be operated by experienced New Zealand based staff and contractors, the majority being based in Westport and Greymouth. Tāiko have had productive discussions with suitable and experienced local mining contractors, potential site managers and haulage operators.

2.15 Tāiko is developing a workforce education initiative, including a proposed Scholarship Programme aimed at retaining West Coast school leavers and supporting their professional development. Together, these initiatives contribute to long-term regional capability, innovation and employment with benefits that align strongly with regional growth objectives reinforcing the project's role in supporting resilient and sustainable communities.

2.16 Tāiko estimates its mining operations will generate around $200.2 million of export earnings per year from the production and export of gold, garnet, ilmenite and zircon. This will also result in $13 million in wages and $66.9 million in non-wage spending for the local economy.

2.17 More broadly, mineral extraction is a high value industry and has the potential to benefit the region by generating significant employment (with high salaries), which will in turn deliver new economic opportunities for other businesses including construction, sciences, engineering, transport (including rail and shipping), hospitality and accommodation.

Barrytown School Initiatives

2.18 Tāiko has committed to supporting the Barrytown School in the implementation of its master plan. This includes gifting additional land to enable the provision of safe parking areas and a new early childhood centre, as well as funding new classrooms and associated facilities in accordance with the school's future plans. The school received a new van in February 2026 to improve transport options for school-related events and activities. In addition, Tāiko will work with the school to link aspects of its operations to the school curriculum through conservation and environmental initiatives planned across the wider Barrytown Flats.

3. Overview of Project

3.1 The proposal is to mine the core products of ilmenite and garnet, and the by-products of zircon and gold, from the Barrytown Flats, which is an area approximately 15 kilometres long and 1.7 kilometres wide, located between the ocean and the Paparoa Mountain Range. The Barrytown Flats are approximately 9km south of the Punakaiki Township and 36km north of Greymouth, to the West of State Highway 6 which connects Greymouth and Westport.

3.2 The Barrytown Flats deposit is considered world class, with a unique mineral suite. Ilmenite and garnet have rising international demand. Ilmenite is used to make titanium, which is on the United States and Europe's 'critical minerals' lists for its use in the production of renewable energy resources. Minerals mined will be used in the production of solar and wind power generation components, more energy efficient engines, electric vehicle batteries and other components of the high-tech energy, manufacturing and transport industries. Titanium is also used to make medical implants including hip and knee replacements.

3.3 The Southern Block is within the area covered by Mining Permit 60785 (map attached at **Appendix G**).

3.4 The minerals are fixed in a location within strandline deposits formed by tidal and wave action over many thousands of years along the Barrytown Flats. The site is primarily agricultural production land, where mining is an anticipated activity in the Grey District Plan. Resource estimates demonstrate presence of heavy mineral concentrate through this area of highly modified farmland much of which was dredged during the 1930's and 1940's.

3.5 The application area comprises approximately 408ha, of which 280ha is proposed to be mined (known as the "mine disturbance area"). The remainder of the application area will be used to assist in the rehabilitation of the mine disturbance area and the creation of final contours.

3.6 A full description of the Project, and environmental context in which it will be undertaken, is provided in **Part 2** of this Application.

3.7 The key elements of the Project are as follows:

(a) Mineral sands (run-of-mine (**ROM**) material) will be extracted using a floating dredge methodology in sequential strips across the mine disturbance area.

(b) Extracted material will be pumped to a Wet Concentrator Plant (**WCP**) for processing of ROM onsite. The material from the WCP will then be transported by truck for further processing at an offsite Mineral Separation Plant (**MSP**) to produce a high-value export product. Consents for the WCP and MSP have already been obtained (refer 3.8).

(c) Water will be taken from Canoe Creek for use at the WCP. Water will also be taken from the mining void, to pump ROM as a slurry to the WCP. Water taken from both Canoe Creek and the mining void will be discharged back to the mining void as tailings are pumped as a slurry from the WCP.

(d) Creeks and drains within the mining disturbance area will be diverted during mining. Creeks will be re-established once extraction is complete as well as drains where required. Small natural inland and induced wetlands on the site will be drained and mined. They will be replaced with a wetland of at least 50ha in size which will be constructed in a progressive manner as extraction activities are completed in that area.

(e) Progressive rehabilitation will take place with tailings from both the WCP and MSP processing being deposited to the rear of the mining void. Land contouring, including wetland construction and reinstatement of former drainage catchments, is undertaken as mining moves across the Application site.

(f) Final rehabilitation, following completion of mining and progressive rehabilitation works, will include removal of all infrastructure and any final reinstatement required to return the mine disturbance area to agricultural production.

3.8 Existing authorisations (attached at **Appendix H**) have already been obtained for:

(a) Mining of the Central Block, which originally included the establishment and operation of the WCP and access from the State Highway (**Appendix H2**);

(b) The establishment and operation of the (relocated) WCP, including a mine water facility (MWF) (for onsite water management) and access to the WCP from the State Highway, for initial on-site processing of ROM to produce Heavy Mineral Concentrate (HMC) (**Appendix H3**); and

(c) The MSP at Rapahoe, which enables further processing of the HMC to produce export ready products (**Appendix H4**).

3.9 Three mineral sands projects using similar mining and/or processing methodologies (including a floating dredge methodology) have been consented on the West Coast in recent years, including the consent granted to Tāiko for the Central Block (2023). The mining methodology for the Southern Block differs from the Central Block insofar as it uses a floating dredge methodology rather than dry mining techniques.

3.10 Those consents for the other mineral sands projects, and the conditions imposed, have informed the development of this Application and, where appropriate, the same conditions have been adopted for this Application particularly in relation to the Central Block.

Affected parties

3.11 Parties potentially affected by the proposal or otherwise specified as requiring an invitation for written comments (section 53(2)) are set out below.

Category	**Potentially affected party**
Relevant local authorities	West Coast Regional Council
	Grey District Council
Iwi authorities/ groups that represent hapū party to Mana Whakahono ā Rohe or joint management agreement/ Treaty settlement entities	Te Rūnanga o Ngāi Tahu – iwi authority, Treaty settlement entity, and party to Mana Whakahono ā Rohe
	Te Rūnanga o Ngāti Waewae – iwi authority, hapū and party to Mana Whakahono ā Rohe
Landowners/ occupiers	Nikau Deer Farm Limited
	Moir Farms Maimai Limited
	Barrytown Farms Limited
	Cargill Rd Barrytown Limited
	Grey District Council
Adjacent landowners/ occupiers	Refer **Attachment I**
Relevant administering agencies	Department of Conservation
	New Zealand Heritage Pouhere Taonga
	Minister for the Environment
Other parties specified in Schedules	Māori Heritage Council
	The New Zealand Conservation Authority
	West Coast Tai Poutini Conservation Board
	The New Zealand Fish and Game Council
	The Game Animal Council

Treaty settlements

3.12 The only Treaty settlement potentially relevant to the proposal is the Ngāi Tahu Claims Settlement Act 1998. The Treaty settlement contains no principles and provisions relevant to this Project. This has een confirmed by Te Rūnanga o Ngāi Tahu (**TRoNT**) (refer letter from TRoNT attached at **Appendix F4**).

3.13 The site is not within or adjacent to:

(a) A statutory area (as defined in the relevant Treaty Settlement Act); or

(b) Ngā rohe moana o ngā hapū o Ngāti Porou (as defined in section 11 of the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019). Or

(c) A protected customary rights area under the Marine and Coastal Area (Takatai Moana) Act 2011.

4. How the Project meets the purpose of the FTAA

4.1 The purpose of the FTAA is to facilitate the delivery of infrastructure and development projects with significant regional and national benefits (section 3). This section addresses the regional and national benefits of the Project and, along with the supporting economic assessment, demonstrates that the Project meets the purpose of the FTAA.

4.2 Ilmenite is the mineralised form of titanium, and is the feedstock to the titanium dioxide market that produces:

(a) TiO2 pigment that is UV resistant and inert, and imparts whiteness and opacity in the manufacture of paints, plastics, paper, sunscreen and food additives;

(b) Titanium metal that is light, strong, corrosion resistant and used in renewable energy, aerospace and medical devices;

(c) Flux applications such as welding rods.

4.3 Barrytown's mineral sands is unique in that it also contains garnet as a high grade co-product. Garnet is hard, tough, inert and used as an abrasive in high-pressure waterjet cutting equipment. Due to its hardness it does not break up like silica and is used as the safe alternative in waterjet cutting and as an abrasive replacement for silica based sand blasting. Waterjet cutting is the environmentally friendly, high-technology cutting used to cut through metal, ceramics, composites, glass and stone using ultra-high pressure water and garnet. Waterjet cutting is extensively used in high technology industries such as the aerospace, computer chip and automotive industries.

4.4 Production of heavy minerals is typically market-driven and global demand for heavy minerals is rising. Demand for Tāiko's products is driven by global GDP growth and urbanisation in emerging markets and prices trend above global CPI and are less cyclical given the rising demand for minerals overseas as countries move to a low emission carbon economy and produce more renewable energy.

4.5 The mineral sands industry is characterised by long-term producing assets with demand for its products closely following global GDP growth and prices outstripping the pace of global inflation, ensuring long lasting positive outcomes for the West Coast community and New Zealand more generally.

4.6 Approximately 135 full-time equivalent direct mining positions will be created as a result of extending the existing consented mine at the Central Block through the Southern Block Application and an additional 189 jobs supported elsewhere in the economy. The Project will generate annual export earnings of $200.2 million with direct GDP of $107 million per year creating significant positive effects for the West Coast region. There are unlikely to be any material economic costs arising from the Project in terms of adverse tourism impacts, foregone economic activity onsite or pressure on the local housing stock. The Southern Block Application has been assessed by an economist as delivering significant net economic benefits to the regional economy. The Economic Impacts of the Project are assessed in **Appendix L1A**.

4.7 If a Project is being applied for in stages, the regional or national benefits of the whole project may be considered (Section 81(5) FTAA). The Barrytown Minerals Project as a whole will deliver on average $122.7m of additional GDP, $13.0m of wages and $76.7m of local spending per year over its life. A combined $1.0 billion of royalties and tax income will be paid to the New Zealand Government across the life of the Project which can be used to deliver important, well-being related public services including health and education, or to fund infrastructure development. The Economic Impacts of the whole Barrytown Minerals Project are assessed in **Appendix L1**.

Part 2 – Project description and environmental context

5. Description of site and environmental context

Environmental setting overview

5.1 This section outlines the environmental setting for the project. It provides details of:

(a) The history of the environment;
(b) Site zoning, legal descriptions and land ownership;
(c) Geology, climate and hydrology characteristics;
(d) Terrestrial ecology;
(e) Landscape features;
(f) Archeological features;
(g) Noise levels;
(h) Transport networks; and
(i) Other features.

5.2 These factors provide a baseline to guide decision-making in relation to the environment where the Project is proposed to be located.

The history of the environment

5.3 The Site occupies a 5.8km coastal strip between Canoe Creek in the north and Fagan Creek to the south. To the west, it is bordered by the Tasman Sea with farmland and residential properties to the east before State Highway 6 (**SH6**) and the Paparoa Range. Much of the surrounding land is lowland pastoral farmland modified by early 20th century gold mining activities and drainage associated with humping and hollowing.

5.4 The Barrytown Flats were first mined for gold in January 1867 near Canoe Creek with a series of tunnels dug into the river terraces. Gold dredging commenced in the 1930's through until the late 1940's by a succession of companies including NZ Gold Options (1931-32), NZ Prospecting and Mining Ltd (1935-37), Whites Electric Dredging Company (1936-41), and Barrytown Dredging Company Ltd (1937-45) (refer **Figures 1 and 2**). The extensive dredging campaign significantly altered the hydrological profile of the Site. The properties are now actively farmed and used as dairy/dairy support activities. Improvement works by the landowners has resulted in the pastureland being humped and hollowed and creeks and drains widened and straightened to improve drainage resulting in the current landform.

Figure 1 – Barrytown Gold Dredge, 1936. 17 Mile Bluffs can be seen in the background with the original road running along the coastline. Source: Barrytown Gold Dredge, 1936. | West Coast New Zealand History

Figure 2 – Dredged area (blue area (1951)) in the Application area (red line) – extracted from the Archaeological Assessment (**Appendix L9**)

5.5 Development along the Barrytown Flats has been restricted by the topographical features of the wider area many of which are accorded a level of conservation protection as shown in **Figure 3**.

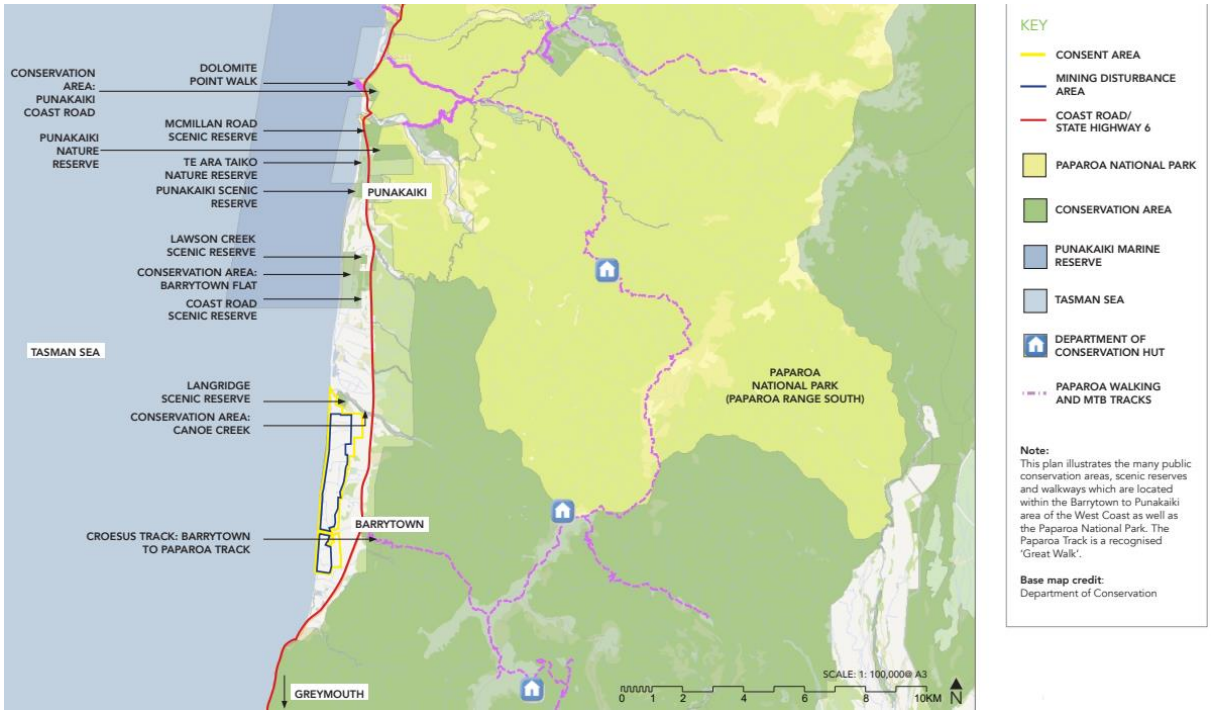


Figure 3 – Application Area (yellow line) and surrounding land accorded conservation status (Source: Landscape Graphic Supplement (**Appendix L6B**))

Site zoning/overlays, legal descriptions and land ownership

5.6 The Southern Block is located on the seaward side of the Barrytown Flats on the South Island's West Coast. The Flats lay approximately 9km south of the Punakaiki Township and 36km north of Greymouth and west of State Highway 6 which is the main stretch of highway between Greymouth and Westport. Although the Barrytown Flats are located in the Grey District the closest township is Punakaiki which is located in the Buller District.

5.7 **Appendix G** shows the extent of the Southern Block (shown as the "Application Area"), the area proposed to be mined (shown as the "Mining Disturbance Area") and the Central Block, which is already consented (refer **Appendix H2** for the Decision and Conditions of Consent). Mining Permit 60785 applies across this area (refer **Appendix H1**).

5.8 The Southern Block is located within the Rural Zone under the Grey District Plan, as shown in **Figure 4** and the General Rural Zone under the Decisions Version of the Te Tai o Poutini Plan (**TTPP**), as shown in **Figure 5**. An area identified as Minerals Extraction Zone has been identified on the northern side of Canoe Creek adjacent to the Central Block in the TTPP.

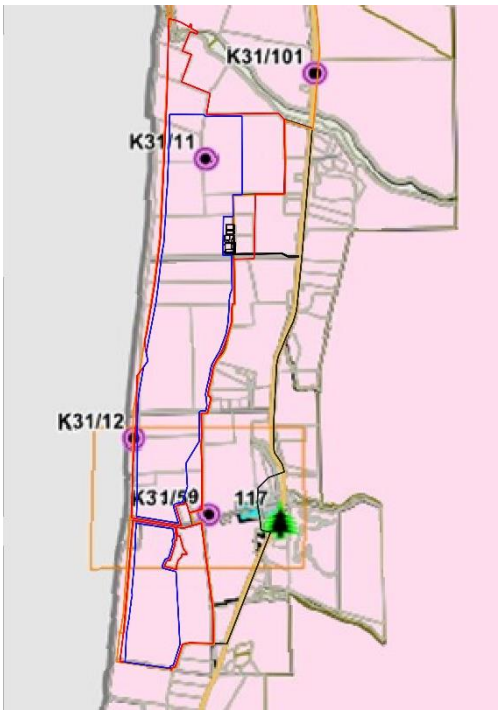


Figure 4: ODP Grey District Zoning, Rural Environmental Area (*pink area*). Source: Grey Intramaps

Figure 5: Proposed TTPP zoning, General Rural Zone in brown. Mineral Extraction Zone in grey Source TTPP mapping

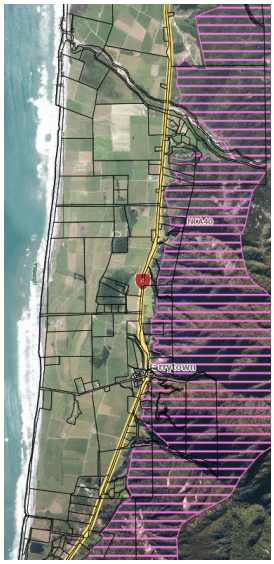
5.9 The application area is also located within the Coastal Environment and Coastal Inundation 1 and 2 Hazard overlays of the TTPP. Conservation Land to the east of State Highway 6 has been identified as an area of Outstanding Natural Landscape, and Outstanding Coastal Natural Character. A Significant Natural Area is located adjacent to the proposed site. The TTPP overlays are shown in **Figure 6**.

Coastal Environment (blue stripped area)

Coastal Inundation 1 (Yellow striped area)

Coastal Inundation 2 (Aqua area)

Outstanding Natural Landscape (ONL42) (Yellow area to the West of SH6)



Outstanding Coastal Natural Character (NCA40) (Pink Stripped area)

Significant Natural Area (Green outline, PUN-049)

Figure 6: Te Tai o Poutini Plan Overlays

5.10 The legal descriptions of the parcels of land that comprise the Southern Block, and the owners of that land are included in **Appendix I1**, and are summarised as follows:

Legal description	**Landowner**
Section 4-6 Block V Waiwhero Survey District contained in Record of Title WSD/1035	Nikau Deer Farm Limited
Section 7-8 Block V Waiwhero Survey District contained in Record of Title WS2D/855	Nikau Deer Farm Limited
Lot 1 DP 3548 and Rural Section 2927 contained in Record of Title WS8C/143	Moir Farms Maimai Limited
Part Section 2928 Block V Waiwhero Survey District and Defined on DP 764 contained in Record of Title WS1A/1166	Barrytown Farms Limited
Lot 1 DP 2719 and Lot 2 DP 339364 contained in Record of Title 161879	Barrytown Farms Limited
Rural Section 2930 contained in Record of Title WS1B/293	Barrytown Farms Limited
Section 2929 and Part Section 2634 – 2635 Block V Waiwhero Survey District and defined on DP 764 contained in Record of Title WS2A/228	Barrytown Farms Limited
Rural Section 2931,2932,2933,3316 and Part Rural Section 2639 contained in Record of Title WS8B/528	Barrytown Farms Limited
Section 4033 Block V Waiwhero Survey District contained in Record of Title WS1A/892	Barrytown Farms Limited
Part Section 5 Block IX Waiwhero Survey District contained in Record of Title WS2B/591	Cargill Road Barrytown Limited
Lot 1 DP 406050 contained in Record of Title 486401.	Cargill Road Barrytown Limited

5.11 Certificates of title for each of these sites are attached at **Appendix I2**.

5.12 Three Road Reserve parcels are included within the Application site (Parcel IDs 3700202, 3702892 and 3700611) and one hydro parcel (3704787).

5.13 Lot 1 DP 406050 , contained in Record of Title 486401 is subject to a Consent Notice issued pursuant to Section 221 of the Resource Management Act 1991, which states that no further dwellings or buildings are to be erected on Lot 1 or Lot 2 without an engineer's report from a suitably qualified engineer.

5.14 Tāiko has access agreements in place with each private landowner which specifically enables access for mining of the site (refer **Appendix J2**). Sale and Purchase Agreements have been entered into between Tāiko and Moir Farms Maimai Limited, Barrytown Farms Limited, and Cargill Road Barrytown Limited in relation to the land comprising the site. A licence to occupy for the areas of unformed road reserve subject to mining is agreed to in principle and is in progress. Council is also satisfied that should a more permanent solution (road stopping) be required, there is scope for this to occur (refer **Appendix F5**).

Geology, climate and hydrology characteristics

Geology - mineral sands

5.15 The mineral sands on the site are comprised of post-glacial coastal sand and gravel deposits, which have been set down in a series of north – south trending prograding strand lines. The sediment supply for deposition of the sands is inferred to have been long-shore drift from the south. During the formation of strand lines, heavy minerals were concentrated within the surf-washed zone into lenticular black sand leads. These leads contain concentrations of ilmenite, gold and associated heavy minerals (epidote, garnet, titano-magnetite, zircon and trace monazite).

5.16 Dredging across the flats has disturbed the strand lines and resulted in the heavy mineral concentrate being more evenly spread throughout the sand and gravel on the site.

5.17 The Applicant has drilled 671 aircore holes on the Barrytown Farms Block for resource definition. In addition, five holes were drilled for water monitoring and six holes for Shelby Tube density sampling. This drilling has inferred an indicated resource of 13 million tonnes at an average grade of 8.4% ilmenite, 11.3% garnet and 0.2% zircon for a total very heavy mineral content of 19.9%. Previous exploration has identified a gold resource within the application area. While current resource estimates do not include gold, this will be recovered as a by-product through processing at the Wet Concentrator Plant.

5.18 Drilling is continuing to be undertaken with an additional 300 drill holes over 150ha across the Southern Block proposed. Drilling will target the area previously mined by the Barrytown dredge and similar results are expected given the historical dredge targeted the same strandlines that host the garnet and ilmenite resource.

Climate

5.19 The climate at Barrytown Flats is warm and temperate, with high rainfall even in the driest months. The coastal plain fringing the Tasman Sea receives approximately 2,700mm of rain per annum and the

peaks of the Paparoa Range slightly inland receive over 6,000mm per annum due to moisture-laden air masses passing over the Tasman Sea that rise over foothills and the main range.

5.20 Due to the topography and elevation of the site, as well as poorly draining soils and high groundwater levels, this area would have historically supported large wetlands. Land modification through vegetation clearance, dredging and farming land improvements has significantly altered this landscape.

Hydrology

5.21 There are seven highly modified natural rivers located across the Southern Block. From north to south these include an unnamed creek in the northern area of the Southern Block (referred to as Northern Creek), unnamed creek in the north-central area (referred to as Central Creek), Clarke Creek, Little Granite Creek, Granite Creek, the unnamed creek referred to as Wasabi Creek and an unnamed creek in the southern area (referred to as Southern Creek). The site is bordered to the north by Canoe Creek and Fagan Creek to the south. Granite Creek, which is the major waterway in the area, flows through the middle of the site joining up with Little Granite Creek. Granite Creek, Little Granite Creek and Clarke Creek gradients slacken after crossing State Highway 6 where the channels meander and coalesce.

5.22 A number of major farm drains are located throughout the site. Drains and creeks currently provide a water supply to livestock. Granite Creek and Little Granite Creek have been fenced to prevent livestock access, however the majority of the creeks, drains and wetlands within the site are unfenced. The banks of these unfenced areas are typically unstable and prone to erosion because of limited riparian vegetation and unrestricted livestock access.

5.23 Many of the watercourses, including Granite Creek, have been modified and/or diverted to varying degrees over time. They are characterised by their straight lines and hard corners. There is approximately 13.62km of artificial drains (including major farm drains) across the Application area, with 11.7km of these located within the mining disturbance area. The artificial drainage pattern aligns with the remnant features associated with the historical gold dredging activity. The creeks and drains are shown in **Figure 7** below.

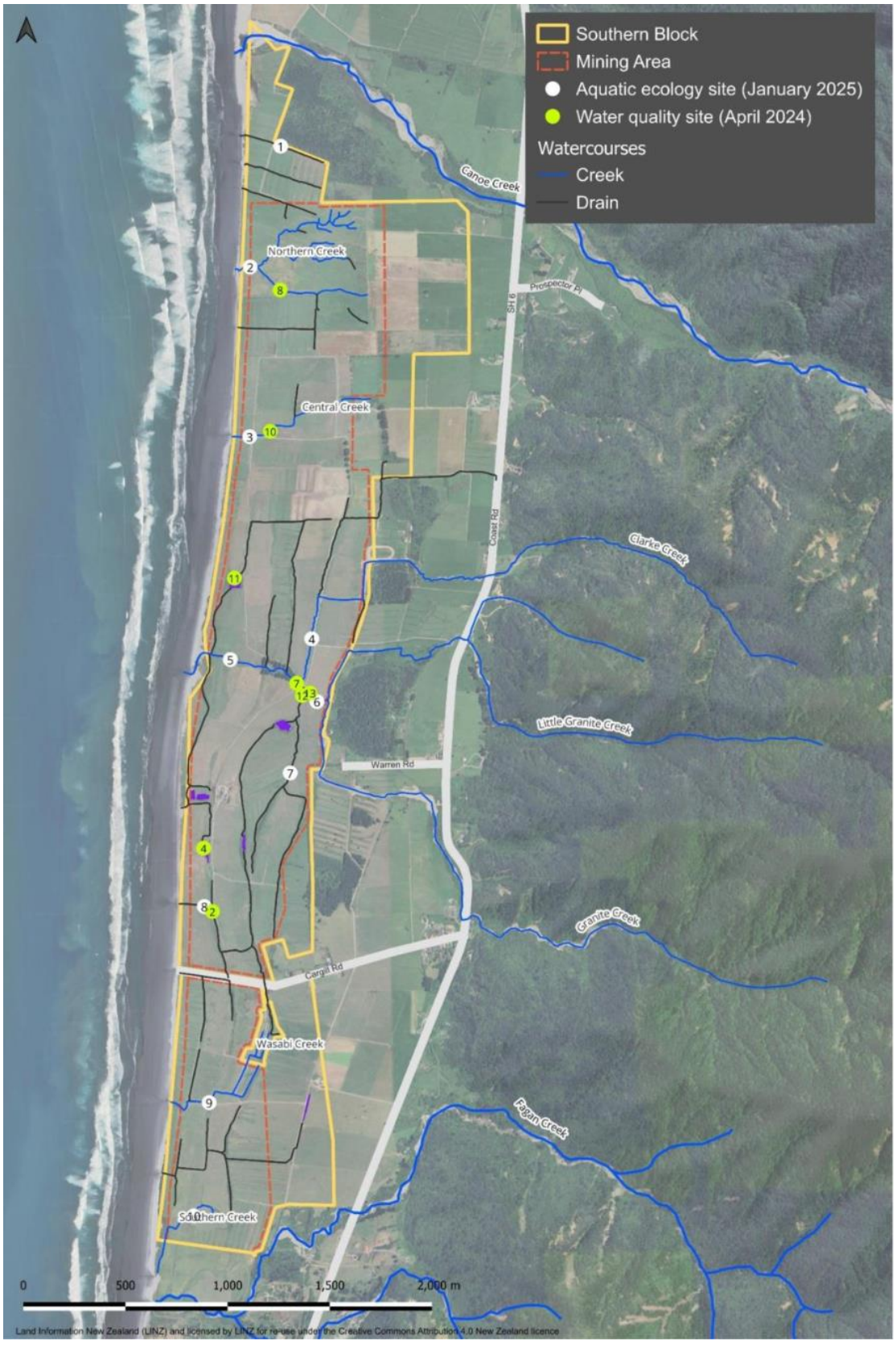


Figure 7: Creeks and drains within and surrounding the Application site (Source: Ecological Solutions Ltd, **Appendix L4**)

5.24 All of the artificial drains within the Southern Block are man-made aquatic habitats. Aquatic habitat provided by these drains is of 'Low' ecological value. The drains show 'Low' overall macroinvertebrate and habitat and flora values and 'Moderate' to 'High' fish values.

5.25 All seven natural creeks within the Southern Block are modified to some extent due to historical realignment of their channels. Clarke, Central and Southern Creeks have 'Low' habitat and aquatic flora and macroinvertebrate values and 'High' fish values. Northern, Little Granite, Granite and Wasabi Creeks have 'Moderate' habitat and aquatic flora, 'Low' macroinvertebrate and 'High' Fish values.

5.26 Approximately 42.1ha of wetland is present across the Application area with 35.8ha within the mining disturbance area of the Southern Block. This comprises 6.7ha assessed as 'natural inland wetland' and a further 29ha associated with deliberately constructed drains (e.g. poorly maintained hump and hollows and historical dredge ponds). Some of these areas have existed for some time due to being created when the land was originally dredged and now support a range of indigenous vegetation providing habitat for native species. Each of the wetland types (natural and induced) identified were assigned values separately which range between 'Negligible' to 'Moderate'.

5.27 Wetlands within the mining disturbance area are generally dominated by exotic and common native species and not representative of indigenous wetland communities. Wetland areas are small but provide connectivity to other areas of surface water habitat. The coastal lagoon area is outside of the mining disturbance area and will not be affected by mining activity. The location of the 6.7ha of natural inland wetlands have been assessed by Ecological Solutions Ltd and are shown in **Figure 8**.

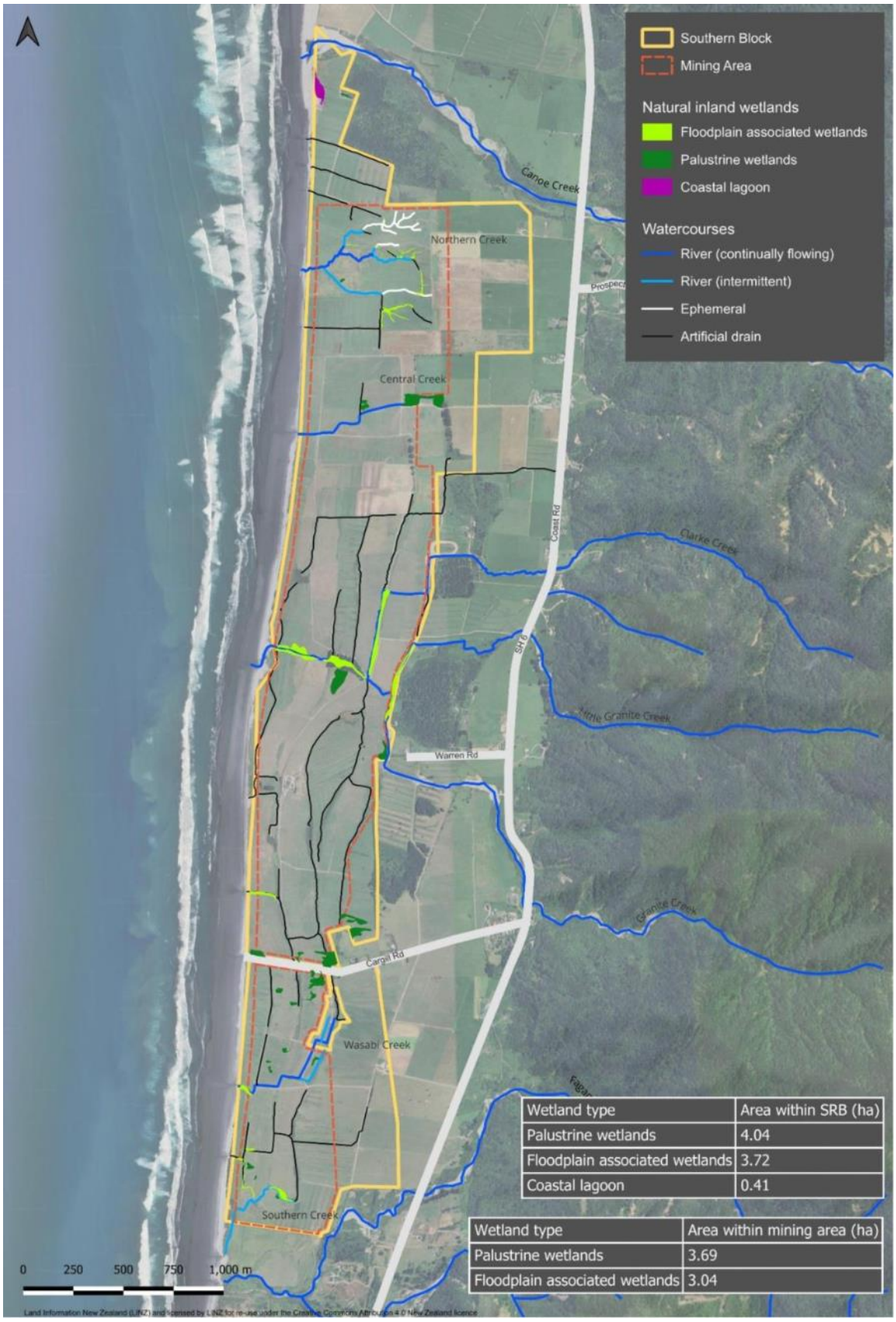


Figure 8: Location of natural inland wetlands across the Southern Block site (Source: Ecological Solutions Ltd, **Appendix L4**)

Terrestrial ecology

5.28 The ecological features within the site are described in the Ecological Assessment at **Appendix L4**. The Southern Block is located within the Punakaiki Ecological District (ED) and North Westland Ecological Region.

5.29 The majority (98%) of vegetation across the Southern Block is exotic consisting of grazed pasture except for small isolated strips of indigenous coastal shrubland, Southern rata snags and flaxland present along coastal and riparian margins. The ecological value of the vegetation ranges from 'Negligible' ecological value (grazed and rough exotic pasture, pine shelterbelts and isolated pine trees as well as the isolated Southern Rata Snags) to 'Moderate' ecological value (indigenous coastal shrubland and flaxland vegetation along riparian margins).

5.30 Surveys undertaken in the Southern Block recorded 33 species of avifauna, generally exotic or common, reflecting the modified state of the site. Four species are considered to be 'Threatened' or 'At Risk'. None of these species are considered to rely on the pasture habitat but may visit the area for feeding in disturbed soil or cross the area to reach nests inland (little blue penguin / kororā). No potential penguin burrows were detected during the field survey. The overall ecological value for avifauna is considered 'High' due to the expected presence of 'At Risk' and 'Threatened' species however the bird habitats are considered to be of 'Negligible' value as they are comprised of farmland and exposed/open habitats with few indigenous species.

5.31 A desktop assessment found records of three herpetofauna (lizard) species within 10km of the Southern Block. No lizard species were found during the walkthrough survey. Some small areas of marginally higher habitat suitable for lizards were found, but these are functionally isolated and considered too small to support sustainable lizard populations. They are also distant from any known seed population. The overall ecological value of lizard habitat within the Southern Block has been assessed as 'Negligible'.

5.32 A desktop assessment of the National Bat Database did not identify any recent bat activity at locations within 25km of the Southern Block though one location had recorded less than 10 bat passes in both 1997 and 2023. The low number and infrequent records indicate that any bat population in the area is unlikely to be large. While the Application Area contains some habitats (e.g. adjoining forest, streams, ponds and wetlands) that could be used by bats, if present, there are fewer of these features in the mining disturbance area itself. Potential roost trees remain outside the mining disturbance area and there will be no disturbance to these. The ecological value of the bat habitat within the proposed mining area is considered to be 'Low'.

5.33 An area of significant indigenous biodiversity, situated to the east, and outside of the Application area, is identified as a potential Significant Natural Area (**SNA**) under the TTPP. PUN-049 is shown in **Figure 6** above and described in the TTPP as "*lowland kahikatea forest with some wetland character and scrub on the fringes. Provides a connecting stepping stone between the coast and the forested ranges*". The

Ecological Assessment confirms that there will be no direct or indirect adverse effects on the SNA as a result of this activity.

Landscape features

5.34 The landscape features associated with the Application Area are described in the Landscape and Visual Effects Assessment, at **Appendix L6**.

5.35 The site landform slopes gently away from Coast Road/SH6 towards the sea with a change in height of approximately:

(a) 27 metres between the road and the coast at the northern end; and

(b) 33 metres between the road and the coast at the southern end.

5.36 The landform also slopes inwards from the southern and northern ends towards the middle of site. There are wetlands as well as man-made mining dredge paths, humped and hollowed drainage channels and small farm ponds. Together these result in a site that has been highly modified as a result of coastal, geological and historical use processes.

5.37 There are also a number of landscape features onsite and nearby. They include Canoe Creek, Granite Creek, Little Granite Creek, Fagan 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.

Archaeological features

5.38 The archeological features within the site are described in the Archaeological Assessment at **Appendix L9**. The archeological assessment identified that there are two recorded archaeological sites within the Application Area. These are shown on **Figure 9**:

(a) K31/11 in the northern portion of the area; and

(b) K31/12 situated to the south and adjacent to the beach.

5.39 No evidence of archaeological features or deposits could be found at these recorded sites when conducting a site visit.

5.40 The Archaeological Assessment also identified that there could be unrecorded artefact find spots, midden/oven sites, mining-gold and historic-domestic sites within the mining disturbance area.

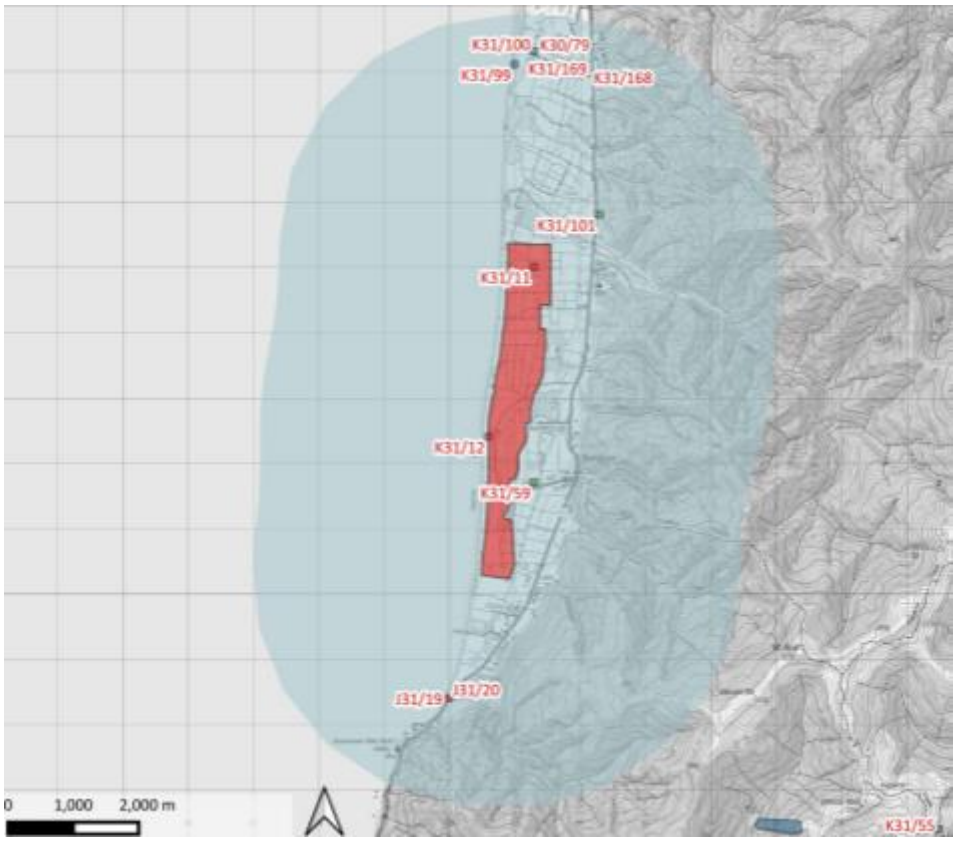


Figure 9: Recorded Archaeological Sites K31/11 and K31/12 (Source: NZ Heritage Properties Ltd – Archaeological Assessment, **Appendix L9**)

Noise levels

5.41 The noise environments within the vicinity of the site are described in the Noise Assessment at **Appendix L7**.

5.42 The existing acoustic environment features local traffic along the State Highway, surf noise, farm activities and wildlife. Notably, surf noise forms a consistent element of the day and night-time soundscape, resulting in elevated ambient noise levels compared to a typical rural area.

Transport networks

5.43 Transportation associated with the activity has been previously consented as part of the Wet Concentrator Plant (WCP) process. Access to the Application Area will be via internal haul roads connecting the WCP site to the mining areas. Mining of the Southern Block will occur in 3 sections (**Appendix K, Plan C)** and access to Section 3, located south of Cargill Road, will occur via a crossing at the western end of Cargill Road, thereby avoiding traffic movements past the school and other sensitive receivers located toward the upper end of the road.

Other features

5.44 There is currently one farmhouse and a milking shed, which are accessed from Cargill Road, located in the Southern Block. A mobile cell tower is located adjacent to the milking shed. There are no other buildings within the Southern Block.

5.45 Residential lifestyle development has occurred in places between the eastern boundary of the Southern Block and the State Highway, although this is largely physically separated from the Southern Block by the undisturbed consent area, farmland and various vegetation which screens individual properties.

5.46 There are a number of consents relating to black sand mining along the beach adjacent to the Southern Block, which are not within the Southern Block. This Project will not impact those consented activities. Consents relating to the take of water for wasabi production exist in Section 3: South of Cargill Road. This activity ceased in the mid-2010s. While the consents are still in place they will expire in December 2038, prior to mining reaching this location.

6 Project description

6.1 The following is a description of the proposed activity in accordance with Schedule 5, clause 5(1)(a) FTAA.

Overview

6.2 Tāiko holds various resource consents from the Grey District Council and the West Coast Regional Council authorising the extraction, processing and transportation of mined material in the form of Heavy Mineral Concentrate (**HMC**) from the Central Block at Barrytown, as part of its critical minerals project on the Barrytown Flats. Minerals sought to be obtained through the process are ilmenite, garnet, zircon and gold.

6.3 The initial resource consent for mining, HMC production, transportation and associated ancillary activities was subject to a publicly notified process at the request of the applicant, Tāiko. Through this extensive process, all aspects of the company's operations were assessed against the relevant District and Regional Plans, the Resource Management Act 1991, and applicable national direction. This enabled full participation by interested parties and agencies and resulted in a robust set of consent conditions, which have informed the company's Fast-track application, including the substantive environmental data set the company has produced, and which is ongoing.

6.4 Following the granting of the substantive resource consent for the Central Block (north of Canoe Creek), additional resource consents have been granted for a Mineral Separation Plant (**MSP**) at Rapahoe (refer **Appendix H4**) . Consents for the establishment, operation and maintenance of a centralised Wet Concentrator Plant (**WCP**) adjacent to the Southern Block, associated water management infrastructure (known as the Mine Water Facility (**MWF**)) and access road, have been granted by the Grey District Council and West Coast Regional Council in 2026 (refer **Appendix H3**). The MSP and WCP will process material from the Central Block and the Southern Block.

6.5 Throughout the process of gaining these required authorisations, the company has undertaken extensive consultation with the local community, mana whenua, Councils and relevant agencies. This engagement has contributed to the development of comprehensive consent conditions and management plan provisions. It has also enabled the assessment and approval of high interest matters, such as trucking activities on State Highway 6 through a local process. As a result of these activities already holding resource consents, this Fast-track application is focused on seeking all necessary resource consent

approvals for the mining activity within the Southern Block, and Wildlife and Archeological approvals for the entire Southern Block area. **Plan A** (refer **Appendix K**) shows the three resource blocks of the Barrytown Critical Minerals Project.

6.6 The Southern Block comprises approximately 408ha on the Barrytown Flats as shown in **Plan B**. All land subject to this application is privately owned with access to the site approved by the respective landowners. Mining activity is proposed to occur on approximately 280ha of the total area, which is known as the 'mining disturbance area' and shown in **Plan B**. Earthworks will be undertaken on parts of the Southern Block outside the mining disturbance area to assist with recontouring and rehabilitation.

6.7 Mining on the Southern Block will be undertaken using a floating dredge of modern design. Mining will be undertaken in three sections (shown on **Plan C**) as follows, although only one section will be mined at a time:

(a) Section 1: Granite Creek North;
(b) Section 2: Granite Creek South;
(c) Section 3: Cargill Road.

6.8 Mining of the Southern Block is expected to commence in approximately 2034 - 2035 once the mineral resource on the Central Block has been exhausted.

6.9 Various measures are proposed for the avoidance, minimisation and mitigation of ecological (terrestrial and freshwater), landscape, visual, noise and dust-related effects. The Project also includes significant ecological and landscape enhancements in the form of an extensive wetland, realignment of creeks into natural patterns, riparian planting and stock exclusion fencing.

6.10 Mining of the Southern Block is expected to take approximately 14 years (excluding preparation and rehabilitation), based on the extraction rate of 2,000,000 tonnes per year (producing 400,000 tonnes of HMC per year). This will extend the overall mining component of the Barrytown Minerals Project to approximately 30 years. Taking into account pre-mining construction works and post-mining final rehabilitation and mine closure works, it is anticipated that the Project will be completed between 2055 and 2060. Approvals are sought for 35 years to provide sufficient time for mining activity to occur over stages, final rehabilitation and operational factors to take place.

6.11 The anticipated work programme for the Project is as follows:

(a) Bunding and initial mitigation planting – 1 year (2027);
(b) Mining of the Central Block (consented) – 6 years (2029 – 2034);
(c) Mining Section 1: Granite Creek North (Stage 1) – 7 years (2035 - 2042);
(d) Mining Section 2: Granite Creek South (Stage 2) – 4 years (2043 – 2047);
(e) Mining Section 3: Cargill Road (Stage 3) – 3 years (2047 - 2050);
(f) Mine closure and final rehabilitation works – 3 years (2050 – 2053); and
(g) An operational contingency period of 6 years (2050 – 2056 followed by the final rehabilitation proposed in (f)).

Initial works

6.12 Initial works on the site will be undertaken prior to the commencement of any mining. These include:

(a) Bunding, planting (associated with noise bunds) and fencing; and

(b) Establishment of the mine starter pit.

6.13 A mine starter pit is required in each of the three sections to establish the initial dredge pond in which the floating dredge will operate. Separate starter pits are necessary because the sections are divided by physical features that will not be disturbed i.e. Granite Creek separates Sections 1 and 2, and Cargill Road separates Sections 2 and 3. These starter pits enable the dredge to begin operations independently within each section.

6.14 The floating dredge will be transported to each mine starter pit using conventional mining equipment transport methods in order to avoid adverse effects on the surrounding environment. This approach is consistent with the methodology proposed for transporting the dredge to the Application area and for its initial assembly.

6.15 The mine starter pit will be developed by excavating into the water table. An area of approximately 100m wide x 300m long, and up to 10m deep will be excavated using an excavator and trucks, removing approximately 270,000m^3 of material. This size allows for:

(a) A dredge pond (mine void) of approximately 100m x 100m;

(b) A 100m x 50m area behind the dredge for the deposition of tailings following processing; and

(c) A 100m x 100m area in front of the dredge pond at various stages of excavation, ready to be mined.

6.16 The first mine starter pit will be located in Section 1: Granite Creek North. Material extracted from the starter pit will be used for the construction of the noise control bunds adjacent to Lot 2 DP2178 and another near Warren Road, located along the eastern boundary. Both bunds will be approximately 3m high with a 4.8m crest. The Warren Road bund will extend approximately 280m. Constructing the bunds at this early stage enables associated planting to be carried out in advance and allows time for vegetation to establish. The location of the starter pit is shown in **Plan D, Appendix K**. The construction of both the starter pit and the Section 1: Granite Creek North bunds are anticipated to take approximately two months.

6.17 A similar approach will be taken for Sections 2 and 3, with a mine starter pit excavated prior to the commencement of mining in each section. For Section 2, material excavated from the starter pit will be used to construct an 'L-shaped' noise control bund on the northern side of Cargill Road. For Section 3, material excavated from the starter pit will be used to construct a noise control bund along the southern side of Cargill Road near 101 Cargill Road. Both bunds will be approximately 3m high with a 4.8m crest.

6.18 The location of the noise bunds are shown in **Plan E, Appendix K**. Any excess material not required for bund construction will be temporarily stockpiled for rehabilitation.

Indicative mining sequence and setbacks

6.19 Following construction of the mine starter pit, the dredge will extract ore in strips. The indicative mining sequence, showing the anticipated pattern and extent of mining over time, is shown in **Plan D, Appendix K**. 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. **Plan D** also shows the location of each mine starter pit.

6.20 The indicative mine path is influenced by both ore grade distribution and the long-term rehabilitation of the site. Commencing mining in areas with higher ore grades provides an earlier return on investment for the company. Mining from the western (coastal) side and progressing eastward allows previously mined areas to be progressively rehabilitated back to existing ground levels while maintaining natural drainage gradients towards the coast. Land on the western side of the site will be rehabilitated to existing ground levels.

6.21 As mining advances inland, ground levels will be progressively lowered contributing to the formation of a constructed wetland as part of the final landform across Sections 1 and 2 (Stages 1 and 2) (refer section 6.96 for the staging of wetland construction). To achieve the post-mining contours across all three Sections (Stages), material will be sourced from areas outside the mining disturbance area but within the wider application boundary. Approximately 72ha of the 110 hectares within the remaining application area will be used to provide a readily accessible source of fill material. These areas will be selectively cut and regraded, with suitable material transferred over short haul distances, typically within approximately 100m, using bulldozer “cut and carry” methods. This material will be progressively redistributed into backfilled mining areas to recontour the landform, achieve stable final ground levels and integrate rehabilitated areas with the surrounding landscape.

6.22 Each mining strip will be approximately 100m wide and excavated to a depth of no more than 10m below ground level noting that the depth of mining is dependent on the ore distribution. The coloured strips on **Plan D** represent the expected extent of mining for each year. The total disturbed land area at any one time will be 16ha. Disturbed land means the land within the application area that has been directly affected by mining or associated activities, including areas subject to vegetation disturbance, topsoil stripping, excavation and active mining in the mining void, tailings deposition, overburden placement, bund construction or areas undergoing progressive rehabilitation prior to the re-establishment of stable landform and 80% vegetative cover.

6.23 The dredge is expected to progress at an average rate of approximately 2,200 metres per year or approximately 166 metres per month or 6 metres per day (based on 26 working days in a month). This rate will yield 2,000,000 tonnes of raw material per year and is subject to variation depending on the depth of the ore body, the average grade of the ore encountered and the need to ensure that the total disturbed area for mining is no more than 16ha. Weather conditions can impact progressive rehabilitation (see section 6.88 for progressive rehabilitation and vegetation cover).

6.24 It is proposed to set mining back from key environmental features and boundaries as follows:

(a) 20m from the consent boundary;
(b) 20m from Granite Creek;
(c) 20m from Fagan Creek;
(d) 50m from Mean High Water Springs (MHWS);
(e) 20m from the proposed SNA PUN-049, which is adjacent to Section 2 (Granite Creek South);
(f) 20m from all private property boundaries not within the consent area; and
(g) 200m from dwellings other than where noise bunds are proposed.

6.25 These setbacks are shown on **Plan F** (refer **Appendix K**) and have been confirmed as appropriate for the slope and geotechnical properties of the material mined, and for managing any risks of instability (**Appendix L2**).

Mining methodology

6.26 Once the mine starter pit has been constructed, the following steps will be undertaken to enable the extraction of ore:

(a) Removal of pasture, small areas of farm vegetation and wildlife checks;
(b) Stripping of topsoil and overburden;
(c) Diversion of streams and drains;
(d) Extraction of run of mine material;
(e) Initial screening of run of mine material and deposit of waste material;
(f) Pumping of run of mine material to WCP.

6.27 This process is illustrated by **Figures 10** and **11** below and discussed in detail in the following sections.

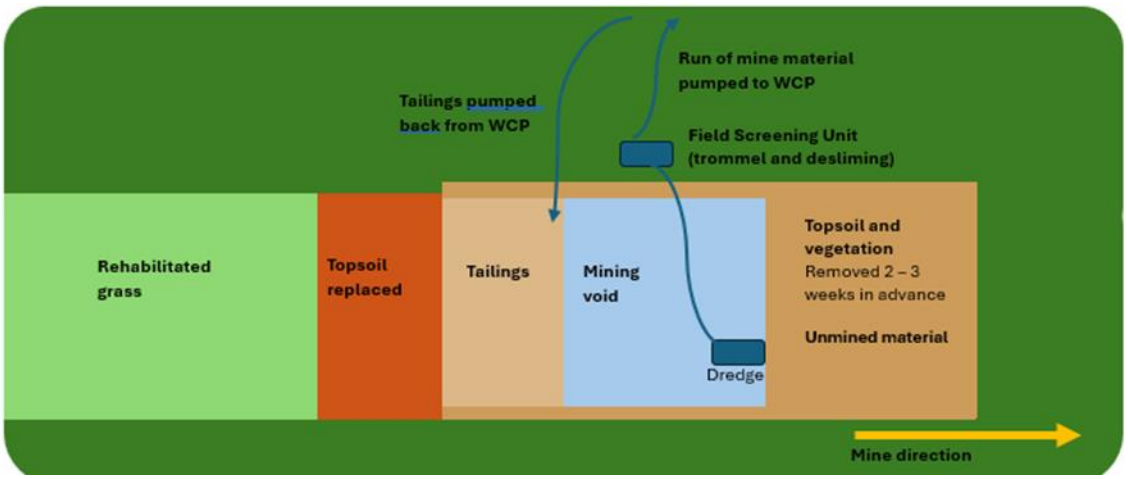


Figure 10: Schematic representation of the mining methodology in plan view

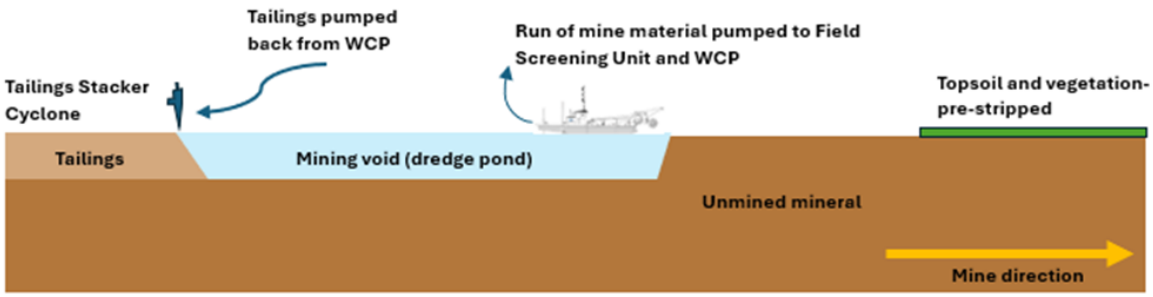


Figure 11: Schematic representation of the mining methodology in profile view

Archaeological Assessment

6.28 An archaeological assessment of the Southern Block has been carried out. The Southern Block was extensively dredged and modified in the 1930's and 1940's and then humped and hollowed for farming purposes. There are two recorded archaeological sites (find spots) within the mining disturbance area. The artefacts from both find spots have been removed and there is no evidence that further features or deposits relating to the site remain in situ. Earthworks on site will proceed under an archaeological authority.

Vegetation removal and wildlife checks

6.29 There are small areas of vegetation located around some creeks, drains and former dredge ponds, which will need to be removed at the same time as topsoil is removed (i.e., 2 – 3 weeks prior to mining). Some of that vegetation has been identified as potential habitat for lizards. In addition, open pasture can potentially be used by breeding birds. **Plan G, Appendix K** shows the waterbodies on site.

6.30 It is proposed to undertake regular surveys of areas scheduled for mining before and during the avian breeding season to identify any breeding behaviour in the area. Where those surveys identify that nesting is possible, birds will be discouraged from establishing nests through methods such as walkovers, visual cues, audible bird scarers and machinery placement. These actions will be undertaken more frequently and at a greater distance from the mining front than in traditional mining operations, reflecting the operational requirements and movement patterns of the floating dredge. Where monitoring identifies the presence of kororā (little blue penguin), fencing will be erected along that Section to prevent penguin access to the mining disturbance area and avoid risk of harm.

6.31 Lizard monitoring will be undertaken by a suitably qualified ecologist prior to mining an area of potential lizard habitat. If lizards are confirmed to be present, the approach is to catch and release into sites improved by revegetation planting at locations where habitat was previously unsuitable but is expected to be suitable as a result of the planting and provision of eco-stacks (refer **Appendix M3**). This is considered appropriate due to the lack of suitable similar habitat nearby and the relatively extensive improved habitat which will be available on site. Since potential lizard habitat is primarily located in areas scheduled to be mined in the later stages of mining, revegetated areas that were planted during the first mining stages will be available.

6.32 Prior to the commencement of any stream diversion or streamworks activities, native freshwater fish present within affected watercourses or wetland habitats will be salvaged and relocated. Similar to any lizards found, salvaged fish will be relocated to suitable sites as shown in Figure 6 of the Native Freshwater Fish Capture and Relocation Management Plan (refer **Appendix M4**).

6.33 Once wildlife (if any) has been appropriately managed, any vegetation useful for rehabilitation will be removed. Where it can be, vegetation will be transferred and used as part of the progressive rehabilitation in the planting around reconstructed creeks or the constructed wetland.

Topsoil and overburden stripping

6.34 Once vegetation has been removed, topsoil (to approximately 0.2 - 0.6m deep) and overburden will be removed 2 – 3 weeks prior to mining, using an 85-tonne excavator and 40 tonne articulated trucks. The area of topsoil and overburden stripping is shown in **Figure 11** above.

6.35 Some of the removed material will be used to create small 1m high safety bunds (to prevent vehicles from driving into the mining void and provide stormwater control) along either side of the mining void. The mining void is the area comprising the dredge pond, the area behind the dredge pond for deposit of tailings after processing, and the area in front of the dredge pond from which run of mine material is being extracted. The remainder of the material will be used for rehabilitation. Initially, that material will be stockpiled for later use, but once mining commences fully, it will be trucked to the rear of the mining void to be used as part of the progressive rehabilitation. The safety bunds provide the separation between stormwater and mine water (mine water being water that is being discharged back into the mining void).

6.36 The total area stripped of topsoil and overburden in advance of mining will be approximately 100m x 100m.

Stream diversions / removal of drains

6.37 Diversions to, and reconstruction of, the existing creeks will be required to enable mining.

6.38 The specific creeks requiring diversion are shown in **Plan G** (refer **Appendix** K) and are:

(a) Northern Creek;
(b) Central Creek;
(c) Clarke Creek;
(d) Wasabi Creek; and
(e) Southern Creek.

6.39 Productive farming practices have resulted in a network of drainage channels developed across the site. As mining progresses, these drains will be diverted to avoid the active mining area and reconstructed where required to maintain catchment drainage patterns.

6.40 Little Granite Creek runs along the eastern boundary of the site before joining Granite Creek. These two creeks, Little Granite Creek and Granite Creek, will remain undisturbed and are not proposed to be diverted as part of the mining operation. Canoe Creek (apart from the water take) and Fagan Creek will also remain unaffected by the activity.

6.41 The diversion methodology differs for each creek or artificial drain depending on their orientation, sequence of mining activities and future purpose (in regards to artificial drains these may be retired or a new drain constructed to manage drainage of the site).

6.42 *North–south oriented creeks and drains* will be diverted into a previously mined area before mining reaches the creek or drain (except where mining is adjacent to the coastal setback boundary). This may require adjustments (widening or narrowing) of the mine path to facilitate this. A permanent reconstructed channel will be built in advance as part of the rehabilitation of the mined land, and the flow will be redirected into it in a single 'livening' event. Refer **Figure 12** for further detail.

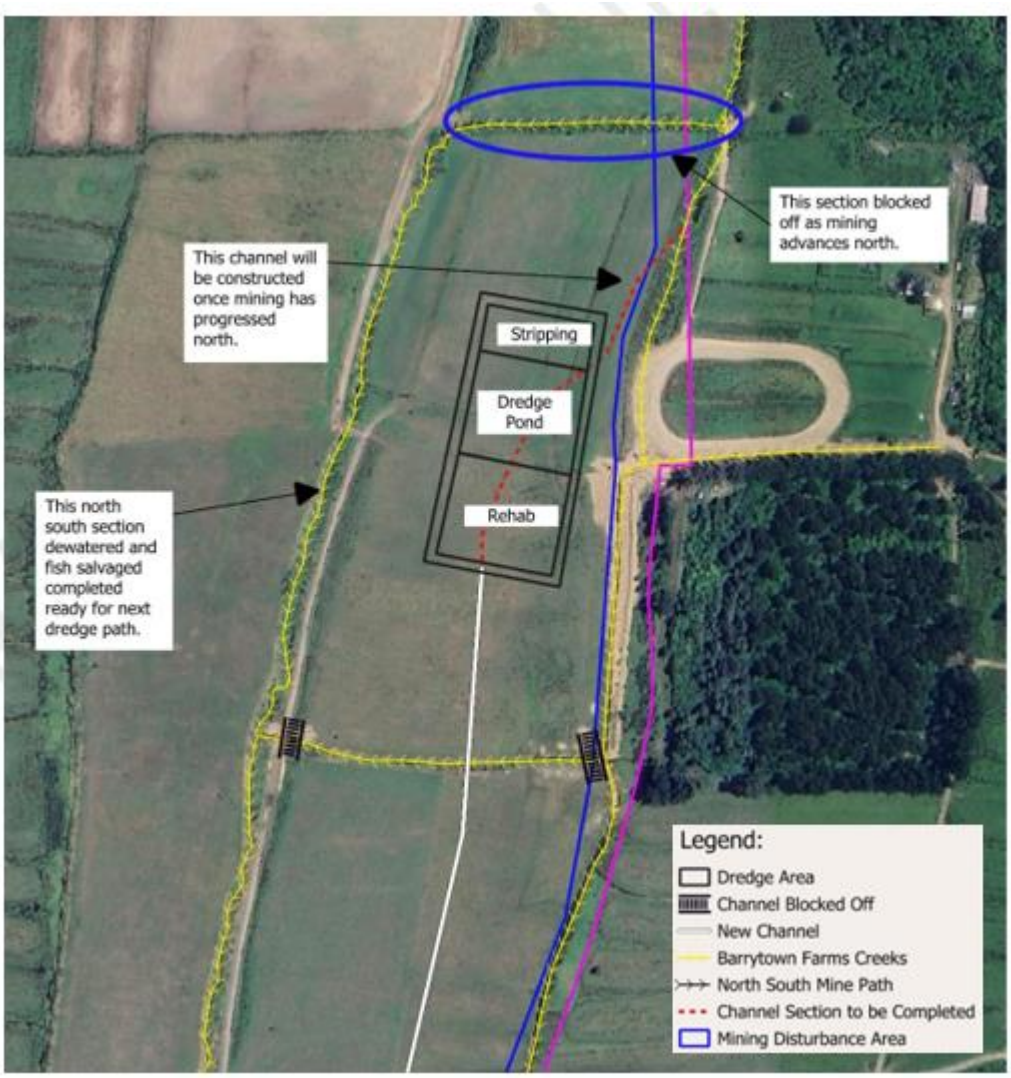


Figure 12: Diversion methodology for north south creeks and drains

6.43 *East–west oriented creeks and drains* will be diverted into previously mined areas (behind the mining void) and into the adjacent mine path (to the east as mining moves inland), prior to mining progressing through the creek or drain's existing alignment. This requires a temporary diversion of the creek or drain around the active mining area. Once mining has advanced beyond the alignment, a permanent reconstructed channel can be constructed and the creek, and where required drain, can be reinstated.

6.44 Creeks and drains will likely be disturbed several times, with temporary diversions occurring each time the active mining area intersects these waterbodies, potentially once per year for up to 3 months at a time per waterbody. Diverting the creek or drain around two sections of mine path at a time reduces the number of diversions required. Refer **Figure 13** for further detail.

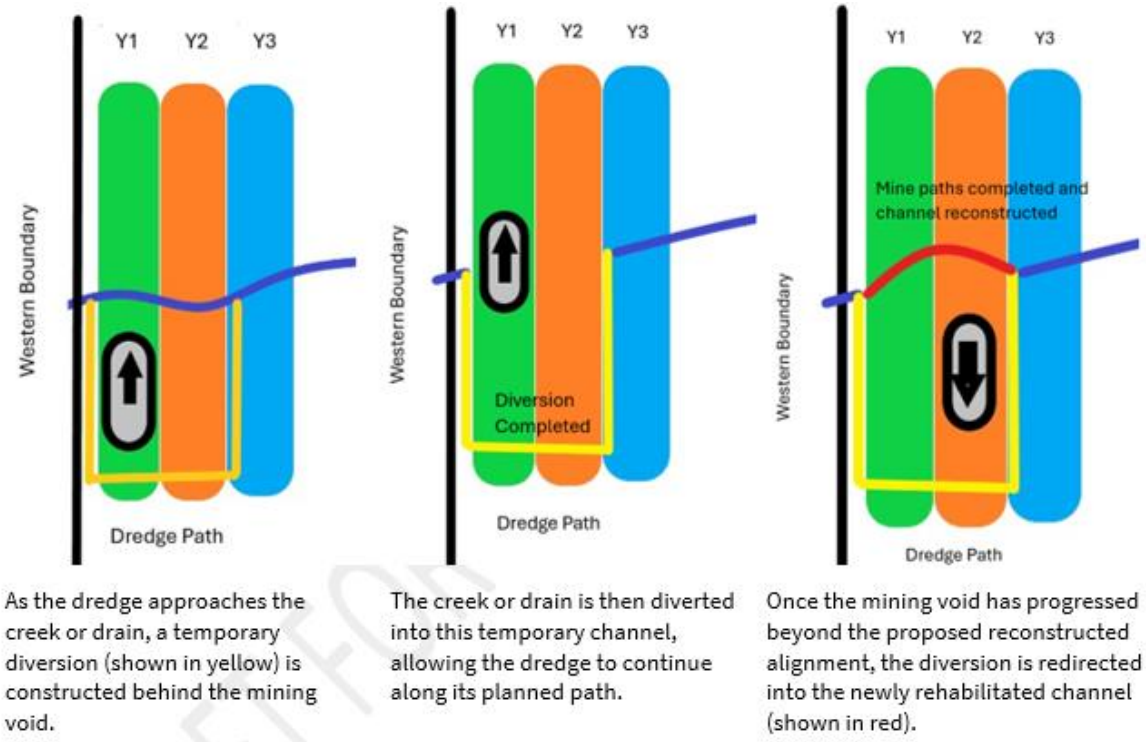


Figure 13: Diversion methodology for east west creeks and drains

6.45 Fish relocation will be undertaken onsite as part of the diversion process as specified in section 6.31.

6.46 The five creeks that will be diverted and mined are Northern Creek, Central Creek, Clarke Creek, Wasabi Creek and Southern Creek. Each of these creeks will be reinstated during progressive rehabilitation. **Table 1** identifies the creeks that are to be diverted, and their pre-mining indicative lengths. Each creek will be reconstructed to ensure that at least the minimum extent identified in Table 1 is achieved. The diversion methodology to be applied has also been identified.

Table 1: Creek extent pre-mining

Creek	Length pre-mining (based on continually or intermittent flow extent)	Diversion methodology to be applied
Northern Creek	1,178m	East West
Central Creek	764m	East West
Clarke Creek	681m	North South
Wasabi Creek	733m	North South / East West
Southern Creek	469m	East West

6.47 Some of the original artificial drainage channels may be reinstated, particularly if land contouring alone does not provide sufficient drainage. Creeks and drains will be connected to the constructed wetland area or re-established natural creek systems to support site hydrology and ecological function.

Extraction of run of mine material

6.48 Following the removal of topsoil and overburden, the floating dredge can extract the run of mine material (**ROM**) from the newly stripped area from within the mine void without the use of other machinery.

6.49 The floating dredge will sit in a 1ha dredge pond, located in the mining void. The maximum depth of the mining void is 10m, which will maintain a natural water level approximating the ambient water table height. A picture of the type of floating dredge that will be used in the Project is shown in **Figure 14** below.

Figure 14: Floating dredge proposed to be used

6.50 The dredge has a suction cutter at the end of the dredge arm. The suction cutter will excavate the pit face by cutting into the bank and breaking down consolidated material. The loosened material will be

drawn in through the suction head below water level, immediately mixed with water taken from the dredge pond to form a slurry and pumped to the field screening unit within the safety bund area.

6.51 The dredge is capable of precise cutting and will form batter slopes consistent with industry standards. Slope stability is achieved through a combination of conservative design parameters and operational controls, including slopes of approximately 17° below pond level and 40° above pond level, with the majority of the batter located below the pond surface. The presence of water within the mining void provides confining pressure, while progressive in-pit tailings deposition (at approximately 4°) supports the rear of the excavation as mining advances. Safety bunds around the outside of the mining void will ensure that heavy machinery does not operate on the edge of the mining void, creating pressure on the slopes.

Initial screening of run of mine material and deposit of initial waste materials

6.52 The Field Screening Unit undertakes the initial screening of the ROM. Slurry passes through a trommel (a rotating cylindrical screen), which separates larger, coarser materials and debris (+2mm) from finer particles. Oversized material captured by the trommel is removed from the process stream to prevent damage or blockages in downstream equipment.

6.53 The slurry then enters the desliming circuit, which removes very fine silt and clay particles (referred to, when mixed with water, as "slimes"). By eliminating these particles, the desliming circuit improves the recovery of valuable heavy minerals and reduces the load on the WCP.

6.54 The large reject material from the trommel and the slimes will be returned to the rear of the mining void to be used in the progressive rehabilitation (refer section 6.80 for further information).

6.55 After screening and desliming, ROM is pumped as a slurry to the WCP for further processing.

Processing of run of mine material and transportation to market

6.56 Authorisations for further processing and transport are not being sought through this Fast-track application, as they have already been granted, as outlined in section 3.8. The resource consents and other permissions that have been obtained provide for a full mine to market process that results in finished product being exported to markets around the world. The following information is provided to explain the overall processing methodology and to place the proposed activities within the full operational context.

6.57 Following extraction, ROM will be processed in two stages. The first stage of processing will be undertaken on site at the WCP to extract HMC (refer **Appendix J** for WCP location). The HMC will then be transported by truck to the MSP at Rapahoe to undergo the second stage of processing.

6.58 Consent for the MSP at Rapahoe was granted by the Grey District Council in October 2025.

6.59 Consent from the Grey District Council for the establishment, operation and maintenance of the WCP and access road was granted in March 2026. These authorisations also apply to the transport of HMC to the MSP by heavy vehicle and staff movements. Consent for the earthworks component of this activity was granted by the West Coast Regional Council in February 2026.

Stage 1 processing - WCP

6.60 Mined ore will be pumped as a slurry from the mining void to the WCP, a fixed processing facility that receives material from mining activities across the resource area. At the WCP, valuable heavy minerals are separated from sand and silt using a water-based gravity separation process. This produces three material streams: HMC, middles and tails ('middles' and 'tails' are referred to generically as 'tailings' in this application).

6.61 Tailings are returned to the mining void as slurry, while clean water is managed and reused within the process. The HMC is dewatered to 10-15%, temporarily stored and transported off site by heavy vehicle for further processing at the MSP at Rapahoe.

Stage 2 processing - MSP

6.62 Processing at the MSP enables the extraction of concentrated garnet and ilmenite products.

6.63 The MSP has been strategically located at Rapahoe to ensure proximity to rail where product will be transported in containers to Lyttleton or Timaru Port for export to global markets. Southern Block waste material from the MSP will be transported by heavy vehicle back to the WCP at the Southern Block. That material will be deposited within a bunker at the WCP before it is pumped back to the mining void as a slurry to be used to backfill the mine pit for rehabilitation.

6.64 The MSP represents a critical component of the long-term viability and growth of the sand mining industry on the West Coast. The MSP provides significant value-add by enabling on-shore, and in-region, refinement of mineral products prior to export.

Management of processing water and stormwater

6.65 Water will be required for the processing of ROM at the WCP. Water used for processing, as well as stormwater captured on the WCP site, will be managed through a MWF located adjacent to the WCP.

6.66 The MWF will include lined treatment ponds and thickener tanks that enable sediment and fine particles to settle out of return water using biodegradable flocculants. Treated (clean) water will be recycled back into the processing system, while settled solids will be combined with tailings and returned to the mine pit as a slurry to support backfilling and rehabilitation.

6.67 The MWF is part of the ancillary infrastructure required to operate the WCP and is authorised by the consent granted for the WCP.

Processing water

6.68 Processing water will be sourced from the existing water take location on the Central Block. The consent already granted (refer **Appendix H2)** authorises the abstraction of water for processing Central Block mined material at the WCP for a 12-year duration. A new consent is being sought via this application to ensure the water take is available to support longer-term mining of the Southern Block. It is proposed that the existing consent and any water take consent obtained through this Application would not be able to be exercised concurrently. The approximate water take location on the Central Block is indicated on **Plan H** (refer **Appendix K**).

6.69 The pipe (6-8 inches in diameter) used to convey water to the WCP from the Canoe Creek water take is permitted and while it crosses the paper road it is unlikely that it will impede any public access in this area. Should access be impeded, the pipe can be buried. A license to occupy this paper road for the purposes of the pipe crossing the paper road is being sought from the Grey District Council.

6.70 Water taken will be used to fill the ponds at the MWF, storing water for when it is required to be used for processing ROM at the WCP. The peak water take will occur when the WCP is restarted to process material from the Southern Block or following maintenance or shutdowns. This is because the tanks and pipelines of the WCP must be filled with water prior to material being processed. During these periods, the full take of 63l/s will be required, likely over several days.

6.71 Once processing is underway, water demand will significantly decrease. Water is recycled and reused throughout the plant, reducing the need for a continuous fresh supply. Only intermittent top-ups will be required to offset water lost when HMC is transported from site (approximately 10-15%). This makes up the largest water loss within the system.

6.72 To compensate, make-up water will be drawn down at an average rate of 9.5l/s for the duration of processing. In practice, make-up water will be taken in short bursts of typically 15-20 minutes at a time, two to three times per day, at the peak rate of 63l/s.

6.73 Tailings will be mixed with water to form a slurry to be pumped back to the mine void. Tailings will be deposited at the rear of the pit by cyclone and the water will re-enter the mine void and rejoin the surrounding hydrological system.

6.74 The slurry circuit (the pumping of ROM to the WCP and tailings back to the mine void, all undertaken as a slurry) is considered to have a largely neutral effect on the water level in the mining void. The water that returns with the tailings help maintain, or even increase, water levels in the void, offsetting any lowering of the water table caused by the removal of the slurry from the mine void.

6.75 The MWF is designed to treat and temporarily hold process water before it is recycled for use in the WCP. After processing, excess water is treated via a thickener tank, which serves as the primary treatment stage. Fines and suspended sediment are separated from the water in the thickener tank. This water then flows into the forebay and ponds for further settling and storage. A flocculant may be

added to enhance the settlement of fine particles. Fines and slimes collected in the thickener tank and forebay are pumped back to the mining void and mixed with coarse tailings for use in rehabilitation. Clean water is recycled back into the WCP for reuse in mineral separation processes or for transporting tailings as a slurry back to the mining void.

6.76 There is no discharge from the MWF treatment ponds to any surrounding water bodies. The only discharge is to the mining void.

6.77 If necessary to maintain capacity in the MWF excess water may be pumped back into the mining void to dissipate naturally.

6.78 It is possible that dissolved metals could be liberated and mobilised because of the mechanical processes of mineral separation and sand and slimes deposition during backfilling of the worked excavation. Lime augmentation (i.e. lime dosing) of tailings and slimes at the time of emplacement within the void, and the inclusion of lime boulders in creek reconstruction will mitigate these effects. Both groundwater and surface water quality and quantity monitoring will be undertaken across the site as set out in the Water Management, Monitoring and Mitigation Plan (refer **Appendix M7**).

Stormwater

6.79 Stormwater captured within the mining disturbance area will be contained on site by the safety bunds constructed on either side of the mining void. It will either be allowed to infiltrate into the sandy subsoils, or directed to discharge into the mining void where there is sufficient capacity for the water to assimilate into the ground water.

6.80 Stormwater generated in the WCP area, including runoff from roofs, hardstand areas, stockpiles and processing surfaces, will be collected via a network of drains, bunds and sumps, and directed to the ponds at the MWF. To maintain operational capacity during high rainfall periods, treated stormwater may be pumped to the mining void to dissipate naturally.

Rehabilitation and mine closure

6.81 Rehabilitation of the Southern Block will be undertaken:

(a) Progressively of each 'strip', as the dredge and mining void progress across the site;

(b) At mine closure with the removal of all infrastructure (i.e. haul roads and pipes across the site).

Progressive rehabilitation of mining void

6.82 The total area of disturbed land is proposed to be limited to 16ha within the Southern Block at any one time, for the purposes of mitigating potential effects relating to dust, landscape, visual and sedimentation/ water quality.

6.83 The 16ha limitation for the mining area means that the site will be progressively rehabilitated by filling the mining void with waste material as mining advances, replacing topsoil and re-grassing the mined area. This includes the reconstruction of any creeks or required drains. The 16ha limitation is proposed

to only apply to those disturbed areas with less than 80% vegetative cover and mined land will be removed from the disturbed area calculation once that level of vegetative cover has been reached. The disturbed area limits include contingency for any periods of slower growth that may occur (e.g. during winter or a cold wet spring).

6.84 Rehabilitation of the mining void will take place at the same time as mining occurs and is expected to be completed within 12 months of the conclusion of mining in that location. The waste material (known as "tailings") produced by the initial screening of raw material at the Field Screening Unit will be pumped back into the rear of the mining void immediately. Any tailings from the WCP will also be pumped back and deposited at the rear of the mining void. Waste material from the MSP that has been transported back to the Southern Block will also be pumped from the WCP to the mining void and deposited with the tailings to assist with rehabilitating the landform.

6.85 The tailings will be deposited at the rear of the mining void using dewatering cyclones which assist in separating water from solids to create a more stable land surface suitable for rehabilitation. The water separated from the tailings as they are dispersed is discharged back into the mining void.

6.86 The material to be returned to the excavated area includes un-mineralised sand, clay slimes, and gravel and rock greater than 2mm. Tailings will be allowed to naturally beach (spread) out. The cyclone will be moved as required to distribute the tailings evenly across the area.

6.87 Tailings will then be levelled and contoured, as per a surveyed final landform design, with the use of excavators and bulldozers ready to receive the pre-stripped overburden and topsoil. This topsoil and overburden, as well as material from outside the mining disturbance area within the wider application area and the bunds as they are retired, will be spread out and used as a growing medium for rehabilitation of the site. Once overburden and topsoil are replaced, the land will be re-vegetated with grass and other vegetation that was removed prior to mining, where possible and appropriate.

6.88 Initial vegetative cover will be established as soon as practicable (potentially using hydroseeding) to minimise any erosion potential. This will be followed by the establishment of longer term, permanent pasture species, or riparian planting.

Progressive rehabilitation of the site

6.89 As mining progresses, that area will be rehabilitated to its final landform. The final landform includes a proposed wetland of a minimum of 50ha on the eastern boundary of Sections 1 and 2, which will be constructed in stages (addressed in section 6.96 below), as well as reconstructed creeks and new drains where required.

6.90 Approximately 5.6 million tonnes (equivalent to 2.6 million cubic metres at a bulk density of 2.2 g/cm^3) of HMC will be removed from the mining disturbance area over the life of the project for further processing and export. Material will be sourced from 72ha of the 110ha located outside the mining disturbance area but within the Application area. This material is located on the higher terrace to the

east and will be used as fill to reconstruct the final landform. When balanced against the available redistribution material, the final change in landform equates to an average reduction in land height of approximately 0.63m across the entire 408ha consent area.

6.91 The western boundary will be returned to its current ground level to minimise any effects from coastal hazards. Restoring this area to its natural elevation maintains the existing buffer between the active coastal environment and the inland mined area and future farmland. This helps to ensure that the rehabilitated land is not at increased risk from coastal hazards such as erosion or ponding from storm surge events.

6.92 The site is naturally wet and exhibits poor drainage, despite the presence of a humped and hollowed landform and an established network of creeks and drains throughout the area. Following mining activities, the site will be rehabilitated to improve drainage and soil conditions, enabling its return to more productive farmland use.

6.93 The final landform will be contoured to slope towards reconstructed creeks to improve drainage and ensure the future productive use of the site. The five diverted creeks (Northern Creek, Central Creek, Clarke Creek, Wasabi Creek and Southern Creek) will be reconstructed along more natural, meandering paths, as opposed to their straight and rectified channels, to enhance ecological and hydrological values while maintaining current catchment drainage patterns and ensuring no loss of extent. Some existing drains may be reinstated if contouring alone is insufficient. Some modified humping and hollowing will be incorporated, though it is intended to be less pronounced than the existing humping and hollowing, and will include the raising of the low areas (hollows) above the water table to reduce sediment and nutrient runoff from future farming activity providing long-term ecological benefits and improved drainage across the site.

6.94 Fences, internal farm roads, bridges and culverts will be reinstated as required.

6.95 The anticipated final land contour is illustrated in **Plan I** (refer **Appendix K**).

6.96 A Work Programme will be submitted to the Grey District Council and West Coast Regional Council annually, which will specify rehabilitation works to be undertaken in each 12-month period. This will include a summary of the rehabilitation completed during the previous 12 months. This is standard practice for mining activities on the West Coast.

Proposed wetland construction

6.97 The proposed wetland will be constructed in two stages as follows:

(a) The first stage of the wetland will be constructed on Section 1: Granite Creek North, north of Granite Creek and south of the WCP, as mining paths are completed within the proposed wetland area. This will take place during years 1 and 2 of mining as indicated on Plan D (refer **Appendix K**);

(b) The second stage of the wetland will be constructed on Section 2: Granite Creek South during years 10 and 11 of mining as indicated on Plan D (refer **Appendix K**), as mining paths are completed within the proposed wetland area.

6.98 The wetland will be constructed in a manner which observes the legal roads at Parcel ID 3702898 and 3700202 by either avoiding wetland construction in those areas or alternatively be formed in a manner which allows road construction to take place in the future while the wetland still achieves the final wetland design specified in Condition 16.8. This construction requirement is included as a proposed Condition 16.9 to ensure legal access is retained.

6.99 The new wetland will be established along the eastern boundary, planted in native species and fenced from stock.

6.100 There will be an increase in the extent and integrity of wetland across the site due to the construction of the new wetland area. Indigenous biodiversity values are expected to increase at the site, including a net gain in wetland area and indigenous vegetation cover.

6.101 The proposed wetland is shown in the **Landscape Mitigation Package** at Section 16, refer **Appendix M9**.

Proposed planting

6.102 The Applicant has engaged Glasson Huxtable Landscape Architects to assess the potential landscape and visual amenity effects of the proposal. The Landscape Assessment (refer **Appendix L6**) identifies areas where current vegetation should be retained and additional planting, associated with the restoration of creeks and construction of the wetland area, is to be undertaken. These plantings have been designed both for ecological and landscape mitigation for the project and will have long term ecological benefits in terms of stream health and habitat for indigenous species.

6.103 Due to the distance of the mining activity from public viewpoints for the majority of its operation, bunding and planting works are restricted to managing the effects of noise. There are four noise bunds also proposed as set out below. Bunds will have an inward facing grassed slope with dense planting on the crest and outward facing slope.

6.104 Planting and bunding includes:

(a) Lot 2 DP2178 bund - 3m high with a 4.8m wide crest (24m width) approximately 500m long;
(b) Warren Road bund – 3m high with a 4.8m wide crest (24m width) approximately 900m long ;
(c) Cargill Road bund - at the eastern edge of the site stretching north – 3m high with a 4.8m crest (24m width) approximately 460m long;
(d) 101 Cargill Road bund – on the western boundary - 3m high with a 4.8m wide crest (24m width) approximately 440m long;

(e) Planting clusters along each side of Cargill Road and screening of the freedom camping area at the end of Cargill Road.

6.105 Retention of key vegetation has been identified at:

(a) Planting clusters near the WCP;
(b) Planting clusters along the eastern application area boundary north of Cargill Road;
(c) Planting patch adjacent to 101 Cargill Road; and
(d) Riparian vegetation adjacent to Granite Creek;

Closure sequence

6.106 Final rehabilitation of Section 3 (Cargill Road) will occur following the completion of mining activities in this area.

6.107 As progressive rehabilitation will be undertaken across the Southern Block as mining progresses across the site there will be limited final contouring and blending required once mining is complete. Any final contouring/blending at the southern end of the mining disturbance area will use material from within the wider application area to the south as required.

6.108 At mine closure, all temporary infrastructure, including internal haul roads, pipes, pumps, and any remaining noise control bunds, will be removed. Any recoverable resource material contained within these structures will be extracted. By this stage, the constructed wetland will be fully formed and planted, and riparian margins along all reconstructed creeks will be established and fenced. Haul roads may be rehabilitated by ripping to a depth of approximately 50cm and adding topsoil as required to get grass to establish.

Plant and machinery

6.109 The following machinery listed in **Table 2** is likely to be required to undertake mining, pumping and rehabilitation of the site (although specific models may differ).

Table 2: Mining machinery list

Type	Supplier	Model	Number
Bucketwheel Cutter Suction Dredge	Neumann Contractors	Series 350	1
Dozer	Komatsu	D71PX-24	2
Grader	Komatsu	GD655-7	1
Integrated Tool Carrier	Hitachi	ZW220-5	3
Artic 6wd 45 Truck	Hitachi	B45E	3
Excavator (Long stick)	Hitachi	ZX890LCH	2
Excavator (30 or 40 tonne)	Hitachi	ZX345USLC	2
Field Screening Unit (trommel)	Bespoke		1

6.110 Additional mining equipment and vehicles will be used on site, including a variety of pumps (including land-based, floating and submersible) and light 4-wheel drive vehicles for the transport of mining personnel.

Site operation

6.111 This section describes how the site will be operated, in terms of hours of operation, site configuration, transport, lighting, dust management and hazardous substances use.

Hours of operation

6.112 Mining activities associated with the extraction of material will be undertaken during daylight hours only, consistent with the existing consent granted for the Central Block.

6.113 Hours of daylight are between sunrise to sunset[1].

6.114 Mining shall not occur between the hours of 0600 and 0700 within 500m of the dwellings located at:

(a) Lot 2 DP2178;

(b) 23, 37, 41, 43 and 50 Warren Road;

(c) 64, 67, 86 and 101 Cargill Road.

6.115 There will be no mining on Sundays.

Site configuration

6.116 Access tracks will be required within the mining area. These will be formed to provide light vehicle and machinery access for the preparation, mining and rehabilitation of various areas as mining progresses. These access tracks will move as mining progresses.

6.117 It is proposed to retain the existing access points for farming activities for the duration of the mining activity, to ensure that any ongoing farming traffic is kept separate from the mine traffic.

Vehicle movements

6.118 Vehicle movements, transporting staff to the site, associated with undertaking mining activities, have been authorised by the consent granted for the WCP. No changes are proposed to these consents.

Lighting

6.119 Due to activities taking place during daylight hours only, only minimal lighting will be required on the mine site and at the mining void.

6.120 There will be limited fixed lighting in the mine area for health and safety purposes, which may include lighting around the pump to allow for the pump circuit to be checked overnight. Any fixed lighting in the mine area will be shrouded and adhere to the principles outlined below.

[1] *Sunrise and sunset times can be found at* https://www.sunrise-and-sunset.com/en/sun/new-zealand/westport/2023/june

6.121 Lighting will not exceed 2.0 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).

6.122 All lighting on site will adhere to the Australian Government's National Light Pollution Guidelines for Wildlife May 2023 (or subsequent revision), including but not limited to:

(a) All fixed lighting must be directed downward, shielded to avoid light spill outside of permitted limits, operate primarily in the yellow orange spectrum, and be filtered to reduce blue and violet wavelengths;
(b) Lights must only illuminate the object or area intended;
(c) Fixed lights must be mounted as close to the ground as practicable while still achieving site lighting requirements; and
(d) External lighting must use the lowest intensity lighting as possible, while ensuring compliance with workplace health and safety requirements;
(e) Mobile lighting within the mine site will adhere to the above principles, including the dipping of headlights of vehicles operating on site.

6.123 Adherence to the above standards will minimise light spill, thereby preserving the natural character and dark night sky of the coastal environment. The measures proposed will also avoid the risk of adverse effects on the Westland Petrel Colony located approximately 5.5km north of the WCP location. These standards are consistent with the conditions of consent granted for the Central Block.

Noise

6.124 Noise will be generated from the activities at the mining void including excavators and front-end loaders to strip top soil and overburden, trucks to move material to the rear of the site, the dredge and field screening unit and the spreading of tails from the cyclone.

6.125 Noise generation has been taken into account in the design of the project. Hours of operation control the activity each day. Earthworks near dwellings will be minimised, and noise mitigation bunds will be constructed at four locations as outlined in section 7.98.

6.126 The site will operate in accordance with a Noise Management Plan (**Appendix M1**), which sets out the management techniques to be applied to ensure that the site operates in accordance with best practice and unnecessary noise generation is minimised by:

(a) Exhaust silencers fitted to all mobile plant;
(b) Power from the grid used in preference to diesel generators where possible;
(c) Vehicles and equipment maintained to avoid unnecessary noise and vibration;
(d) Trucking contractor behaviour expectations including following speed limit; restrictions, no unnecessary sounding of horns or revving of engines, avoidance of engine braking, vehicles to be properly maintained;
(e) Metal to metal contact avoided during the loading of trucks;
(f) No tonal reversing alarms;

(g) Site vehicles to follow speed limits and drive in consistent manner, no amplified music permitted inside vehicle cabs, horns to be used in emergency only;
(h) Access road and working surface maintained free from potholes and corrugations.

6.127 The following noise limits are proposed to apply at or within the notional boundary of any dwelling existing at the date consent is granted on any other site, except in relation to the five dwellings on Warren Road, four dwellings on Cargill Road and at Lot 2 DP2178 which will have more restrictive conditions relating to hours of operation:
(a) Daytime (0700-2200): 55 dB LAeq (15 min)
(b) Night-time (2200-0700): 45 dB LAeq (15 min) and 75 dB LAFmax
(c) when measured and assessed in accordance with the latest New Zealand noise standards: NZS 6801:2008 "Acoustics – Measurement of environmental sound" and NZS 6802:2008 "Acoustics - Environmental Noise".

6.128 At some locations, extraction of ore can proceed between 0600 and 0700hrs (classified as night-time under the District Plan) while still complying with the 45 dB L_{Aeq} noise limit.

Dust Management

6.129 Some activities proposed to be undertaken have the potential to generate dust emissions. While the application site is within a high rainfall area, there are periods of dry weather.

6.130 As the mining activity is a wet process dust generating activities will be limited to times of overburden removal and rehabilitation and vehicle movements on site. These activities are intermittent (not always continuous) and can be managed with techniques outlined in the Dust Management Plan (refer **Appendix M5**). Dust will be managed via visual inspections, use of water carts and other dust suppression techniques as required.

6.131 The Applicant will install dust monitors on the perimeter of the mine site. These monitoring stations will remain in place for the duration of mining activities on site.

Hazardous substances use, storage and management

6.132 The refueling of machinery will be undertaken on site using a mobile fuel tanker with a centralised fuel store located at the WCP (40,000 litres). The proposed above ground tank will be authorised by the WCP consent.

6.133 Refueling will be completed under direct supervision of the machine operator to minimise the risk of spills occurring. Refueling will occur at least 20m away from waterbodies.

6.134 Mechanical repairs and servicing will occur at the WCP area. In the event of major mechanical break-down, machines may be taken to an off-site workshop. Spill kits and procedures will be available on site in the event of a fuel or oil spill occurring.

6.135 All waste oil and fuel containers will be removed from the site promptly.

Occupation of paper roads (road reserve)

6.136 Three paper roads are located within the application area. These are identified in **Appendix I3**. The paper road and the activity to be undertaken on each is summarised below:

(a) Parcel ID 3700611 – adjacent to Canoe Creek. Activity within this parcel will be limited to the placement of a pipe for the purposes of conveying water from the Canoe Creek water take to the WCP. The pipe will be 6-8 inches in diameter and is not anticipated to restrict any public access.

(b) Parcel ID 3702829 – from State Highway 6 to Pakiroa Beach which is currently unformed and is located across an active dairy farm and runs through humped and hollowed pasture. Part of the road will be formed as part of the consent granted for the WCP. Mining activities will be undertaken across the paper road. When mining activities take place across the paper road, alternative access around the mining void will be provided.

(c) Parcel ID 3700611 – from the bottom of currently formed Warren Road to the Pakiroa Beach. This is currently unformed and is located across a vegetated area, Granite Creek and humped and hollowed pasture. Mining activities will be undertaken across the paper road. When mining activities take place across the paper road, alternative access around the mining void will be provided.

6.137 A licence to occupy for the areas of unformed road reserve subject to mining is agreed to in principle and is in progress. Council is also satisfied that should a more permanent solution (road stopping) be required, there is scope for this to occur (refer **Appendix F5**).

Consideration of alternatives

6.138 Under section 105 of the RMA, if an application is for a discharge permit that would contravene section 15, the Application must have regard to any possible alternative methods of discharge, including discharge into any other receiving environment.

6.139 The proposed discharge comprises slurry (including process water and tailings) returned to, and contained within, the mining void as part of a closed-loop system. This approach avoids any direct discharge to natural waterbodies and confines potential effects within the active mining area. The hydrological assessment (refer **Appendix L3**) confirms that water is largely retained within the mine pond and recycled through the process, with losses primarily limited to entrained moisture in HMC which is transported from site. Any residual water discharged to ground occurs within the backfilled void where it can dissipate gradually, with geochemical treatment (including flocculation and, where required, pH adjustment) ensuring water quality remains within acceptable limits.

6.140 Monitoring and adaptive management are proposed to confirm the activity operates within set parameters and to address any emerging effects.

6.141 The use of the mining void as the receiving environment is both established practice and particularly suited to the site's hydrological characteristics. The high permeability of the sandy substrate, the contained nature of the mining void, and the separation distances to surrounding waterbodies enable effective attenuation and infiltration without adverse off-site effects. Alternative discharge options, such as direct discharge to a creek adjacent to the MWF (e.g. Central Creek), would introduce a higher risk of sediment, turbidity and water quality effects in natural receiving environments and are therefore less appropriate. Accordingly, the proposed discharge to the mining void represents the most appropriate and practicable option, avoiding or minimising adverse effects while aligning with the intent of section 105.

7 Consents sought

7.1 All resource consents necessary to undertake this activity are being sought, including for the activities listed below. Overall, when bundled together, resource consents are required for a **discretionary activity**. A detailed Rules Assessment is included as **Appendix N**.

Consent type	Activity	Rule breaches
Grey District Plan		
Land use consents	Clearance of indigenous vegetation	Rule 19.7.5(v): Clearance of indigenous vegetation exceeds permitted activity volumes outside of an SNA within 10m of a river or stream greater than 3m in width (*Discretionary Activity*)
Decisions Version Te Tai o Poutini Plan **Rules under appeal are noted with an * e.g. ECO-R9***		
Land use consent	Clearance of indigenous vegetation	ECO-R1*: the clearance of indigenous vegetation in the coastal environment and riparian margins will exceed the permitted activity volumes (*Discretionary Activity ECO-R9**)
	Earthworks within riparian margins	NC-R1*: earthworks will be undertaken in areas including creeks and their riparian margins which will exceed permitted activity volumes (*Discretionary Activity NC-R4**)
	Structures within riparian margins	NC-R2*: existing farm bridges will be replaced post mining which are not permitted under this plan. Structure definition potentially includes the dredge (includes equipment, made by people and which is fixed to land and includes any raft). (*Discretionary Activity NC-R5**)
	Structures in the coastal environment	CE-R4*: existing farm bridges will be replaced post mining which are not permitted under this plan. The dredge is also considered to be a structure and its activity cannot comply with the rules in the GRUZ. (*Discretionary Activity CE-R14**)
	Mineral extraction	GRUZ-R11*: do not comply with permitted activity rule due to volume of material to be extracted, mining to be undertaken within

Consent type	Activity	Rule breaches
		the riparian margins of creeks and wetlands, will disturb two historic heritage sites; undertaken within 250m of a sensitive activity on an adjoining site; and operate outside permitted hours. (*Discretionary Activity GRUZ-R25**)
West Coast Regional Land and Water Plan		
Land use consent	Earthworks within riparian margins	Rule 2: earthworks will exceed permitted volumes and vegetation clearance will take place in riparian margins with creeks to be mined, reclaimed and reconstructed. (*Discretionary Activity Rule 16*)
Land use consent	Earthworks in the non-erosion prone area outside riparian margins	Rule 3: earthworks will exceed 5,000m3 per hectare annually. Some soil will be placed on creek beds as part of the reconstruction of rectified creeks. (*Discretionary Activity Rule 16*)
Land use consent	Vegetation disturbance in riparian margins	Rule 8: vegetation will be removed from riparian margins as these areas are mined. Some soil will be placed on creek beds as part of the reconstruction of rectified creeks. (*Discretionary Activity Rule 16*)
NES-FM consent	Vegetation clearance in the non-erosion prone area	Rule 10: while not within a Schedule 1 or 2 wetland and was permitted, now requires consent under NES-FM.
Land use consent	Activities within the bed of a river outside of a wetland identified in Schedule 1 or 2	Rule 35: Creeks will be diverted with some sections reclaimed as the reconstructed creeks will be developed with more meandering pathways.
Water permit	To take and use water for the purpose of mineral sand processing	Rule 40: the take and use of water from Canoe Creek to operate the Wet Concentrator Plant is a restricted discretionary activity (*Discretionary Activity Rule 55*)
Water permit	To take and use ground water for the purpose of mineral sand mining and processing	Rule 44: to take and use groundwater intercepted during mining to pump run-of-mine material to the Wet Concentrator Plant (*Discretionary Activity Rule 56*)
Land use consent	Diversion of water	Rule 58: five creeks across the Southern Block will require diversion which is a discretionary activity
Discharge permit	To discharge water to the mining void	Rule 67 (discharge to water and land): to discharge water to the mining void is a discretionary activity due to the augmentation of lime (*Discretionary Activity Rule 71*)
Regional Air Quality Plan		
Discharge permit	To discharge dust to air from stockpiling and handling gravel, sand and soil	Rules 3 and 5: consent being sought as precautionary measure to authorise unanticipated dust emissions (*Discretionary Activity Rule 16*)
Freshwater NES		

Consent type	Activity	Rule breaches
	Vegetation clearance within, or within a 10m setback from, a natural inland wetland	Regulation 45D(1)
	Earthworks within, or within a 10m setback from, a natural inland wetland	Regulation 45D(2)
	Earthworks outside a 10m, but within a 100m setback, from a natural inland wetland that will result in partial or complete drainage of the wetland	Regulation 45D(3)
	Diversion of water within, or within a 100m setback from, a natural inland wetland	Regulation 42D(4)
	Discharge of water into water within, or within 100m setback from, a natural inland wetland	Regulation 45D(5)
	Reclamation of bed of rivers	Regulation 57

7.2 The mining activity relies on a number of permitted activity rules in the district and regional plans which do not require resource consents. These include:

Grey District Plan

- Rule 19.7.16 – Non-Rural Activities

Decisions Version Te Tai o Poutini Plan

- INF-R7 – New Lines, Telecommunication Poles or Towers
- LIGHT – R1 – All Zones: General Permitted Standards
- LIGHT – R4 – Artificial Outdoor Lighting in the GRUZ – General Rural, RLZ – Rural Lifestyle Zone, MPZ – Maori Purpose Zone, FUZ – Future urban Zone, BCZ – Buller Coalfield Zone and MINZ – Mineral Extraction Zone
- LIGHT – R5 – Artificial Outdoor Lighting in the NOSZ – Natural Open Space Zone, SETZ – PREC3 – Coastal Settlement Precinct and in locations within… A distance of 15 kilometres landward of the coastal marine area
- NOISE – R1 – General Standards
- NOISE – R2 – Emissions of Noise in All Zones
- NOISE – R5 – Emission of noise for activities not provided for by NOISE – R2, NOISE – R4, NOISE – R6 and NOISE R7

Regional Land and Water Plan

- Rule 20 – Use, extension, alteration, maintenance, repair, reconstruction, removal or demolition of structures
- Rule 21 – Fences, pipes, lines and cables over the bed of a lake or river
- Rule 23 – Culverts, Fords and Bridges
- Rule 25 – Other Structures
- Rule 26 – Alteration of the bed associated with structures, or the clearance of gravel

- Rule 49 – Diversion and/or take of water in a drain
- Rule 51 – Diversion of natural runoff – contaminated and uncontaminated
- Rule 64 – Discharge from any drain
- Rule 66 – Incidental discharge of contaminants to water from temporary activities associated with maintenance of structures
- Rule 81 – Discharge of stormwater runoff
- Rule 83 – Stockpiling

7.3 A Rules Assessment and information that demonstrates that the Project complies with the requirements, conditions, and permissions for the above permitted activities (so that a resource consent is not required for that activity as per Schedule 5, clause 5(5)(a)) is included as **Appendix N**.

7.4 There are no resource consents sought for prohibited activities for the Project.

7.5 No activities involved in the Project are substantially the same as those which have been the subject of an application or a decision under another Act (refer Section 13(4)(u) FTAA).

Part 3 - Fast Track Approvals Act Schedule 5 Requirements – Resource Management Act 1991

8 Assessment of the actual or potential effects on the environment

8.1 Schedule 5, subclause 5(4)[2] of the FTAA requires an assessment of the activity's effects on the environment that:

8.1.1 Includes the information required by clause 6; and

8.1.2 Covers the matters specified in clause 7.

8.2 The following is an assessment of environmental effects which identifies and assesses the types of effects that may arise from the proposed activities in relation to the resource consents sought. It also includes the required information and matters to be covered as required by those clauses. The conclusions in the following subsections rely on the technical reports contained in the Attachments included with this Application (**Appendix L1 – L10**). This section also outlines the measures that Tāiko propose to avoid, minimise or remedy any potential adverse effects on the environment.

The existing environment

8.3 As required by section 104 of the RMA, the effects of the activity on the environment must be considered. For the purpose of this assessment, the "environment" consists of the environment at the time the application is determined including already consented activities that are likely to be implemented. The concept of the "existing environment", as per the RMA, is also relevant to the assessment of this application.

8.4 The application site is a highly modified rural environment, having been subject to historic dredging and subsequently developed for pastoral farming. It is currently used as an operational dairy farm characterised by open pasture, artificial drainage networks, and modified creek systems, including straightened and managed channels. Rural residential properties are located in the wider area, reflecting the established mixed rural character. The natural character and ecological values of the site have been substantially altered through past and ongoing land use, resulting in a working rural landscape with limited, and fragmented, natural values.

8.5 The application site includes ongoing pastoral farming and associated rural residential activities. Consents have also been granted for the establishment and operation of the Wet Concentrator Plant and associated access, which form part of the wider Critical Minerals Project. A mineral sand mining activity has been consented immediately to the north, (Central Block) establishing a clear precedent for this type of activity within the locality. A water take from Canoe Creek is already consented, and the proposed take aligns with this existing allocation framework, noting that there will be no concurrent operation of this.

[2] Also required by section 43(2) of the FTAA.

8.6 Accordingly, the existing environment for assessment purposes is not a pristine or unmodified setting, but a working rural landscape where farming, rural living and mineral extraction activities are anticipated and enabled, and are already occurring or are authorised and will be implemented.

Positive effects

8.7 The positive effects of the Project include benefits on a regional scale, as well as environmentally and socially as outlined below.

Regional and District economic benefits

8.8 As detailed in the Economic Assessment (refer **Appendix L1)** and the accompanying Statement of Evidence of Mr Ballingall (refer **Appendix L1A**), mining of the Southern Block will have significant regional and district economic benefits.

8.9 The Barrytown Critical Minerals Project will deliver an average of $122.7 million of additional GDP, $13 million of wages and $76.7 million of local spending per year over its 22-year life.

8.10 The Southern Block comprises 87% of the total project and will generate the following annually:

(a) Provide 135 full time equivalent jobs (a 1.8% increase in jobs in the Grey District)[3]

(b) Pay these direct workers around $13 million per year, much of which will be spent in the local economy

(c) Support a further 189 jobs in the local economy through its $66.9 million of non-wage operating expenditure and spending by its workers

(d) Generate average annual export revenue of $200.2 million

(e) Directly produce $107 million of additional GDP

(f) Additional royalties and tax revenue of $39.8 million into the government's coffers.

8.11 The Barrytown Flats deposit is considered world class, with a unique mineral suite. Producing a market ready product on the West Coast is strategically important for the region. Ilmenite and garnet have rising international demand as countries move to a low emission carbon economy and produce more renewable energy. Ilmenite is used to make titanium, which is on the United States and Europe's 'critical minerals' lists for its use in the production of renewable energy resources.

Social and development benefits

8.12 There are a range of social and development benefits of the Project. These include:

(a) The majority of goods and services required for the mine will be sourced locally within the West Coast Region. The operation will be undertaken by experienced New Zealand-based staff and contractors, with most personnel expected to be based in Westport and Greymouth. Tāiko has already held productive discussions with experienced local mining contractors, potential site managers, and haulage operators regarding participation in the project.

[3] Mining is undertaken sequentially across the Central Block and Southern Block. Employee numbers will remain the same as work progresses across the Blocks.

(b) Tāiko is developing a workforce education initiative, including a proposed scholarship programme aimed at encouraging local school leavers to pursue further study or employment opportunities with the company. This programme is intended to support the retention of young people on the West Coast while building local skills and capability for the Project and future operations. These initiatives will contribute to long-term regional capability, employment, and innovation, supporting resilient and sustainable communities.

(c) Tāiko has entered into a Heads of Agreement with the New Zealand Institute for Minerals to Materials Research, establishing a platform for laboratory work, research, development and training. This partnership supports future innovation, including opportunities to extract additional high-value materials from the non-magnetic concentrate.

(d) Tāiko is proposing an upgrade of the existing power line from Rapahoe to the WCP from 11 kV to 33 kV. The upgrade will utilise the existing corridor of the current 11 kV line, avoiding the need for a new alignment and therefore minimising construction and environmental disturbance. The increased capacity and modernisation of the line also improves the resilience of the local electricity network. The upgrade enhances security of supply for communities from Rapahoe through to Barrytown and extending to Punakaiki, supporting both residential users and other commercial activities along the route. A more robust network reduces the likelihood and duration of outages, particularly during severe weather events, delivering long-term reliability benefits to the wider coastal community.

(e) Tāiko has committed to supporting Barrytown School in the implementation of its master plan. This includes gifting additional land to enable the provision of safe parking areas and a new early childhood centre, as well as funding new classrooms and associated facilities in accordance with the school's master plan. The school received a new van in February 2026 to improve transport options for school-related events and activities. In addition, the company will work with the school to link aspects of its operations to the school curriculum, including supporting the school's 2026 focus on Papatūānuku through conservation and environmental initiatives planned across the wider Barrytown Flats.

(f) The creation of 135 full-time equivalent roles, and the additional anticipated 189 supporting roles, is also expected to contribute positively to social and community wellbeing within the West Coast region. While some positions may be filled locally, it is likely that a proportion of the workforce will be drawn from outside the region, either directly or through backfilling of existing local roles. This has the potential to support population retention and modest population growth within local communities. An increase in resident population can provide broader social benefits by supporting the viability of schools, sports clubs, community organisations and local services. It may also increase the pool of people available to participate in important volunteer and civic roles, such as sports coaching, volunteer fire brigades, school governance and other community support functions. As a result the Project has the potential to generate positive additional social effects in addition to its direct economic and employment benefits

Environmental benefits

8.13 The Project will deliver a range of positive environmental outcomes alongside the proposed mitigation and rehabilitation measures captured in proposed conditions. In particular:

(a) Tāiko has committed to a partnership with Ngāti Waewae and the Paparoa Wildlife Trust to support biodiversity enhancement through predator control, conservation initiatives, and research into key species such as the Westland petrel (tāiko), with mātauranga Māori underpinning this work. This collaborative approach, which will also involve the Department of Conservation, specialist wildlife trusts, academic institutions, local authorities and the wider community, will contribute to improved ecological knowledge and targeted conservation outcomes.

(b) Progressive rehabilitation, including wetland creation, riparian planting and habitat enhancement, is expected to result in long-term net ecological gains beyond the life of the Project, providing improved habitat diversity and supporting freshwater and terrestrial ecosystems beyond the current highly modified existing environment.

Effects on Ecology

8.14 The Ecological Effects Assessment undertaken by Ecological Solutions (refer **Appendix L4**) assesses the potential ecological effects of the proposed mining activities within the Application Area, including effects on terrestrial ecology (vegetation clearance, avifauna, herpetofauna and long-tailed bats), wetlands, freshwater ecology and water quality. This is supported by Statements of Evidence from Dr Bramley (terrestrial ecology, refer **Appendix L4A**), Mr Montgomerie (freshwater ecology, refer **Appendix L4B**)and Dr Fitzpatrick (water quality, refer **Appendix L4C**).

Vegetation clearance

8.15 Vegetation within the Southern Block is dominated by grazed exotic pasture and rough exotic pasture associated with the working farm and historically modified landscape. These vegetation types, together with most areas of taller exotic vegetation, are assessed as being of negligible ecological value. Small and isolated areas of indigenous coastal shrubland (approximately 0.9 ha) and flaxland (approximately 0.3 ha) are present within the site and are assessed as being of moderate ecological value, although their value is constrained by their limited extent, fragmented distribution and isolation from larger areas of indigenous habitat. Overall, the terrestrial vegetation within the Southern Block reflects a highly modified environment with relatively limited indigenous habitat values.

8.16 Mining will result in the removal of vegetation within the active mine path, with up to 16 ha of predominantly pasture vegetation disturbed at any one time. Due to the predominantly modified nature of the vegetation present, the effects of clearance on most vegetation types are assessed as very low. The removal of the small areas of indigenous coastal shrubland and flaxland would result in a moderate effect in the short term. However, these effects will be managed through staged progressive rehabilitation, which will occur immediately behind mining and will substantially reduce the time lag between vegetation removal and habitat replacement. Rehabilitation works will include the establishment of riparian planting along reconstructed creeks, planting at the mouth of Granite Creek,

planting of vegetation to support the wetland to be constructed and associated indigenous habitat of similar or greater ecological value than that being removed.

8.17 The proposed mitigation is supported through the Rehabilitation Management Plan (refer **Appendix M6**) and associated consent conditions requiring progressive rehabilitation, reinstatement of riparian margins and implementation of planting and habitat restoration measures. These conditions will ensure that vegetation clearance is temporary where practicable, that disturbed areas are stabilised and replanted as mining progresses and that final rehabilitation outcomes are delivered across the site.

8.18 Overall, while there will be some short-term loss of modified and limited indigenous vegetation, the significance of effects is considered to be low in the short term and positive in the medium to long term, with the project expected to deliver a net gain in the extent, connectivity and ecological value of wetland, shrubland, riparian and associated terrestrial habitats compared to the pre-mining environment.

Avifauna

8.19 Avifauna recorded within the Southern Block is dominated by exotic and common native species, reflecting the highly modified nature of the habitats present. Bird habitat within the Southern Block is therefore assessed as being of negligible ecological value.

8.20 While a greater diversity of avifauna occurs in the surrounding area, including a number of 'Threatened' and 'At Risk' species associated with the adjacent coastal and forest habitats, the Southern Block itself provides limited suitable habitat. Some species of conservation concern, including pohowera/banded dotterel, tōrea tai/variable oystercatcher, tōrea/South Island pied oystercatcher, tāiko/Westland petrel and kororā/little blue penguin, may occasionally forage, breed or move through parts of the site. The wider avifauna community is therefore assessed to be of high ecological value, notwithstanding the limited habitat values present within the Southern Block itself.

8.21 The proposed works have the potential to result in low effects on common native bird species through vegetation clearance and disturbance, and a low risk of adverse effects to a small number of 'At Risk' species that may intermittently use the site. Artificial light at night has the potential to disorient and adversely affect Taiko/Westland petrel either leaving or returning to the colony to north.

8.22 Potential effects of the Project on avifauna are robustly addressed through proposed conditions and the Avian Management Plan (refer **Appendix M2**), which provides for pre-mining and ongoing surveys, breeding and nest monitoring, conservation dog surveys for kororā, wildlife camera deployment and setbacks from MHWS and Granite Creek, alongside deterrents and fencing to limit movement through active areas.

8.23 Of particular importance for tāiko, mining operations are strictly limited to daylight hours, thereby avoiding night-time lighting effects entirely during routine operations. Any ancillary lighting required on site for the mining activity will be minimal for health and safety purposes and tightly controlled,

including being fully shrouded, directed downward and restricted to appropriate wavelengths to minimise attraction or disorientation risk. In this context, the Project introduces negligible artificial light into the environment relative to existing ambient sources (including residential lighting and State Highway 6 traffic). As a result of these measures the overall risk to tāiko is considered to be very low.

8.24 Post-mining rehabilitation will result in the provision of equivalent or greater areas of shrubland, wetland, and riparian habitat over time. Subject to these measures, adverse effects on avifauna are considered to be low and appropriately avoided, minimised or remedied for the purposes of the application.

Herpetofauna (lizards)

8.25 Vegetation within the Southern Block is predominantly grazed exotic pasture, which provides limited habitat for lizards. There are some small, isolated areas of marginal habitat occur within the mining area, while more suitable habitats (e.g., shrubland, woody debris, and coastal margins) are located outside the mining disturbance area and will not be affected.

8.26 The potential effects on lizards include:

(a) Vegetation clearance could result in injury or mortality of lizards if present, representing a potentially high level of effect without mitigation.

(b) Progressive rehabilitation will re-establish an equivalent or greater area of suitable lizard habitat, resulting in very low effects overall and the potential for a net ecological gain in the long term.

(c) No works will occur within 50m of Mean High Water Springs, and indirect effects on lizard species occupying adjacent coastal habitats are not anticipated.

8.27 With the implementation of measures proposed in the Lizard Management Plan (refer **Appendix M3**), including salvage and relocation where lizards are detected, the overall potential effects on any lizards found within the very limited lizard habitat at the site are low. Post-mining rehabilitation will result in a net gain of suitable lizard habitat.

Long-tailed bats

8.28 Long-tailed bats have been recorded within 25 km of the Southern Block however, records are sporadic and the likelihood of a large population in the area is considered low. The potential effects on long-tailed bats include:

(a) Vegetation proposed to be cleared does not provide suitable roosting habitat, and potential roost trees located within or adjacent to the site are outside the mining disturbance area. As such, the risk of direct harm to bats during vegetation clearance is considered negligible.

(b) Temporary loss of potential foraging habitat through stream diversion and wetland disturbance may occur, however, the small and mobile mining footprint, retention of stream connectivity, and progressive rehabilitation (including increased wetland habitat) will limit effects, resulting in low short-term effects and a net ecological gain over the long term.

(c) Artificial lighting could affect bat behaviour, but as mining will occur during daylight hours and lighting will be managed to minimise external light spill, effects from lighting are expected to be very low.

8.29 As vegetation clearance does not include potential roosts the Ecological Assessment confirmed that a separate Bat Management Plan was unnecessary. With the proposed operational parameters of the project and mitigation measures, the overall ecological effect on long-tailed bats is assessed as low.

Effects on wetlands

8.30 Natural inland wetlands are present within the Southern Block and parts of the mining disturbance area, although many wet areas within the Southern Block are highly modified and associated with constructed drains, hump-and-hollow topography and legacy dredge features. As a result, a number of these areas do not meet the statutory definitions of a wetland under the Resource Management Act and the Regional Land and Water Plan, or natural inland wetland under the National Policy Statement Freshwater Management (NPS-FM).

8.31 Within the active mining disturbance area, approximately 6.7ha of natural inland wetland has been assessed as present and subject to the National Environmental Standard Freshwater (NES-F) and NPS-FM. These wetlands comprise a mix of floodplain wetlands, assessed as being of moderate ecological value, and palustrine wetlands, which are generally of low ecological value due to their dominance by exotic vegetation and limited ecological connectivity. A small coastal lagoon at the north-western extent of the Southern Block, located outside but within 100m of the disturbance area, is also of moderate ecological value due to the hydrological and ecological connectivity it provides.

8.32 The operational requirements of the dredge also influence progression of mining activity. The dredge advances in long, linear runs, which are necessary to maintain efficient operation and minimise the need for complex and time-consuming turning movements. As a result, mining is undertaken in wide, north–south strips, with turning limited to the ends of each run (refer **Appendix L2A**). This constrains where mining can practicably occur within the site and necessitates the temporary removal and disturbance of wetlands and other features within the defined mine path.

8.33 However, these effects will be remedied through a staged wetland reconstruction and rehabilitation programme guided by consent conditions and the Rehabilitation Management Plan. Wetland construction will occur progressively as mining advances, with wetland establishment proposed in the northern part of the Southern Block (Section 1) during the first two years of mining and in the central part of the Southern Block (Section 2) during Years 10–11.

8.34 The final rehabilitated wetland complex will comprise at least 50ha, substantially exceeding the extent of natural inland wetland (as well as all other wetlands areas) affected by mining. This wetland system will be integrated with reconstructed creek channels, riparian planting and the surrounding rehabilitated landforms to improve habitat diversity and connectivity across the site.

8.35 While there will be temporary short-term effects associated with wetland removal and reconstruction, the actions proposed to avoid, minimise and remedy any effects are negligible, with the medium to long-term outcome expected to be a net ecological gain through the creation of a larger and more connected mosaic of wetland, shrubland and riparian habitats than currently exists.

Effects on freshwater ecology

8.36 The site contains a network of modified natural creeks and artificial drains that traverse the working farm and discharge to the coast, including Granite Creek, Little Granite Creek, Clarke Creek and several other unnamed creeks which for the purpose of this Application have been named Northern Creek, Central Creek, Wasabi Creek and Southern Creek. These creeks have been substantially altered by historic mining, drainage and farming practices dating back to the 1930s, and are generally characterised by unstable banks, limited riparian protection and modified channel form.

8.37 Aquatic habitat within artificial drains is assessed as being of low ecological value, while several modified creeks, including Northern Creek, Little Granite Creek, Granite Creek and Wasabi Creek, retain some gravel and cobble bed characteristics and moderately diverse habitat and are therefore assessed as being of moderate ecological value. Clarke Creek is assessed as being of low ecological value. Macroinvertebrate communities throughout the Site are typical of highly modified environments and are dominated by taxa tolerant of poor water and habitat quality, resulting in an overall low ecological value for benthic invertebrate communities. In contrast, the freshwater fish community is of high ecological value, with a range of native species of conservation interest recorded across both drains and creeks, including īnanga, giant kōkopu, longfin eel, kōaro, banded kōkopu, redfin bully and bluegill bully.

8.38 Mining will proceed sequentially through the three sections of the Southern Block and will require temporary diversion of five creeks and associated drains where these intersect the mine path, while Granite Creek and Little Granite Creek will remain undisturbed. Potential effects include temporary habitat disturbance and loss, sedimentation during earthworks, fish injury or mortality, temporary reductions in fish passage and possible flow effects associated with the proposed Canoe Creek water take.

8.39 These effects will be managed through a comprehensive suite of mitigation measures in conditions and management plans, including implementation of the Erosion and Sediment Control Plan (ESCP) (refer **Appendix L5**), the Rehabilitation Management Plan (RMP) (refer **Appendix M6**), and the Native Freshwater Fish Capture and Relocation Plan (NFFCRP) (refer **Appendix M4**). These measures provide for fish salvage and relocation prior to stream works, temporary and permanent diversion design to maintain fish passage, reinstatement of stream channels following mining with no loss of overall stream extent, riparian planting to improve long-term habitat quality. Rehabilitation of mined areas, including reconstructed watercourses, is expected to be completed within 12 months of mining that particular area, with reconstructed channels designed to follow more natural meandering alignments and to provide equal or improved instream and riparian habitat relative to the existing environment resulting in no loss of values.

8.40 The proposed consent conditions further support this management framework by requiring annual work planning, certified fish management and rehabilitation plans, reinstatement of drainage and creek patterns, limits on the Canoe Creek water take, ongoing habitat and ecological monitoring, and certified creek diversion methodologies. Conditions also require pre and post mining annual instream and riparian habitat, macroinvertebrate and fish surveys, and provide for confirmation of recolonisation or adaptive management (i.e. a requirement for a specific creek diversion and development plan) where monitoring indicates that ecological health has not recovered to an equivalent pre-works state.

8.41 The water take at Canoe Creek , restricted to 63L/s, but more likely to be <9.5L/s, is expected to maintain instream conditions (i.e. habitat quality, native fish abundance). The overall level of effect of the proposed water take on the amount and quality of habitat in lower Canoe Creek is assessed as 'very low' with no mitigation required given the rate of take will be no greater than 10% of the Canoe Creek MALF. The shallow ground water will be extracted from the lower Canoe Creek via a subsurface gallery or direct surface water take with an appropriate fish screen which will avoid any risk of fish becoming entrained.

8.42 Having regard to the modified nature of the existing environment, the species and habitats present, and the mitigation and rehabilitation measures proposed, the short-term effects on freshwater ecology have been assessed as low to very low (minor to less than minor), and negligible in overall significance for the purposes of the Fast-track Approvals Act. In the medium-to-long term, the project is expected to result in a positive outcome, with no net loss of stream extent and an overall improvement in stream form, riparian condition and aquatic habitat quality across the site

Effects on water quality

8.43 Baseline water quality within streams, drains, wetlands and groundwater across the site is generally good, characterised by near-neutral pH, low to moderate nutrient levels, low concentrations of dissolved metals and soft water chemistry. Iron and manganese occur naturally at moderate concentrations and iron oxyhydroxide deposits are present in some surface waters and wetlands.

8.44 Water quality modelling was undertaken to assess potential changes resulting from excavation and backfilling of tailings and slimes. Initial modelling indicated that untreated tailings porewater could alter pH and increase metal concentrations in receiving waters. However, refined modelling incorporating lime augmentation of tailings and slimes prior to deposition demonstrated that groundwater and surface waters would continue to meet relevant water quality guidelines.

8.45 Further laboratory leaching trials confirmed that the addition of hydrated lime is effective at increasing water hardness and reducing metal concentrations in post-deposition porewater. Additional trials will be undertaken prior to mining to optimise treatment levels.

8.46 Modelling indicates that while groundwater and surface water quality may experience temporary changes as modified groundwater moves through the mined area, water quality is expected to remain within guideline values and will return to baseline conditions after mining.

8.47 With the proposed lime treatment, monitoring programme and consent conditions, including water quality limits, establishing baseline conditions and annual hydrological reporting, adverse effects on water quality and aquatic ecosystems will be avoided during both the mining operations and upon completion of the activity.

Hydrological effects of the mining and water take

8.48 Komanawa Solutions Ltd has undertaken a Hydrological Assessment (refer **Appendix L3**) of the proposed activity to assess the effects of the proposed mining activity, along with the proposal for the water take from Canoe Creek. A Statement of Evidence of Mr Rekker is included at **Appendix L3A**.

8.49 The Southern Block sits within a shallow groundwater and surface water system that is closely linked with the site's creeks, drains and wetlands. The existing hydrology has been heavily influenced by the historic mining, farming and drainage modification, including the creation of humped and hollowed pasture, artificial drains and realigned creek channels. Groundwater levels across the site are generally shallow and strongly connected to surface water, meaning changes in one part of the system can influence nearby creeks and wetlands. Detailed investigations, including drilling, piezometer installation, groundwater and surface water monitoring, hydrological modelling and geochemical testing of mineral sands and tailings, have been undertaken to confirm the existing environment and assess potential effects. These investigations provide a moderate to high level of certainty in understanding both the current hydrological regime and the likely effects of the proposed activity.

Effects on groundwater and creek hydrology

8.50 The proposed mining method has been designed to operate within the existing groundwater environment, avoiding the need for large-scale dewatering. Sand extraction will occur using a travelling mining void, with sand and process water continuously circulating between the mine void, Wet Concentrator Plant and the tailings deposition area immediately behind mining. The water level within the mining void will generally be maintained at approximately the same level as the surrounding groundwater table and adjacent surface water, which will minimise disruption to groundwater levels and surface water connectivity.

8.51 Potential effects include temporary localised changes to groundwater levels and temporary interruption of creek flow paths where these intersect the mine path. These effects will be managed through temporary diversions around the mining void, with Granite Creek and Little Granite Creek not being mined or diverted. Once that mine path has moved through that area, creeks and associated drainage features will be reconstructed and rehabilitated in accordance with the Rehabilitation Management Plan. Clarke Creek would be returned on a course similar to its pre-mining alignment but instead of passing through farmland it would pass through the constructed wetland complex to its approximate confluence with Granite Creek.

8.52 The post-mining landform has been designed to restore hydrological function across the site. Effects on groundwater levels are considered to be neutral with less than minor effects. The diversion, restoration and rehabilitation of the creek network would have medium and long-term effects that are, overall, less than minor. Residual effects would be remedied by reconstructing the creek alignments and channels to a more natural character in a way that retains the existing hydrological function while enhancing aquatic habitat values. Creek reconstruction is set out in the conditions and the Rehabilitation Management Plan (refer **Appendix M6**)

Effects of saline intrusion

8.53 Given the site's coastal setting, the potential for saline intrusion has been considered. The mining activity is not expected to create conditions that would induce seawater intrusion into the groundwater system. This is because the mining void operates in hydraulic continuity with the surrounding groundwater system, rather than creating a significant cone of depression through active dewatering. Groundwater levels and quality will be monitored at coastal bores to confirm that saline intrusion does not occur. On this basis, the risk of saline intrusion is considered to be very low.

Effects on water quality

8.54 Potential water quality effects associated with mining include increased turbidity, sediment generation, nutrient release and mobilisation of dissolved metals. These effects are expected to be largely contained within the active mining void and mine water circuit. Modelling indicates any changes in groundwater borne turbidity beyond 20m of travel would be temporary and in terms of color and clarity rather than sediments that could adversely affect aquatic ecology.

8.55 Potential dissolved metals and associated water quality effects will be managed through the addition of hydrated lime or crushed limestone to tailings and slimes, which will raise pH, increase water hardness and reduce the mobility of metals. Laboratory leaching trials and water quality modelling confirm that, with this treatment, groundwater and surface water are expected to remain within relevant guideline values.

8.56 The proposed Erosion and Sediment Control Plan (ESCP), together with water quality monitoring and response triggers, will ensure that any water quality effects are appropriately managed. As a result, water quality effects are assessed as low to less than minor.

Effects on Canoe Creek from the water take

8.57 Water for the Wet Concentrator Plant and dust suppression will be sourced from the Canoe Creek infiltration gallery. The proposed abstraction rate has been specifically assessed and will be limited to less than 10% of the seven-day Mean Annual Low Flow of Canoe Creek. This limit is intended to ensure that the water take does not adversely affect stream flows, instream habitat or ecological values.

8.58 A water take consent has been granted for the Central Block on the same basis and for a duration of 14 years. A consent for the Southern Block would not give rise to any additional adverse effects beyond

those already assessed as the proposed conditions require that the consents would not be exercised concurrently.

8.59 Hydrological assessment confirms that the proposed abstraction will not result in significant depletion of surface water flows or habitat conditions in lower Canoe Creek. Flow monitoring and abstraction metering will be undertaken to verify compliance and ensure that effects remain within predicted limits. Subject to these controls, the effects of the proposed water take are assessed as less than minor.

Water Management, Monitoring and Mitigation

8.60 The proposal includes a comprehensive suite of management and monitoring measures to avoid, minimise and remedy adverse hydrological and hydrogeological effects. These are set out in the conditions, and detailed further in the Water Management, Monitoring and Effects Management Plan (**Appendix M7**), Erosion and Sediment Control Plan (**Appendix M8**) and Rehabilitation Management Plan (**Appendix M6**), all of which are supported by proposed consent conditions.

8.61 These measures include:

(a) Groundwater level and quality monitoring at the Canoe Creek gallery and coastal bores;
(b) Surface water quality monitoring at key creek and coastal outlet locations;
(c) Flow gauging and abstraction metering;
(d) Threshold trigger levels and response plans where exceedances occur;
(e) Temporary creek diversions to maintain flow continuity during mining;
(f) Progressive reconstruction of creeks and wetlands following mining; and
(g) Annual hydrological and ecological reporting.

Archaeological effects

8.62 An Archaeological Assessment of the Southern Block has been carried out by New Zealand Heritage Properties Ltd (refer **Appendix L9**) and is supported by a Statement of Evidence of B Wooller (refer **Appendix L9A**). While there is potential for unrecorded archaeological sites to be present (such as artefact find spots, middens, historic mining features or domestic sites), the site has been extensively modified by historic dredging in the 1930's and 1940's, followed by farm drainage and productivity activities from the 1980's, meaning any remaining sites are likely to be disturbed or redeposited.

8.63 Outside the historically dredged area, the subsurface remains intact and may contain artefacts.

8.64 Two previously recorded archaeological find spots (K31/11 and K31/12) are located within the wider Application area but are assessed as having low archaeological value, as the artefacts have already been removed and their original locations cannot be confirmed. The Project is therefore not expected to affect the archaeological values of these recorded sites.

8.65 Without mitigation, earthworks could have a significant effect on any unknown sites encountered. To address this, an Archaeological Authority is being sought as part of this Application and management

measures will be implemented, including targeted archaeological monitoring within identified high-risk "red zones", recording and salvage of any finds, and preparation of a final archaeological report.

8.66 Additional safeguards include a site instruction for contractors, training on identifying archaeological material, and an accidental discovery protocol, requiring works to stop and relevant parties to be notified if archaeological material, taonga tūturu or kōiwi tangata are discovered.

8.67 With these management measures in place, effects on archaeological values are expected to be appropriately managed and are considered to be less than minor.

Noise effects

8.68 Noise effects have been assessed for a range of operational scenarios, including both daytime and night-time activities as mining progresses across the site, by Marshall Day Acoustics (refer **Appendix L7)** and is supported by a Statement of Evidence of Mr Farren (refer **Appendix L7A**). The highest noise levels are predicted when mining occurs closest to dwellings along Warren Road and Cargill Road. Noise control bunds are proposed in these locations to reduce potential effects.

8.69 Predicted noise levels from mining and processing activities will comply with the proposed project limits of 55 dB L_{Aeq} during the day and 45 dB L_{Aeq} at night (noting that mining will only occur during daylight hours), consistent with NZS 6802:2008 and World Health Organisation guidance. Noise levels are also broadly consistent with the permitted activity standards in the TTPP.

8.70 Minor exceedances of the TTPP 50 dB L_{Aeq} evening limit may occur when mining is within approximately 250m of seven dwellings, but only for a short period (approximately two months) as the mining face progresses past each property. During this time, outdoor noise levels are expected to remain within 50–55 dB L_{Aeq}, which is within accepted residential amenity guidelines, and indoor noise levels are expected to be minimal.

8.71 The existing rural noise environment is influenced by state highway traffic, surf noise, and farm activities, meaning mining activity will generally only be audible during quieter periods. Overall, noise effects will vary depending on the proximity of mining to individual dwellings but are expected to remain acceptable and consistent with protecting residential amenity, with no unreasonable noise emissions anticipated.

8.72 Consent conditions and a Noise Management Plan (refer **Appendix M1**) set out the mitigation measures to be implemented including the primary measures of 3-metre-high noise bunds in four key locations and broadband reversing alarms on site vehicles. Consequently, any adverse effects associated with noise are considered to have been mitigated with any residual effects to be considered to be low or less than minor.

Effects on landscape, natural character and visual effects

8.73 The landscape and visual assessment undertaken by Glasson Huxtable Landscape Architects (refer **Appendix L6**) considered the Project's effects on the existing landscape character and visual amenity of the Barrytown Flats, including its relationship with the already consented Central Block and the Wet Concentrator Plant located to the east of Section 1 of the Southern Block. The assessment examined the effects of site establishment, active mining, associated infrastructure, landform change and rehabilitation on the surrounding rural and coastal landscape, as well as potential effects on the adjacent Paparoa Ranges Outstanding Natural Landscape and the natural character of the coastal environment. It also assessed visual effects from a range of public and private viewpoints, including nearby dwellings, roads, the coast, recreational areas and elevated tracks and lookouts. The assessment is accompanied by a Statement of Evidence of Ms Crawford (refer **Appendix L6A**).

8.74 The Project will introduce a temporary change in landscape character as parts of the site transition from highly modified pastoral land to active mining, including the presence of machinery, bunds, mining void, access tracks, drains, fencing and associated infrastructure. However, the site has already been substantially altered by historic mining, vegetation clearance, drainage and farming, which reduces the sensitivity of the receiving landscape. Many of the activities to be undertaken during mining are frequently undertaken in farming practices.

8.75 Effects on landscape character and values are assessed overall as low to moderate (minor) during site establishment, mining and rehabilitation, reducing to low (less than minor) in the longer term. This is largely due to the transient and limited extent of active disturbance at any one time, the setbacks and mitigation proposed, and the ability to undertake progressive rehabilitation as mining advances.

8.76 The Project will have a very low (less than minor) effect on the adjacent Paparoa Ranges Outstanding Natural Landscape, as the ranges are physically separate from the mining area and will retain their key landscape values.

8.77 In terms of natural character, the Project is assessed as avoiding significant adverse effects on this value and is assessed as having low (less than minor) adverse effects in the short term, with a minor positive effect in the longer term due to the creation of a large new wetland, riparian planting and habitat restoration.

8.78 Visual effects will vary depending on distance, proximity to active mining, screening and viewer sensitivity. For most viewers, effects will be none to low (less than minor), although moderate to high (more than minor) visual effects may occur at two properties (101 Cargill Road and Lot 2 DP 2178) for relatively short periods when mining is closest. These effects are not considered significant, as they are temporary, localised and reversible.

8.79 The proposed landscape and lighting conditions are considered appropriate and are to provide a suitable framework to manage the visual and landscape effects of the Project. In particular, the conditions require implementation of the **Landscape Mitigation Package** prepared by Glasson

Huxtable Landscape Architects (refer **Appendix L6**), which sets out the proposed mitigation and rehabilitation measures for the pre-mining, operational and post-mining stages of the Project, including typical cross sections for creek reconstruction and wetland land construction, and planting species. The conditions also require retention of existing vegetation, eco-sourcing of planting and the establishment and maintenance of wetland and riparian planting, with further detail to be provided through the Rehabilitation Management Plan. Lighting conditions provide for management of potential effects through controls on the direction, intensity, colour and mounting of lights.

8.80 Where landscape and visual effects are assessed as being minor or, in some instances, more than minor, the significance of those effects is considered to be low as they will be temporary in duration and reversible following completion of mining. Consent conditions and the proposed rehabilitation and landscape mitigation measures, including progressive rehabilitation and increased planting, will ensure that these effects are appropriately managed, with the long-term benefits of restoration and additional vegetation assessed to outweigh the temporary disturbance over time.

Effects of earthworks

8.81 The Project involves a range of earthworks activities associated with site establishment, mining operations, creek and drain diversions, bund construction and the sourcing of borrow material for final landform rehabilitation. These activities have the potential to generate sediment and affect surrounding waterbodies if not appropriately managed. As such, erosion and sediment control measures have been developed to manage runoff and minimise the risk of sediment discharge.

8.82 Erosion and sediment management for the Project has been assessed across the Application area and operational phases, with an Erosion and Sediment Control Plan (ESCP) prepared by RidleyDunphy (refer **Appendix L5**) providing the overarching framework for management. This is accompanied by a Statement of Evidence from Mr Ridley (refer **Appendix L5A**). Prior to works commencing, a Site-Specific ESCP (SSESCP) will be prepared to confirm detailed methodologies, construction sequencing and site-specific measures, allowing flexibility while ensuring best practice outcomes are achieved.

8.83 The mining void will operate as a self-contained system, with bunds constructed from stripped topsoil to isolate disturbed areas and contain runoff, meaning no intentional surface water discharges will occur during operations. This ensures that the receiving environment is not sensitive to the discharge and no further alternative methods of discharges (into other receiving environments) has needed to be considered. A maximum disturbed area of 16 hectares at any one time is to be maintained, which will include the 2ha mining and borrow areas, bund establishment and haul roads. This disturbance area restriction will ensure progressive stabilisation and rehabilitation takes place as mining moves across the site as well as minimising the risk of sediment generation.

8.84 Additional earthworks associated with sourcing borrow material for final landform rehabilitation will incorporate appropriate sediment control measures. Where practicable, all runoff from borrow area earthworks will be directed to the mining void. If not practicable (too far away), a sediment retention pond will be established, or runoff pumped to the mining void or the Mine Water Facility. Again, this

ensures that the receiving environment is not sensitive to the discharge and no further alternative methods of discharges (into other receiving environments) has needed to be considered.

8.85 Creek and drain diversions, and the construction of the wetland area, will be undertaken in accordance with detailed methodologies and erosion control practices outlined in the ESCP. During wetland establishment any dirty runoff water will be pumped to the mining void.

8.86 The rehabilitated area will be considered to be stabilised once an 80% vegetative cover has been established. At this point this rehabilitated area can be removed from the 'disturbed area' amount.

8.87 An adaptive monitoring programme, including both qualitative and quantitative monitoring, will inform ongoing management and be reviewed yearly through an Annual Work Programme.

8.88 With the implementation of the ESCP, monitoring programme and proposed consent conditions, erosion and sediment effects are expected to be appropriately managed using best practice measures. These techniques are not new and are well tested by various mine sites across the West Coast. Potential effects relating to earthworks are assessed as being no more than minor.

Air quality effects relating to dust

8.89 Dust emissions may arise from activities such as bund construction, topsoil stripping, rehabilitation activities and vehicle movements. Consent has been sought for a discharge of dust to air as a precaution.

8.90 A Dust Management Plan (refer **Appendix M5**) has been prepared to manage site activities and avoid dust emissions beyond the boundary of the Application area. Given the wet nature of the site and frequent rainfall, dust generation is not expected to be significant issue though there can be periods of dry weather.

8.91 Baseline dust deposition monitoring undertaken on the boundary of the central Block indicates background dust levels of approximately 0.4 g/m^2/30 days, including during particularly dry conditions.

8.92 Ongoing monitoring will be undertaken during mining to ensure dust deposition remains below the Ministry for the Environment guideline of 4 g/m^2/30 days above background levels, with management measures implemented if required.

8.93 Dust suppression will be managed through the use of water carts and sprinkler systems operating across active work areas, haul roads and rehabilitation areas as required. Water for dust suppression will be sourced from the Mine Water Facility (MWF), with the authorised water take (9.5L/s from Canoe Creek) providing sufficient capacity to meet operational demand.

8.94 With the implementation of the Dust Management Plan and monitoring programme dust effects are considered to be less than minor.

Coastal hazard effects

8.95 The Barrytown coastline is subject to ongoing erosion, estimated at approximately 1m per year, primarily due to northward littoral drift transporting sediment faster than it is replenished. This erosion trend is expected to continue and may increase over time as a result of future sea level rise.

8.96 A Coastal Hazards Assessment has been prepared by OCEL Ltd (refer **Appendix L10**) and is accompanied by a Statement of Evidence from Mr Teear (refer **Appendix L10A**) which has determined that the proposed mining operation will not alter natural coastal processes, as mining will occur landward of the beach system and outside the active coastal environment.

8.97 A minimum 50m setback from Mean High Water Springs (MHWS) will be maintained to ensure the activity remains separated from the active coastal zone. The setback will be re-established at the start of mining for each Section, acknowledging any shoreline recession that may have occurred during mining of the previous Section.

8.98 With the application of this setback as mining moves across the Southern Block and the location of mining activities inland from beach processes, the proposal will not affect, nor be affected by, coastal erosion processes, and any effects associated with coastal hazards are considered to be less than minor.

Land stability effects

8.99 The potential for slope instability has been assessed for the proposed mining activity (refer **Appendix L2A**), with a focus on effects on neighbouring properties, Fagan Creek, Granite Creek and nearby sensitive environments.

8.100 The mine has been designed using conservative and well-established parameters based on similar projects and the known geotechnical characteristics of the site materials. Batter slopes will be formed in undisturbed ground, with slopes below the surface level of the mining void set at approximately 17° and above pond level at 40°. The mining method incorporates a pond width of around 100m, with in-pit tailings placed at shallow gradients (approximately 4°) and topsoil stockpiles limited to a height of 2m. These parameters are consistent with proven industry practice and provide stable slope conditions throughout the mining process.

8.101 A key aspect of the design is that the majority of slope height is located below the mining void surface level. This means that, in the unlikely event of localised instability, any movement would be contained within the mining void and would not extend beyond the active mining area. In addition, setbacks of at least 20m from site boundaries (where not within the consent area) and from creeks provide a further buffer to ensure that any instability does not affect neighbouring properties or waterbodies.

8.102 The most sensitive stage occurs when the active mining face is adjacent to boundaries or creek margins prior to backfilling. This exposure is temporary and typically limited to a period of approximately 8 to 12 weeks before tailings placement and progressive rehabilitation occurs. The short duration of this phase,

combined with the conservative slope design and setbacks, ensures that risks remain low and well managed.

8.103 The proposed design and staging of works ensure that slope stability effects are contained within the site and will not result in adverse effects on adjacent land, waterbodies or the wider environment. The risk of instability is considered to be low and can be appropriately managed through design controls and operational practices.

Effects on Heritage

8.104 The Archaeological Assessment undertaken by New Zealand Heritage Properties Ltd (refer **Appendix L9**) identifies the project area as forming part of a broader archaeological and cultural landscape associated with both Māori and historic use of the Barrytown coastal flats. The area is understood to have been traversed by an ara tawhito, with the eastern wetland areas likely used as a source of mahinga kai and mahinga toi, and the western dune systems potentially providing locations for nohoanga.

8.105 Two previously recorded archaeological sites within the project area (K31/11 and K31/12) are identified as artefact findspots. However, site investigations found no evidence of intact archaeological features remaining in association with those records, and they are not expected to be directly affected by the proposed works. The assessment also notes the potential for unrecorded archaeological material across the wider site, including Māori midden or oven sites near the coastal margin and historic gold-mining and domestic sites associated with nineteenth-century black-sanding activity and settlement. While the site has been substantially modified through past dredging and farming (humping and hollowing works), archaeological material may still be present either in situ beneath modified landforms or as redeposited material within previously disturbed areas.

8.106 Given the scale of the proposed activity and the broad distribution of potential archaeological remains, there is limited ability to avoid all areas of archaeological potential within the mining disturbance area. It is reasonable that unrecorded archaeological material may be present and that some of this material is likely to be affected by the proposed works. These potential unrecorded sites are assessed as having medium archaeological value, and the direct effects of the proposal on any such material are assessed as moderate to major in the absence of mitigation. However, these effects will be appropriately managed through the requirement to obtain an archaeological authority under section 44 of the Heritage New Zealand Pouhere Taonga Act 2014, implementation of a site instruction approved by Heritage New Zealand Pouhere Taonga (HNZPT), contractor briefing, archaeological monitoring of earthworks in areas of archaeological potential, and recording, analysis and reporting of any archaeological material encountered. Specific protective measures are also proposed in relation to known features, including the drystone structure beneath Cargill Road, and accidental discovery protocols are provided for archaeological material of Māori origin, taonga tūturu, and kōiwi tangata.

8.107 These measures are to be secured through the Archaeological Authority and associated consent conditions requiring implementation of the approved archaeological protocols and reporting

requirements (refer **Appendix P3**). In the context of the site as highly modified private farmland, and having regard to the proposed monitoring, recording and cultural engagement measures, the overall significance of adverse effects on archaeology and cultural heritage is assessed as low for the purposes of the Fast-track Approvals Act.

8.108 While the project has the potential to affect unrecorded archaeological material, the proposed management framework provides a robust framework to identify, appropriately respond to, and document any archaeological values encountered during works. Feedback received from Te Rūnanga o Ngāti Waewae (refer **Appendix F3**) notes that the Accidental Discovery Protocol provides an appropriate and practical mechanism to manage any such discoveries, consistent with tikanga Māori. Subject to these measures, the archaeological effects of the proposal are considered capable of being appropriately managed.

Radiation effects

8.109 Assessment of drilling and sampling results undertaken for the Project confirms that the Barrytown and Canoe Creek ore contains only low levels of naturally occurring radionuclides (refer **Appendix L8A**). Testing undertaken by NZIMMR identified average specific radioactivity levels of approximately 0.45–0.46 Bq/g for ore material, with tailings and processed materials also recording levels substantially below the threshold of 10 Bq/g specified in Schedule 2 of the Radiation Safety Act 2016 for material to be classified as radioactive. These results are consistent with previous investigations undertaken for the Central Block and demonstrate that the ore, slimes and tailings are not considered radioactive under the Radiation Safety Act 2016.

8.110 The proposed mining and processing methodology involves conventional dredging, screening and gravity separation only. Proposed consent conditions require ongoing monitoring of heavy mineral concentrate and radiation levels during operations and will ensure that any potential adverse effects associated with naturally occurring radiation are appropriately managed and avoided.

Cumulative effects

8.111 A key consideration in assessing the proposed mining activities is the potential for cumulative effects arising from the staged development of the Barrytown Mineral Sands Project across multiple areas, including the Central Block and the Southern Block, and within the Southern Block across the Sections north and south of Granite Creek and south of Cargill Road.

8.112 The mining of each stage will occur sequentially rather than concurrently. Mining within the Southern Block will not occur at the same time as mining on the Central Block. Similarly, mining across the Southern Block will occur in three discrete sections, with mining in the next section not commencing until extraction within the previous section is complete. This staged approach ensures that mining activity is spatially and temporally limited, avoiding simultaneous disturbance across multiple sections of the site.

8.113 This methodology also ensures that operational parameters such as the authorised water take, the maximum disturbed area and associated environmental management measures remain consistent with those already assessed. In particular, the proposal maintains a maximum disturbed area of 16ha at any one time and incorporates progressive rehabilitation, which limits the extent of exposed land and reduces the potential for cumulative effects associated with dust, erosion, sediment generation and landscape disturbance.

8.114 The staged development and separation distances between active mining areas and sensitive receptors also reduce the potential for cumulative amenity effects. For example, dust-generating activities will occur within a confined operational footprint, and progressive rehabilitation will stabilise disturbed areas as mining advances. Monitoring and management plans implemented across the Project will further ensure that environmental effects are appropriately managed over time.

8.115 While the overall Project involves mining across multiple blocks and requires a range of consents, the sequential development approach, combined with strict limits on disturbed areas and comprehensive environmental management measures, ensures that the proposal will not give rise to adverse cumulative effects.

Overall effects summary

8.116 Taking into account the assessments outlined above, and when viewed in the context of the staged and sequential development of the Central Block and Southern Block, the potential adverse effects of the proposed mining activities are considered to be not significant and no more than minor following the implementation of the proposed mitigation measures and conditions of consent. The proposed environmental management plans, monitoring programmes and limits on the extent of disturbance ensure that potential effects are appropriately managed throughout the life of the Project.

8.117 The Project will also deliver significant district and regional benefits, including export revenue, employment opportunities and wider economic activity within the West Coast. These benefits have been demonstrated to be substantial and long-term. These are complemented by the wider social and environmental benefits the Project will deliver during mining and after completion.

8.118 When considered overall, the potential adverse effects of the Project are not disproportionate to the scale of the regional benefits that will arise and are considered acceptable in the context of section 85(3)(b) of the FTAA.

9 Management of Effects

Proposed conditions

9.1 While the mining methodology differs between the Central Block and the Southern Block, the conditions proposed as part of this Application have, where appropriate, been aligned with those applying to the Central Block to ensure consistency in meeting community expectations, environmental management and operational standards.

9.2 The proposed conditions establish a comprehensive framework to manage the mining operation, progressive rehabilitation and environmental effects. The proposed conditions have been reviewed and tested by the relevant technical experts to confirm that they are appropriate to manage the potential effects of the activity.

9.3 Condition themes addressing the effects of the proposal are identified under each of the relevant effects assessments under Section 2 above, with the full set of proposed conditions provided in **Appendix P1**.

9.4 In general, the conditions:

(a) Require the activity to be undertaken generally in accordance with the application, approved plans and a suite of certified management plans, while also ensuring clear accountability through the appointment of an on-site Accountable Person, notification requirements, complaints and incident reporting, and the ability for the Consent Authorities to review conditions if unforeseen effects arise.

(b) Also provide a strong operational and rehabilitation framework. They impose a maximum disturbed area of 16 hectares, require progressive rehabilitation to occur as mining advances to ensure the site is fully rehabilitated at mine closure, including reinstatement of productive pasture, re-establishment of creek and drainage patterns and construction of permanent wetland and riparian habitat. This is supported by a Rehabilitation Management Plan, annual work programming, and a bond to secure mine closure obligations. Further conditions manage site setbacks, hazardous substances, radiation monitoring, erosion and sediment control and complaints/non-compliance procedures, ensuring that environmental effects are actively managed throughout the life of the Project.

9.5 Further conditions manage the day-to-day operational effects of mining on nearby residents, ecology, landscape, cultural values, erosion and sediment control, hydrology, water quality, dust, stream diversions and the water take and include:

(a) Hours of operation are restricted to daylight hours only, with no mining at night, no mining near specified dwellings between 6:00am–7:00am, and no mining on Sundays.

(b) Noise must comply with set daytime and night-time limits at nearby dwellings, with a Noise Management Plan, regular acoustic monitoring, and further mitigation required if limits are exceeded. Bunding to further mitigate noise effects is required at four key locations.

(c) Avian management requires surveys and deterrence to avoid bird nesting in active mining areas, restrictions such as no dogs on site, wildlife camera monitoring, annual penguin surveys, and preparation/implementation of an Avian Management Plan to avoid effects on threatened and at-risk bird species (including kororā and tāiko / Westland Petrel).

(d) Lizard management requires a Lizard Management Plan to provide for surveys, salvage/relocation, habitat enhancement, timing of works and contingency procedures if lizards are found.

(e) Native freshwater fish management requires fish salvage and relocation before creek works, through a Native Freshwater Fish Capture and Relocation Plan prepared by a freshwater ecologist.

(f) Landscape and rehabilitation conditions require bunds, screening planting, retention of key existing vegetation, use of eco-sourced plants where possible, and progressive establishment of a large constructed wetland and riparian planting network as part of progressive rehabilitation. Ongoing maintenance and replacement planting is also required.

(g) Lighting must be designed to avoid spill onto neighbouring properties and to minimise effects on wildlife, particularly through shielding, downward direction, low intensity and reduced blue/violet wavelengths.

(h) An Accidental Discovery Protocol requires works to stop immediately if any taonga, kōiwi or archaeological material is discovered, with notification to Rūnanga, Heritage New Zealand, Council and Police (if relevant) before works can recommence.

(i) A detailed Erosion and Sediment Control Plan and annually updated Site Specific Erosion and Sediment Control Plan are required to manage sediment discharges, creek works, exposed areas and rainfall response.

(j) A Water Management Plan (including a Monitoring and Effects Management Plan) must ensure mining does not create unacceptable hydrological effects, including unacceptable reductions in Canoe Creek and Granite Creek flows, adverse groundwater effects or water quality degradation.

(k) Discharge conditions require treated mine water and runoff to meet specified water quality thresholds, including metals, turbidity, visual clarity and dissolved reactive phosphorus, before discharge is allowed.

(l) Extensive surface water, groundwater, flow and water quality monitoring is required across creeks, springs, groundwater bores and discharge points, with annual reporting and ecological monitoring of fish, habitat and macroinvertebrates.

(m) A Dust Management Plan is required, with on-site speed limits, wind-triggered dust controls, dust deposition monitoring and a requirement that there be no offensive or objectionable dust beyond the site boundary.

(n) Groundwater abstraction and water take conditions control how much water can be taken from Canoe Creek, with strict monitoring, reporting, fish screening and a prohibition on operating this take concurrently with an existing separate water permit.

(o) Creek diversion and reconstruction conditions require new and diverted creeks to be designed to maintain ecological function, extent and values, include habitat features, and be riparian planted and monitored to confirm ecological recovery over time.

9.6 A suite of management plans are proposed to ensure that the effects of the Project are managed in a detailed, responsive and site-specific manner. Given the scale and duration of the mining activity, and the range of environmental values potentially affected, it is impractical for all operational detail to be fixed solely through the consent conditions. Instead, the Management Plans provide the necessary framework to inform on-the-ground procedures, monitoring requirements, responsibilities and adaptive management responses. They also provide the process for regular review and refinement as monitoring results, annual work programmes and site conditions evolve, ensuring the Project can be undertaken in a manner that remains compliant, efficient and environmentally responsive over time.

9.7 The management plans required for this Project are set out in Condition 6.0 and include:

(a) Noise Management Plan
(b) Avian Management Plan
(c) Lizard Management Plan
(d) Native Freshwater Fish Capture and Relocation Plan
(e) Dust Management Plan
(f) Rehabilitation Management Plan
(g) Water Management, Monitoring, and Effects Management Plan
(h) Erosion and Sediment Control Plan

9.8 Draft versions of these plans have been included in **Appendix M1 – M8**. It is expected that these plans will ultimately be certified by the local authorities.

9.9 A Landscape Mitigation Package has also been prepared for this application. This is included as **Appendix M9** and sets out the pre-mining, during mining and post mining landscape mitigation and rehabilitation. It also includes typical cross sections and plant species.

9.10 If granted, the consent will be subject to a comprehensive monitoring regime to confirm that adverse effects remain within predicted levels. Monitoring will be undertaken by suitably qualified and experienced specialists engaged by the consent holder, in accordance with the relevant management plans and consent conditions. This will include, as appropriate, monitoring of water quality, ecological values, and operational performance, with results reported to the consent authority at specified intervals. The monitoring framework will include triggers for adaptive management, requiring remedial action to be implemented where monitoring identifies that effects are not being appropriately managed.

Monitoring of effects

9.11 Given the scale and nature of the activity, a comprehensive monitoring regime is proposed to confirm that effects remain within predicted levels and are appropriately managed. Monitoring will be

undertaken by suitably qualified and experienced specialists and will include water quality and hydrological monitoring (including ongoing baseline confirmation and annual reporting), ecological monitoring of freshwater and avifauna values, and compliance monitoring of noise and dust.

9.12 These requirements are set out in both the proposed conditions and the relevant management plans (including the Water Management, Monitoring and Effects Management Plan, Avian Management Plan, Dust Management Plan and Noise Management Plan), with results reported to the consent authority on a regular basis. The monitoring framework incorporates adaptive management, enabling operational practices to be modified where necessary to ensure that adverse effects are avoided, remedied or minimised.

10 How consultation has informed the Project

10.1 Tāiko has undertaken extensive consultation with mana whenua, the local community, regulatory agencies and other stakeholders throughout the development of the Barrytown Critical Minerals Project since 2018. Engagement has included public meetings, drop-in sessions, one-on-one discussions, letterbox drops, online updates and ongoing engagement with agencies and iwi. Tāiko has also compiled a substantial body of environmental and technical information to support the Project, including drilling investigations, site testing, laboratory analysis and specialist technical assessments. Earlier publicly notified consenting processes for the Central Block involved detailed consideration of potential effects relating to lighting, transport, noise, radiation, dust, water management, landscape and amenity values, and ecological effects, resulting in the Environment Court Consent Order being released in October 2024. Feedback received through those processes informed refinements to the Project design and the development of detailed consent conditions and management measures, many of which have been carried through into the Southern Block proposal.

10.2 Tāiko has continued with the above approach through the Fast-track approvals process for the Southern Block. Consultation commenced in early 2025 and initially included all components of the wider Minerals Project, including the Wet Concentrator Plant (WCP), access arrangements and mining activities. Much of the early consultation feedback related to these components rather than the mining activity itself before the decision to separately consent the WCP and access road through standalone RMA processes was made.

10.3 Engagement on the Fast-track Project has included public drop-in sessions at the Barrytown Hall attended by approximately 140 residents and interested people, direct engagement with neighbouring landowners, consultation with Te Rūnanga o Ngāti Waewae, Te Rūnanga o Ngāi Tahu, Department of Conservation, the West Coast Penguin Trust, Grey District Council, West Coast Regional Council and Barrytown School.

10.4 Key matters raised throughout the consultation included noise, traffic, lighting, radiation, dust, landscape effects, water management, ecological values and protection of taonga species including the Westland petrel (tāiko) and kororā.

10.5 In response, Tāiko has refined aspects of the Project, proposed operational restrictions and mitigation measures, committed to additional monitoring and environmental rehabilitation initiatives, and incorporated feedback received into proposed conditions and management plans.

10.6 As part of the wider Barrytown Minerals Project, Tāiko has also committed to broader community and environmental initiatives, including biodiversity enhancement work, support for Barrytown School, upgrades to local electricity infrastructure and ongoing engagement with neighbouring landowners and mana whenua throughout the life of the Project.

10.7 A summary of the consultation undertaken, and the outcomes, is included as **Appendix F1**. **Table 1** in the Consultation Summary provides further detail on how the feedback received from iwi, councils, administering agencies and the Barrytown Community and adjacent landowners has specifically informed the project.

10.8 Tāiko would like to acknowledge the time taken by all parties in the provision of this information and their constructive feedback throughout the entire process.

11 Assessment of Activity against Part 2 of the RMA

11.1 In accordance with Schedule 5, subclause 5(1)(g) of the FTAA, the following section provides an assessment of the activity against sections 5, 6 and 7 of the RMA.

Section 5 – Purpose of the RMA

11.2 Section 5(1) states that the purpose of the RMA is to promote the sustainable management of natural and physical resources, with sustainable management defined in Section 5(2). While minerals are not required to be sustainably managed, the natural and physical resources associated with the mining of minerals are.

11.3 The proposal has been assessed against Section 5 and the proposed sand mining activity is considered to be consistent with the overall purpose of the RMA as summarised below:

(a) Granting the consents to enable the mining to take place will allow the resource to be used in a way and at a rate that will provide for the economic and social well-being of the Grey District community and West Coast region well into the future through employment opportunities. The site will support 135 full time equivalent jobs, contribute $200.2 million in export earnings per year and $66.9 million in non-wage spending for the local economy. The proposed 35-year consent term aligns with the scale of investment and the long-term nature of the activity.

(b) Development of scholarship programmes to retain West Coast school leavers and support their professional development as well as utilising the skills and services of local contractors and business as well as other local initiatives with various organisations including the Barrytown School.

(c) The cultural well-being of Te Rūnanga o Ngāti Waewae will be provided for through adopting established and accepted protocols for mining activity for the handling of any accidental discovery of koi iwi and taonga and committing to continued investigation into improvement of environmental and cultural measures throughout the life of the Project.

(d) The life-supporting capacities of air, water and soil and ecosystems, as well as any other potential adverse effects, will be safeguarded through robust operating practices, monitoring and management regimes consistent with best practice for mine management.

Section 6 – Matters of National Importance

11.4 Section 6 outlines matters of national importance that all persons shall recognise and provide for when exercising functions and powers under the Act in relation to managing the use, development and protection of natural and physical resources.

11.5 Section 6(a) requires 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.*

11.6 The site is not an area of high natural character. Instead it is a highly modified rural production landscape, dominated by dairy (humped and hollowed) pasture, farm drains, modified creeks, access tracks and other past land activities. The site has been substantially altered from its original natural state and its natural character values reflect this.

11.7 The Landscape Assessment confirms that the effects of the Project on the natural character of the site will be low (less than minor) during pre-mining, mining and post mining, and that in the longer term the Project will result in a low to moderate (minor) positive effect. This outcome reflects the proposed rehabilitation which will create a more ecologically diverse post-mining environment alongside the restored pastoral farmland through:

(a) Reconstructed creek channels to meandering alignments rather than retaining the existing rectified and modified drainage character;
(b) Creation of substantial new wetland habitat across the site; and
(c) Enhancement of riparian margins and connectivity of habitats through new planting.

11.8 While the Project will result in the temporary and permanent loss of 6.7ha of existing natural inland wetlands as mining progresses, these are highly fragmented and modified. Following rehabilitation, the Project will deliver more than 50ha of wetland habitat resulting in a significant net gain in wetland extent and wetland function across the wider area. A similar outcome will be achieved as a result of the diversion and reconstruction of the five existing highly modified creeks.

11.9 The Project is considered consistent with section 6(a) because it provides a pathway towards the restoration and enhancement of natural character values within a currently modified rural landscape.

Mining is an anticipated activity within this environment and is not considered to be an inappropriate use of the site.

11.10 Section 6(b) requires the *protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*.

11.11 There are no outstanding natural features or landscapes (ONF/ONL) located within the Application area. While the Paparoa foothills on the eastern side of State Highway 6 are identified as an ONL, the activity will have a very low effect during pre-mining, mining and post-mining and no effect long term due to the foothills and mining area being separate entities. While the coastal outlook from the ranges may change temporarily, the physical, perceptual and associative values of the ONL will remain intact.

11.12 Section 6(c) requires the *protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna*.

11.13 The site is dominated by highly modified grazed pasture which accounts for approximately 97.93% of the vegetative cover. The remaining vegetation and habitat areas are generally small, fragmented and modified and are not significant indigenous vegetation in their own right. The proposed SNA (PUN-049) located to the east of the application area will not be affected, directly or indirectly, by the proposal.

11.14 Section 6(d) requires the *maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers*.

11.15 The proposal does not restrict the current formed access to Pakiroa Beach. While mining activity will take place across road reserve parcels, alternative access around the active mining area will be provided as required. Wetland construction will not take place on the road reserve providing for unimpeded future access. The pipe used to convey water from the Canoe Creek water take will not impede public access through the road reserve (Parcel ID 3700611). It can be buried if required.

11.16 Section 6(e) requires *recognition and to provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*.

11.17 Tāiko has been working closely with Te Rūnanga o Ngāti Waewae for many years through the consenting of the Central Block, Wet Concentrator Plant and Access, and the Mineral Separation Plant component of the Barrytown Critical Minerals Project founded on a shared commitment to achieving appropriate environmental and cultural outcomes.

11.18 Ngāti Waewae have been actively engaged throughout the development of the application, including participation in site visits and detailed discussions on technical matters such as hydrology, ecology and the future restoration of this area of the Barrytown Flats. This ongoing involvement has informed a comprehensive set of proposed conditions that reflect best practice mining management, while also safeguarding the ecological and cultural values of the area.

11.19 While the Application Area is not a Site or Area of Significance to Maori, an Accidental Discovery Protocol will be applied to activity across the site to stop works immediately if any taonga, kōiwi or archaeological material is discovered, with notification to Rūnanga, Heritage New Zealand, Council and Police (if relevant) before works can recommence.

11.20 Section 6(f) requires the *protection of historic heritage from inappropriate subdivision, use and development*.

11.21 The Project area forms part of a broader archaeological and cultural landscape associated with both Māori and historic use of the Barrytown coastal flats, with potential for unrecorded archaeological material to be present within the wider site. However, a robust management framework to ensure those values are appropriately identified, protected and managed has been developed. Although the scale of the mining activity means complete avoidance of all areas of archaeological potential is not practicable, adverse effects will be appropriately managed through the requirement (as part of this Application) to obtain an Archaeological Authority providing the protection required for any potential historic heritage.

11.22 Section 6(g) requires the *protection of protected customary rights.*

11.23 The Project will not affect customary rights and this provision does not apply.

11.24 Section 6(h) requires the *management of significant risks from natural hazards*.

11.25 For this activity, the relevant natural hazard consideration is coastal erosion and associated coastal processes. The Coastal Hazards Assessment confirms that the proposed mining activity will not alter natural coastal processes, as all mining will occur landward of the beach system and outside the active coastal environment. A minimum 50 metre setback from Mean High Water Springs (MHWS) will be maintained throughout the life of the Project, and this setback will be re-established at the commencement of mining for each Section to account for any shoreline recession that may have occurred during mining of the previous Section. This adaptive approach ensures that mining remains appropriately separated from the active coastal zone over time and is not expected to create or increase risk from coastal hazards.

Section 7 – Matters of National Importance

11.26 Section 7 sets out other matters to which all persons exercising functions and powers under the Act shall have regard in relation to managing the use, development and protection of natural and physical resources.

11.27 Section 7(a) requires particular regard to be had to *kaitiakitanga* which is relevant to this proposal given the acknowledged cultural relationship of Te Rūnanga o Ngāti Waewae with the Barrytown coastal flats.

11.28 The proposal has had appropriate regard to kaitiakitanga through engagement with Ngāti Waewae throughout the various component of the Barrytown Critical Minerals Project and for the Southern Block, recognition of archaeological and cultural values and the incorporation of measures including accidental discovery protocols and rehabilitation outcomes that restore and enhance wetlands, creeks and riparian margins.

11.29 Section 7(aa) requires particular regard be had to the *ethic of stewardship*. The proposal is consistent with this matter in that a comprehensive environmental management framework has been developed including progressive rehabilitation resulting in wetland creation, creek reconstruction, riparian planting and productive pasture development which will ensure that the site is managed in a way that avoids leaving a degraded post-mining environment.

11.30 Section 7(b) requires particular regard be had to the *efficient use and development of natural and physical resources.*

11.31 On the whole, the proposal is considered to efficiently use the natural (land, water and mineral) resources of the site. The site is already highly modified having been first dredged in the 1930-40's and humped and hollowed from the 1980's. Ongoing farming maintenance has seen creeks rectified and straightened and drains constructed. The extraction of mineral sands will provide significant economic benefit from this activity for a period of time before the site is returned to a mix of improved pasture for ongoing productive farming and enhanced environmental features which will provide long-lasting ecological benefits for the wider area.

11.32 Section 7(ba) refers to the *efficiency of the end use of energy* which does not apply this Project.

11.33 Section 7(c) requires the *maintenance and enhancement of amenity values*.

11.34 While there will be temporary changes to the visual and rural character of the site during active mining, the Landscape Assessment undertaken indicates that those effects will be appropriately managed through setbacks, bunding, staging of works, landscape mitigation and operational controls, and will remain generally low in the context of an already modified farming landscape. The proposed rehabilitation will progressively restore the site to a more naturalised landform post mining incorporating wetlands, meandering creeks and riparian planting which will improve the overall amenity in the long term.

11.35 Section 7(d) requires regard be had to the *intrinsic values of ecosystems*.

11.36 The Application area is presently dominated by highly modified grazed pasture with limited ecological value although there are some small areas of wetland as well as freshwater and habitat values that require careful management. Appropriate regard has been had to the intrinsic values of those ecosystems through the avoidance, mitigation and rehabilitation measures proposed, including wetland creation, reconstruction of meandering creek channels, riparian planting and habitat

enhancement. Although wetland and freshwater habitats will be disturbed as part of the mining process, the overall rehabilitation outcome will result in a more extensive, connected and ecologically functional wetland and creek environment post-mining.

11.37 Section 7 (f) requires regard be had to the *maintenance and enhancement of the quality of the environment*. This will be achieved through wetland creation, creek reconstruction and riparian planting, which are expected to result in long-term environmental enhancement across the site

11.38 Section 7(g) requires regard be had to *any finite characteristics of natural and physical resources*. This matter is directly relevant to the Project, as the mineral sands resource is a finite, non-renewable natural resource that is location-specific in that it can only be extracted where it naturally occurs. The Project provides for the use and development of this resource while also incorporating rehabilitation and environmental management measures to address the effects of extraction on the environment in a responsible manner.

11.39 Section 7(h) requires regard be had to the *protection of the habitat of trout and salmon*.

11.40 This matter is of limited relevance to the Project as the creeks within the Application area are small, highly modified and constrained creeks and drains and do not provide high-value trout or salmon habitat. A 20m setback from Fagan Creek and Canoe Creek, as well as proposed water management and sediment controls will avoid adverse effects on these waterbodies.

11.41 Section 7(i) requires regard be had to the effects of climate change.

11.42 The activity will be undertaken within a low lying coastal environment which is susceptible to coastal erosion. A setback of 50m from Mean High Water Springs will be applied at the start of mining in each section to account for any shoreline recession and the activity will be undertaken outside of the active coastal environment.

11.43 Section 7(j) does not apply to this project.

Section 8 - Treaty of Waitangi

11.44 Section 8 of the RMA requires that the principles of Te Tiriti o Waitangi be taken into account. In this case, the proposal is supported by Ngāti Waewae, reflecting a high level of engagement over an extended period and a relationship based on partnership and good faith.

11.45 The Project recognises and provides for tangata whenua values associated with the Barrytown coastal flats, including cultural landscape, mahinga kai and archaeological values, and incorporates appropriate management measures such as archaeological protocols, accidental discovery procedures and ongoing framework of engagement.

11.46 The proposed rehabilitation, including wetland creation, waterway restoration and riparian planting, aligns with the protection and enhancement of environmental values of importance to Ngāti Waewae. The level of iwi support, cultural recognition and environmental restoration outcomes demonstrate that the proposal appropriately takes into account the principles of Te Tiriti o Waitangi for the purposes of section 8 of the Act.

12 Objectives and Policies

12.1 An assessment of the objectives policies of the statutory documents relevant to this Application has been completed and is included as **Appendix N**. It is accompanied by a Statement of Evidence from Ms Costley (refer **Appendix L11A**). A summary of how the project meets these objectives and policies is included below. Reference should also be made to the NPS-FM and NPS-IB assessments contained in sections 10 and 11 of the Ecological Effects Assessment (**Appendix L4**)

National Policy Statement Freshwater Management

12.2 The Project is consistent with the objectives and policies of the National Policy Statement Freshwater Management (NPS-FM) including the prioritisation of freshwater health and the application of the effects management hierarchy.

12.3 The proposal prioritises the long-term health and well-being of freshwater bodies through substantial rehabilitation measures, including extensive riparian planting, wetland creation, creek realignment, and habitat enhancement. These measures are designed to improve water quality and ecological values across a highly modified agricultural catchment.

12.4 The site is currently comprised of 98% pastoral land with some wetland fragments and modified creeks, the Project incorporates a comprehensive effects management hierarchy, including avoidance (setbacks to key water bodies and high value receiving environments), minimisation (water quality management, controlled diversions and sediment controls, staged works and rehabilitation, and fish salvage), and remediation significant ecological enhancement through the construction of a wetland area in excess of 50ha, reconstruction of five creeks into meandering stream channels and extensive riparian planting.

12.5 The proposal supports the intent of Te Mana o te Wai by prioritising the health and wellbeing of water bodies over time, while also enabling economic and social wellbeing through the extraction of a finite, location-specific mineral resource. There has been ongoing engagement with Ngāti Waewae, and tangata whenua values have been recognised and incorporated into the Project. Māori freshwater values, including Te Mana o te Wai, are given effect to through avoidance, mitigation, remediation and enhancement measures that restore and enhance the mauri of freshwater systems over time.

12.6 The Project adopts an integrated, whole-of-catchment approach to freshwater management, recognising that on-site creeks and drains are highly modified features within an agricultural landscape. While these features will be temporarily disturbed during mining, they will be reconstructed and rehabilitated post-mining to ensure no loss of extent or values. Fish passage will be provided during

temporary diversions and within rehabilitated waterways, and stormwater will be managed on site to avoid direct discharges to watercourses.

12.7 Although there is a loss of approximately 6.7 hectares of natural inland wetland, these effects are temporary and occur within a highly modified environment. Rehabilitation will result in the creation of a significantly larger wetland complex, with greater ecological functioning. The proposed wetland will result in a net gain in wetland extent and ecological values and is consistent with the restoration intent of the NPS-FM.

12.8 Channelised and ecologically compromised creeks will be reconstructed with more natural forms, increased habitat diversity and indigenous riparian planting. These measures are expected to result in creek systems that are at least as long as, and of higher ecological value than, those that currently exist.

12.9 There will be no loss of river extent or values, no effects on outstanding water bodies, and indigenous freshwater habitats will be re-established and protected through rehabilitation. Freshwater allocation will be efficient, with the water take from Canoe Creek remaining well within sustainable limits. Surface water modelling demonstrates that water quality guidelines will be met and protective of aquatic ecosystems.

12.10 There is a clear functional need for the activity to be located as proposed. The mineral resource can only be extracted where it naturally occurs, and the dredge-based mining method requires direct access to, and progression through, the resource footprint. There is no practicable alternative location or configuration that would enable the extraction of the resource while avoiding the affected wetlands and creeks. Comprehensive water quality and ecological monitoring is proposed, with results reported and published. Monitoring will confirm the effectiveness of rehabilitation measures, with adaptive management responses implemented where required.

12.11 Overall, the Project adopts an integrated, catchment-based approach, supporting improved freshwater quality and habitat over time, and is therefore considered consistent with the direction and intent of the NPS-FM.

New Zealand Coastal Policy Statement

12.12 The Project is considered to be consistent with all of the objectives and policies of the New Zealand Coastal Policy Statement (NZCPS). The activity is located within a highly modified part of the coastal environment, set landward of the coastal marine area incorporating a minimum 50m setback from Mean High Water Spring to ensure separation from active coastal processes and avoidance of coastal hazard risk.

12.13 The activity maintains coastal water quality through the management of discharges and water across the site. Extensive riparian planting will improve coastal water through the filtering of runoff entering coastal receiving environments. The extremely limited natural character of the site will be restored and

enhanced through progressive rehabilitation which includes wetland creation, meandering creek reconstruction and extensive riparian planting.

12.14 The Project recognises the role of tangata whenua, with ongoing engagement undertaken throughout the development of the activity with Ngāti Waewae. Measures to protect cultural values and manage potential effects on heritage and taonga have been incorporated into the Project. Public access to the coastal environment is maintained with alternative access provided as required when mining takes place across the paper roads, and the activity will not adversely affect recreation or open space values.

12.15 The NZCPS recognises that mineral extraction is an activity that can provide for social and economic wellbeing, particularly where there is a functional need to locate within the coastal environment. In this case, the proposal enables the efficient extraction of a finite, location-specific resource, while avoiding significant adverse effects and providing for long-term environmental enhancement.

12.16 The Project is considered to avoid adverse effects on threatened and at risk indigenous taxa (Policy 11) and on outstanding natural character in the coastal environment (Policy 13) and promote restoration and improved ecological outcomes in the coastal environment. As a result, the Project is therefore considered consistent with the direction and intent of the NZCPS.

National Policy Statement for Indigenous Biodiversity 2023

12.17 The Project is considered to be consistent with the objectives and policies of the National Policy Statement for Indigenous Biodiversity (NPS-IB). While the Application Area is currently a highly modified pastoral environment with limited existing indigenous biodiversity values, the Project incorporates a comprehensive rehabilitation framework that will result in a net gain in indigenous biodiversity over time. This includes the construction of over 50 hectares of wetland habitat, restoration of creek channels and extensive riparian planting, which will enhance ecological connectivity, habitat diversity and overall ecosystem function.

12.18 There are no Significant Natural Areas (SNAs) within the mining disturbance area, and the adjacent SNA PUN-049 will not be adversely affected by the proposal. Indigenous biodiversity values outside SNAs are appropriately recognised and provided for, with management plans in place (including avian, lizard and fish management) to address potential effects on species, particularly during active mining phases.

12.19 A precautionary approach has been adopted in assessing and managing effects on indigenous biodiversity. Effects avoidance has been prioritised where practicable, conservative assumptions have been made regarding species presence and habitat use, and worst-case scenarios have been applied where uncertainty exists. Proactive management measures have been incorporated even where the likelihood of effects occurring is low, with the overall project design focused on achieving net positive biodiversity outcomes.

12.20 Restoration of indigenous biodiversity is a core part of the Project. The Rehabilitation Management Plan provides for the replacement and enhancement of existing ecological extent and values, including

increased indigenous vegetation cover and improved habitats for a range of indigenous fauna. This is expected to result in a net gain in indigenous biodiversity within the site.

12.21 Highly mobile indigenous fauna that may intermittently use the site have been identified, and their potential interactions with mining activities have informed appropriate management measures, including species-specific provisions within the Avian Management Plan.

12.22 Overall, the proposal is consistent with the NPS-IB by adopting a precautionary, restoration-focused approach that manages effects via the effects management hierarchy and delivers long-term improvements to indigenous biodiversity beyond the life of the project.

National Policy Statement for Natural Hazards 2025

12.23 The proposal is considered to be consistent with the objectives and policies of the National Policy Statement (NPS) for Coastal Hazards 2025, as it adopts a risk-based and proportionate approach to managing natural hazard risk. The activity is temporary in nature, does not involve subdivision or permanent habitable structures and maintains a minimum 50m setback from Mean High Water Springs to ensure separation from the active coastal hazard. Coastal hazard risks have been assessed using the Natural Hazard Risk Matrix, with the site identified as having low risk for coastal inundation and erosion, and very low likelihood of tsunami effects.

12.24 The Project incorporates adaptive management measures, including re-establishing the coastal setback at the commencement of each mining stage to account for potential shoreline recession, and progressive rehabilitation to reinstate pre-mining landforms and maintain the natural gradient of the land. The use of current best available information, including the Coastal Hazard Assessment and relevant planning overlays, ensures a robust understanding of hazard risk, including climate change effects over at least 100 years.

12.25 The proposal does not increase hazard risk to people or property, does not introduce new vulnerable land uses and ensures that any risk is appropriately avoided or managed.

West Coast Regional Policy Statement

12.26 The purpose of the Regional Policy Statement (RPS) is to provide an integrated overview of the resource management issues of the region and to set out objectives, policies and methods to achieve the sustainable management of natural and physical resources under the RMA. The RPS is a statutory policy document that must be given effect to by the region's district and regional councils when developing their plans. It sets out policies and methods for managing the significant resource management issues of the region and must be consistent with national policy statements and planning standards.

12.27 The Project appropriately recognises and provides for the principles of the Treaty of Waitangi and the relationship of Poutini Ngāi Tahu with their ancestral lands, water and taonga, with ongoing engagement undertaken with Te Rūnanga o Ngāti Waewae and incorporation of cultural considerations into the operational design of the activity and proposed conditions.

12.28 At a strategic level, the Project gives effect to the RPS framework enabling sustainable and resilient communities by supporting regionally significant economic activity, employment and ongoing productive land use, while ensuring that adverse environmental effects are appropriately avoided, remedied or mitigated.

12.29 In relation to resource use and development, the Project recognises the importance of mineral extraction to the West Coast economy and provides for its development in a manner that is compatible with surrounding land uses and avoids reverse sensitivity effects.

12.30 For indigenous biodiversity, the activity is located within a highly modified environment and outside any identified SNAs or other areas of high biodiversity value. Effects are assessed as no more than minor, with progressive rehabilitation, wetland creation (in excess of 50 ha), creek reconstruction and riparian planting resulting in an overall net gain in ecological values over the long term, consistent with maintaining and enhancing biodiversity.

12.31 In terms of natural character, freshwater management and the coastal environment, the Project incorporates setbacks, staged mining (and maximum disturbance areas) and rehabilitation to maintain or improve environmental outcomes. The project will deliver long-term improvements to natural character and aquatic habitat exceeding those present in the site's heavily modified state.

12.32 The Project also appropriately manages natural hazard risk, with no increase in exposure or reliance on protection works and incorporates climate change resilience through setbacks and restoration of landforms.

12.33 The Project will achieve an appropriate balance between enabling the social and economic wellbeing of the region and safeguarding environmental values and is therefore considered consistent with the intent and direction of the Regional Policy Statement.

West Coast Regional Land and Water Plan

12.34 The Project is consistent with the relevant objectives and policies of the Regional Land and Water Plan, providing for the sustainable use and development of land and water resources while maintaining and, in some respects, enhancing freshwater values.

12.35 Under Section 3 (Natural and Human Use Values), adverse effects on higher value waterbodies (including Canoe Creek, Granite Creek and Fagan Creek) are avoided through setbacks and operational controls. While modified creeks within the mining area will be disturbed, there is no loss of extent and rehabilitation will re-establish these systems in a more naturalised form with improved habitat and riparian margins. Cultural values are recognised through consultation and management protocols. The Project prioritises avoidance, or otherwise remedies or mitigates adverse effects.

12.36 For Section 4 (Land Management), land disturbance effects are appropriately managed through erosion and sediment controls, water management and progressive rehabilitation. Topsoil reuse and industry

best practice will maintain soil and land productivity, while lime dosing addresses potential geochemical effects. Extensive riparian planting will take place as part of the reconstruction of the five creeks and construction of the wetland area.

12.37 In relation to Section 6 (Wetland Management), although the fragmented inland natural wetland areas (approximately 6.7ha) will be disturbed, the proposal meets the mineral extraction exception pathway. A new wetland in excess of 50ha will be established, resulting in an overall increase in extent and an improvement in ecological values and connectivity.

12.38 Under Sections 7 and 8 (Surface Water Quantity and Quality), water takes and discharges are managed to maintain flows, water levels and water quality. Abstraction remains within acceptable limits, will not occur concurrently with the existing consent. Discharges are contained within the mining system, with treatment and recirculation ensuring effects on the wider environment are avoided. An extensive monitoring regime has been developed to support the Project.

12.39 For Section 10 (Groundwater), effects are minor, localised and temporary, with no adverse impacts on surface water or other users.

12.40 The Project applies the effects management hierarchy and robust mitigation measures, and will maintain and, over time, enhance freshwater values, natural character and ecological function and is considered to be consistent with the objectives and policies of the Regional Land and Water Plan.

West Coast Regional Air Plan

12.41 The proposal is consistent with the relevant objectives and policies of the Regional Air Plan, with appropriate measures in place to avoid, remedy or mitigate adverse effects primarily in relation to dust.

12.42 The Project will protect human health, property, structures and ecosystems from adverse dust effects through the implementation of a comprehensive Dust Management Plan.

12.43 Dust discharges will be managed to ensure they do not occur at a level or in a manner that results in offensive or objectionable effects, including impacts on visibility, property, or human health. The Dust Management Plan sets out standard industry controls, monitoring, and adaptive management measures to ensure dust effects are appropriately managed at all times.

12.44 The Project adopts a best practice approach to dust management and is therefore considered consistent with the relevant provisions of the Regional Air Plan.

Grey District Plan

12.45 The Project is broadly consistent with the relevant objectives and policies of the Grey District Plan. The activity is located within a highly modified rural and coastal environment and incorporates design, management and rehabilitation measures that avoid, remedy or mitigate adverse effects, while providing for long-term environmental enhancement.

12.46 In relation to landscape (Section 4), the site is not identified as an outstanding natural feature or landscape, and its modified character for pastoral farming means the proposal does not conflict with the protection sought by Objective 4.3.1.

12.47 For indigenous vegetation and habitats (Section 5), no significant indigenous vegetation or habitats are affected. The adjacent SNA is avoided and while other vegetation clearance within the site will breach the permitted activity rules this will be remedied through extensive new riparian planting. Progressive rehabilitation, including the planting of riparian margins will enhance values over time.

12.48 Under waterways and margins (Section 6), adverse effects are avoided through setbacks to key waterbodies, while modified creeks within the site will be reconstructed once mined with no loss of extent and improved natural form and function. The creation of a substantial wetland and riparian planting will enhance natural character and ecological values beyond the life of the Project.

12.49 The Project occurs within an already highly modified area of the coastal environment (Section 7) and is appropriately set back from the coast. Natural character is low, and progressive rehabilitation will result in long-term enhancement. The activity is consistent with the policies directing development toward modified areas.

12.50 The Project incorporates appropriate setbacks from MHWS and adaptive management to account for shoreline change, ensuring risks are avoided or mitigated with respect to natural hazards (Section 9).

12.51 For Tangata Whenua (Section 10), engagement has been undertaken and appropriate protocols are in place to recognise and protect cultural values, consistent with the objectives and policies of the Plan.

12.52 In relation to hazardous substances (Section 11), risks are appropriately managed through mobile refueling practices and spill response measures.

12.53 Within the rural environment (Section 19), the Project enables continued productive use of the land and supports long-term sustainability of the resource base. Rural character and openness are retained, and effects on surrounding activities are appropriately managed. While there may be localised and temporary visual and noise effects, these are mitigated through operational controls and bunding and are not inconsistent with the expectations of a working rural environment.

12.54 The Project achieves the intent of the Grey District Plan by managing adverse effects and delivering positive long-term outcomes, particularly through progressive rehabilitation and ecological enhancement.

Decisions Version of the Te Tai o Poutini Plan

12.55 The Project is considered to be consistent with the Strategic Direction and relevant objectives and policies of the Decisions Version of the Te Tai o Poutini Plan (TTPP) enabling mineral extraction while

appropriately managing adverse effects and delivering positive long-term environmental outcomes through progressive rehabilitation.

12.56 Under the Minerals Extraction provisions, the proposal recognises that mineral resources are fixed in location and provides for their extraction within the General Rural Zone. Adverse effects are managed through design, management plans and progressive rehabilitation, aligning with the effects management framework and delivering regional and national economic benefits.

12.57 In relation to the Natural Environment and Indigenous Biodiversity, the site is highly modified and does not contain significant natural areas. The proposal avoids effects on the adjacent SNA and incorporates substantial ecological enhancement across the site, including the establishment of a large wetland system and riparian planting. This results in a net gain in indigenous biodiversity and improved ecological connectivity over time.

12.58 In regards to the Poutini Ngāi Tahu provisions, engagement has been undertaken throughout the application process, and appropriate measures are in place to recognise and protect cultural values, including accidental discovery protocols and an Authority Application. The Project supports ongoing participation and engagement throughout the life of the Project.

12.59 With respect to Natural Hazards, the proposal adopts a risk-based approach, with setbacks from MHWS and adaptive management ensuring the activity does not increase hazard risk or affect coastal processes. Effects are temporary and site rehabilitation will reinstate pre-mining landforms to maintain the natural gradient of the land on its western side.

12.60 In terms of Natural Character and the Coastal Environment, while the site is within a modified coastal setting, the Project avoids key waterbodies and enhances natural character through rehabilitation. There is a clear functional need for the activity to locate within this environment, and adverse effects are appropriately avoided, remedied or mitigated.

12.61 For Earthworks, Light and Noise, effects are managed through industry best practice, management plans and consent conditions. Earthworks are controlled to manage sediment and land disturbance, lighting is minimal due to daylight operations, and noise effects are generally compliant and appropriately mitigated where required through bunding and operational controls.

12.62 Within the General Rural Zone, the activity is anticipated and provided for, recognising the functional need for mineral extraction in rural areas. Rural character and amenity are largely maintained, with temporary and localised effects managed through setbacks, bunding and operational controls. Progressive rehabilitation ensures the land is returned to a productive and enhanced state.

12.63 The Project gives effect to the strategic direction and overall intent of the Plan by enabling resource use while managing adverse effects and achieving long-term environmental enhancement.

Assessment of Functional Need

12.64 The NPS-FM, NZCPS, Regional Policy Statement, Land and Water Plan and TTPP all contain objectives and policies requiring an activity to have a functional (and in some cases an operational) need to operate in specific locations where they will adversely affect natural inland wetlands, creeks and riparian margins.

12.65 The mineral sands resource is fixed in location along strandlines and can only be extracted where it naturally occurs. As outlined in the Statement of Evidence of the Mine Planner (refer **Appendix L2A**), the dredge-based mining methodology is integral to maintaining hydrological functioning through a closed-loop system, and requires long, continuous, linear runs to operate effectively. The physical characteristics and limited maneuverability of the dredge means it is not practicable to avoid all creeks, margins or wetland features within the mining path. Turning the dredge is complex and constrained. There is no practicable alternative location or configuration that would enable the extraction of the resource while avoiding the affected wetlands and creeks. The mineral resource can only be extracted where it naturally occurs, and the dredge-based mining method requires direct access to, and progression through, the resource footprint.

12.66 In this context, there is a clear functional need for the activity to occur in this location and to mine through these features where they intersect the resource.

12.67 This functional need is recognised within the relevant planning framework, which provides for activities that cannot reasonably be located elsewhere, subject to appropriate effects management. While the proposal involves the temporary disturbance of modified creeks and a small area of fragmented wetlands, it is consistent with the direction of the NPS-FM, NZCPS and regional provisions, as effects are addressed through the effects management hierarchy. Avoidance is applied where practicable (including setbacks to key receiving environments), and where disturbance is unable to be avoided, it is minimized and remedied through temporary diversions, reconstruction of all affected waterways, substantial wetland creation and riparian planting. Comprehensive water quality and ecological monitoring is proposed, with results reported and published. Monitoring will confirm the effectiveness of rehabilitation measures, with adaptive management responses implemented where required. There is no net loss of river extent, and the post-mining environment will provide enhanced ecological function and connectivity.

12.68 The Project demonstrates both a clear functional need and an effects management response that is consistent with the intent and requirements of the relevant statutory instruments.

Matters relevant to certain applications – sections 104, 105 and 107

12.69 In accordance with Clause 17(1), Schedule 1 of the FTAA, the Panel must take into account the provisions of Parts 2, 3, 6, 8 and 10 of the RMA (excluding section 104D). The consideration of sections 104, 105 and 107 are of particular relevance.

Section 104 of the RMA

12.70 Section 104 of the RMA sets out the matters which must have regard to, subject to Part 2 of the RMA, when considering an application for resource consent.

12.71 Section 104(1) includes:

(a) Any actual and potential effects on the environment of allowing the activity;

(b) Measures proposed to offset or compensate for adverse effects on the environment;

(c) Any relevant provisions of a national policy statement, a coastal policy statement, regional policy statements, plans or proposed plan; and

(d) Any other matter the consent authority considers relevant and reasonably necessary to determine the application.

12.72 An assessment of the actual and potential effects of the proposed mining activities is contained in section 8 of this Application with further information provided in the technical assessments (refer **Appendix L1 – L10**). A range of potential effects have been identified and overall, subject to the proposed mitigation, adverse effects can be managed and minimised to an acceptable level. The Project will also generate significant on-going positive effects in terms of local and regional economic benefits, social benefits for the local community and District and environmental enhancements to take place across the site.

12.73 The relevant provisions of the applicable national and regional planning documents are assessed in **Appendix O** and summarised in section 11. There are no additional matters that are considered to be relevant or of reasonable necessity in the determination of the resource consents required.

Sections 105 and 107 of the RMA

12.74 Section 105 requires the consent authority to have regard to the nature of the discharge and the sensitivity of the receiving environment, the applicant's reasons for the proposed choice and possible alternative methods of discharge. These matters have been addressed throughout this Application, particularly in section 5 which describes the receiving environment, section 8 which assesses the effects on the environment and section 6 which addresses potential alternatives.

12.75 Section 107(1) restricts the granting of discharge permits in certain circumstances, namely if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

(a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;

(b) Any conspicuous change in the colour or visual clarity;

(c) Any emission of objectionable odour;

(d) The rendering of fresh water unsuitable by farm animals;

(e) Any significant adverse effects on aquatic life.

12.76 Discharges will occur to the mining void, and in some cases to a sediment retention pond where water cannot be pumped to the mining void. All water used in processing and mining activities will be discharged to ground via these means. All stormwater is contained on site within the mining disturbance area and will either infiltrate to the sand subsoils or be discharged wo the mining void. For the reasons outlined in section 8 of this application and in the technical assessment provided at **Appendix L3**, these discharges are not likely to result in the contamination of ground or surface water.

12.77 The Statement of Evidence of Dr. Fitzpatrick (Water Quality) (refer **Appendix L4C**) confirms that the thresholds in Condition 23.1 Tables A and B are appropriate discharge and receiving water quality guidelines and, after reasonable mixing, will not give rise to any of the section 107 listed effects noted in above.

Other Relevant Matters

12.78 Section 104(1)(c) of the RMA directs the Panel to have regard to any other matter they consider relevant and reasonably necessary to determine a resource consent application. The consideration of such matters remains subject to Part 2 of the RMA.

12.79 The relevant other matters for consideration in regards to this resource consent are:

(a) Iwi Planning Documents
(b) A Minerals Strategy for New Zealand to 2040 (January 2025)
(c) The Government's Minerals and Petroleum Resources Strategy for Aotearoa New Zealand 2019-2029
(d) Te Whanaketanga Te Tai o Poutini West Coast 2050 Strategy

12.80 This also includes the Paetae Kotahitanga ki Te Tai Poutini and Mana Whakahono a Rohe

Iwi Planning Documents

12.81 As per Schedule 5, clauses 5(1)h and 5(2)g, an application for a resource consent must include an assessment of the activity against any relevant provisions of a planning document recognised by a relevant iwi authority and lodged with a local authority.

12.82 There are no relevant iwi management plans relating to this area although there is a Pounamu Resource Management Plan which solely deals with the management of pounamu in the takiwā of Ngāti Waewae. Pounamu will not be extracted during the mineral sand process and will be returned directly to the pit as oversized material.

A Minerals Strategy for New Zealand to 2040 (January 2025)

12.83 The *Minerals Strategy for New Zealand to 2040 (January 2025)* is a non-statutory, national-level strategy that sets the Government's long-term direction for the exploration, extraction and use of New Zealand's mineral resources. The strategy recognises the essential role minerals play in modern society and promotes the responsible development of these resources to support economic resilience, regional

development and the transition to a low-emissions economy, while recognising the need to manage environmental effects.

12.84 The strategy includes objectives to support strategically important critical mineral developments, facilities and capabilities. Heavy mineral sands, such as those to be extracted by the Project, are identified as part of that strategy.

Responsibly Delivering Value - A Minerals and Petroleum Resources Strategy for Aotearoa New Zealand 2019-2029

12.85 This strategy sets out the Crown's approach to the management and development of New Zealand's mineral and petroleum resources. It establishes overarching objectives focused on responsible resource development, environmental stewardship, strong health and safety performance while maintaining an attractive and stable investment environment. This includes strong engagement with communities and iwi. While the strategy does not carry direct weight under the RMA, it provides relevant national context. The Project is consistent with the strategy's intent, as it enables the efficient extraction of raw materials for clean technology initiatives alongside the implementation of management and rehabilitation measures to appropriately manage environmental effects.

Te Whanaketanga Te Tai o Poutini West Coast 2050 Strategy

12.86 Development West Coast's *Te Whanaketanga Te Tai Poutini West Coast Strategy 2050* is a non-statutory regional strategy that sets a long-term vision for sustainable economic growth on the West Coast. A collective community commitment supported by all local authorities and mana whenua, the strategy emphasises leveraging the region's natural resources to support prosperity, while adopting a more circular, value-added approach and ensuring that economic activity protects and enhances the natural environment. The strategy also highlights the importance of resilient and well-connected infrastructure to enable productivity and support emerging industries.

12.87 While not part of the statutory RMA framework, *Te Whanaketanga* provides relevant regional context for this Application. The Project aligns with the strategy's direction by supporting the growth of the mineral sands sector as an emerging industry on the West Coast, contributing to regional employment and economic resilience. In particular, the incorporation of mining with downstream processing (in this case the Mineral Separation Plant) reflects the strategy's focus on adding value to natural resources and strengthening local economic drivers, while the proposed environmental management and rehabilitation measures are consistent with the strategy's emphasis on sustainable resource use.

Paetae Kotahitanga ki Te Tai Poutini and Mana Whakahono a Rohe

12.88 The Paetae Kotahitanga ki Te Tai Poutini (Partnership Protocol) and Mana Whakahono a Rohe (Resource Management Act Iwi Participation Arrangement), signed at Arahura Marae on 22 October 2020, formalises the collaborative relationship between Te Rūnanga o Ngāti Waewae, Te Rūnanga o Makaawhio, Te Rūnanga o Ngāi Tahu (collectively referred to as Poutini Ngāi Tahu) and the West Coast Regional Council. The Arrangement recognises the partnership between Council and Poutini Ngāi Tahu and provides a framework for iwi participation in resource management processes under the Resource Management Act.

12.89 In preparing and assessing the Project, Tāiko has recognised and applied the principles underpinning this Arrangement through ongoing engagement with Te Rūnanga o Ngāti Waewae, provision of technical information, involvement of iwi in discussions relating to environmental management, and consideration of cultural values and outcomes within the proposed conditions and management plans presented to the Panel.

Part 4 - Substantive application for wildlife approval

13 Overview of Approval

13.1 Approval is sought under section 42(4)(h) of the Fast Track Approvals Act (FTAA) for:
A wildlife approval as defined in clause 1 of Schedule 7.

13.2 Clause 1 of Schedule 7 defines wildlife approval as:
A lawful authority for an act or omission that would otherwise be an offence under any of sections 56(1), 58(1), 63(1), 63A, 64, 65(1)(f), 70G(1), 70P, and 70T(2) of the Wildlife Act 1953.

13.3 An ecological assessment of the Southern Block and Wildlife Act Authorisation Technical Report has been carried out by Ecological Solutions. They are included at **Appendix L4** and **Appendix L12** respectively.

14 Management of effects

14.1 Ecological Solutions has recommended an approach to the management of effects on wildlife, which have been adopted in the proposed conditions of the Wildlife Approval, contained at **Appendix P2**.

Management plans

14.2 The Avian Management Plan and Lizard Management Plan prepared for the Project will require the following activities:

(a) Avian and lizard surveys to confirm individuals at risk due to the mining activity.
(b) Deterring birds prospecting for nests from the mining area in advance of mining and discouragement of breeding there.
(c) Where nests can proceed without impeding progress of the dredge, nest protection and monitoring.
(d) Fencing to exclude kororā from active mining areas.
(e) Handling of grounded or injured birds.
(f) Capture and relocation of lizards to remove them from clearance areas.
(g) Enhancement/augmentation of lizard habitat.

Consultation

14.3 Tāiko has consulted with the following parties in relation to the application for wildlife approval:

(a) Department of Conservation, including:
    i. Terry Calmeyer (Fast-track Project Lead);
    ii. Department of Conservation Regional and technical employees;

(b) Te Rūnanga o Ngāi Tahu;
(c) Te Rūnanga o Ngāti Waewae;

14.4 A summary of the consultation undertaken and outcomes is set out at **Appendix F1**.

14.5 The following persons will be invited to provide written comments on the Application for Wildlife Approval:
(a) The New Zealand Conservation Authority;
(b) Relevant Conservation Boards;
(c) The New Zealand Fish and Game Council; and
(d) The Game Animal Council.

15 Application requirements

15.1 Schedule 7 of the FTAA sets out the information requirements for wildlife approvals. The table below sets out those requirements and either provides the information required or identifies where each requirement is met in this Application.

Clause	Requirement	Information required
Clause 2(1)(a)	Specify the purpose of the proposed activity;	Appendix L12, pt 3.0 (Purpose of the Proposed Activity), pages 7-8.
Clause 2(1)(b)	Identify the actions the applicant wishes to carry out involving protected wildlife and where they will be carried out (whether on or off public conservation land);	Appendix L12, pt 4.0 (Actions to be Carried Out), pages 8-11.
Clause 2(1)(c)	Include an assessment of the activity and its impacts against the purpose of the Wildlife Act 1953;	Appendix L12, pt 5.0 (impact assessment), page 12.
Clause 2(1)(d)	List protected wildlife species known or predicted to be in the area and, where possible, the number of wildlife present and numbers likely to be impacted;	Appendix L12, pt 6.0 (Protected Wildlife), pages 12-14.
Clause 2(1)(e)	Outline impacts on threatened, data deficient, and at-risk wildlife species (as defined in the New Zealand Threat Classification System);	Appendix L12, pt 7.0 (Impacts on Threatened, Data Deficient and At-Risk Species), pages 14-15.
Clause 2(1)(f)	State how the methods proposed to be used to conduct the actions specified under paragraph (b) will ensure that best practice standards are met;	Appendix L12, pt 8.0 (Meeting Best Practice Standards), page 15.
Clause 2(1)(g)	Describe the methods proposed to be used to safely, efficiently, and humanely catch, hold, or kill the animals and identify relevant animal ethics processes;	Appendix L12, pt 9.0 (Methods to Catch, Hold or Kill), pages 16-17.

Clause	Requirement	Information required
Clause 2(1)(h)	State the location or locations in which the activity will be carried out, including a map (and GPS co-ordinates if available);	Appendix L12, pt 10.0 (Proposed Activity Locations), pages 17-18.
Clause 2(1)(i)	State whether authorisation is sought to temporarily hold or relocate wildlife;	Appendix L12, pt 11.0 (Holding or Relocating Wildlife), page 19.
Clause 2(1)(j)	List all actual and potential wildlife effects (adverse or positive) of the proposed activity, including effects on the target species, other indigenous species, and the ecosystems at the site;	Appendix L12, pt 12.0 (Actual and Potential Effects), page 19.
Clause 2(1)(k)	Where adverse effects are identified, state what methods will be used to avoid and minimize those effects, and any offsetting or compensation proposed to address unmitigated adverse effects (including steps taken before the project begins, such as surveying, salvaging, and relocating protected wildlife;	Appendix L12, pt 13.0 (Methods to Avoid/Minimise Adverse Effects), pages 19-20.
Clause 2(1)(l)	State whether the applicant or any company director, trustee, partner, or anyone else involved with the application has been convicted of any offence under the Wildlife Act 1953;	Appendix L12, pt 14.0 (Offences and Current Charges), page 21.
Clause 2(1)(m)	State whether the applicant or any company director, trustee, partner, or anyone else involved with the application has any current criminal charges under the Wildlife Act 1953 pending before a court;	Appendix L12, pt 14.0 (Offences and Current Charges), page 21.
Clause 2(1)(n)	Provide proof and details of all consultation, including with hapu or iwi, on the application specific to wildlife impacts;	Appendix L12, pt 15.0 (Proof of Consultation), pages 21-22.
Clause 2(1)(o)	Provide any additional written expert views, advice or opinions the applicant has obtained concerning their proposal.	Appendix L12, pt 17.0 (Additional Supporting Documentation), page 22.
Clause 5	Assessment against criteria in clause 5. For the purposes of section 81, when considering an application for a wildlife approval, including conditions under clause 6, the panel must take into account, giving the greatest weight to paragraph (a),—	See Appendix L12, pts 5.0 and 6.0
	(a) the purpose of this Act; and	Part 1, section 4 of Application

Clause	Requirement	Information required
	(b) the purpose of the Wildlife Act 1953 and the effects of the project on the protected wildlife that is to be covered by the approval; and	Appendix L12, pt 5.0 (impact assessment), page 12
	(c) information and requirements relating to the protected wildlife that is to be covered by the approval (including, as the case may be, in the New Zealand Threat Classification System or any relevant international conservation agreement).	Appendix L12 and set out above in response to clause 2(1)(a)-(o)

16 Fast-track Approvals Act assessment against criteria

16.1 Clause 5 of Schedule 7 sets out criteria for assessing an application for a wildlife authority. This section assesses the proposal against those criteria below.

Relevant clause, section	Criteria	Assessment
Clause 5	Assessment against criteria in clause 5. For the purposes of section 81, when considering an application for a wildlife approval, including conditions under clause 6, the panel must take into account, giving the greatest weight to paragraph (a),—	
	(a) the purpose of this Act; and	Part 1 section 4
	(b) the purpose of the Wildlife Act 1953 and the effects of the project on the protected wildlife that is to be covered by the approval; and	While there is no dedicated purpose specified in the Wildlife Act the Supreme Court has concluded that the "The purpose of the Act is to protect wildlife." (see *Shark Experience Limited v PauaMAC5 Incorporated* [2019] NZSC 111 [11 October 2019] at [66]). The wildlife assessment confirms that with Tāiko's implementation of approved management measures, adverse effects on protected wildlife will be avoided or minimised.
	(c) information and requirements relating to the protected wildlife that is to be covered by the approval (including, as the case may be, in the New Zealand Threat	There are 10 protected wildlife species that are known or predicted to be within the Barrytown Site Southern Block

Relevant clause, section	Criteria	Assessment
	Classification System or any relevant international conservation agreement).	including six species of birds and four species of lizard. The information and requirements relating to these protected wildlife species is contained in Pt 6.0 of the ecology assessment.

Conclusion

16.2 Overall, the proposed Wildlife Act approval is appropriate having regard to the nature and scale of potential effects and the comprehensive suite of avoidance and other management measures proposed. The Ecological Assessment confirms that effects on wildlife can be appropriately managed through the implementation of the Avian Management Plan and Lizard Management Plan, which provide for pre-clearance surveys, active deterrence, species-specific management (including kororā exclusion), and the capture, relocation and habitat enhancement for lizards. These measures, together with monitoring and adaptive management secured by conditions, will ensure that any effects on protected wildlife low. Accordingly, the grant of the Wildlife Approval under section 42(4)(h) and Schedule 7 of the FTAA is considered appropriate in this instance.

Part 5 – Substantive application for Archaeological Authority

17 Overview of Authority

17.1 Approval is sought under section 42(4)(i) of the Fast Track Approvals Act 2024 (FTAA) for:
An archaeological authority described in section 44(a) and (b) of the Heritage New Zealand Pouhere Taonga Act 2014 that would otherwise be applied for under that Act.

17.2 Section 44 (a) and (b) of the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) provides for the following applications to be made:

(a) an application for an authority to undertake an activity that will or may modify or destroy the whole or any part of any archaeological site or sites within a specified area of land, whether or not a site is a recorded archaeological site or is entered on the New Zealand Heritage List/Rārangi Kōrero or on the Landmarks list;

- an application for an authority to undertake an activity that will or may modify or destroy a recorded archaeological site or sites, if the effects of that activity on a site or sites will be no more than minor, as assessed in accordance with section 47(5) of the HNZPTA.

17.3 Section 47(5) of the HNZPTA requires that, in determining whether section 44(b) is met, Heritage New Zealand Pouhere Taonga (HNZPT) must have regard to:

(a) the significance of a site or sites in relation to the evidence of the historical and cultural heritage of New Zealand; and

(b) the extent to which the proposed activity will modify or destroy the site or sites.

17.4 An archaeological assessment of the Southern Block has been carried out by New Zealand Heritage Properties Ltd (NZHP assessment), which forms **Appendix L9** of the Application. The Project area was extensively dredged and modified in the 1930s and 1940s and then humped and hollowed for farming purposes throughout the 1980s. These areas may contain redeposited archaeological material not in situ. Outside the historically dredged area, the subsurface remains intact and may contain artefacts.

17.5 The NZHP assessment identifies three points of interest (POI) either within the Southern Block or in close proximity to it concerning the Dune Ridge System and the Cargill Road Drystone Structure. It identifies two previously recorded locations of archaeological sites (K31/11 and K31/12).

17.6 The artefacts from both sites have been removed and there is no evidence that further features or deposits relating to the site remain in situ. For that reason, the NZHP assessment concludes that any effects on recorded archaeological sites are no more than minor.

17.7 The scope of the proposed activity, i.e., to remove topsoil and overburden and mine the sand, means that any potential, unrecorded archaeological sites within the mine disturbance area will be destroyed. An archaeological authority is therefore sought across the entire Southern Block to modify or destroy archaeological sites, whether recorded or not, in accordance with the HNZPTA.

17.8 Appropriate procedures are proposed in order to protect the Drystone Structure and Dune Ridge System, ensure that any artefacts are properly recovered, ensure mana whenua are consulted where appropriate, and any discoveries properly recorded.

17.9 For the purposes of the FTAA, archaeological monitoring of high-potential areas, protection to the structure under Cargills Road, recording, analysis, and reporting on any archaeological or heritage features modified by the proposed works provide sufficient mitigation to offset the impact to the archaeological values. As such NZHP supports approvals being granted under the FTAA, including a resource consent application and archaeological authority to modify these sites.

18 Site location, details and description of values

Legal description of land / landowners

18.1 The archaeological authority is sought across the entirety of the Southern Block. While the mining disturbance area (280 hectares) does not cover the entire Southern Block, other earthworks that will be undertaken on the site, such as contouring (72 hectares), grading, creation of accessways, development of the processing plant (i.e., Wet Concentrator Plant) (WCP) and water management infrastructure (i.e., Mine Water Facility) (MWF), ancillary buildings and laydown areas, creation of a wetland and site rehabilitation, have the potential to discover and impact unrecorded archaeological sites.

18.2 The legal description of the land comprising the Southern Block and the names of each landowner are contained at Part 1, Section 5.10 of the Application.

18.3 Each landowner has consented to the proposed activities that form part of the Project, including the archaeological authority. Landowner consent documentation is attached at **Appendix J** (proof of legal access/consent).

Description of recorded archaeological sites

18.4 There are two previously recorded archaeological sites within the Application site:

(a) K31/11 - part of a shaped patu and a small greenstone chisel.

(b) K31/12 - a shaped greenstone pendant.

18.5 These archaeological sites are identified as 'artefact findspots' which were reported in 1981 by a local landowner. Neither site had been visited by an archaeologist prior to the New Zealand Heritage Properties Limited (NZHP) assessment being undertaken. NZHP was unable to locate either of these recorded sites.

18.6 Descriptions of both find spots are set out in the NZHP assessment (**Appendix L9**) at [7.2]. In summary:

(a) K31/11 - the findspot is in a boggy paddock between two creeks with small tributaries crossing through the vicinity of the recorded archaeological site. NZHP found the surface was covered in long tussocky grass. Sections of eroded creek and stock rutting showed no evidence of archaeological material.

(b) K31/12 - the findspot was on the margin of an area identified as having been historically dredged. A small coastal strip and a section of wetland had not been dredged. NZHP found harakeke, umbrella sedge, and tussock growing along the foreshore. The shoreline was covered in cobbles, so visibility of the site was poor.

18.7 The location of each recorded archaeological site documented in 1981 is illustrated in Figure 1 below.

18.8 In addition, NZHP have identified a recorded archaeological site K31/59 immediately outside of the Project area.

Description of unrecorded archaeological sites

18.9 NZHP identified and recorded three points of interest (POI) during the pedestrian survey of the project area. These are addressed in the NZHP assessment (Figure 8-1 **Appendix L9**) and are summarised below.

Point of interest	Description of site
POI 001 – POI 002 Dune Ridge System	• Located along the foreshore in the northwestern corner of RS 2932, approximately 870m north of the findspot K31/12. • Consist of two high ridge formations that appear to some extent to be an unmodified part of an original dune landscape. • NZHP's view is that if the ridges were dune formations, they would be of interest as they may have formed a high point in the surrounding wetland environment, making them a prime spot for a nohoanga for manawhenua travelling up and down the coastline. • However, a drain excavated directly to the east may have contributed to the ridges, as the landscape south of the dunes were highly modified by the drain excavation in the early twentieth century and the dredging, and humping and hollowing, that followed.
POI 003 Cargill Road Drystone Structure	• Remnants of a stacked drystone masonry structure beneath Cargill's Road (on south side) consisting of two walls extending up from the ditch and into the road reserve.

Maps of recorded archaeological sites and points of interest

18.10 The recorded sites and POI sites are shown below.

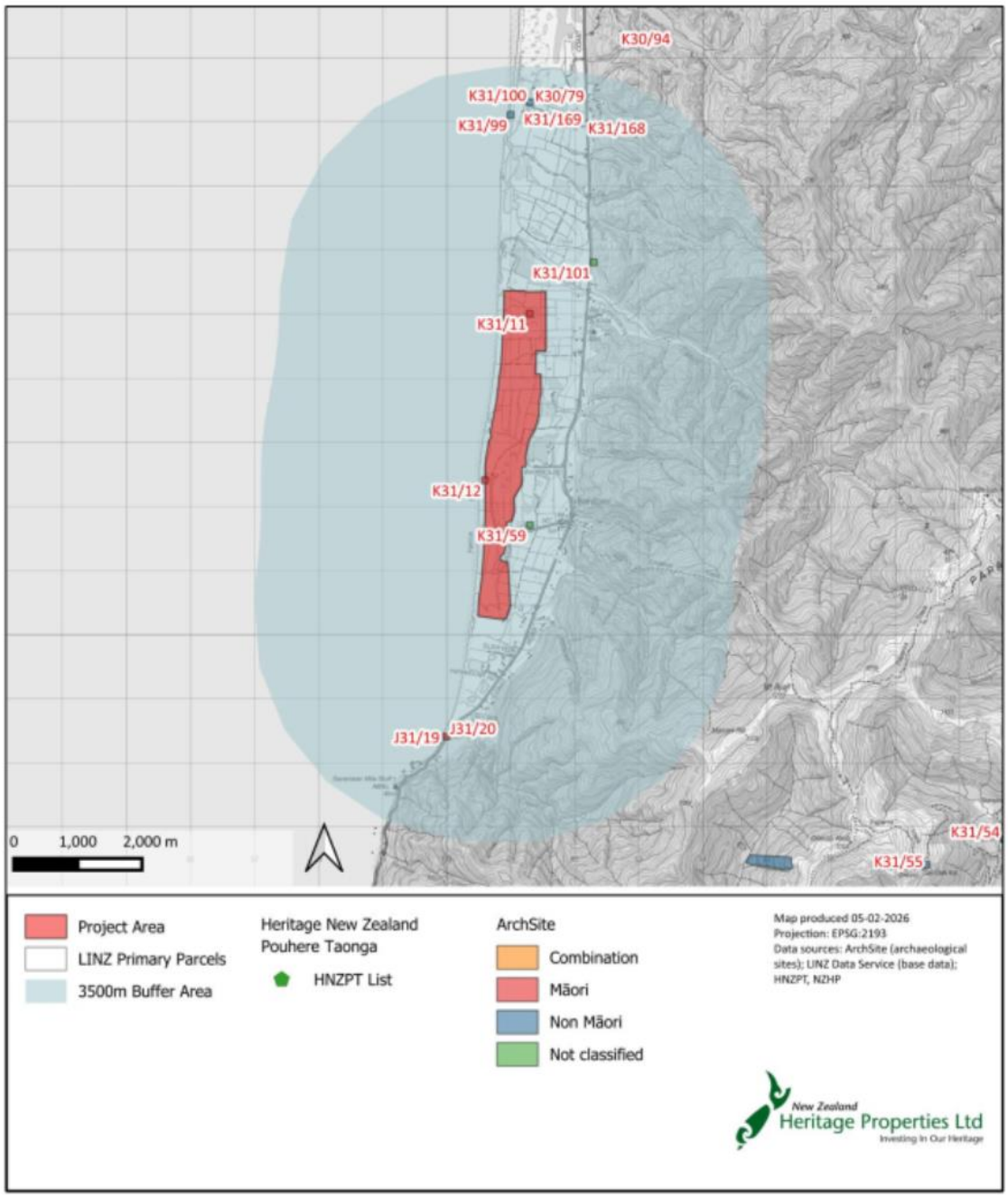


Figure 15: Previously recorded archaeological sites within the vicinity of the project area

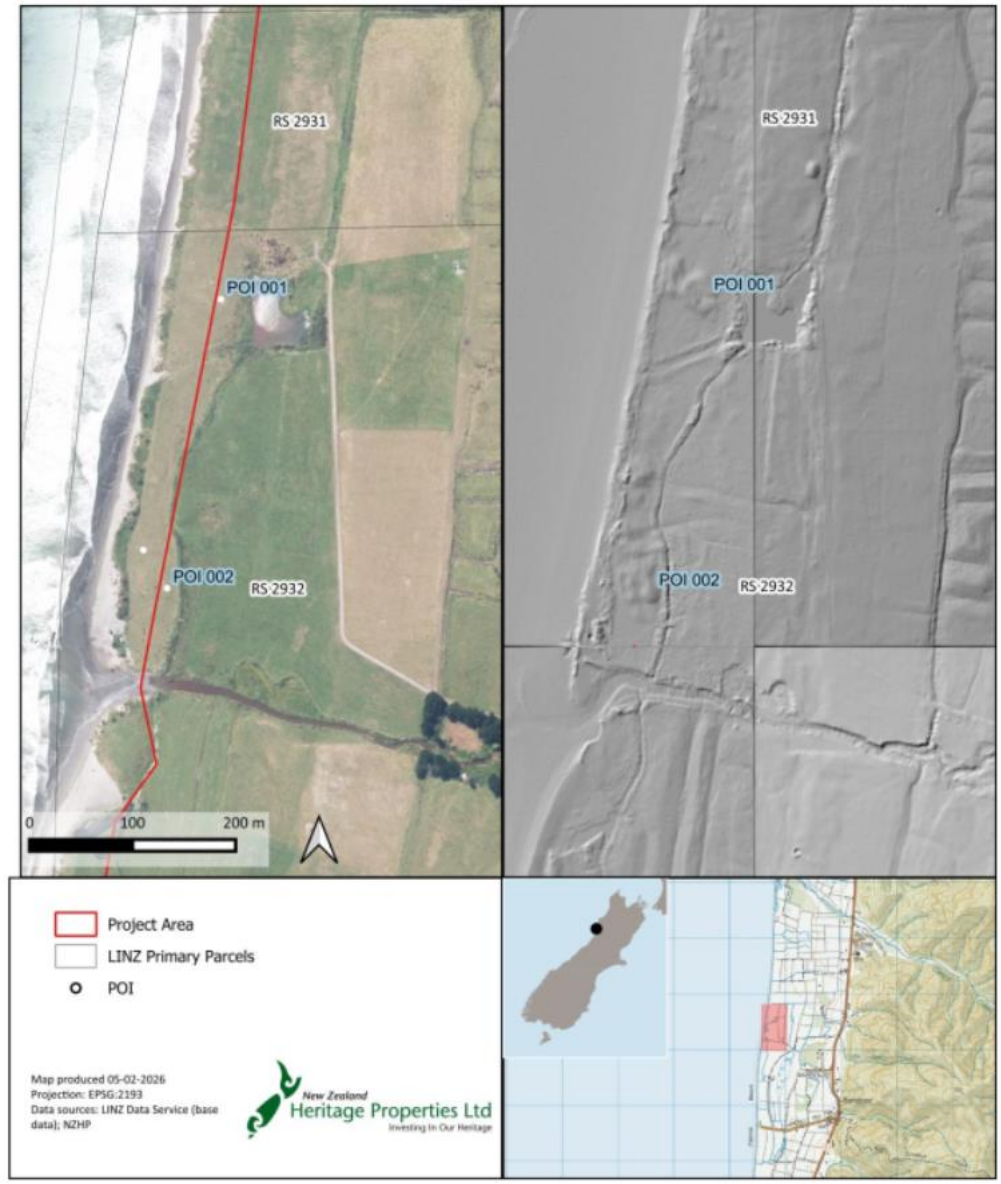


Figure 16: Points of interest (POI) 001-002

Figure 17: POI 003 Stacked drystone structure beneath Cargill Road (Wooller, 2024).

Previous archaeological authorities over the project area

18.11 Tāiko confirms that no prior archaeological authorities have been granted for this location.

Relevant planning overlays (e.g. heritage or QEII covenants, heritage orders, district plan schedules, NZ Heritage list/Rarangi Korero entries

18.12 There is no heritage or QEII covenants, heritage orders, or NZ Heritage list/Rarangi Korero entries over the project area. The site is not included in the Overlay Sites of Significance to Māori in the District Plan.

19 Outline of proposal

19.1 The Project is described in detail in Part 2, Project Description. It will involve dredge mining the entire mining disturbance area and additional earthworks outside that area for the purposes of rehabilitating the mining disturbance area.

19.2 An archaeological authority is being sought, as required by section 44(a) of the HNZPTA, because there is potential for unrecorded artefact find spots, midden/oven sites, mining-gold and historic-domestic sites to be discovered and affected during the course of the Project. Overall, unrecorded find spots are considered to have medium archaeological value depending on their rarity, information potential, and amenity value (see **Appendix L9**, section 9.1.1).

19.3 An archaeological authority is also being sought, as required by section 44(b) of the HNZPTA in relation to the two previously recorded sites (i.e., find spots K31/11 and K31/12). These find spots were revisited with no evidence of archaeology found. Given they do not exist, neither site will be impacted.

19.4 Although the mining disturbance does not cover the entire Project area, earthworks may be undertaken across the whole Southern Block. As a result, the archaeological authority is sought for the entire Project area.

How the proposed activity will modify or destroy each archaeological site

19.5 The following proposed activities have the potential to affect unrecorded archaeological sites:

(a) Pre-mining activities:
   i. Excavation of the starter pit area;
   ii. Excavation of the mine settling pond and water management infrastructure (Mine Water Facility) (MWF) and processing plant (Wet Concentrator Plant) (WCP);
   iii. Removal of topsoil on the site of the office area, ancillary buildings and access roads.

(b) Mining activities:
   i. Removal of vegetation and topsoil within the mining areas;
   ii. Mining up to a depth 10m below the surface to extract the sand ore;
   iii. The removed materials returned to the mined areas, used to build bunding (using topsoil), placed in the mining pit for rehabilitation, used for tailings etc.

(c) Rehabilitation activities:
   i. Earthworks outside mining disturbance area to replace removed material within mining disturbance area for rehabilitation purposes.

Appropriate period for authority

19.6 The archaeological authority is sought for 30 years. It is proposed that it commence immediately.

19.7 The commencement and duration sought is appropriate because:

(a) It is proposed to commence preparatory earthworks once approvals have been granted;

(b) The anticipated life of the Project is 30 years (including contingency) (see Part 2 –Project Description); and

(c) Earthworks required for rehabilitation purposes will continue for the life of the Project.

20 Assessment of Māori, archaeological and other values and effects of proposal

20.1 Effects of the proposed mining and related activities on recorded and unrecorded sites are addressed in the Archaeological Assessment in **Appendix L9**.

20.2 The level of anticipated effect on recorded and unrecorded sites was determined having regard to the significance of the site and the extent to which the activity will modify or destroy the site. The significance of sites was determined using criteria established by HNZPT (2019), effects were considered against criteria (see Part 3.3 of **Appendix L9**) and in accordance with a scale ranging from no impact to major impact (see Part 3.4 of **Appendix L9**).

20.3 At NZHP's recommendation, the archaeological report was then sent to Ngāti Waewae, along with a request for an assessment of any Māori values. Ngāti Waewae acknowledged the suggestion by NZHP regarding the preparation of an assessment of Māori values for archaeological sites. Ngāti Waewae does not consider this necessary in this instance and is satisfied that the proposal of an Accidental Discovery Protocol provides an appropriate and practical mechanism to manage any such discoveries, consistent with tikanga Māori. See letter of support at **Appendix F3**.

20.4 No other relevant values (e.g. historic heritage sites) were identified by NZHP during the assessment.

Archaeological values and effects

Recorded sites

20.5 The Project will have no impact on the archaeological and other values of the two previously recorded find spots (K31/11 and K31/12), given that the artefacts have been removed.

Unrecorded sites

20.6 Unrecorded sites have been assessed for condition, rarity or uniqueness, contextual value, information potential, amenity value and cultural associations. Their potential value is as follows:

(a) Any unrecorded artefact find spots are likely to have medium archaeological value depending on their rarity, information potential, and amenity value.

(b) Any unrecorded midden/oven sites are considered to have medium archaeological value depending on their condition, context, and extent.

(c) Any unrecorded mining-gold sites are considered to have medium archaeological value based on their contextual value, information potential, and amenity value.
(d) Any unrecorded historic-domestic sites are considered to have medium archaeological value based on their under representation in Barrytown, contextual value, and information potential

20.7 Although the project area has undergone a large amount of surface modification, the dredged areas may contain redeposited archaeological material not in situ. Hump and hollowed areas may have intact archaeology under the humps. As the history of the area records largely transient and ephemeral occupation across the project area, archaeology could be encountered anywhere across the site. NZHP has identified areas where there is a higher potential for archaeological remains to be encountered. Due to the scale of the mining operation, there is no scope for earthworks within the mining disturbance area to avoid archaeology.

20.8 NZHP identified that there is reasonable cause to suspect that unrecorded artefact find spots, midden/oven sites, mining-gold and historic-domestic sites are present within the project area and will be affected by the proposed mineral sand mining. The unrecorded sites are considered to have medium archaeological value. Due to the nature of the proposed works the overall impact of the works on the archaeological values of unrecorded sites will be moderate to major.

20.9 For the purposes of the FTAA, NZHP has also considered the significance of any adverse impact of the proposed works on the archaeological landscape more broadly. Given the archaeological monitoring of high-potential areas, recording, analysis and reporting on any archaeological or heritage features modified by the proposed works, NZHP supports approvals being granted under the FTAA, including a resource consent application and archaeological authority to modify the sites and considers in the wider context of the sites (i.e. private farmland) that the adverse impacts will be low in significance.

21 Management of effects

21.1 NZHP has recommended an approach to management of effects on archaeological values, which have been adopted in the proposed conditions of the archaeological approval, contained at **Appendix P3**.

Consultation

21.2 Tāiko has consulted with the following parties in relation to the application for archaeological authority:
(a) Te Rūnanga o Ngāi Tahu;
(b) Te Rūnanga o Ngāti Waewae;
(c) Heritage New Zealand Pouhere Taonga;
(d) Māori Heritage Council;
(e) The relevant landowners set out at section 5.10 above.

21.3 A summary of the consultation undertaken and outcomes is set out at **Appendix F1**.

22 Application requirements

22.1 Schedule 8 of the FTAA sets out the information requirements for archaeological authorities. The table below sets out those requirements and either sets out that information requirement or identifies where each requirement is met in this Application.

Schedule 8

Clause	Requirement	Information required
Clause 2 1(a)	A legal description of the land or, if one is not available, a description that is sufficient to identify the land to which the application relates	- Appendix I (Records of Title) and Appendix L9 (Archaeology Assessment (Technical Assessment), page 11. - Part 1, section 5.10 of the Application.
Clause 2 1(b)	The name of the owner of the relevant land, if the applicant is not the owner of the land	- Appendix I2 and Appendix L9, page 11. - Part 1, section 5.10 of the Application.
Clause 2 1(c)	Proof of consent, if the owner has consented to the proposed activity	- Tāiko has obtained approval agreements from the owners for the proposed activity. Copies of these agreements are attached to this application at Appendix J2.
Clause 2 1(d)	Confirmation that the application complies with Section 46(2)(a), (b) and (d) FTAA	- Appendix D (Information requirements checklist).
Clause 2 1(e)	A description of each archaeological site to which the application relates and the location of each site	- Appendix L9. - Part 5, section 18.4 – 18.10 of the Application.
Clause 2 1(f)	A description of the activity for which the authority is sought	- Appendix L9 - Part 5, section 19.1 of the Application
Clause 2 1(g)	A description of how the proposed activity will modify or destroy each archaeological site	- Appendix L9. - Part 5, section 19.5 of the Application
Clause 2 1(h)	Except in the case of an approval described in Section 44(b) of the HNZPTA, an assessment of— • The archaeological, Māori, and other relevant values of the archaeological site in the detail that is appropriate to the scale and significance of the proposed activity and the proposed modification or destruction of the archaeological site; and • The effect of the proposed activity on those values	- Appendix L9, pages 57-62. - Part 5, section 20 of the Application
Clause 2 1(i)	A statement as to whether consultation with tangata whenua, the owner of the relevant land (if the applicant	- Appendix F (Consultation material); summary of

Clause	Requirement	Information required
	is not the owner), or any other person likely to be affected— • Has taken place, with details of the consultation, including the names of the parties and the tenor of the views expressed; or • Has not taken place or been completed, with the reasons why consultation has not occurred or been completed (as applicable)	consultation and responses from parties. - Part 5, section 21.2 of the Application.

23 Fast-track Approvals Act assessment against criteria

23.1 Clause 4 of Schedule 8 sets out criteria for assessing an application for an archaeological authority. This section assesses the proposal against those criteria below.

Relevant clause/ section	Criteria	Assessment
cl 4(1)(a) FTAA	Purpose of the FTAA	Refer to Part 1, section 4 of the Application.
REs 59(1)(a)(i) HNZPTA	Historical and cultural heritage value of the archaeological site and any other factors justifying the protection of the site	• Unrecorded findspots may be encountered and are considered to have medium archaeological value. • Unrecorded midden/oven sites are considered to have medium archaeological value. • There is reasonable cause to suspect that unrecorded goldmining and historic-domestic sites are encountered, both of which are considered to have medium archaeological value. • The overall impact of the works on the archaeological values of unrecorded sites if encountered will be moderate to major. • The two previously recorded sites (K31/11 and K31/12) will not be impacted. • The assessment has been provided to Ngāti Waewae to comment on the cultural values within the project area and NZHP has not identified any additional values (e.g. historic heritage sites) during the assessment.
s 59(1)(a)(ii)HNZPTA	Purpose and principles of the NZHPTA	The purpose and principles of the HNZPTA will be met by monitoring areas of high archaeological potential and applying best practice by

Relevant clause/ section	Criteria	Assessment
		identifying and recording any archaeology that is encountered.
s 59(1)(a)(iii)HNZPTA	Extent to which protection of the archaeological site prevents or restricts the existing or reasonable future use of the site for any lawful purpose	No known archaeological sites will be affected by the proposal. Protecting archaeological sites, i.e. by avoiding their destruction, found during mining would prevent mining the Southern Block as it is not possible to divert mining around sites.
s 59(1)(a)(iv)HNZPTA	Interests of any person directly affected	All directly affected persons have agreed to the proposal on the basis of proposed conditions. Affected persons are: • Landowners • Ngāti Waewae
s 59(1)(a)(v)HNZPTA	Statutory acknowledgement that relates to the archaeological site or sites	There are no statutory acknowledgements that relate to the archaeological site or sites.
s 59(1)(a)(vi)HNZPTA	The relationship of Māori and their cultural and traditions with their ancestral lands, water, sites, wāhi tupuna, wāhi tapu, and other taonga.	The assessment has been provided to Ngāti Waewae for consultation, and no additional information has been provided.
s 47(1)(a) (ii) and (5) HNZPTA	In relation to recorded sites, whether the effects of the proposed activity are, or are likely to be, no more than minor having regard to: • the significance of a site or sites in relation to evidence of the historical and cultural heritage of New Zealand; and • the extent to which the proposed activity will modify or destroy the site.	The previously recorded sites (K31/11 and K31.12 will not be impacted as they could not be located.
cl 4(d)FTAA	Any relevant statement of general policy confirmed or adopted under the HNZPT Act	N/A

Conclusion

23.2 For the purposes of the FTAA, archaeological monitoring of high-potential areas, protection to the structure under Cargill Road, recording, analysis and reporting on any archaeological or heritage features modified by the proposed works provide sufficient mitigation to offset the impact to the archaeological values. As such NZHP supports approvals being granted under the FTAA, including a resource consent application and archaeological authority to modify these sites.

Part 6 – Standard freshwater fisheries activity

24 Standard freshwater fisheries activity

24.1 The Fast-track Approvals Act 2024 (FTAA) was amended by the Fast-track Approvals Amendment Act 2025 (Amendment Act). The amendments came into force either on 17 December 2025 or 31 March 2026, depending on which category they fell into.

24.2 The Amendment Act modified the definition of "standard freshwater fisheries activity". The definition came into force from 17 December 2025 is as follows:

standard freshwater fisheries activity *means an activity that includes construction of any of the following:*

(a) a culvert or ford that could impede but not permanently block fish passage:

(b) weirs that comply with the conditions of regulation 72 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020:

(c) works—

(i) that require active disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that does not persist for more than 3 months; or

(ii) that require disturbance of any duration outside the whitebaiting season to a water body within 500 m of the coast; or

(iii) that require disturbance of any duration outside the relevant spawning season to a water body that is known for the spawning of trout, salmon, or native fish; or

(iv) that require repeated disturbance to a water body and are temporary works for which there is a period of more than 6 months between each period of work

24.3 Tāiko is carrying out the following activities:

(a) Replacement of culverts (as a permitted activity under the NES-F) that will provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert.

(b) Temporary diversions of parts of five creeks for short durations, that could be both less than 3 months and/or require repeated disturbance (in different parts of the same waterbody) for period of more than 6 months between each period of work.

(c) Permanent reconstruction of five creeks to a meandering form, as part of rehabilitation after the above activities.

(d) Disturbance of five water bodies within 500m of the coast.

(e) Disturbance of any duration outside the relevant spawning season to a water body that is known for the spawning of native fish.

24.4 Based on the above activities and under this definition, as a precaution Tāiko applies to include a standard freshwater fisheries activity as part of its resource consent approval.

24.5 Section 13(4)(y)(vi) was replaced by the Amendment Act with new wording regarding a standard freshwater fisheries activity, and this came into force from 31 March 2026. This section now states (*emphasis added*):

[…] Information requirements

(4) The information to be included in the referral application is as follows:

(y) if the proposed approvals include—

(vi) an approval described in section 42(4)(a) or (d) in relation to a project that includes a standard freshwater fisheries activity, the information specified in clause 4A of Schedule 5:

24.5 Schedule 5, concerning approvals relating to the Resource Management Act 1991, was changed by the Amendment Act. It now requires information about a standard freshwater fisheries activity under clause 4A, and further information as set out in clause 9. These changes came into force from 31 March 2026. Clause 4A states:

4A Information about standard freshwater fisheries activity

The information required to be provided under section 13(4)(y)(vi) is the following:

(a) whether an in-stream structure is proposed (including formal notification of any dam or diversion structure) and the extent to which the proposed structure may impede fish passage; and

(b) whether any fish salvage activities are proposed.

24.6 In terms of this new information requirement under clause 4A, Tāiko:

(a) Is not proposing any in-stream structures (with the exception of culverts and fords provided for as permitted activities, and which will provide for the provision of passage of fish).

(b) Fish salvage activities are proposed in accordance with Proposed Condition 15 (**Appendix P1**, with relevant conditions set out below) and the draft Native Freshwater Fish Management Plan, refer section 2.5 in particular (**Appendix M4**).

15.0 Native Freshwater Fish Management	
15.1	The Consent Holder must conduct activities on site in general accordance with a Native Freshwater Fish Capture and Relocation Plan (NFFCRP) prepared by a suitably qualified freshwater ecologist. The objective of the NFFCRP is to avoid, or otherwise minimise adverse effects on native fish present within the project area.
15.2	This NFFCRP must detail how native fish will be salvaged and relocated prior to creekworks commencing and must include but not be limited to: a. Methodologies to capture fish within the impacted creeks and wetland habitats, or justification there is no habitat for native fish present at the time of earthworks; b. Fishing effort;

	c. Details of the relocation site(s) including a description and assessment of the quantum and availability of suitable aquatic habitat at the relocation site; d. Storage and transport measures including prevention of predation and death during capture; e. Euthanasia methods for diseased individuals or pest species; f. Reporting.
15.3	Creekworks must not commence until the Consent Authority has certified the NFFCRP.
15.4	The NFFCRP must be reviewed annually by a suitably qualified freshwater ecologist, and any required changes made in accordance with Condition 6.6.

24.7 Clause 9 states:

9 Information required in application including standard freshwater fisheries activity

For the purposes of section 43(3)(a) and (d), an application for a resource consent or a notice of requirement for a project that includes a standard freshwater fisheries activity must include the following information:

(a) in relation to the structure and any fish facility,—
- *(i) a description of the type of structure or fish facility:*
- *(ii) the dimensions of the structure or fish facility:*
- *(iii) the design of the structure or fish facility:*
- *(iv) the placement of the structure or fish facility:*
- *(v) the water flows:*
- *(vi) the operating regime:*

(b) the freshwater species and values present (with particular focus on threatened, data-deficient, and at-risk species as defined in the New Zealand Threat Classification System):

(c) the water quality and quantity in the surrounding habitat (at the proposed structure location, upstream and downstream):

(d) how the passage of fish will be provided for or impeded.

24.8 In terms of the clause 9(a) information requirements:

(a) Any ford or culvert will comply with the permitted activity standards of the NES-F, and the Regional Land and Water Plan (as set out in **Appendix N**); and

(b) Water flows are set out in the Hydrological Assessment in the Executive Summary (page 1) in **Appendix L3**.

24.9 Under clause 9(b), the freshwater species and values present are included in the Ecological Assessment in Section 6.8, noting particularly Figure 44 and Table 18-19 of **Appendix L4**.

24.10 Under clause 9(c), the water quality and quantity in the surrounding habitat is included in the Ecological Assessment in Section 6 noting particularly Tables 14-17 of **Appendix L4**.

24.11 Under clause 9(d), passage of fish will be provided for as described in Table 31, Section 9.4.5 of the Ecological Assessment in **Appendix L4**. Proposed Condition 28.2 of **Appendix P1** provides for the maintenance of fish passage at all times for creek construction.

Part 7 - Assessment against the Fast-track Approvals Act

25 Conclusion

25.1 This substantive application by Tāiko seeks approvals under the FTAA to undertake mineral sand mining within the Southern Block of the Barrytown Flats. The application is informed by a comprehensive and robust technical evidence base and further informed through the consultation undertaken with iwi, local authorities, community members and other stakeholders.

25.2 It is considered that the Project is appropriate and can be approved for the following reasons:

(a) Consistency with the Purpose of the FTAA

The Project will have significant regional benefits contributing an average of $122.7 million of additional GDP, $13 million of wages and $76.7 million of local spending per year over its 22-year life providing 135 full time jobs and supporting a further 189 jobs in the local economy. The Southern Block complements the consents granted for the Central Block, WCP and MSP and secures the long-term financial viability of the Project as this stage provides operational longevity to support the operation.

The Project represents a regionally significant mineral extraction activity that will deliver substantial economic and social benefits, including employment and contribution to the supply of critical minerals, and therefore directly aligns with the purpose of the FTAA. In accordance with section 44, which directs that greater weight be given to the purpose of the FTAA, these benefits are a key consideration in the overall assessment.

(b) Consistency with the Requirements of the FTAA

The Project seeks the relevant approvals required under the FTAA including resource consent application. a Wildlife Approval and an Archaeological Authority. The Project is not an ineligible activity and granting the application would not breach section 7 of the FTAA regarding Treaty settlements and recognised customary rights. This Application provides the information required under the FTAA as outlined in **Appendix D**.

(c) Comprehensive Environmental Assessment

The Application provides a detailed assessment of the environmental effects of the Project supported by robust technical assessments. Potential effects on terrestrial and freshwater ecology, groundwater, surface water and neighbouring properties in relation to noise and amenity effects are considered to be not significant and no more than minor following the implementation of the proposed mitigation measures and conditions of consent. The proposed environmental management plans, monitoring programmes and limits on the extent of disturbance ensure that potential effects are appropriately managed throughout the life of the Project. When considered overall, the potential adverse effects of the Project are not disproportionate to the scale of the regional benefits that will arise and are considered acceptable in the context of section 85(3)(b) of the FTAA.

(d) Alignment with planning instruments
The Project is consistent with the relevant provisions of the RMA, including Part 2 and sections 104, 105 and 107, as well as with national, regional and district planning documents. The Project is also consistent with the Pounamu Resource Management Plan and other relevant strategies.

(e) Robust and enforceable conditions of consent
A suite of conditions is proposed that is proportionate, enforceable, and tailored to the site, drawing on experience from previous RMA processes. These conditions are based on those granted for the Central Block, and have been refined through consultation and expert input to reflect the specific characteristics of the Southern Block and the scale of the activity.

(f) Appropriate management of avifauna, lizards and archaeological sites through associated approvals
Implementation of the Avian Management Plan and Lizard Management Plan will ensure that any impacts of species identified are appropriately managed and monitored under the Wildlife Approval. Archaeological sites that are encountered will be appropriately managed in accordance with the Archaeological Authority and Accidental Discovery Protocol.

(g) No basis for Decline under the FTAA
Under section 85(3) of the FTAA, an application may only be declined where adverse effects are so significant that they are disproportionate to the benefits of the Project. In this case, potential adverse effects are not of such a scale, and any effects can be, and will be, appropriately avoided, remedied or minimised. There are no mandatory or discretionary grounds under the FTAA or RMA that would support declining the application.

25.3 This Application presents a well-considered and technically supported proposal for mineral sand mining to secure the longevity of the Taiko Critical Minerals Project. The Project will deliver substantial ongoing economic and social benefits with enduring environmental benefits through the reconstruction of more natural creeks and construction of a wetland in excess of 50ha. Environmental effects of the activity are well understood and will be appropriately managed through the proposed conditions and management plans. The Application satisfies all statutory requirements and is considered to be entirely consistent with the purpose of the FTAA.

Part 8 – Appendices

The following attachments are included in support of this application.

Document	Information addressed	Reference
Listing application	Information Tāiko provided to the Minister when applying to have the project listed as a listed project	Appendix A
Staging determination	Application made, and letter from Minister determining that Tāiko can lodge separate substantive application for Southern Block	Appendix B
Substantive Application Approved form	EPA approved form prepared to address requirements in sections 43(1)(a) and (4) of the FTAA	Appendix C
Information requirements checklist	Identifies where application addresses information required by FTAA in: • Sections 42 – 44 (incl s13) (authorised person details, substantive application requirements) • Section 46(2)(a), (b) and (d) FTAA • Schedule 5 (resource consent application) • Schedule 7 (wildlife approval) • Schedule 8 (archaeological authority)	Appendix D
Ineligibility assessment	Assesses project for eligibility per section 43(1)(c)	Appendix E
Consultation material	• Summary of consultation • Letters to relevant parties (administering agencies/ councils/ iwi) • Response from Te Rūnanga o Ngāti Waewae • Response from Te Rūnanga o Ngāi Tahu • Response from Grey District Council • Response from West Coast Regional Council • Response from Department of Conservation • Response from Ministry Culture and Heritage / Māori Heritage Council • Council section 30 responses	Appendix F1 Appendix F2 Appendix F3 Appendix F4 Appendix F5 Appendix F6 Appendix F7 Appendix F8 Appendix F9
Map	Application Area and Mining Permit	Appendix G
Existing authorisations	Includes existing authorisations which are: • Mining permit documentation • *Coast Road Resilience Group Inc v WCRC* [2024] NZEnvC 238 (Consent for Central Block) and Commissioner Decision • Existing consents for Wet Concentrator Plant (Combined) • Existing consents for Mineral Separation Plant	 Appendix H1 Appendix H2 Appendix H3 Appendix H4
Site and Adjacent Landowners, and Records of Title for Application Site	• Site and adjacent landowners and occupiers • Certificates of Title of Application Site • Map of site and adjacent landowners and occupiers	Appendix I1 Appendix I2 Appendix I3
Proof of legal access / consent	• Licence to occupy paper roads • Letters demonstrating proof of consent from land owners to undertake activity, including as per archaeological authority requirements - Schedule 8 cl 2	Appendix J1 Appendix J2
Relevant maps and plans	• Plan A – Barrytown Critical Minerals Project – Resource Blocks • Plan B – Southern Block Application Area and Mining Disturbance Area • Plan C – Mining Sections within the Southern Block • Plan D – Indicative Mine Path Including Mine Starter Pits • Plan E – Noise Bunds • Plan F – Setbacks from Key Environmental Features	Appendix K

Document	Information addressed	Reference
	• Plan G – Waterbodies on the Southern Block including the five creeks requiring diversion • Plan H – Location of Water Take • Plan I – Indicative Final Land Contour • Plan J – Location of Wet Concentrator Plant	
Technical expert reports/ effects assessments (L1 – L11) and Evidence Summary Statements (L1A – L11A)	Economic Impacts of Barrytown Minerals Project Statement of Evidence – J. Ballingall	Appendix L1 Appendix L1A
	Statement of Evidence – Mine Planning – P. Federici	Appendix L2A
	Hydrological Assessment Statement of Evidence – J. Rekker	Appendix L3 Appendix L3A
	Ecological Effects Assessment (freshwater, terrestrial and water quality) Statement of Evidence – Terrestrial - Dr Bramley Statement of Evidence – Freshwater Ecology - R. Montgomerie Statement of Evidence – Water Quality – Dr Fitzpatrick	Appendix L4 Appendix L4A Appendix L4B Appendix L4C
	Statement of Evidence - Erosion and Sediment Control – G. Ridley	Appendix L5A
	Landscape and Visual Assessment Statement of Evidence – N. Crawford Landscape Graphic Supplement (Appendix 2) Barrytown Private Dwellings and Property Parcels	Appendix L6 Appendix L6A Appendix L6B Appendix L6C
	Noise Assessment Statement of Evidence – J. Farren	Appendix L7 Appendix L7A
	Statement of Evidence - Radiation – D. Bougourd	Appendix L8A
	Archaeology Assessment (Technical Assessment to support Archaeological Authority and Resource Consent) Statement of Evidence – B. Wooller	Appendix L9 Appendix L9A
	Coastal Hazard Assessment Statement of Evidence – G. Teear	Appendix L10 Appendix L10A
	Statement of Evidence to Support Assessments in Appendix N, O and P – N. Costley	Appendix L11A
	Wildlife Act Authorisation Technical Report	Appendix L12
Management Plans and Mitigation Package	Noise Management Plan	Appendix M1
	Avian Management Plan	Appendix M2
	Lizard Management Plan	Appendix M3
	Native Freshwater Fish Capture and Relocation Plan	Appendix M4
	Dust Management Plan	Appendix M5
	Rehabilitation Management Plan	Appendix M6
	Water Management, Monitoring and Effects Management Plan	Appendix M7
	Erosion and Sediment Control Plan	Appendix M8
	Landscape Mitigation Package (Appendix 3)	Appendix M9
Rules assessment	• Assessment against rules of all relevant NES/regulations, regional plans, district plans (including assessment against proposed plans)	Appendix N
Planning assessment	• Assessment of proposal against relevant provisions in national direction, other RMA regulations, district and regional planning instruments, iwi planning instruments	Appendix O
Proposed conditions	• Resource consent conditions – district and regional council • Wildlife Act Approval Conditions • Archaeological Authority Conditions	Appendix P1 Appendix P2 Appendix P3
Legal considerations	• Identifies key issues • Addresses legal issues	Appendix Q

Document	Information addressed	Reference
Letters of engagement	• Anderson Llyod - Letter of engagement and authorisation to act as agent • Tāiko Critical Minerals Ltd – Authorisation of lodgement of Fast-track Application	Appendix R1 Appendix R2