



Oparure Quarry South-Western Pit

Substantive application under the Fast-track Approvals Act 2024 -
FTAA 2606-1251

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Graymont (NZ) Limited

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EXECUTIVE SUMMARY

The Project

The **Oparure Quarry South-Western Pit Project** ('SW Pit' or 'the Project') proposed by **Graymont (NZ) Limited** ('Graymont') located at 806 Oparure Road, just north of Te Kuiti, within the jurisdiction of the Waitomo District Council and the Waikato Regional Council, is aimed at extracting a high-quality limestone deposit that would enable Graymont to continue to meet customer demand over the long term. The Project is aimed at ensuring that the regional and national economy, which relies extensively on limestone and lime products for economic growth and wellbeing, is maintained and supported efficiently, by protecting established upstream and downstream economic linkages in the economy.

The Project entails the development, operation and progressive rehabilitation of the new SW Pit at Graymont's existing Oparure Quarry. The SW Pit would be located adjacent, on the western side, to the existing Oparure Quarry pit, and would continue to use the same main access road, office facilities, material storage facilities and water sources currently operating at the quarry.

Quarrying at the SW Pit would be, as at the existing Oparure pit, opencast. The area to be disturbed over the lifetime of the SW Pit would be 59.6 hectares ('ha') by approximately 2080. Only small sections would be quarried at a time in stages and then rehabilitated. Mining infrastructure associated with the SW Pit would include a 1.3 kilometre ('km') haul road.

The Project will not increase the current production rates (or vehicle movements) generated by the current operation of the Oparure Quarry.

Intrinsic to the Project are Graymont's extensive commitments on the site and in the wider catchment, based on robust expert advice, stakeholder feedback, Graymont's commitment to sustainable growth, and a strict adherence to responsible environmental, workplace, and operating practices. These commitments aim to:

- Compensate for the loss of indigenous terrestrial, karst and aquatic (freshwater) habitat and provide betterment in accordance with Te Ture Whaimana o Te Awa o Waikato;
- Reduce the net contribution that the Project makes to the contaminant (sediment and nutrient) load that is discharged to the downstream surface and groundwater resources; and
- Advance measures and initiatives to address the actual and potential cultural effects of the Project.

To achieve ecological betterment the following initiatives are proposed by Graymont:

- Not less than 21 cave entrances shall be protected from stock and enhanced by planting and pest control. The cumulative floor area of the cave shall sum to not less than 224 m² in area. All of the cave entrances that are protected and enhanced shall be within 10 kilometres from the cadastral boundaries of the Site;
- Not less than 6.7 hectares of planting between and around SNAs;
- Improved sediment control within pastoral land on not less than 9.4 ha within the Mangawhitikau Stream catchment to reduce sediment loads entering downgradient waterways; and
- Not less than 11.8 hectares of riparian planting or enhancement of existing native vegetation (using appropriate, locally sourced, indigenous / native plant species) shall be undertaken in the catchment of the Camelot Cave Stream.

The **betterment approach** will lead to an overall positive outcome for the Mangawhitikau Stream catchment, due to improvements to water quality and increased habitat through planting of streams, hillsides and tomos. Graymont intends to implement a covenant on the

Significant Natural Areas to the west of the SW Pit in order to ensure ongoing protection of the habitat.

The Applicant

Graymont is a wholly owned subsidiary of Graymont Limited, a global leader for essential calcium-based solutions. Headquartered in Canada, it serves markets throughout North America and Asia Pacific. Professionally managed and family-owned, Graymont has been in operation for more than 75 years. Graymont has operated four sites in New Zealand since 2015, with three of these situated within the Waikato Region. These include the Oparure Quarry, together with lime kilns in both Ōtorohanga and Te Kūiti. Graymont also operates the Makareao plant and quarry in North Otago.

Benefits

Graymont's lime and limestone products are essential inputs across the New Zealand economy, including for clean drinking water treatment, steel manufacturing, construction and roading, agriculture, and environmental remediation. Graymont operated as an essential service during COVID-19, highlighting the strategic importance of maintaining secure domestic supply of these products. As the biggest limestone quarry in New Zealand (by output), Graymont is critical to the country's capability in these essential limestone products.

The Project site (the 'Site') is zoned as a Rural Production Site and identified as a regionally significant mineral resource. The Oparure Quarry operates to the highest environmental standards and Graymont's own rigorous practices.

The Project is essential to protect the domestic supply of calcium-based solutions, support local jobs and regional development, and meet New Zealand's needs for decades to come.

These benefits are material in the context of the local and national economic climate. The scale and diversity of these downstream linkages – spread across almost the entire North Island and reaching a substantial share of the national population – means that even small disruptions to supply would have disproportionate consequences for national productivity, supply chain resilience, and community well-being. By avoiding these risks, and by maintaining an efficient, centrally located, high-quality source of limestone and lime products, the Project delivers economic benefits that are enduring, wide-reaching, and significant at the national level. These economic benefits are additional to the Project's net positive environmental benefits, achieved through the proposed Ecological Betterment Plan discussed within the application.

History

In October 2022, Graymont lodged an application for resource consent for the development of the Western Pit under the Resource Management Act 1991 ('RMA'). Graymont's revised resource consent application was accepted for processing by the Waikato Regional Council and the Waitomo District Council (together the 'Councils') and limited notified in 2024. A Wildlife Permit for the relocation of lizards has already been granted by the Department of Conservation ('DOC'). After navigating the RMA process since 2022, refining the Project and working closely with stakeholders, there is, unfortunately, still significant uncertainty on timing. Further delays in consent approvals risk the Project's viability and undermine the competitiveness of the existing Oparure operations.

Over the last several years, Graymont has consulted extensively with the Site's neighbours, tangata whenua, the district and regional councils, and a range of other stakeholders to inform the Project. Extensive environmental studies were undertaken and have been accepted by the local and regional councils. Graymont has also obtained extensive and detailed advice from experts on matters relating to a wide range of potential effects including air quality, archaeology, landscape, noise and vibration, recreation, traffic, water resources, ecology and cultural effects. Graymont and the councils have developed draft

resource consent conditions, reflecting the commitment to deploying world-class environmental and community engagement practices.

Existing environment

The Site is located in an undulating **karst landform**, the largest autogenic karst aquifer in the North Island, with exposed steep limestone bluffs and dolines (sinkholes). The Otorohanga Limestone deposits are covered by topsoil and volcanic ash and mudstone. The strongly jointed limestone dips towards the east and north-east, with local steepening near faulting.

The pasture-dominated working rural **landscape** transitions from the Oparure Pit edge into rolling dissected terrain. Karst features (dolines, sinkholes, small outcrops/tors, exposed regolith) are found throughout the Site. The surrounding landscape is similar, with a notable change to the west/northwest where plantation pine and native forest mark the Herangi Range margins. Structures are limited and neither the Site, nor its surrounds, are identified as Outstanding Natural Landscapes or Features. Onsite vegetation includes scattered native remnants in gullies/depressions and on steeper slopes, with willows and other exotics, especially near farm entrances and buildings. Limestone/karst landscape features are considered typical of the area; they contribute to its distinctive character but are framed within an actively farmed rural landscape.

The Site is located in the catchment of the predominantly subterranean **Camelot Stream** that flows approximately 80 metres ('m') beneath the Site. Subterranean habitats such as Camelot Stream support specialised but low-diversity communities, while downstream springs and watercourses exhibit ecological patterns strongly influenced by geology, land use and natural karst processes. Dye tracer testing has determined that an unnamed stream that submerges into the ground around 1.6 km south-west of the SW Pit, is likely to be a significant source of flow into the Camelot Stream, and that stormwater infiltrating into the ground moves through the karst system and emerges into the lower Mangawhitikau Stream at Pōtea Spring and Pumphouse Spring, around 3 km to the north-east of the Site.

Permanent **watercourses**, **springs** and **wetlands** are located downgradient of the Site. The surface water catchment is typical of a karst landscape in which drainage catchments are very small and radial flow paths to a central tomo/doline. The Mangapu River to the south and the Mangawhitikau Stream to the north, are the main surface waterways in the vicinity of the Site. Both catchments are dominated by farmland, and both have submerged and resurging water flow due to the karst landscape. Pōtea Spring is a large, clear, fenced spring pool adjacent to Mangawhitikau Stream, heavily shaded with baseline clear flows. Pumphouse Spring is a piped/modified spring used for a private water supply.

A series of **cave systems** have been identified in the area surrounding the existing Oparure Pit and within the footprint of the SW Pit. Cave development in the vicinity of the Site is expected to be related to chemical dissolution of the limestone by slightly acidic surface water. The Camelot Cave entrance has been identified immediately to the east of the SW Pit.

Baseline **water quality** sampling has shown that turbidity and suspended solid concentration in the Mangawhitikau Stream and the Mangapu River can be elevated relative to the relative applicable water quality guideline values, during rainfall-driven events. Agricultural land use activities are the primary contributing factor for water contamination, although the existing quarrying activities may add a small contribution of suspended sediment to the surface waterways.

The majority of the Site is made up of pasture, with small, isolated areas of bush around large rock formations or located in gullies, however, the Site displays **landscape features** that classify it as a karst ecosystem, with 12 partially representative areas found across the

Site. The types of threatened landscape features that are found on the Site include cave entrances, sinkholes, calcareous cliffs, scarps and tors.

Isolated blocks of native bush provide foraging and nesting habitat for native **birds**. Further, the Site contains potentially suitable habitat for ground-dwelling **lizards**, including bush fragments, rock structures, and isolated logs and the scattered areas of bush habitat could host arboreal **geckos**. Native bush blocks, exotic and native trees, and cave systems could serve as roosting habitat for long-tailed **bats** and open farmland and gully systems provide foraging opportunities for the same. Some terrestrial **invertebrates**, including snails and spiders are found on the Site, with a range of **pest animal species** also found on the Site, including small mammals, such as rats, mustelids and domestic/feral cats, as well as large species, such as deer and goats.

Historical aerial imagery (1944-2024) indicates the SW Pit Site has been pasture farmland for decades, with farm tracks, sheds, a water tank/pump shed, and a linear feature interpreted as a possible airstrip, appearing from 1968. Quarry activity expanded to the east from the 1980s onward, with evidence of landform change in eastern valleys/tomos likely associated with neighbouring quarry activities. There are two Hazardous Activities and Industries List ('HAIL') sites within the vicinity of the SW Pit, neither of which would be directly affected by the SW Pit or its associated haul road. These are "Grainger Farm Airstrip" (unverified HAIL; fertiliser bulk storage); and "Building 2 (adjacent to)" (unverified HAIL, livestock dip or spray race operations). No HAIL sites have been identified in the works footprint.

The Site is located within Ngāti Maniapoto territory, with settlement patterns historically focused on waterways. Te Kūiti is described as significant in the mid-19th century colonial-Māori conflicts and later as part of the King Country context, followed by rail-enabled European settlement and farming expansion from the late 1800s. No evidence of any **archaeological material** has been found at the Site. The nearest recorded sites are two pā locations in the Mangawhitikau Stream valley to the north, and an urupā shown on district planning maps on a neighbouring property to the east of the existing Oparure Pit. Significant historical Māori occupation of the area is unlikely, given steep/remote inland setting, limited surface water, and thin topsoil unsuitable for horticulture, although inland forests may have provided raw materials for Māori.

Existing **air quality** in the area is influenced by the character of the surrounding environment, including existing dust emissions from the Oparure Quarry limestone processing area, and rural land uses. The existing Oparure Quarry has been in operation since around 1981, with no records of dust complaints arising from the same, as such, it is considered to have negligible amenity effects on air quality.

The existing **noise** environment in the vicinity of the Site is described as an ambient rural noise environment that already includes mobile noise from existing Oparure Quarry operations. In addition, there is low intensity and clustered residential development along Oparure Road. The existing noise levels at these receivers ranges between 28 and 38 dB LAeq. Existing Oparure Pit blasting is the principal source for **vibration**. Vibration from the blast events was not able to be accurately measured due to the very low level of effect which was at the limits of instrument detection. No adverse vibration effects have been recorded for Spellbound caves, which are the closest recreational caves, from blasting, during vibration monitoring.

There is no public access to the Site or to Graymont-owned cave systems, however cave systems are a central **recreational/tourism** consideration in the wider area. There are two scenic reserves that exist nearby but are not developed for recreation. Road-based recreation is limited, with cyclists using the Oparure Road area occasionally. Oparure Road is also used for horse riding and pedestrian access. Angling was not reported in the immediate Mangapu River catchment near the existing Oparure Quarry, with most trout fishing activity occurring well upstream in the Waipā River system.

Access to the existing Oparure Quarry is via Oparure Road approximately 8 km west of State Highway 3 ('SH3'). SH3 provides a strategic route, with Oparure Road and Troopers Road linking the quarry to SH3. Oparure Road is described as built to a relatively high standard, suitable for two-way heavy and light vehicle movement. It is estimated that the quarry is likely to generate between 13 and 26 vehicles per hour during the busiest time of year. This is considered a very low **traffic** flow volume. The Marae raised concern about the effect of traffic generated by the quarry on the safety of the school (Te Wharekura a Maniapoto) which is located on Oparure Road approximately half-way between SH3 and the Site. Temporary speed limit reduction signage has been erected past Te Wharekura a Maniapoto and surveys show that this has resulted in a noticeable speed reduction through this area. Council has been consulted on permanently reducing the speed limit. Pedestrian movements associated with the school appear to occur off-road in a recessed parking and drop-off area adjacent to the school entrance, which is physically separated from the road. The vehicles associated with quarry activity are currently coexisting with other road users, without creating any operational issues from a traffic engineering perspective.

Response to consultation

As a result of expert studies and engagement, Graymont decided to reduce the footprint of the Western Pit that is the subject of this application to avoid the northern catchment which feeds into the upper Mangawhitikau catchment. The revised current proposal is therefore limited to the southern catchment of the Western Pit (the South-Western Pit or the SW Pit).

Intrinsic to the Project are Graymont's extensive commitments on the Site and in the wider catchment that aim to:

- Compensate for the loss of indigenous terrestrial, karst and aquatic (freshwater) habitat and provide betterment in accordance with the Waikato River Authority's ('WRA') Vision and Strategy for the Waikato River;
- Reduce the net contribution that the Project makes to the contaminant (sediment and nutrient) load that is discharged to the downstream surface and groundwater resources; and
- Advance measures and initiatives to address the actual and potential cultural effects of the Project.

The application includes extensive betterment initiatives, based on detailed expert advice and stakeholder and community feedback. This will lead to an overall positive outcome for the Mangawhitikau Stream catchment, due to improvements to water quality, and increased habitat through planting of streams, hillsides and tomos. Graymont's application demonstrates its commitment to investing and operating in New Zealand for decades to come.

Assessment of effects

A **Cultural Impact Assessment ('CIA')** has been prepared by Oparure Marae and Te Tokanganui-a-noho Whare which included reviewing draft expert reports. The CIA adopts an analytical framework based on the key values of the marae that are also supported by Ko Tā Maniapoto Mahere Taiao (the Maniapoto Environmental Plan) and Te Ture Whaimana o Waikato (Vision and Strategy) which directly speak to the aspirations of tangata whenua affiliated through whakapapa with the Waipā River system and recognising its downstream connection to Te Awa Waikato. Graymont recognises the important role tangata whenua have as kaitiaki and supports their vision for a flourishing Mangapu River. Concerns raised and recommendations made in the CIA have informed expert studies, the assessment of environmental effects, Graymont's Betterment Plan and the draft conditions.

Earthworks activities, with potential to impact the environment are the stripping, stockpiling and placement of topsoil and overburden. These activities are likely to generate **sediment** and therefore controls are required. Mitigation measures are implemented through an

Erosion and Sediment Control Plan and associated Stage Plans, a Pit and Haul Road Site Management Plan and detailed geotechnical design, which address construction methodology, engineered landform performance and stability.

Pattle Delamore Partners ('PDP') modelled the predicted **suspended sediment loads** from the SW Pit over its lifetime, taking into consideration the pit staging plan and proposed erosion and sediment controls. This modelling found that sediment loads peak around year 13 at 180,837 kilograms per year ('kg/yr'). PDP notes that in order to achieve no net increase of Total Suspended Solids ('TSS') across the catchment, betterment activities will need to be undertaken to reduce sediment inputs from other sources. Graymont is proposing improved sediment control within steep pastoral land within the Mangawhitikau Stream catchment, riparian planting, and planting of the area between and around Significant Natural Areas to provide an offset of sediment across the catchment. Reducing sediment in the catchment will more than compensate for any effects on aquatic ecology from increased sediments in rivers.

Seismic **hazard** is considered low risk, ground and slope stability and geotechnical hazards are assessed and managed through a combination of engineered design, construction methodology and ongoing monitoring.

A key component of the Project is managing the risk of damage to the **Camelot Cave system** which is known to exist within the land proposed for quarrying. To account for the uncertainty in the position of the Camelot Cave system, Graymont has proposed a 200 m wide buffer zone to allow for early-stage mining to be undertaken away from the cave system and to enable more information to be gathered about the exact extent and position of the cave. There is a risk that the mining method may cause damage to the Camelot Cave system - with the key risk arising from blast vibrations. Geotechnical assessments estimate that the effect of blasting vibrations at the limiting threshold of 2.4 g could be considered less than minor. Graymont has therefore adopted this assessment and incorporated a limit of 2.4 g peak particle acceleration near the Camelot Cave and a 'no-blast zone' within 25 m of the Camelot Cave.

No direct impact or loss of **surface waterbodies** is predicted to occur as a result of the Project. Monitoring of **aquatic ecology** is detailed in the draft conditions. Additional event-based up and down stream monitoring by continuous turbidity monitoring is also required by the draft conditions. With sediment reduction measures, ecological betterment in place, and monitoring to confirm success, it is considered that no net loss in aquatic ecology values will occur as a consequence of the Project, and over time, a net ecological gain is predicted.

In terms of **terrestrial and subsurface ecology**, the Project will result in:

- Direct and permanent loss of approximately 1.0 ha of High value, significant karst ecosystem features which experts have assessed to have a moderate value, negligible magnitude of effect and therefore a less than minor effect;
- Direct and permanent loss of approximately 1.4 ha of native vegetation/habitat which experts have assessed to have a low value, negligible magnitude of effect and therefore a less than minor effect;
- Removal/loss of 7 short, small cave systems and entrances which experts have assessed to have a low value, low magnitude at a local level, negligible magnitude of effect at a wider catchment scale and therefore a less than minor effect; and
- Permanent loss of moderate value habitat and food source for native fauna.

Following the adoption of the management plans and proposed betterment conditions, experts conclude that the impacts on At-Risk and Threatened species will be appropriately managed through avoidance. The implementation of the proposed Ecological Betterment Plan will result in a net positive ecological outcome for karst ecosystems and lizard habitat. Overall, the Project will bring about a net gain in ecological values.

The Project will have no effects on any known archaeological or historic values.

The SW Pit would start to become visible from Year 33 onwards, most of which reflects the commencement of benching and extraction down the western side of the SW Pit. The viewpoint is very confined, and the viewing distance is 5.1 km, resulting in very low **landscape effects**. Graymont nevertheless proposes a line of tree planting north-east of the SW Pit to screen and buffer its expansion into rising terrain down the western and south-western sides of the Site in the future.

Predicted operational **noise** will comply with the relevant noise standard in the Proposed Waitomo District Plan ('PWDP') at all times and locations, except between the hours of 7pm and 7am at 966 Oparure Road. Written approval has been obtained from this property owner. Construction noise and vibration effects will comply with the relevant standards in the PWDP at all receiving environments.

The SW Pit is expected to comply with the relevant **vibration** limits in the PWDP for all nearby properties and readings from monitoring of blasting at the Oparure Quarry '*were generally below the level that a human would normally be able to perceive.*' No adverse effects on the Spellbound caves from blasting in the SW Pit will occur.

Noise and vibration effects associated with the Project are predicted to be less than minor.

The primary air contaminant of concern in relation to the Project is **dust** from multiple activities at the Site including the removal and stockpiling of soil and overburden, mineral extraction (including blasting), mineral crushing and screening, vehicle movements, and site remediation including the replacement of overburden and topsoil. Dust will be managed through an Air Quality Management Plan that sets out the measures and methods that are to be implemented to avoid, remedy or mitigate any adverse effects of discharges of dust at the Site, through limiting exposed areas, watering exposed areas, and other measures.

An assessment of the effects on **recreation and tourism** activities including caving, cycling, walking, equestrian use, and fishing has been undertaken. The findings from this assessment are that most of the potential adverse effects from the Project will be adequately managed through the implementation of existing management mechanisms and/or mitigations recommended in other sections. The one mitigation recommended specifically for recreational impacts, is the implementation of warning signage along Oparure Road for cyclists, pedestrians and equestrians. This recommendation is adopted in the conditions.

The Project includes a new internal haul road to be constructed that will link the new SW Pit with the current processing plant. Assuming that Troopers Road will not be used by large quarry trucks unless necessary, the Project is not expected to generate any significant long-term increase in heavy vehicle movements to and from the quarry and the current weigh bridge is expected to continue to meet vehicle movement demand. With recommendations adopted in draft conditions including installation of safe hit delineators on the western side of the intersection of the Site's access with Oparure Road, together with the use of wheel wash facilities by existing trucks to reduce the tracking of sand onto Oparure Road, the effects of the Project are expected to be acceptable from a **traffic engineering** perspective.

Conditions

The application includes draft conditions for both the Waikato Regional Council ('WRC') and the Waitomo District Council ('WDC'). Graymont has consulted various parties including tangata whenua, the WRC and WDC over the last seven years regarding draft conditions. The technical assessments recommend measures to avoid, minimise or mitigate potential adverse effects, they also recommend aspects of the environment that should be monitored. These recommendations have directly informed the draft conditions. The CIA provided by tangata whenua also recommended a number of conditions that have been considered, and conditions providing for a Cultural Monitoring Plan are included in both sets of conditions.

A notable issue that is addressed in the draft conditions is a mechanism to provide physical protection of the Camelot Cave system, and event-based water quality (sedimentation) monitoring.

Statutory assessment

Schedule 5 clause 17(1) of the Fast-track Approvals Act ('FTAA') sets out that the matters for decision-makers to consider and assess as the purpose of the FTAA, Parts 2,3,6 and 8 to 10 of the RMA and the relevant provisions of any other legislation that directs decision-making under the RMA.

The purpose of the FTAA *"is to facilitate the delivery of infrastructure and development projects with significant regional or national benefits."*

The Project:

- Is not located in or is adjacent to a coastal marine area
- Does not have any surface wetlands, lakes or rivers
- Is not identified as containing any Outstanding Natural Features or Landscapes
- Has an estimated 1 ha of significant habitat of indigenous fauna (Karst Ecosystem) that will be permanently lost. The Ecological Betterment Plan includes a requirement to, in addition to flora protected and enhanced under other provisions, protect 21 caves from stock and enhance the entrances by planting and pest control. The cumulative floor area of the caves shall sum to not less than 224 m² in area. All of the cave entrances that are protected and enhanced shall be within 10 kilometres from the cadastral boundaries of the Site. Not less than 6.7 ha of planting between and around SNAs is also required
- Recognises and provides for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and
- Recognises sinkholes and rockfalls as natural hazards that have been provided for in the project design.

The Project therefore avoids or offsets any matters of national significance identified under Section 6 of the RMA.

The Project entails the development of a limited natural resource that society needs access to. It provides opportunities for kaitiakitanga and the ethic of stewardship is applied through the ecological betterment initiatives. Visual and landscape effects would be less than minor. Particular regard has been given to the intrinsic value of ecosystems through the betterment initiatives encoded in draft conditions, which require the protection of 21 caves, with a cumulative floor area 224 m², in area from stock and enhancement by planting and pest control which, would offset the loss of 1 ha of karst ecosystem that will result from the Project.

Graymont aims to maintain the quality of the environment by proffering draft conditions that monitor key aspects of the environment and actively manage actions to prevent any degradation of the natural environment. Key management measures include erosion and sediment control, water quality and aquatic ecology monitoring, dust management, pest management, bat, bird and lizard management and planting screening trees. The betterment initiatives that Graymont has committed to will enhance the quality of the environment, specifically the water quality (sediment levels) in the downstream rivers. The preparation of this application has, therefore, had particular regard to the matters listed in section 7 of the RMA.

The Project appropriately balances the use and development of natural resources with the protection of environmental and cultural values and therefore achieves the sustainable management purpose of section 5 of the RMA.

The Project does not trigger the requirement for any resource consent applications to be made under any NES. No other regulations have been identified as applicable to this application. The NPS-IB has been applied to the assessment of ecology, and no offsets are required because all effects have been assessed as less than minor. No other NPSs apply to the Project

The Project is consistent with the Waikato Regional Policy Statement, Te Ture Whaimana and the Maniapoto Environmental Management Plan. This application includes resource consents triggered under the WRP and PWDP. This application gives effect to the substance of the Te Nehenehenui Joint Management Agreement.

The application has had regard to the matters relevant to discharges required by Section 105 of the RMA and draft conditions have been proposed.

Proportionality test

Section 3 of the FTAA sets out the purpose of the FTAA, namely, to facilitate the delivery of infrastructure and development projects with significant regional or national benefits. Schedule 5, clause 17(1)(a) requires that when considering an application, the panel must take into account various factors, giving greatest weight to the purpose of the FTAA. Clauses 17(1)(b) and 17(2)(a) require that the panel also considers RMA sections 5, 6 and 7, amongst others.

The Project avoids any inappropriate adverse effects on matters of national importance subject to protection under Section 6 of the RMA. The Project also responds positively to the other matters that must be given regard to under Section 7 of the RMA.

The assessment of environmental effects concludes that potential adverse effects can be appropriately avoided, remedied or mitigated, while the Project delivers significant and enduring social and economic benefits. Overall, the Project appropriately balances the use and development of natural resources with the protection of environmental and cultural values and therefore achieves the sustainable management purpose of section 5 of the RMA. There are therefore no adverse impacts that, after conditions, are so serious that they are out of proportion to the Project's regional or national benefits.

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List of Acronyms and Abbreviations

\$	Unless specified, all dollar values are in New Zealand dollars.
ABM	Automated Bat Monitoring Units
BPO	Best Practicable Option
CIA	Cultural Impact Assessment
DOC	Department of Conservation
EcIA	Ecological Impact Assessment
EIANZ	Environmental Institute of Australia and New Zealand
FTAA	Fast-track Approvals Act 2024
Graymont	Graymont (NZ) Limited
ha	hectare
HAIL	Hazardous Activities and Industries List
kg	kilogram
kg/yr	Kilograms per year
km	kilometres
m	metre
Maniapoto Board	Maniapoto Māori Trust Board
MEMP	Maniapoto Environmental Management Plan
NPS	National Policy Statement
ONF	Outstanding Natural Feature
ONL	Outstanding Natural Landscape
PC1	Waikato Regional Plan Change 1
PDP	Pattle Delamore Partners
PRP	Pit Rehabilitation Plan
PWDP	Proposed Waitomo District Plan
RMA	Resource Management Act 1991
RPROZ	Rural Production Zone
SDP	Sediment Detention Pond
SH3	State Highway 3
SNA	Significant Natural Area
SSC	Suspended Sediment Concentration
SW Pit	Oparure Quarry South-Western Pit
TNN	Te Nehenehenui
TSS	Total Suspended Solids
WDC	Waitomo District Council
WRA	Waikato River Authority
WDC	Waitomo District Council
WDP	Waitomo District Plan
WRC	Waikato Regional Council
WRP	Waikato Regional Plan
WRPS	Waikato Regional Policy Statement

1 APPLICATION DETAILS

Application form - Part 1

1.1 APPLICATION INFORMATION

Project Name: Oparure Quarry South-Western Pit

This is a substantive application for a Referred project

Referral application unique reference number: 2602-1168

Project Description:

The Project is to expand an existing limestone quarrying operation, including the development, operation and progressive rehabilitation of the new South-Western Pit at the existing Oparure Quarry, which is located at 806 Oparure Road, Te Kūiti.

The Project involves:

- a. the establishment of a new 1.3 kilometre ('km') haul road to the Project area;
- b. upon access being completed, the commencement of resource extraction in stages;
- c. infill with the overburden sourced from the extraction stage; and
- d. landscape restoration to a natural form and reinstatement to productive farmland.

The Project will require the proposed approvals under specified Acts:

- a. resource consents under the RMA

1.2 AUTHORISED PERSON(S) INFORMATION

Authorised Person(s): Graymont (NZ) Limited

Key Contact Name: [REDACTED]

Key Contact Organisation NZBN: 9429041580806

Key Contact Organisation Name: Graymont (NZ) Limited

Key Contact Phone: [REDACTED] [REDACTED]

Key Contact Email: [REDACTED]

Email Address for Service: [REDACTED]

Authorised Person Postal Address: Graymont (NZ) Limited
Level 4, 214 Collingwood Street
Hamilton 3204

1.3 AGENT INFORMATION

Agent Organisation NZBN: 9429038445620

Agent Organisation Name: Enspire Consulting Limited

Agent Contact Name: [REDACTED]
Agent Phone: [REDACTED]
Agent Email Address: [REDACTED]
Email Address for Service: [REDACTED]
Agent Postal Address: 29 Grey Street, Rear Ground Floor, Tauranga 3110
Please direct all correspondence relating to this application to: [REDACTED]

1.4 FINANCIAL CONTACT INFORMATION

Finance Organisation NZBN: 9429041580806
Finance Organisation Name: Graymont (NZ) Limited
Address: Level 4, 214 Collingwood Street
Hamilton 3204
Finance Name: [REDACTED]
Finance Phone: [REDACTED] [REDACTED]
Finance Email: [REDACTED]

2 GENERAL REQUIREMENTS

2.1 INELIGIBLE ACTIVITIES

Application form Part 2, Subpart 1 and Section 43(c) of the FTAA

The Project does not include:

- an activity that would occur on Māori land as defined in section 4 of the FTAA.
- an activity that would occur in a customary marine title area.
- an activity that would occur in a protected customary rights area.
- an activity that would occur on Māori customary land; or land set apart as a Māori reservation as defined in section 4 of Te Ture Whenua Māori Act 1993.
- an aquaculture activity or an activity that is incompatible with aquaculture activities that would occur within an aquaculture settlement area (under section 12 of the Māori Commercial Aquaculture Claims Settlement Act 2004); or an area reserved under another Treaty settlement for the aquaculture activities of a particular group.
- an activity that would require an access arrangement under section 61 or 61B of the Crown Minerals Act 1991.¹
- an activity that would be prevented under any of sections 165J, 165M, 165Q, 165ZC, or 165ZDB (regarding the management of occupation in common marine and coastal area) of the RMA.
- an activity that would occur on land that is listed in Schedule 4² of the FTAA.
- an activity that would occur on a national reserve held under the Reserves Act 1977 and requires approval under that Act.
- an activity that would occur on a reserve held under the Reserves Act 1977 that is managed by someone other than the Department of Conservation ('DOC') or a local authority.
- an activity that is a prohibited activity under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 or regulations made under that Act.
- an activity that is described in section 15B (Discharge of harmful substances from ships or offshore installations) of the RMA and is a prohibited activity under the RMA or regulations made under it.
- an activity that is prohibited by section 15C (Prohibitions in relation to radioactive waste or other radioactive matter and other waste in coastal marine area) of the RMA.
- a decommissioning-related activity as described in section 38(3) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.
- an activity undertaken for the purposes of an offshore renewable energy project.

The Project is therefore not an ineligible activity under the FTAA.

2.2 PRIORITY PROJECT

Application form Part 2, Subpart 2

The applicant has not requested that the application be considered a priority project.

2.3 REFERRED PROJECT REQUIREMENTS

Application form Part 2 - Subpart 3 and Section 28(3)(d) (section 34(1)(i)) of the FTAA

¹ Sections 61 and 61B of the Crown Minerals Act 1991 refer to accessing Crown land.

² Schedule 4 of the FTAA includes land on which non-mining activities are ineligible.

A copy of the notice of referral under section 28 is included in included in **Appendix A**. This substantive application has been made by the statutory deadline.

Under section 16(2)(c) of the FTAA, the Minister for Infrastructure has directed any panel that considers a substantive application for the Project to comply with the following:

- a. Have particular regard to **Te Ture Whaimana** (see **Section 9.11**);
- b. give notice to the Waikato River Authority ('WRA') of the application (which may be fulfilled by an invitation to comment under section 53 of the Act) (see **Section 10.5**);
- c. consider the provisions for appointing hearing commissioners from the register maintained by the WRA as they may be applied to appointing a panel under the fast-track process;
- d. have regard to the **Maniapoto Environmental Management Plan ('MEMP')**, including 'Part 23.0 (see **Section 9.12**): Mining and Quarrying, Oil, Gas, and Minerals'; and
- e. consider the detailed provisions of the **Te Nehenehenui Joint Management Agreement** (see **Section 3.3**), as they may be applied to the fast-track process.

2.4 SUBSTANTIVE APPLICATION REQUIREMENTS

Application form Part 4 - Subpart 1, Checklist A, Clause 5(1)(c) of Schedule 5, Section 42(2)(a) and Section 43 of the FTAA

This application is consistent with section 46(2)(a) and relates solely to a referred project (section 46(2)(b)). There are no differences between the application and the Project as described in the notice of the Minister's decision under section 28 (see **Appendix A**).

Further, there is no specified information in the Minister's decision that must be submitted with the application.

This application complies with all of the requirements for the approval(s) sought as indicated in Checklist A which is provided in **Appendix B**.

The fees, charges and levies payable in respect of this application have been paid, for the purposes of section 46(2)(c).

2.5 DESCRIPTION OF OTHER ACTIVITIES THAT ARE PART OF THE PROPOSAL

Clause 5(1)(e) of Schedule 5- a description of any other activities that are part of the proposal to which the consent application relates.

There are no other activities that are part of the proposal to which the consent application relates.

2.6 DESCRIPTION OF OTHER APPROVALS REQUIRED FOR THE PROJECT

5(1)(f) - a description of any other resource consents, notices of requirement for designations, or alterations to designations required for the project to which the consent application relates

2.6.1 Wildlife Act 1953

Graymont is not applying for any conservation approvals as a part of this application. This is because Graymont already holds a Wildlife Permit for lizard re-housing (118705-FAU). Graymont will be implementing a Bat Management Plan, which manages risk to bats via the implementation of Tree Removal Protocols. The relocation of bats will therefore be avoided and a permit for the removal of bats is not required. The same approach applies to birds. This approach has been discussed with the DOC as a part of pre-lodgement consultation prior to the lodgement of the referral application (**Appendix C**).

2.6.2 Mining Permit

Graymont was granted a mining permit which encompasses the Project Site (number 60802) with a duration of 40 years on 5 July 2022.

2.7 COMPLIANCE AND ENFORCEMENT HISTORY

Application form - section 1.4.1

Graymont has never had any enforcement actions (abatement notice, infringement or enforcement order) under the RMA. Audits from the WRC have occasionally included a “*low risk technical non-compliance*” or similar. These have all been addressed to the satisfaction of the WRC.

3 EXISTING ENVIRONMENT

Checklist A 5(1)(b) of Schedule 5 of the FTAA

3.1 LOCATION

Graymont's Oparure Quarry is located at 806 Oparure Road, just north of Te Kūiti (**Figure 1**). The proposed new SW Pit is in the jurisdiction of the WDC and the WRC.

The Project Site affects the properties, all owned by Graymont, listed in **Table 1** and shown on **Figure 2**.

Table 1: Properties directly affected by the proposed Project

	Legal Description (west to east)	Address	Owner
1	Lot 2 DPS 33442	806 Oparure Road	Graymont
2	Lot 1 DPS 77130	806 Oparure Road	Graymont
3	Lot 1 DPS 74022	806 Oparure Road	Graymont
4	Lot 2 DPS 77130	806 Oparure Road	Graymont

Certificates of Title are included in **Appendix D**. No public conservation land would be affected.

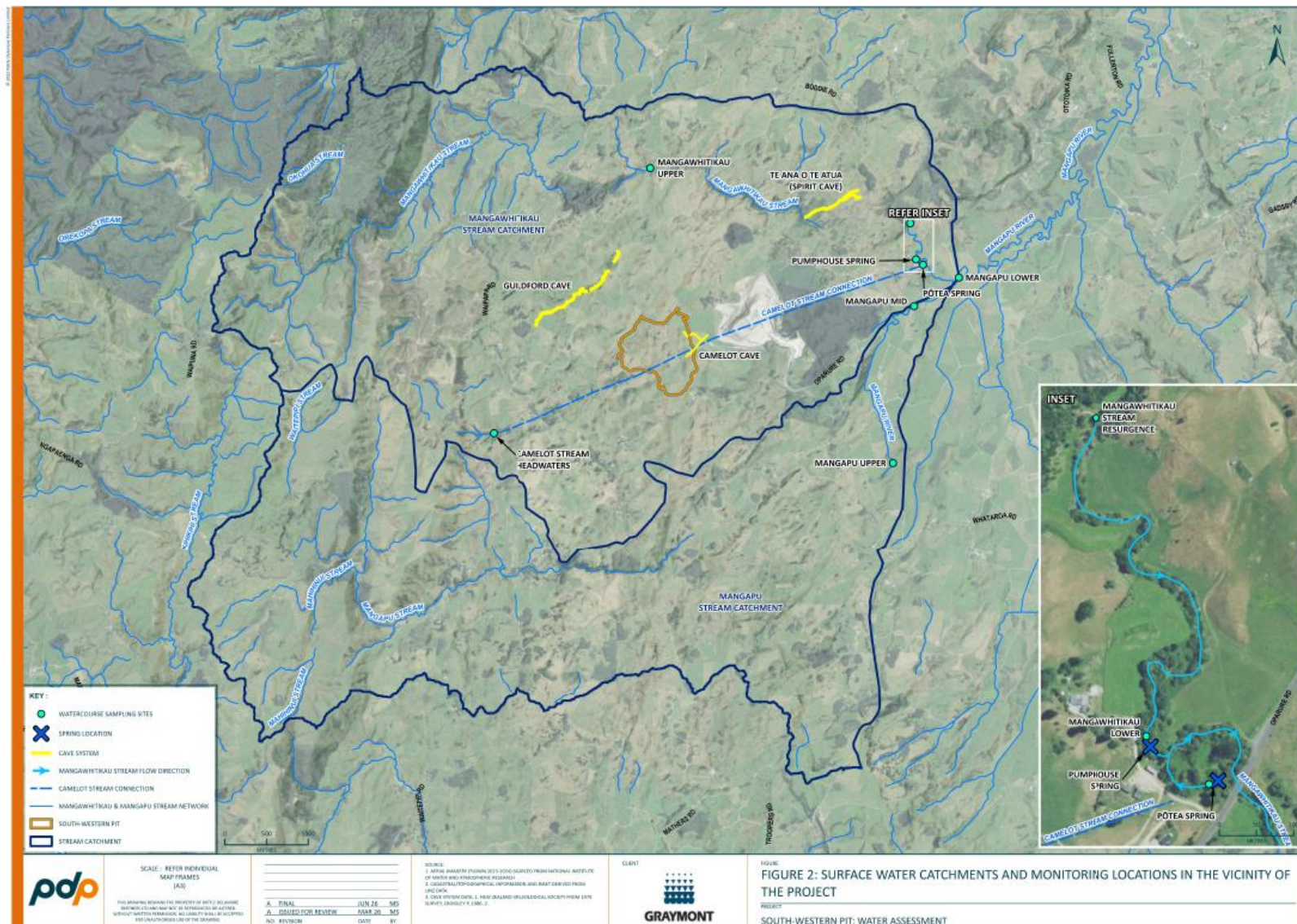


Figure 1: Waterways, springs and cave systems



Figure 2: Location and affected properties

Note: The existing Oparure Quarry pit is clearly visible in the aerial imagery in Figure 2. The lighter blue line represents the boundary of the SW Pit. The dark blue line is the catchment boundary in the karst landscape. The green lines represent the new haul road that would be required to link the SW Pit to existing infrastructure at the Oparure Quarry

3.2 ADJACENT LANDOWNERS

Adjacent landowners are listed in **Table 2** and shown on **Figure 3**.

Table 2: Adjacent landowners

Map reference (Figure 3)	Legal description	Address (Street or rates invoices)	Owner	Approximate distance from nearest edge of Project site to property boundary	Written approval received
1	Section 6 Block 1 Otanake SD	422 Waipapa Road, Te Kūiti Pub-rates-info = 417 Waipapa Road	[REDACTED]	434 m	Yes
15	Lot 1 DPS 33442	188 Waipapa Road	[REDACTED]	59 m	Yes
14	Lot 1 DPS 85947	188 Te Kūiti Road, Te Kūiti	[REDACTED]	234 m	
13	Part Lot 1 DPS 18714	188 Waipapa Road	[REDACTED]	339 m	Yes
12	Lot 1 DPS 26796	1027 Oparure Road (1026)	[REDACTED]	95 m	
11	Lot 1 DPS 64000	966 Oparure Road	[REDACTED]	78 m	Yes (owner and resident)
10	Section 42 Block II Otanake SD	806 Oparure	Graymont	98 m	N/A
8	Lot 2 DPS 74022	806 Oparure Road	Graymont	367 m	N/A
5	Pakeho A18 Block	696 Oparure Road, Te Kūiti	[REDACTED]	1.25 km	Engaged via the Oparure Marae
4	Lot 2 DPS 88794	806 Oparure Road	Graymont	1.13 km	N/A
3	Lot 1 DPS 87003	806 Oparure Road	Graymont	1.15 km	N/A
2	Section 13 Block XIV Orahiri SD	419 Boddie Road, Te Kūiti (482 Boddie Road)	[REDACTED]	229 m	Yes
6	Pakeho A 19B Block		[REDACTED]	1.16 km	Engaged via the Oparure Marae
16	Lot 1 DPS 85156	973 Troopers Road	[REDACTED]	247 m	Yes
17	Lot 2 DP 327172	973 Troopers Road 873 Oparure Road	[REDACTED]	183 m	Yes
18	Lot 1 DP 576118	859 Oparure Road	[REDACTED]	700 m	Yes
7	Section 53 Block II Otanake SD		Graymont	972 m	N/A
9	Lot 3 DPS 74022		Graymont	205 m	N/A
19	Pakeho A16		Maori land ownership	1.25 km	Engaged via the Oparure Marae

Consultation with the landowners and occupiers of Pakeho A 19B Block, A16 Block and 18A Block is taking place through the Oparure Marae.

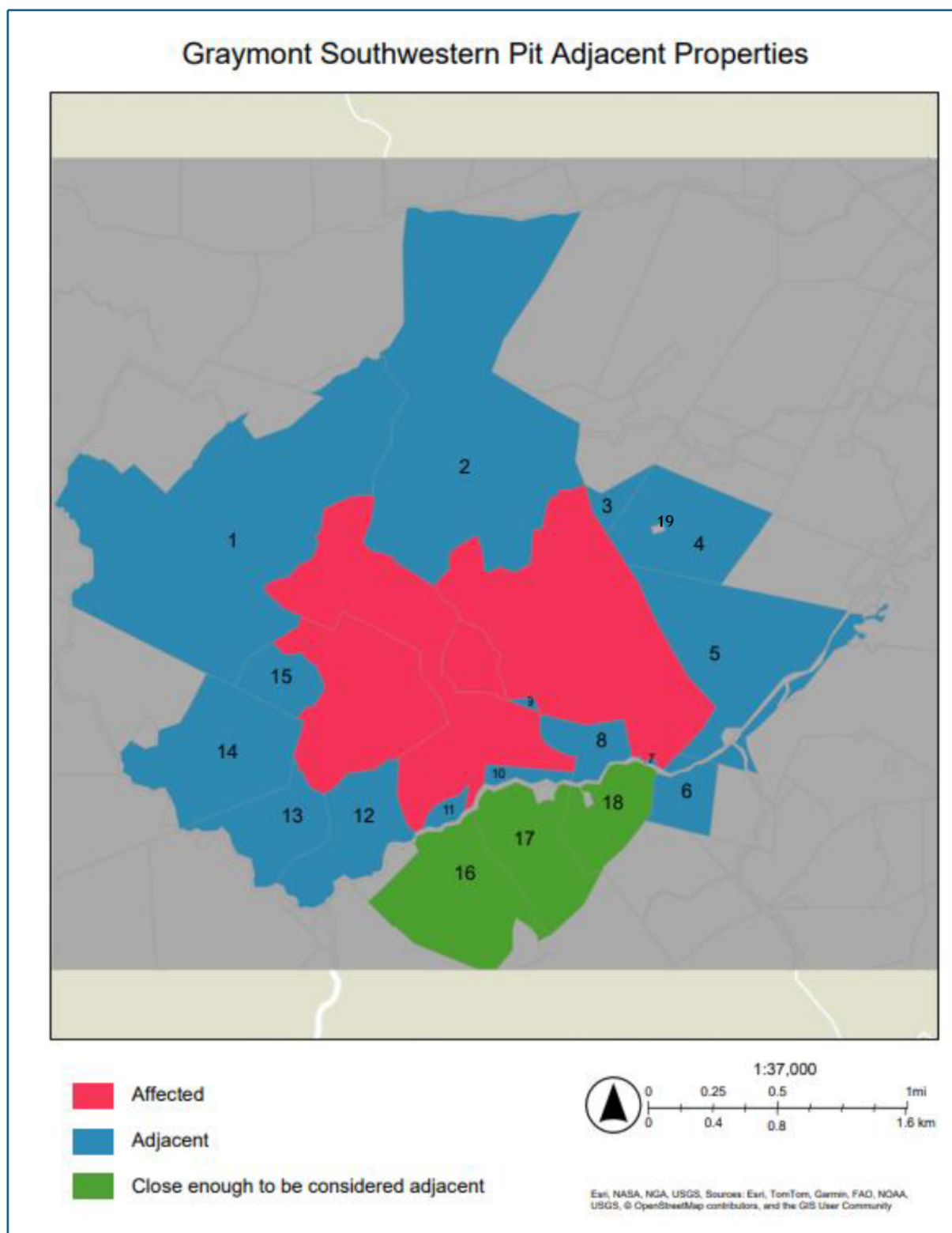


Figure 3: Affected and adjacent properties

Written approvals have also been received from the landowners and occupiers listed in Table 3.

Table 3: Landowners and Occupiers that have provided written approval

	Landowner / Occupier	Address
1	████████████████████	531 Boddie Road, RD1, Te Kuiti 3981.
2	██████████	15 Waipapa Road.

	Landowner / Occupier	Address
3		277 Te Anga Road, Waitomo Caves 3988 334 Boddie Road, Oparure, Te Kuiti.
4		973 Troopers Road, RD1, Te Kuiti 3981.
5		966 Oparure Road, RD5, Te Kuiti 3985.
		966 Oparure Road, RD5, Te Kuiti 3985.
6		873 Oparure Road, RD5, Te Kuiti 3985.
7		859 Oparure Road, RD5, Te Kuiti 3985
8		618 Oparure Road, RD5, Te Kuiti 3985.
9		574 – 576 Oparure Road, RD5 Te Kuiti.
10		422 Waipapa Road, RD5, Te Kuiti 3985.
11		419 Boddie Road, RD1, Te Kuiti, 3981.
12		188 Waipapa Road, RD5, Te Kuiti 3985.
13		392 Boddie Road, RD1, Te Kuiti, 3981.
14		1284 Oparure Road, RD5, Te Kuiti.
15		1074 Oparure Road, RD5, Te Kuiti.

3.3 RELEVANT TREATY SETTLEMENTS

FTAA Schedule 5, clause 5(1)(b)(i), and clause 5(1)(i) - Statutory areas (as defined in the relevant Treaty Settlement Act) and information about any treaty settlements that apply in the area covered by the application.

3.3.1 Ngā Wai o Maniapoto (Waipā River) Act 2012

The Ngā Wai o Maniapoto (Waipā River) Act 2012³ is Treaty settlement legislation between the Crown and Maniapoto that establishes a co-governance and co-management framework for the Waipā River and its catchment. Its overarching purpose is: *"to restore and maintain the quality and integrity of the waters that flow into and form part of the Waipā River for present and future generations."*

That Act recognises the Waipā River as a connected system, including the main river channel, tributaries, streams and springs, groundwater and the Maniapoto karst system, and lakes and wetlands connected to the river catchment. The Act embeds concepts such as Te Mana o te Wai - the health and integrity of water, Kaitiakitanga - stewardship and guardianship responsibilities and Te Mana o te Waipā - the cultural, spiritual and physical relationship between Maniapoto and the river. It creates a framework that influences how councils and consent authorities assess activities that may affect the Waipā River catchment. Resource consent processes must recognise the Act's objectives, the Maniapoto environmental management framework (see Section 9.12), and joint management arrangements between iwi and local authorities (see Section 3.3.3).

The Site is located within the upper Waipā catchment and the Maniapoto limestone and karst landscape. Because the Act explicitly recognises the interconnected nature of surface water, groundwater, springs and the karst system, the consideration of water quality effects, groundwater and karst effects and cultural values associated with water bodies achieves the purpose of the Act.

The Ngā Wai o Maniapoto (Waipā River) Act 2012 provides for joint management agreements to be entered into between Maniapoto and the councils identified in that Act. A joint management agreement was entered into between those parties on 3 April 2013. In December 2023 the parties entered into a combined joint management agreement (see Section 3.3.3) to provide for the obligations under both the Ngā Wai o Maniapoto (Waipā River) Act 2012 and the Maniapoto Claims Settlement Act 2022 (see Section 3.3.2).

³ [Ngā Wai o Maniapoto \(Waipā River\) Act 2012 | New Zealand Legislation](#)

3.3.2 Maniapoto Claims Settlement Act 2022

The Maniapoto Claims Settlement Act 2022 is the legislation that gives effect to the Treaty settlement between the Crown and Maniapoto. Its primary purpose is to:

- Record the Crown's acknowledgements and apology for historical Treaty breaches,
- Settle Maniapoto's historical claims against the Crown, and
- Provide cultural, governance, relationship and commercial redress to Maniapoto.

The Act provides for joint management agreements to be entered into between Maniapoto and the councils identified in that Act. Te Nehenehenui is the post settlement governance entity established through the settlement process and Act (see **Section 3.3.3**).

The Act records Maniapoto's vision and aspirations for the management of land, water and natural resources. These include:

- Protection of the mauri of natural resources.
- Recognition of the interconnected nature of ecosystems.
- Active participation by Maniapoto in decision-making affecting their rohe.

Effect is given to the Act through the assessment and management of water and cultural landscape values and through the Te Nehenehenui Joint Management Agreement.

3.3.3 Te Nehenehenui Joint Management Agreement

Te Nehenehenui ('TNN') is the post settlement governance entity established through the Maniapoto Treaty settlement process and the Maniapoto Claims Settlement Act 2022. The Ngā Wai o Maniapoto (Waipā River) Act 2012 provides for joint management agreements to be entered into between Maniapoto and the councils identified in that Act. A joint management agreement was entered into between those parties on 3 April 2013. The Maniapoto Claims Settlement Act 2022 provides for joint management agreements to be entered into between Maniapoto and the councils identified in that Act. The parties have agreed to enter into one combined joint management agreement to provide for the obligations under both the Ngā Wai o Maniapoto (Waipā River) Act 2012 and the Maniapoto Claims Settlement Act 2022 (see **Figure 4**, sourced from page 19 of the Nehenehenui Joint Agreement).

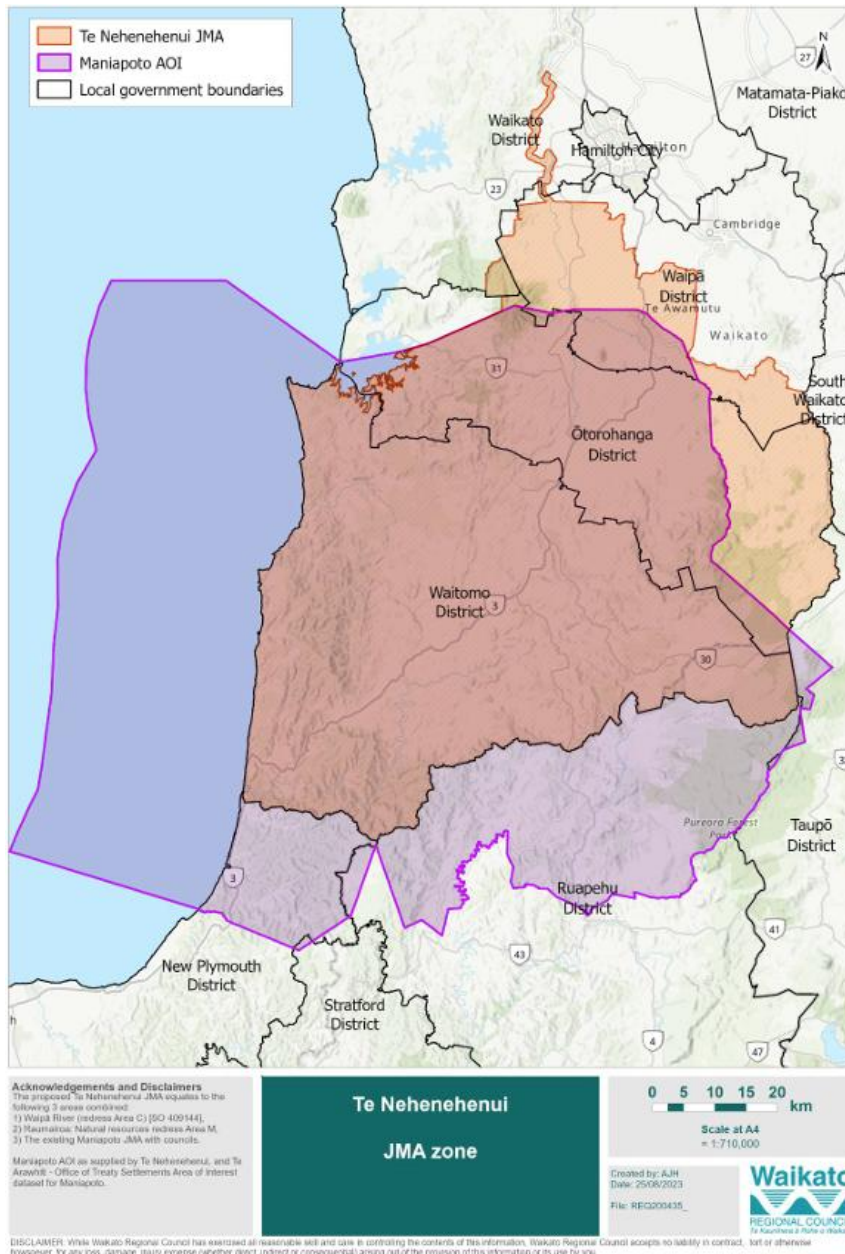


Figure 4: Te Nehenehenui Joint Management Area

The purpose of the agreement is to provide a constructive and effective basis for Te Nehenehenui and the councils to build partnerships and work together. This is given effect to through the establishment of a co-governance forum⁴ that meets at least once a year and operate under an agreed to terms of reference.

Records on consultation with TNN are provided in **Appendix C**.

Schedule Six (RMA resource consent processes) of the JMA is the most directly relevant to this application. It provides that, in exercising consent functions, regard is to be had to (amongst other things) the Treaty settlement legislation and deeds, Te Ture Whaimana, the JMA, and the Maniapoto Environmental Management Plan.

This application gives effect to the substance of these matters, which are assessed in this report and reflected in the proposed conditions.

⁴ [Te Nehenehenui Co-Governance Forum | Waikato Regional Council](#)

3.4 NGĀ ROHE MOANA O NGĀ HAPŪ O NGĀTI POROU

FTAA Schedule 5 Clause 5(1)(b)(ii)

The Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 does not apply to the Project.

3.5 PROTECTED CUSTOMARY RIGHTS AREA UNDER THE MARINE AND COASTAL AREA (TAKUTAI MOANA) ACT 2011

5(1)(b)(iii) - a protected customary rights area under the Marine and Coastal Area (Takutai Moana) Act 2011 and 5(1)(j) - a list of any relevant customary marine title groups or applicants under the Marine and Coastal Area (Takutai Moana) Act 2011

The Site does not affect any Coastal Marine Areas.

3.6 GEOLOGY AND SOILS

A Geology and Soils Report by Mr Sam McVicar of PDP (**Appendix F**) describes the local terrain as dominated by undulating to rolling hills rising to approximately 260-265 m RL in the Site. The topography in the Site as an undulating karst landform with exposed steep (>25°) limestone bluffs and dolines (sinkholes). The dolines merge in place to create short valley systems.

Mr McVicar describes the geology in the general site area under:

- Cover deposits comprising topsoil, volcanic ash and minor ignimbrite,
- Taumatamare Formation (mudstone), and
- Otorohanga Limestone.

The major regional faults in the vicinity of the Site are the northerly trending Waipa Fault and the southern extension of Hikurangi Fault. The Waipa Fault lies around 2 km east of the Site, and the Hikurangi Fault is approximately 3 km to the west.

An unnamed regional inactive fault crosses the Site on a southwest-northeast trend. Localised faults with similar orientations are observed at the nearby Oparure Pit and have previously been inferred to be offshoots / fault splays from the major regional faults. Offset limestone and mudstone (due to faulting) are observed in the nearby Oparure Pit and are exposed in the west and north of the quarry. The faults have brittle fracture zones (breccia, crush zones) of up to 3 m wide. These zones are highly permeable and have increased water content. Cave genesis is expected to align with the highly permeable zones.

The limestone resource at the Oparure Pit is downthrown to the west by around 20 m in the north of the quarry. Locally the faulting increases the bedding dip of the limestone. A zone around 50 m wide west of the fault has elevated water levels and the fault is inferred to dam the west to east subsurface flow of water. Similar fault patterns can be expected at the Site.

The Site coincides with a 346 ha geomorphic feature recognised by the Geological Society of New Zealand as ‘the Pakeho Polygonal Karst’ described as: *“the largest autogenic karst aquifer in the North Island. The area of polygonal karst has numerous dolines, with scattered limestone outcrops with patchy bush, mostly grassed farmland that is quite smooth and probably blanketed in ash”*

3.7 WATER RESOURCES

Detailed Water Resources Effects Assessments have been undertaken by experts over several years to inform the Project. The Water Assessment associated with this application (**Appendix I**), has been prepared by Ms Linda Sharmrock, Mr Blair Thornburrow and Ms Celyn Khoo of PDP (hereafter referred to as the PDP Water Team). The assessment addresses both water quality and quantity and highlights the importance of WRC definitions of “surface water” and “groundwater.” Water flowing within karst systems is treated as surface water in the regional plan context.

The Project Site is located in the catchment of the Camelot Stream, and water infiltrating the karst landscape beneath the SW Pit would surface at Pōtea and Pumphouse Springs, in the lower Mangawhitikau Stream (**Figure 1**).

No permanent surface waterbodies are present within the Project Site. However, a permanent subterranean stream (Camelot Stream) is located within the Project Site, and permanent waterways including watercourses and springs are located downgradient of the Site. The surface water catchment within the Project Site is typical of a karst landscape in which drainage catchments are very small and radial flowpaths to a central tomo/doline. Surface water discharges often drain via rapid infiltration through cracks within the karst environment, some of which may enlarge into cave networks.

The Mangapu River to the south and the Mangawhitikau Stream to the north are the main surface waterways in the vicinity of the Project Site. Both catchments are dominated by farmland and both have submerged and resurging water flow due to the karst landscape. No ephemeral watercourses are present onsite. The Camelot Stream is predominately a subterranean stream that occurs at the base of an approximately 70 m deep shaft immediately east of the proposed SW Pit boundary.

Dye tracer testing has determined that an unnamed stream that submerges into the ground around 1.6 km south-west of the SW Pit is likely to be a significant source of flow into the Camelot Stream, and that stormwater infiltrating into the ground moves through the karst system and emerges into the lower Mangawhitikau Stream at Pōtea Spring and Pumphouse Spring, around 3 km to the north-east of the Site. Ongoing direct access to the Camelot Stream for monitoring and assessment is not, for health and safety reasons, feasible and therefore, Pōtea Spring and Pumphouse Spring and the downstream Mangawhitikau Stream area considered to be the first point where the infiltrating discharges from the proposed SW Pit can be reasonably observed.

Pōtea Spring is a large, clear, fenced spring pool adjacent to Mangawhitikau Stream, heavily shaded with baseline clear flows. White suspended sediment has been observed after storm events, attributed to sediment infiltration from the existing quarry and natural sediment processes within cave networks.

Pumphouse Spring is a piped/modified spring used for a private water supply.

Baseline water quality has been assessed using a number of different sources including discrete sampling at different flow regimes in both the Mangawhitikau Stream and the Mangapu River, continuous measurement sonde sampling in the Mangawhitikau Stream and two representative caves within the Mangawhitikau Cave system and from historical compliance monitoring. This information shows that at times, Suspended Sediment Concentration ('SSC')/turbidity, Dissolved Reactive Phosphorus, Total Phosphorus, Total Nitrogen, Nitrate and E.coli had elevated concentrations in the Mangawhitikau Stream when compared to the relevant water quality guidelines (WRC guideline, Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018, National Policy Statement ('NPS') for Freshwater Management, 2020). These discrete sampling events were taken across a range of hydrological conditions and elevated parameters coincided with elevated stream flows and were therefore less representative of long-term water quality trends, to which the water quality guidelines are more applicable.

Additional 15-minute interval sonde sampling of turbidity in the Mangawhitikau Stream between January and March 2020 showed that turbidity did not exceed 2.5 Formazin Nephelometric Units throughout the monitoring period, and this data is considered more representative of longer-term water quality conditions outside of elevated flow events.

Baseline water quality sampling has shown that turbidity and suspended solid concentration in the Mangawhitikau Stream and the Mangapu River can be elevated relative to the relative applicable water quality guideline values, during rainfall-driven events.

Agricultural land use activities are the primary contributing factor for all of the contaminants referenced above, although the existing quarrying activities may add a small contribution of

suspended sediment loads to the surface waterways. The contribution of quarrying to the other observed contaminants is de minimis - a less than minor level.

3.8 CAVES

Mr Cameron Lines compiled a Geotechnical Effects Assessment (**Appendix Q**) to consider the risks to cave systems within and near the footprint of the Project.

The WRP defines a cave as *‘a natural cavity, fissure or canyon in a rock large enough to be entered by a human and which acts as a conduit for water flow, seepage water, or ground water between input points such as stream sinks, and output points such as springs or seeps.’* Mr Lines notes that cave development in and around the Site is likely to occur through chemical dissolution of limestone by slightly acidic surface water. Graymont employed cavers in 2022 to undertake a survey of the Site for caves.

A 70 m deep shaft entrance to the Camelot Cave system has been identified immediately to the east of the Site (indicated in solid yellow shading on **Figure 5**). A large stream entrance to the cave system (‘stream sink’) has been identified approximately 2.5 km southwest of the shaft entrance (marked as CS on **Figure 5**). Mr Lines concludes that the relative elevation between this stream sink and the 70 m shaft is consistent with the stream having an overall 3 - 5° dip toward the east. While additional mapping will be necessary to confirm, Mr Lines anticipates a north-east trend to the Camelot Cave system.

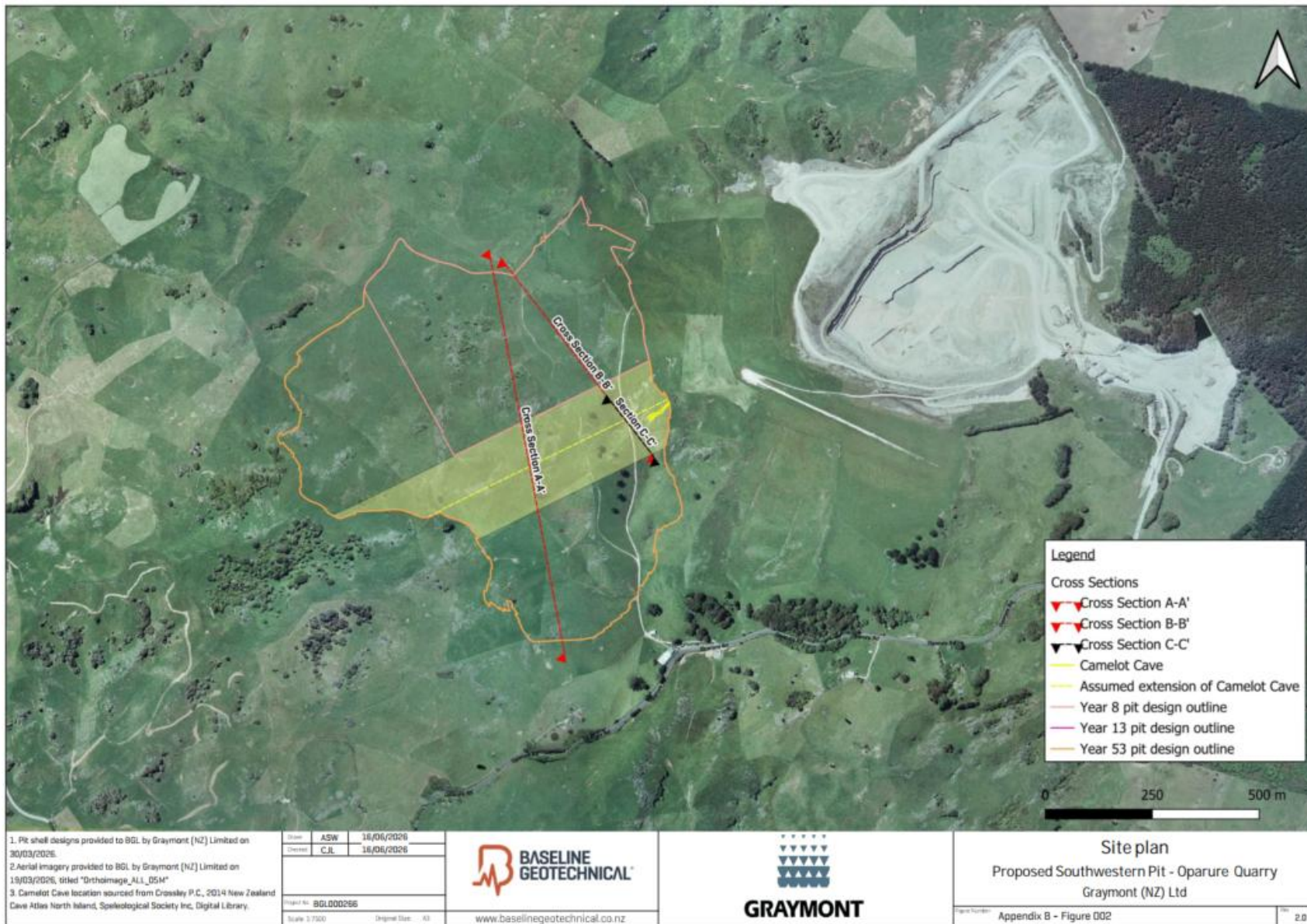


Figure 5: Camelot cave, assumed extension of Camelot cave

3.9 AQUATIC ECOLOGY

An Aquatic Ecological Assessment (**Assessment J**) has been undertaken by Ms Laura Drummond (Stantec).

Ms Drummond notes that no permanent surface waterbodies are present within the SW Pit area. However, a permanent subterranean stream (Camelot Stream) flows approximately 80 m beneath the proposed SW Pit area, and permanent waterways including watercourses, springs and wetlands are located downgradient.

As set out in **Section 3.7**, dye tracer testing has shown all water infiltrating the SW Pit will flow to the Camelot Stream catchment, with the revised SW Pit area located below the northern flow divide. Water infiltrating the SW Pit surfaces at Pōtea and Pumphouse Springs, in the lower Mangawhitikau Stream. This is the current subsurface flow path for the Oparure Quarry.

The Project Site contains no surface aquatic habitats but overlies a complex karst system that connects to springs and streams of varying ecological value. Subterranean habitats such as Camelot Stream support specialised but low-diversity communities, while downstream springs and watercourses exhibit ecological patterns strongly influenced by geology, land use and natural karst processes.

The waterbodies assessed for aquatic ecological values include Camelot Stream, Pōtea Spring, Pumphouse Spring, Mangawhitikau Stream, and Mangapu River.

The **Camelot Stream** is a subterranean streamway within the Digme-Camelot cave system, located beneath the Project Site. The cave system is listed as having high significance in the Waitomo District Plan ('WDP'), although this classification is based on dated information.

Dye tracer testing indicates that stormwater infiltrating at the Project Site is attenuated through the karst system before emerging at springs approximately 3 km to the north-east. Turbidity monitoring shows substantial reduction in both baseline and peak sediment concentrations between the source stream and downstream resurgences, reflecting sediment settling within the karst network.

Historical surveys recorded troglobitic hydrobiids within Camelot Stream, and the system has potential habitat for stygophilic and stygobitic invertebrates. However, direct ecological sampling within Camelot Cave was not possible due to persistently low oxygen levels that posed significant health and safety risks. Environmental DNA sampling was therefore undertaken upstream and downstream of the cave system. Results indicate no fish presence and low invertebrate diversity, suggesting that the aquatic community within Camelot Stream is limited relative to nearby cave systems such as Mangawhitikau.

Given these constraints, ecological understanding of Camelot Stream relies on historical records, literature review, and indirect sampling, with the system considered to have specialised but low-diversity subterranean aquatic values.

Springs within the study area represent resurgences where subterranean karst water returns to the surface. These environments can support aquatic communities typical of stable, cool, groundwater-influenced systems.

Pōtea Spring and Pumphouse Spring discharge to the true right bank of the Mangawhitikau Stream downstream of its resurgence and receive flow from the southern portion of the Site.

Pōtea Spring is well shaded, fenced to exclude stock, and exhibits clear baseflow conditions. The spring source forms a large, deep pool (with a depth of approximately 4-5 m). Macroinvertebrate sampling at Pōtea Spring recorded a depauperate benthic community dominated by Potamopyrgus snails, with a Macroinvertebrate Community Index score of 89 (fair stream health). Sensitive Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) taxa were present (33%), and drift net sampling recorded crustaceans including Paraleptamphopus, indicative of

moderate to good water quality. Fish species recorded in the adjacent Mangawhitikau Stream include longfin eel, common bully, torrentfish, and kōura, with fish access to the spring likely limited by a small barrier at the confluence. While the spring itself is in good ecological condition, the downstream channel shows evidence of historical disturbance, including an embedded vehicle and dumped materials.

Pumphouse Spring is a piped and modified spring used for private water supply. Drift net sampling recorded common amphipods, ostracods, mayflies, collembola and mites, consistent with a low to moderate ecological value typical of modified spring systems.

Two connected spring heads discharge directly into the Mangawhitikau Stream approximately 70 m upstream of its submergence. These springs receive flow from the northern divide of the Site. One spring flows intermittently under elevated flow conditions. Drift net sampling recorded a moderately diverse assemblage of common freshwater invertebrates, including amphipods, mayflies, stoneflies, beetles, caddisflies, snails and worms typical of surface waterways. Hand scrape sampling indicated very low abundance, reflecting limited habitat availability. Overall, the springs exhibit low to moderate ecological values consistent with small karst resurgences.

The **Mangapu River** originates as a spring-fed system west of the Site and includes extensive subterranean reaches of international significance in its upper catchment. Downgradient of the Site, the river is influenced by agricultural land use.

Field surveys show a uniform channel with high sedimentation upstream of the Mangawhitikau confluence, transitioning to coarser substrates and reduced sediment downstream. Macrophyte cover is high in upper reaches and decreases downstream. Macroinvertebrate indices indicate overall good stream health, although nutrient enrichment is evident, with NPS for Freshwater Management attribute states ranging from B to D depending on location.

Fish species recorded include longfin and shortfin eel, common bully, lamprey, brown trout and kōura. The New Zealand Freshwater Fish Database records also indicate the presence of black mudfish and koi carp within the wider catchment.

The **Mangawhitikau Stream** comprises both surface and subterranean reaches and contains the largest river cave in the North Island, classified as nationally significant. It supports contact recreation values and includes protected headwater reaches.

Upstream sections exhibit diverse habitat, bedrock control and good water quality, while downstream reaches show increased sediment deposition and agricultural influence. Macroinvertebrate indices range from excellent upstream to good downstream, with both sites generally within NPS for Freshwater Management Attribute State B. Seasonal variability is evident, with higher Macroinvertebrate Community Index scores recorded in later surveys.

Fish communities are limited by natural barriers but include longfin eel, common bully, torrentfish and kōura. Overall, the Mangawhitikau Stream supports moderate to high aquatic ecological values, with clear differentiation between relatively pristine upstream environments and more modified downstream reaches.

3.10 SUBTERRANEAN ECOLOGY

Dr Vaughan Keesing of BlueGreen Ecology Limited was commissioned to prepare a terrestrial and subterranean ecology assessment (**Appendix K**).

Dr Keesing confirmed that the Site has seven cave features present, with none greater than 50 m long and most with crawling access only. The location of the caves in a pasture environment and openness to pest species influences the character of resident fauna, and Dr Keesing states that '*no troglobite fauna were recorded.*' However, some species were recorded in the caves, including spiders, snails, isopods, amphipods, centipedes and millipedes. No Threatened or At-Risk taxa were recorded in the

cave ecosystems. Dr Keesing states that ‘*all of the taxa seen are best described as troglomenes⁵ and not specific to caves*. All the caves appear to be in early formation and without constant water inputs which would assist their growth. All are in a farmed landscape with an absence in general of entrances with native vegetation cover and all are open to mammalian pests.

In relation to the information available, Dr Keesing considers it is reasonable to infer that the Camelot cave system has a representative habitat and includes troglobite fauna and therefore is of a high ecological value.

The overall value of the cave ecosystems on and near the Site is assessed as ‘Low’.

3.11 TERRESTRIAL ECOLOGY

A Terrestrial Ecology Assessment was prepared by Ecology New Zealand Limited and updated by Boffa Miskell. Dr Vaughan Keesing was commissioned to prepare a terrestrial and subterranean ecology assessment, including considering on the previous assessments, in support of this substantive application (**Appendix K**). Dr Keesing assessed the terrestrial ecology values using the EIANZ criteria.

Although the Site is primarily dominated by pasture, the small native-dominated bush remnants and rock formations provide foraging and nesting habitat for terrestrial fauna. It is noted, however, that the Site displays landscape features that classify it as a karst ecosystem. Karst ecosystems are naturally uncommon in New Zealand and have the potential to support a wide range of species.

The Site includes multiple threatened landscape features, including:

- Cave entrances (critically endangered);
- Sinkholes (endangered);
- Calcareous cliffs (vulnerable);
- Scarps (vulnerable);
- Tors (vulnerable).

Dr Keesing notes that the historic and present land use has minimised the ability of these ecosystems to support wide varieties of life through vegetation clearance, increased light, weed invasion, and increased temperatures of cave entrances and shafts. Dr Keesing notes that while limestone outcrops have the potential to support karst ecosystems, functioning karst ecosystems require ‘a reasonable amount of native vegetation’. With this in mind, Dr Keesing identified 12 partially representative areas of karst ecosystem across the Site.

A Significant Natural Area (‘SNA’) is located near the western boundary of the SW Pit.

Isolated blocks of native bush provide foraging and nesting habitat for native birds. This includes bush falcon (*falco novaeseelandiae ferox*; At-Risk - Recovering). No other At-Risk avifauna were observed onsite, but Dr Keesing notes that the following species are known to occur within the wider area:

- North Island brown kiwi (*apteryx Mantelli*; At-Risk - Declining);
- North Island kāka (*nestor meridionalis septentrionalis*; At-Risk - Recovering);
- North Island kōkako (*callaeas wilsoni*; At-Risk - Recovering);
- North Island robin (*petroica longipes*; At-Risk - Declining).

The Site contains potentially suitable habitat for ground-dwelling lizards, including bush fragments, rock structures, and isolated logs. Further, the scattered areas of bush habitat could host arboreal geckos. Dr Keesing notes that while the only lizard species recorded during surveys were copper skinks and ornate skinks, the presence of other lizards cannot be ruled out as they may be present in such low abundances that they are undetectable in surveys.

⁵ Animals that periodically use caves, but cannot live their entire lifecycle there

Native bush blocks, exotic and native trees, and cave systems could serve as roosting habitat for long-tailed bats and open farmland and gully systems provide foraging opportunities for the same. Automated Bat Monitoring units ('ABM') were deployed in 2019 and 2021 which detected the presence of long-tailed bats at a low abundance. The Site also hosts some terrestrial invertebrates, including snails and spiders. Dr Keesing has not identified any natural inland wetlands at the Site.

The Site also hosts a range of pest animal species including small mammals such as rats, mustellids and domestic/feral cats as well as larger species such as deer and goats.

A summary of Dr Keesing's overall assessment of the value of terrestrial habitats is provided in Table 4.

Table 4: Summary of existing terrestrial ecosystem values

Ecological Feature	Overall Value
Karst Landscape	Moderate
Terrestrial Vegetation	Low
Avifauna	Low
Herpetofauna	Low
Bat Habitat	Low
Terrestrial Invertebrate Habitat	Low

3.12 CONTAMINATED LAND

A Contaminated Land Effects Assessment undertaken by Mr Max Sharpe and Ms Susie Humphrey of PDP (Appendix G) was supported by a Preliminary Site Investigation undertaken to identify potential contamination risks. Historical aerial imagery (1944-2024) indicates the Project Site has been pasture farmland for decades, with farm tracks, sheds, a water tank/pump shed, and a linear feature interpreted as a possible airstrip appearing from 1968. Quarry activity expanded to the east from the 1980s onward, with evidence of landform change in eastern valleys/tomos likely associated with neighbouring quarry activities.

A Council file review found no relevant information. A WRC Land Use Information Register enquiry identified two HAIL entries, neither of which would be directly affected by the SW Pit or haul road:

- "Grainger Farm Airstrip" (unverified HAIL; fertiliser bulk storage).
- "Building 2 (adjacent to)" (unverified HAIL, livestock dip or spray race operations).

A Site walkover of the larger Western Pit site was undertaken by PDP on 10 October 2019, and further Site visits were conducted in 2025 and 2026, which confirmed that the general land use remained largely unchanged since the October 2019 Site visit. Key observations from the Site walkover include:

- Fly-tipped farm waste in tomos (fencing materials, tyres, some offal, corrugated iron, and empty/unidentified chemical containers in one tomo). This was assessed as not meeting HAIL activity definitions and not likely to present hazardous substance risks at levels of concern.
- A storage shed containing an above-ground diesel tank and small chemical containers, with no evident spills or bunding, and located outside the proposed minerals exploration area.
- A woolshed near the access gate with broken asbestos-containing material cladding on the ground nearby; outside the proposed exploration area.
- A covered livestock pen with evidence of spraying.
- A small shed clad in asbestos containing material, with asbestos containing material sheets stored on-site. No earthworks are proposed in this vicinity.

- A pump shed with a minor spill of motor oil running off onto unsealed ground outside of the building. The shed also contains potential asbestos electrical backing board and herbicide containers. This shed is outside the proposed quarry area, where earthworks are not proposed.
- A former sheep dip site on the corner of Oparure Road and the Graymont quarry access road, identified through discussions with the previous property owner. There are no visible signs of contamination at this site, and it is located outside of the proposed quarry area. No additional investigations were undertaken.
- A former airstrip with a grassed runway and some timber fencing piles. No evidence of contamination was observed during the walkover.

The assessment concluded that resource consent is not required under the National Environmental Standards for Assessing and Managing Contaminants in Soils to Protect Human Health as no HAIL sites were identified within the works footprint.

3.13 ARCHAEOLOGY

An Archaeological Effects Assessment by Ms Kim Tatton of Clough and Associates undertaken for Graymont (**Appendix H**) describes the broader cultural-historical setting as the heart of Ngāti Maniapoto territory, with settlement patterns historically focused on waterways (e.g., Mōkau and Waipā Rivers). Te Kūiti is described as significant in the mid-19th century colonial-Māori conflicts and later as part of the King Country context, followed by rail-enabled European settlement and farming expansion from the late 1800s.

To establish an understanding of the existing archaeological landscape, Ms Tatton undertook investigations through a combination of online databases, literature review, and a two-day field survey. Neither the field survey nor desktop assessment found any evidence of archaeological material at the Site. The nearest recorded sites are two pā locations in the Mangawhitikau Stream valley to the north (S16/305 - approximately 1.64 km from the Project site and S16/216 - approximately 1.6 km from the Project Site), and an urupā shown on district planning maps on a neighbouring property to the east of the existing Oparure Pit.

Overall, Ms Tatton concludes significant historical Māori occupation of the area is unlikely, given steep/remote inland setting, limited surface water, and thin topsoil unsuitable for horticulture, although inland forests may have provided raw materials for Māori. No European archaeological sites were identified.

3.14 AIR QUALITY

An Air Quality Effects Assessment undertaken by Mr Paul Crimmins, Mr Jeff Bluett and Mr Trevor Everett of PDP for Graymont (**Appendix L**) describes the receiving environment around the Project as predominantly rural, with low-density residential development and the existing quarrying activity (the Oparure Pit). Because surrounding land uses are largely agricultural, the environment immediately adjacent to the proposed SW Pit is generally considered to have a low sensitivity to dust discharges, relative to more densely settled or urban environments. PDP assesses the existing Oparure Quarry as having negligible amenity effects on air quality and notes that the existing quarry has been in operation since around 1981 with no records of dust complaints arising from operations at the existing quarry.

Wind data from October 2019 at the existing Oparure quarry shows that winds predominately blow from the south-west, followed by winds from the west, south and northeast, with the highest wind speeds in the afternoon and early evening. Rainfall mediates dust generation, as wetter conditions will prevent dust from becoming airborne. PDP notes that rainfall patterns at the Site show that wetter conditions tend to occur between April and September, with drier conditions occurring between October and March.

3.15 NOISE AND VIBRATIONS

A Noise and Vibration Effects Assessment by Mr Jon Styles (the Styles Group Limited) (**Appendix M**) describes an ambient rural noise environment that already includes mobile noise from existing Oparure Quarry operations. Residential development is described as low intensity and clustered along Oparure Road. The existing noise levels at these receivers ranges between 28 and 38 dB LAeq. No existing consents are identified that would enable new dwellings closer than those currently established.

Existing Oparure Pit blasting is the principal source for vibration. Mr Styles conducted vibration monitoring during six discrete blast events at the existing quarry. This found that the vibration from the blast events was not able to be accurately measured due to the very low level of effect which was at the limits of instrument detection. The closest recreational caves are the Spellbound caves. Monitoring at the Spellbound cave entrance during blasting recorded peak particle velocities that were very low, often barely measurable above ambient vibration and below typical human perception. No adverse vibration effects were reported for Spellbound caves from blasting during that time.

3.16 LANDSCAPE AND VISUAL

A Landscape and Visual Effects Assessment prepared by Mr Stephen Brown (Brown New Zealand Limited) (**Appendix O**) describes the setting as a pasture-dominated working rural landscape transitioning from the Oparure Pit edge into rolling dissected terrain. Karst features (dolines, sinkholes, small outcrops/tors, exposed regolith) are found throughout the Project Site and contribute to local character.

The surrounding landscape is similar, with a notable change to the west/northwest where plantation pine and native forest mark the Herangi Range margins. Structures are limited (woolshed, sheds/farmhouse near road, two water tanks on knolls). Neither the Project site nor its surrounds are identified as Outstanding Natural Landscapes or Features in district or regional planning documents.

Onsite vegetation includes scattered native remnants (taraire, mapou, pigeonwood) in gullies/depressions and on steeper slopes, with willows and other exotics, especially near farm entrances and buildings.

Mr Brown's assessment noted the mapped cave systems (especially Digne-Camelot D1) and nearby nationally and regionally significant systems (Mangawhitikau B1; Waipapa Road C6). The New Zealand Geopreservation Inventory describes the Pakeho Polygonal Karst as an unfenced polygonal karst area and the largest autogenic karst aquifer in the North Island, with regional value and assessed as robust/not highly vulnerable (noting the assessment is focused on above-ground landscape attributes).

Overall, limestone/karst landscape features are considered typical of the area and less prominent than more publicly accessible Waitomo locations; they contribute to distinctive character but are framed within an actively farmed rural landscape.

3.17 RECREATION AND TOURISM

A Recreation and Tourism Effects Assessment prepared by Mr Rob Greenaway of Greenaway and Associates (**Appendix P**) defines the study area as Graymont-owned land near the Oparure Quarry, access roads, and tourism operations reliant on cave systems and waterbodies. There is no public access to the Project site or to Graymont-owned cave systems. Two scenic reserves exist nearby but are not developed for recreation.

Cave systems are a central recreational/tourism consideration in the wider area. The Digne-Camelot system (within the pit footprint) is only accessible via private land and has no public recreation/tourism value. In contrast, the Mangawhitikau system, which is not directly affected by

the SW Pit, has high tourism use, with formal access agreements for operators (Spellbound Glow-worm and Cave Tours; Kiwi Cave Rafting). The Guildford system to the northwest has high recreational use but is also on private land.

Road-based recreation is limited. Mr Greenaway reports no running activity on Oparure Road, but cyclists do use the area occasionally. Strava data indicated modest cycling use on Oparure Road since 2013. Oparure Road is also used for horse riding and pedestrian access. Crash data from 2020 - 2022 showed no crashes involving pedestrians or cyclists. Angling was not reported in the immediate Mangapu River catchment near the quarry, with most trout fishing activity occurring well upstream in the Waipā River system.

3.18 ROADING AND TRAFFIC

A Traffic Impact Assessment prepared by Mr Philip Brown of Traffic Engineering & Management Limited (**Appendix N**) describes access to the Oparure Quarry via Oparure Road approximately 8 km west of State Highway 3 ('SH3'). SH3 provides a strategic route, with Oparure Road and Troopers Road linking the quarry to SH3. Oparure Road is described as built to a relatively high standard with formation widths of 7.1-9.5 m, suitable for two-way heavy and light vehicle movement.

Observed speed profiles reflect road geometry and "normal" driver behaviour for similar roads. Non-motorised traffic volumes are exceptionally low, including around Te Wharekura o Maniapoto school.

Crash review for the 7.9 km section between SH3 and near the Oparure Quarry entrance identified 11 reported crashes (2016-2020), including one fatal crash involving a Graymont contracted truck turning into the quarry. Since then, the quarry access intersection has been upgraded (widening and formal right turn bay), which is described as having operated successfully for several years.

A capacity assessment indicates Oparure Road has theoretical capacity significantly above current traffic, and there is reserve capacity at the Oparure Road/SH3 intersection. SH3 is also considered able to accommodate future traffic given modest growth rates.

The entrance to the Graymont Oparure Quarry sits approximately 8km west of SH3 along Oparure Road. A school (Te Wharekura a Maniapoto) is located on the right-hand side of Oparure Road approximately half-way between SH 3 and the site. Mr Brown states that 'Oparure Road has typically be constructed to a relatively high standard with formation widths that vary due to the topography of the area and constraints such as bridges and culverts.' Mr Brown considers Oparure Road is constructed and maintained to an appropriate standard for two-way movement of heavy and light vehicles without causing operational issues.

Current quarry traffic occasionally utilises Troopers Road as a shortcut to SH3 if the load is to be delivered south of Te Kuiti. Troopers Road is constructed to a lower standard than Oparure Road, with one lane in each direction and a wide variety in seal width and nature along its length and constrained by local topography. Team traffic considers portions of this road to be sub-optimal for long-term two-way truck use.

Mr Brown undertook traffic surveys in 2019 and 2026 to establish a baseline for current operational traffic generated from the quarry. They estimate that the quarry is likely to generate between 13 and 26 vehicles per hour during the busiest time of year. This is considered a very low traffic flow volume. Surveys also noted that the speed limit reduction signage past Te Wharekura a Maniapoto results in a noticeable speed reduction through this area. Further, the report notes that pedestrian movements associated with the school appear to occur off-road in a recessed parking and drop-off area adjacent to the school entrance which is physically separated from the road. Mr Brown concludes that the vehicles associated with quarry activity are currently coexisting with other road users without creating any operational issues from a traffic engineering perspective.

4 PROJECT DESCRIPTION

Schedule 5, Clause 5(1)(a) of the FTAA

4.1 OVERVIEW

The Project entails the development, operation and progressive rehabilitation of the new SW Pit at Graymont's existing Oparure Quarry (**Figure 2**).

The SW Pit would be located adjacent, on the western side, to the existing Oparure Quarry pit, and would continue to use the same main access road, office facilities, material storage facilities and water sources currently operating at the quarry.

Quarrying at the SW Pit would be, as at the existing pit, opencast. The area to be disturbed over the lifetime of the SW Pit would be 59.6 ha by approximately 2080. However, only small sections would be quarried at a time in stages and then rehabilitated. Mining infrastructure associated with the SW Pit would include a 1.3 km haul road (indicated by the green lines on **Figure 2**).

The SW Pit will be operated with the same operational methodology used in the existing Oparure Quarry. The material extracted from the SW Pit will be processed using existing fixed processing plant and water management facilities located in the Oparure Quarry, and a new mobile crusher/screen on the Site. The Project will not increase the current production rates (or vehicle movements) generated by the current operation of the Oparure Quarry.

In New Zealand, the term 'lime' includes:

- limestone (calcium carbonate - CaCO_3),
- quicklime (aka burnt lime) (calcium oxide - CaO), and
- hydrated lime (aka slaked lime) (calcium hydroxide - Ca(OH)_2).

All of these materials are used in large quantities in New Zealand (as they are throughout the world). For the purpose of this report, we refer to limestone and lime products separately (the latter requiring further processing using industrial scale kilns). For completeness, it is noted that 'Ag-lime' is commonly referred to term and this is a limestone product.

As is currently the case at the existing Quarry, approximately 40% of the extracted tonnage from the quarry will continue to go to Ōtorohanga and Te Kūiti for further processing into quicklime products, with the balance being transported further afield to a wide range of destinations and receiving activities in New Zealand, including steel production and building products.

4.2 BETTERMENT PLAN

Intrinsic to the Project are Graymont's extensive native planting commitments on the site and in the wider catchment, based on robust expert advice, stakeholder feedback, Graymont's commitment to sustainable growth, and a strict adherence to responsible environmental, workplace, and operating practices. These commitments aim to:

- Compensate for the loss of indigenous terrestrial, karst and aquatic (freshwater) habitat and provide betterment in accordance with Te Ture Whaimana o Te Awa o Waikato - the Waikato River Authority's Vision and Strategy for the Waikato River;
- Reduce the net contribution that the Project makes to the contaminant (sediment and nutrient) load that is discharged to the downstream surface and groundwater resources; and
- Advance measures and initiatives to address the actual and potential cultural effects of the Project.

Planting areas are identified in the Ecological Betterment Plan (**Appendix U1**) and associated Karst and Riparian Management Plan (**Appendix U7**), both of which are subject to certification. The indicative areas are shown in **Figure 6**, taken from Figure 7 in **Appendix I** (the Water report), and include:

- Riparian Planting (Upper Camelot Catchment) - 11.8 ha;
- Planting in Mangawhitikau Stream Catchment - 9.4 ha; and
- Planting of area between/around SNAs - 6.7 ha.

The betterment approach will lead to an overall positive outcome for the Mangawhitikau Stream catchment, due to improvements to water quality and increased habitat through planting of streams, hillsides and tomos.

Graymont intends to implement a covenant on the SNAs to the west of the SW Pit in order to ensure ongoing protection of the habitat.

4.3 WORKING HOURS AND STAFF NUMBERS

The Oparure Quarry currently operates 12 hourly shifts, six days a week.

Excluding contractors, the Oparure Quarry currently has a staff count of 15. The Ōtorohanga kiln site has the highest employment of all the operational sites at 24 staff. The Te Kuiti kiln site operates with 4 permanent staff (although technical staff at the larger Ōtorohanga kiln site also service the Te Kuiti site). In total, there are currently 43 staff directly employed by Graymont at the Quarry and kiln sites in the Waikato. The regional office in Hamilton has 18 positions.

The existing operation is an efficient operation, professionally managed by A-grade quarry manager and supporting staff including Health, Safety and Environment, supervisors, engineering, laboratory and mine. This provides for the efficient use of limestone extracted from the quarry by thoroughly testing of the in-situ rock, segregation into three specific quality grades and further processing into various products. Although the Oparure Quarry was originally developed to primarily supply the lime kilns at other sites, significant infrastructure was constructed from the late 1990s to ensure that by-products were processed into various agricultural products. These include the Waikato's only overhead load out system for agricultural lime; a drier and further milling to produce pulverised limestone and a robotic stacker for bagged product dispatch.

The Oparure operation is an innovator in the field and is the proud originator of New Zealand's first limestone-based calcium supplement for lactating dairy animals, Graymont's signature "Calcmate™" product. More recently, a product for aerial application (Aerolime™) was developed to provide soil sweetening in steep hill country while still meeting strict safety requirements.

4.4 OPERATIONS

Quarrying at the Oparure site is carried out by standard opencast methods where a veneer of overburden is removed to expose the underlying limestone resource. The underlying high quality limestone rock is removed from the active pit face or floor by blasting and carted by dump trucks to the primary crusher. Limestone rock extraction and production rates are based on 40,000T to 80,000T per month being delivered to the primary crusher. Extraction and production rates can be variable and are subject to product demand and weather constraints.

The removal of overburden is typically carried out using a 100-tonne excavator supported by three 100-tonne trucks. The excavation of the limestone is carried out by two excavators that range in size between 70-tonne and 300-tonne, with these machines supported by two trucks that have a capacity of between 60-tonne and 100-tonne.

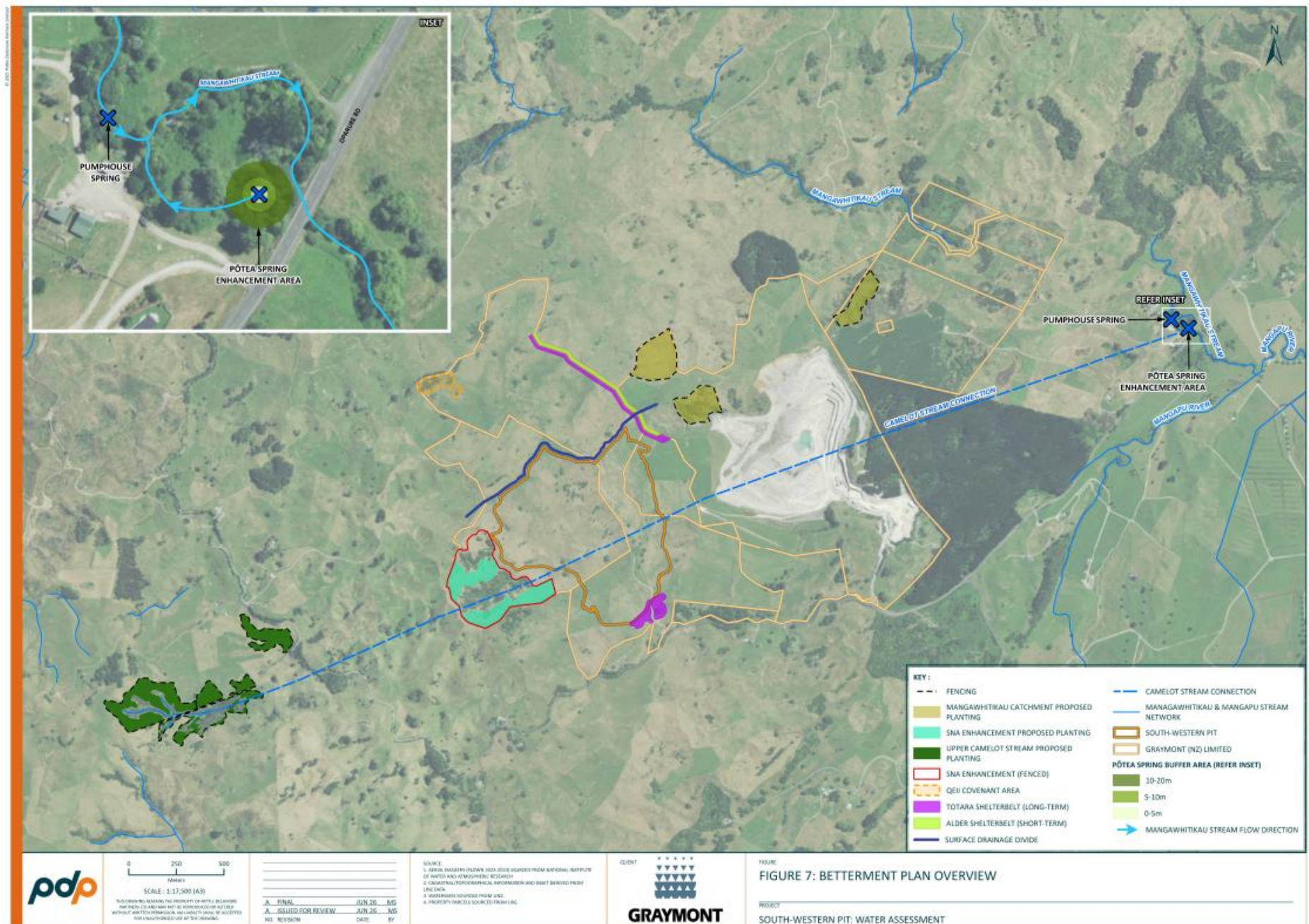


Figure 6: Betterment Plan Overview

A haul road to link the current Oparure Pit to the SW Pit will be constructed first. The SW Pit will then be quarried in stages. A series of water table drains and sediment pits are proposed to control the sediment in any runoff from the haul road. **Appendix U2** includes the design of these specific erosion and sediment control measures. After vegetation on the section of a quarry stage is cleared, topsoil will be removed and stored in stockpiles. Overburden below the topsoil will be removed, generally during dry periods, to expose the underlying limestone resource. Overburden will be placed into the pits from previous quarrying stages (initially in the current pit, then backfilled into the SW Pit) to restore the landscape to a natural form and then covered with the topsoil to reinstate productive farmland. A set of stage plans showing years 00, 01, 02, 03, 04, 05, 08, 13, 23, 33, 43 and 53, are included in **Appendix V**.

The SW Pit will be operated and managed using the same quarrying methods implemented at the existing operation. This will include drilling and blasting of limestone of similar size and MIC, at intervals of seven to 10 days to achieve a 40,000 to 80,000 T of limestone per month. For extraction machinery requirements, the SW Pit will have operating loaders, excavators and trucks moving along the proposed haul road to the Oparure Quarry.

Drilling will be carried out by an Approved Contractor. All shot firing activities will be carried out in line with the Health and Safety at Work (Mining and Quarry Operations) Regulations 2016 and Health and Safety at Opencast Mines, Alluvial Mines and Quarries, Good Practice Guidelines (2015). Explosives will be supplied, loaded and fired by an approved Contractor. Once drilled and blasted, the limestone is collected and carted by dump trucks along to the processing facility.

The manufacturing, processing, storage and transport facilities that service the existing Oparure Pit will also service the SW Pit. The only new manufacturing plant associated with the Project will be a mobile crushing plant. Some of the limestone from the SW Pit will be transported by road to Graymont's Ōtorohanga and Te Kūiti sites for processing to produce quicklime and hydrated lime. As the Project is replacing the production from the existing Oparure Pit, the truck traffic volumes from the Project will not exceed the current maximum truck numbers.

All heavy trucks and quarry vehicles will access the SW Pit via a haul road from the existing Oparure Pit. The existing light vehicle access will be retained. No new entrance way to Oparure Road is proposed.

4.5 GEOTECHNICAL DESIGN

There are no permanent structures proposed for the Project (except the pit slopes and the overburden engineered landform inside the quarry pit). Additional sediment retention ponds or water storage lagoons may be required to operate post closure. These should be designed and operated in general accordance with the Erosion and Sediment Control Plan (**Appendix U**). General geotechnical design recommendations are included in **Appendix F**.

4.6 TOPSOIL

Topsoil on the Site has an average thickness of 150 mm (range 50 - 200 mm). Topsoil is very thin on steep slopes (>25°) and accumulates in the valleys. The recoverable topsoil volume, based on the average thickness of 150 mm, is estimated to be approximately 89,400 m³. Sufficient Horizon C (Mairoa Ash) should also be recovered to bring the combined recoverable soil (and silt) thickness to a minimum of 600 mm. This equates to 268,200 m³ (approx.) of Horizon C to be recovered. Topsoil will be stripped and managed in accordance with the ToMP, which defines stripping, stockpiling, storage duration and reuse requirements. During the initial stages of quarry development, a topsoil stockpile will be constructed near the haul road estimated to around 3.2 ha in size. As the recovered overburden reaches the final landform shape, this recovered topsoil will be placed and grassed.

4.7 OVERBURDEN STRIPPING

Stripping is undertaken in campaigns (typically annually) which are aligned with the quarry stages (see **Appendix V**) and include vegetation removal, topsoil stripping / stockpiling, large scale excavation of overburden and haulage of overburden to disposal sites. Initially, overburden will be placed in the existing pit at the Oparure Quarry. Around Year 18, the overburden will be progressively backfilled in the SW Pit. By Year 53 the in-pit engineered landform (overburden dump) is expected to extend some 37.7 ha. Following quarrying and closure of the site, Graymont propose to return as much of the disturbed area as possible to productive farmland by filling with overburden following by topsoil and grassing.

4.8 OVERBURDEN DISPOSAL / PLACEMENT

The design and construction parameters for overburden engineered landforms ('ELFs') are required to be provided by a suitably qualified and experienced geotechnical professional in accordance with the conditions of consent. Detailed construction methodology and design controls are implemented through:

- The geotechnical design required under the consent conditions relating to overburden placement.
- The P&HMP, which incorporates the construction methodology for engineered landforms and associated drainage and stability controls.

In general, the overburden material has no economic value. The exception as dimension and landscaping stone which can be sourced from the limestone 'caprock'. However, we understand this is considered a limited market and not significant compared to the volume of waste rock that is produced.

Topsoil will be recovered separately from other overburden materials and will be used for rehabilitation and planting including for final slopes of the overburden ELFs.

The proposed strategy for overburden disposal is placement into quarried pits (e.g. Oparure Pit and progressively the South-Western Pit after year 13 of the quarry operation) as overburden ELFs.

The objective of the in-pit overburden disposal is to infill as much of the quarry pit space as possible so as to restore the landscape to a natural form and maximise reinstatement of productive farmland.

The potential environmental effects due to overburden disposal in the South-Western Pit are considered to be:

- Waste management (disposal of kiln waste and fly ash).
- Geotechnical stability of placed overburden.
- Sediment generation (discussed above, refer to **Section 4.9**).

4.9 EROSION AND SEDIMENT CONTROL

An Erosion and Sediment Control Plan (**Appendix U2**) presents Graymont's approach to managing erosion and controlling sediment during the construction and operation of the SW Pit. The approach documented in the ESCP will be implemented by Erosion and Sediment Control Stage Plan (ESC Stage Plans) that will be developed as progressive areas or catchments are intercepted. An Erosion and Sediment Control Toolkit (**Appendix U3**) has been developed to aid the development of the Stage Plans. An ESC Stage Plan for End of Year 1 and an indicative ESC Stage Plan for End of Year 53 have been prepared and these form exemplars for subsequent revisions and demonstrate to decision-makers the level of engineering that informs the design of the ESC infrastructure.

The ESCP follows the principals in Auckland Council (AC 2016) Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, Guideline Document (GD 2016/005). The ESC measures in the published guidelines are predominantly intended for earthwork activities which are

short-term in duration. As several of the structures, like the haul road and some of the pit high walls, will be in existence for in excess of 30 years, a higher 'level of service' may be required of some of the ESC measures associated with these structures. Whilst GD 2016/005 has guidance for quarries that all ESC structures should be designed for the 5 percent annual exceedance probability ('AEP') critical duration rainfall event, some structures like the haul road have been designed for a more extreme 2 percent AEP event.

Whilst GD 2016/005 has guidance for quarries that all ESC structures should be designed for the 5 percent annual exceedance probability (AEP) critical duration rainfall event, some structures like the haul road have been designed for a more extreme 2 percent AEP event.

Quarry impacted stormwater will be passed through several erosion and sediment controls before being ultimately directed to the quarry pit. The quarry-impacted stormwater will be directed to one or more low points in the pit (sumps), where the stormwater will be retained within the pit sump; within these low points the 'In-pit Sediment Infiltration Pond' (refer Section 4.6) will be excavated/engineered to filter out the majority of the residual sediment in the stormwater prior to infiltration into the Karst System.

Erosion control devices that will be implemented as part of the plan will include:

- Diversion of clean water via riprap (aggregate) or grass topsoil lined bunds where applicable;
- Water table drains and benched slopes on steep faces (greater than 25% slope and/or greater than 20 m vertical height);
- Staging of exposed working areas; and
- Stabilisation of steep faces/highwalls via grassing, hydro seeding or hay mulching.

Sediment control (management of the surface water discharging to the receiving environment) aims to retain water to allow suspended sediments to settle out before discharging to the receiving environment. Sediment control devices include:

- Benches,
- Grassing and
- Forebays and infiltration sumps.

4.10 PROGRESSIVE REHABILITATION

The placement of overburden is an essential part of the rehabilitation strategy for the SW Pit. In the first 13 years, overburden from the SW Pit will be placed within the Oparure Pit - effectively rehabilitating that pit. From year 13 onwards overburden will be placed in the footprint of the first stages of the SW Pit and in the Oparure Pit. With respect to the SW Pit, the overburden will be used to progressively fill the excavation to the southern extent of this Pit.

At the end of the quarrying operations, approximately 75% of the land that is impacted by proposed quarry will be backfilled with overburden. Due to the shortfall in overburden (this reflects the fact that overburden and limestone are removed from the existing landform), pasture reinstatement will occur at lower elevations within the quarry rim. The remaining 25% of the land will take on an alternative land use. This alternative will be subject to an optioneering assessment closer to the time of the pit closure. Factors that will affect this decision will be the extent of bluff faces, groundwater levels and final terrain form. This exercise will consider, for instance, if this area of land could support an alternative natural landform, a recreational opportunity(s) or any other economic pursuit.

The topsoil that is stored as part of the overburden stripping will be reused for pastoral (agricultural) purposes and for final slopes of the overburden ELFs. Mr Matheson advises that the topsoil should be spread (but not compacted) in layers ranging from 100 to 300 mm thick depending on the type of receiving environment where it will be deposited.

The two pits aside, the sites of the quarry pits comprise of various physical components (such as haul roads, open pit, SDPs, waste facilities, waste rock stacks, office buildings, fixed plant and workshop

areas). These areas will also be rehabilitated, although their end use cannot be determined at this time.

Figure 7 shows the proposed concept rehabilitation plan, identifying the areas that will be reinstated as productive farmland (pasture) (light pastel green), and where native canopy planting (dark lime green), native shrubland planting (light lime green), covenant revegetation (dark green) and riparian planting (blue) would take place.

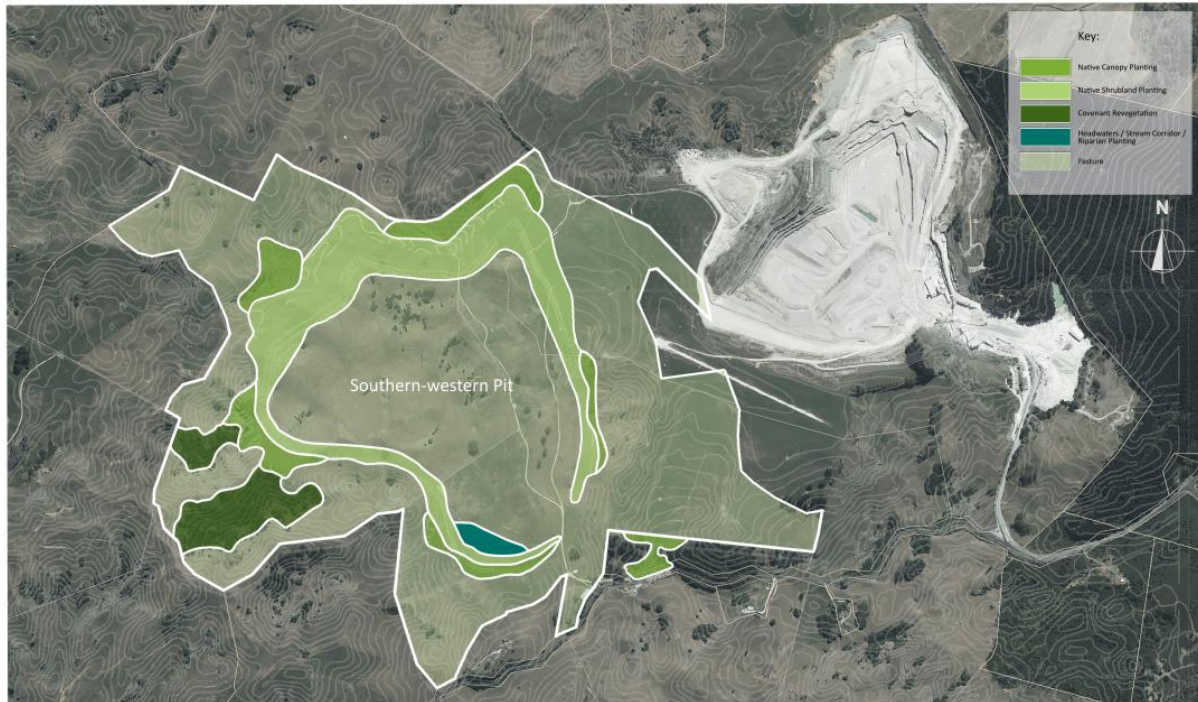


Figure 7: Conceptual rehabilitation plan

Ultimately, factors such as the level of contamination in the soils below facilities such as the waste facilities will determine how they are rehabilitated and what use they can be put to.

The precise nature of the rehabilitation that is undertaken will be determined by a Pit Rehabilitation Plan ('PRP'), which would be prepared prior to commencement of the SW Pit activities. The PRP will be submitted to the councils for their review and certification. Once certified, Graymont will implement the PRP. The PRP is required by WRC draft Condition 86 with content requirements specified in WRC draft Conditions 87.

4.11 CAMELOT CAVE BUFFER ZONE

The Project will be implemented in a manner that avoids adverse effects on the Camelot Cave system as discussed in **Section 7.5** and **Section 8**.

4.12 ALTERNATIVES

FTAA Schedule 5 Clause 6(1)(c)(ii) The assessment of an activity's effects on the environment must include, if the activity includes the discharge of any contaminant, a description of the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and any possible alternative methods of discharge, including discharge into any other receiving environment.

Schedule 4, s. 6(1)(a) of the RMA states that:

'if it is likely that the activity will result in any significant adverse effect on the environment', then the application must include "a description of any possible alternative locations or methods for undertaking the activity'.

Section 105 of the RMA states:

‘the consent authority must, in addition to the matters in section 104(1), have regard to—

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) the applicant’s reasons for the proposed choice; and*
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment’.*

Accordingly, Graymont has considered possible alternatives for the activities which generate discharges to air and water. We summarise our understanding of the alternative assessments that have been completed as follows:

Discharges to Air from Fugitive Dust

1. Operating a limestone quarry and processing plant results in the production of fugitive dust, the location and generation of which is dictated by the location of the resource. In this case, the location and extent of the SW Pit is dictated by the limestone resource and the existing facilities that exist as part of the existing complex at the Oparure Pit.
2. Alternative methods of fugitive dust control were considered. In summary:
 - a. The wind-blown generation of fugitive dust on quarry surfaces across the Site is the most notable of the Proposal’s possible discharges to air. Water suppression is the standard method of dust control, and there are no practical alternatives. The only limitation to this method is water availability. Additives can decrease evaporation time and therefore improve effectiveness, but there are no non-hazardous products on the market at this time.
 - b. Due to the low sensitivity of the receiving environment proposed controls are deemed to be the most appropriate by PDP, given the receiving environment and the level of effects anticipated.

Therefore, the Best Practicable Option (‘BPO’) is the proposed method for managing fugitive dust emissions.

Discharges to water

1. Operating a limestone quarry results in the production of stormwater. PDP advise that any attempt to prevent water from being discharged through the quarry floor is impractical, and even undesirable as doing so could constrain the groundwater recharge, and the associated contribution that such recharge makes to the downstream surface water courses.
2. PDP also advises that it has considered alternative methods of stormwater discharges. In this regard, it considered:
 - a. Discharge to a reticulated stormwater network: This option would require the collection of all surface water flow from the activity area, treatment of these collected waters, and discharging of these waters as a point source to a surface receiving environment elsewhere. While attractive at many levels, PDP advise that this alternative is not feasible.
 - b. Avoid discharging by collecting and reusing stormwater: Some surface water runoff will be collected and used onsite (for dust suppression purposes) under the Oparure Quarry Resource Consents. However, onsite demand will not be sufficient to use all stormwater that will be generated. Furthermore, the SW Pit falls with the Waipā River catchment which is fully allocated thereby rendering the taking of any further water very difficult (in a regulatory sense) and unattractive.

Given the preceding advice from PDP, we are of the opinion that the proposed stormwater management approach represents the BPO.

In conclusion, Graymont has considered alternative methods for the discharges to air and water. This analysis has confirmed that the proposed management approaches represent the BPO when the relevant factors (including the sensitivity of the receiving environment to adverse effects, the technical feasibility of treatment options and cost implications of alternatives) are assessed.

5 TYPE OF APPROVALS SOUGHT

Application form Part 3

5.1 RESOURCE CONSENTS UNDER THE RMA

This application is for land-use, water permit and discharge consents under the RMA. The required approvals are summarised in Table 5 below. Checklist A is included in Appendix B.

Table 5: Summary of Approvals Sought

Planning Instrument	Rule	Activity Status	Rationale
Waikato Regional Plan ('WRP')	3.4.5.5	Restricted discretionary	There is some uncertainty as to whether the 'use' of water diverted for dust suppression can achieve the total suspended sediment standards set out by Implementation Method 3.2.4.6.
	3.5.11.8	Discretionary	The proposed discharge of stormwater to surface and groundwater cannot achieve all of the standards set out within Rule 3.5.11.4.
	3.5.11.6	Controlled	The proposed discharge of stormwater to land may not be able to achieve all of the standards associated with Rule 3.5.11.5.
	3.6.4.14	Discretionary	The proposed use of diversion bunds, silt fences, sediment pits, check dams, swales (in some instances, also referred to as 'water tables') in the haul road and Sediment Detention Ponds ('SDP')s (and their associated diversions, takes and discharges) cannot achieve all of the standards associated with Rule 3.6.4.4(1).
	3.6.4.13	Discretionary	The diversion of both surface and groundwater that is not associated with the impoundments (and all of the associated discharges) are not permitted and therefore default to a discretionary activity.
	5.1.4.17	Discretionary	The removal of overburden and the quarrying of limestone (and all associated discharge of sediment and compounds to water and air) falls under this rule.
	5.2.5.3	Discretionary	The discharge (deposition) of overburden into the Pit from the Project (including construction and maintenance of the haul road) falls under this rule.
Proposed Waitomo District Plan ('WDP')	NFL-R17	Discretionary	Required for earthworks or clearance of vegetation within a 20m radius of an entry or opening to any cave or sinkhole.
	NFL-R18	Discretionary	Required for the placing of fill into any sinkhole or cave or within a 20m radius of an entry or opening into any cave or sinkhole.
	NOISE-R1	Restricted discretionary	Required because the noise level predictions demonstrate that the Project cannot comply with the permitted noise standards for the prescribed evening and night-time periods at 966 Oparure Road.

Where Proposed WDP provisions are subject to an appeal, resource consents may be required under the 2009 Operative WDP. No Operative WDP rules apply.

For completeness, we record that no further resource consent applications are required to be made under:

- the operative Resource Management National Environmental Standard for Freshwater Management Regulations 2020 on the basis that no reclamation, weirs or culverts will occur in ephemeral, intermittent or perennial streams (as these all occur within overland flow paths),
- the operative Resource Management National Environmental Standard for Sources of Human Drinking Water Regulations 2007,
- the operative Resource Management National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 on the basis that no HAIL sites were determined to exist within the SW Pit Site or be disturbed as a result of the Project, and
- the operative Resource Management (National Environmental Standard for Air Quality) Regulations 2004.

Section 42(5)(a) of the FTAA

The Project does not include prohibited activities under the RMA.

5.2 PERMITTED ACTIVITIES RELIED ON

Checklist A, Clause 5(5)(a) of Schedule 5 of the FTAA and s87A(1) of the RMA

5.2.1 Waikato Regional Plan

Four of the activities that form part of the Project are Permitted Activities under the WRP:

1. The proposed discharge of water and a polymer based hydroseeding product to land to aid with dust suppression can achieve the three standards that apply under Rule 5.2.9.1. As a consequence, both of these activities are permitted as of right;
2. The drilling of holes to place explosives is a Permitted Activity in accordance with Rule 3.8.4.5;
3. The discharge of contaminants to air from the refuelling of the storage tanks in the Pit and from the construction and maintenance of the haul road is a Permitted Activity in accordance with Rule 6.1.9.1; and
4. The discharge of contaminants to air from the quarrying of limestone (if this activity is not captured by Rule 5.1.4.17) is a Permitted Activity in accordance with Rule 6.1.16.1.

5.2.2 Proposed Waitomo District Plan

The Proposed WDP - Decisions Version was publicly notified on 19 June 2025. Proposed WDP rules which are not subject to appeal are treated as operative under section 86F of the RMA; equivalent rules in the 2009 Operative WDP have ceased to apply.

The Project Site is zoned Rural Production ('RPROZ') in the proposed WDP as a result of being a Significant Mineral Resource.

Quarrying activities are a Permitted Activity under **RPROZ-R13** for quarries listed in Schedule 1 (the Graymont Oparure Quarry is listed as RPROZ-3) that comply with the performance standards in Table 2. The performance standards in Table 2 relate to minimum setbacks from a number of listed boundaries. This Table has been reviewed, and the Project complies with all relevant setbacks.

5.3 CONSULTATION WITH CONSENT AUTHORITIES

Application form Part 3, section 30(2) of the FTAA

The WRC and the WDC have jurisdiction over the area where approvals are sought.

5.3.1 Consultation with the Waikato Regional Council

Consultation with the Waikato Regional Council is summarised in **Table 6**. Records are provided in **Appendix C**.

Table 6: Summary of consultation with Waikato Regional Council

	Date	Consultation format	Comment
1	28/11/2025	E-mail from Graymont	Informing Council of intention to apply for referral to the Fast-track approvals process
2	12/12/2025	Email from WRC	Confirmation that no additional information is required pre-referral. Confirmation that existing contracts for RMA process have been extended to 30 April 2026. WRC welcomes working with Graymont and Enspire to further refine draft conditions to reach agreement and assist the Fast-track panel in its decision. Indication that if Graymont requires a formal response to close out consultation requirements, those can be directed to [REDACTED].
3	17/12/2025	Letter sent by e-mail to WRC	Letter detailing the Project, current Site status, Project history, and proposed next steps.
4	14/01/2026	Letter Sent by e-mail from WRC	WRC sent a letter indicating confirmation that Graymont has undertaken consultation with WRC in relation to the Project to an adequate degree to meet the requirements for a referral application under the FTA. The letter also confirms that no further information is required from Graymont at this time.
5	17/06/2026	Notification (section 30) letter sent by e-mail	See copy in Appendix C .
6	22/06/2026	Section 30 response letter received by e-mail.	The letter (see Appendix C) confirms that no existing consents to which section 124C(1)(c) of the RMA would apply if the project were to be applied for as a resource consent under the RMA. Further, WRC can confirm that 165ZI of the RMA does not apply as the proposed project is not located in common marine and coastal area in accordance with the Waikato Regional Coastal Plan (proposed or operative). WRC staff understand that in accordance with the FTAA, the application currently lodged with WRC will be withdrawn upon acceptance of the substantive application for processing.
7	25/06/2026	Meeting with [REDACTED]	The purpose of the meeting was to discuss the new geotechnical assessment that had been undertaken to inform draft conditions to physically protect the Camelot Cave system, the effect of the recommendations of this report on the aquatic ecology and water assessments, as well as the Conditions.

5.3.2 Consultation with the Waitomo District Council

Consultation with the Waitomo District Council is summarised in **Table 7**. Records are provided in **Appendix C**.

Table 7: Summary of consultation with Waitomo District Council

	Date	Consultation format	Comment
1	28/11/2025	Email from WDC	Setting up meeting regarding the application

	Date	Consultation format	Comment
2	1/12/2025	Email from Enspire	Sending consultation document to WDC
3	09/12/2025	E-mail from Graymont	Informing Council of intention to apply for referral to the Fast-track approvals process
4	9/12/2025	Email from Graymont	Sending update, site development flyer, and updated consultation document
5	9/12/2025	Email from WDC	Providing comment expressing an interest in Graymont working through an agreement with WDC regarding the impacts of the Project on the roading network
6	9/12/2025	Email from Graymont	Confirmation that Graymont will work with WDC on a Memorandum of Understanding to address roading network concerns

Records of communication are provided in **Appendix C**.

6 BENEFITS

Natalie Hampson from Savvy Consulting undertook an economic assessment (**Appendix S**) which this section is based on.

The Project is aimed at securing access to a high-quality limestone deposit located on-site that would enable Graymont to continue to meet customer demand over the long term. The Project is aimed at ensuring that the regional and national economy, which relies extensively on limestone and lime products for economic growth and wellbeing, is maintained and supported efficiently, by protecting established upstream and downstream economic linkages in the economy.

These benefits are material in the context of the local and national economic climate. The scale and diversity of these downstream linkages – spread across almost the entire North Island and reaching a substantial share of the national population – means that even small disruptions to supply would have disproportionate consequences for national productivity, supply chain resilience, and community well-being. By avoiding these risks, and by maintaining an efficient, centrally located, high-quality source of limestone and lime products, the Project delivers economic benefits that are enduring, wide-reaching, and significant at the national level. These economic benefits are additional to the Project's net positive environmental benefits, achieved through the proposed Ecological Betterment Plan discussed elsewhere in the application.

Maintaining domestic supply of limestone from a strategically located central North Island site minimises transport costs, increases supply chain resilience by avoiding reliance on imported products, retains value-added processing within New Zealand, and sustains high-value jobs in the minerals sector.

Key findings of Savvy Consulting's assessment (**Appendix R**) are that the Project:

- Will support the development of natural mineral resources
- Has been identified as a priority project in a central government strategy
- Will deliver regionally or nationally significant infrastructure or enable the continued functioning of existing regionally or nationally significant infrastructure
- Will deliver significant economic benefits
- Will increase the supply of housing to address housing needs
- Will support primary industries
- Will support climate change mitigation, including the reduction or removal of greenhouse gas emissions
- Will support recovery from events caused by natural hazards, and
- Will address significant environmental issues.

6.1 ECONOMIC BENEFITS

Savvy Consulting undertook economic impact assessments that use economic multipliers within an Input-Output model framework, which Ms Hampson motivates is an appropriate methodology (particularly when appropriately caveated and coupled with assessment of wider economic wellbeing benefits) and is consistent with the purpose of identifying economic benefits of a Project under the FTAA. Ms Hampson notes that while it has been raised in other FTAA projects that applicants should use a CBA approach, the FTAA does not contain a direction requiring this.

Ms Hampson finds that Graymont's upstream supply chains linked to activities at the Oparure Quarry and the two vertically integrated kiln sites (and a proportionate share of the upstream supply chain for the regional office) are estimated to contribute the following indicative (rather than absolute) gross economic impacts in the local and wider economy once direct, indirect and induced transactions are accounted for:

- around \$₂₀₂₅29 million per annum spent with goods and services suppliers (based on quarry and kiln site expenditure only, with regional office expenditure additional);

- which translates up to an indicative \$₂₀₂₃42.7-46.5 million in total value added (GDP) per annum; and
- sustains up to an indicative 262 FTE jobs per annum.

Approval of the Project ensures that all of these existing upstream economic impacts are maintained over the long term and limestone production from New Zealand's largest limestone quarry is maintained without disruption.

More significantly, the Project secures wide-ranging downstream economic benefits generated by the Oparure Quarry's critical role in supporting industries that are foundational to the functioning of New Zealand's economy over the long term. Limestone and lime products sourced from Oparure underpin key export sectors such as agriculture, dairy processing, pulp and paper manufacturing, and gold mining, and support major domestic manufacturers including New Zealand Steel and Oji Fibre, as well as essential infrastructure services such as drinking water treatment, wastewater management, roading and construction. Combined with the Quarry's upstream economic supply chains, these downstream economic linkages are extensive and significant at the national level. If the consent is not approved, then many of these economic benefits will be lost, disrupted or compromised and it will likely force significant reliance on imported lime products for some customers which exposes New Zealand industry to supply chain risks and reduces the resilience of the national economy.

Ms Hampson acknowledges that the primary economic benefit of the Project is in maintaining existing economic activity rather than growing the economy into new sectors. Ms Hampson emphasises that maintaining an existing economic baseline is just as important as - if not more important than - growing the economy in new sectors, as in order for the economy to grow, it must do so from a stable base. The risk of a no-consent scenario involves uncertainties around the ability of New Zealand's lime industry to meet existing demand, which could shift to other suppliers. Ultimately, Ms Hampson concludes that a no-consent scenario is likely to generate significant economic disruption, including significant downstream consequences across a wide range of New Zealand industries.

6.2 HOUSING

Housing development places significant demand on products like concrete, aggregates, steel, adhesives, paint, glass, plasters, mortars, landscape supplies and engineered wood products. Limestone and lime products are inputs into all these building materials. While the Project does not directly increase housing supply, it facilitates the increase of housing supply through industries that provide critical inputs to the construction sector. Further, Oparure Quarry supplies products to roading and infrastructure developers, and water and wastewater treatment plants that are all necessary to service housing growth.

6.3 PRIMARY INDUSTRIES

The Project will enable the continued and long-term supply of agricultural lime products (including for aerial top-dressing) to pastoral farms and horticultural activities throughout the central North Island (where Graymont has the largest market share of limestone supply for soil conditioning).

The Oparure Quarry also supplies, pulverised limestone as a dietary supplement (Calcimate™) for the dairy farming sector and egg farming sector. This includes products sold directly to farmers (or via agricultural supply stockists) or sold to manufacturers of stock feed mixes (located in both the North and South Island). Enabling long term supply of limestone at the Oparure Quarry therefore supports New Zealand's land-based primary producers which have a core role in the New Zealand economy, including export revenue.

6.4 CLIMATE CHANGE

By maintaining long term continuity of limestone and lime supply for customers spread throughout the North Island from a centrally located quarry (including one rail-enabled kiln site), approval of

the Project is likely to avoid customers needing to source alternative product from suppliers (including imports in some cases) that may require increased truck movements or vehicle kilometres travelled. While counterfactual supply scenarios are uncertain and cannot be quantified, long-haul heavy trucks have an emissions factor of 0.105kg CO₂e/tonne km which would apply for every net additional tonne km travelled.

6.5 NATURAL HAZARDS

The Project will enable Graymont to continue to supply limestone and lime products to roading and civil contractors and infrastructure developers. This includes products that dry soil-substrates, improve soil stability and that are used as a roading (aggregate) and track material. Limestone and lime products can therefore play a critical role in road and track maintenance and repair to support the recovery from natural hazard events. Being centrally located, the Oparure Quarry is also well placed to supply materials quickly and efficiently to a range of locations throughout the North Island when the need arises. Approval of the Project will ensure that this supply can continue into the long term.

6.6 ADDRESSING SIGNIFICANT ENVIRONMENTAL ISSUES

Ensuring healthy municipal water supply, efficient and effective wastewater treatment, and the effective management of industrial and processing wastes are all important environment issues. Graymont supplies lime products sourced from Oparure Quarry to a range of businesses that are involved in these activities.

Based on the local authorities to whom Oparure Quarry supplies products for water treatment plants, (including Auckland, Hamilton City, Waitomo District, Waipa District, Tauranga City and New Plymouth District), Graymont's products directly assist those authorities to supply healthy drinking water to 43% of the New Zealand population (2.26 million people, based on the 2023 Census). By 2053, these same local authorities could account for 47% of New Zealand's population. Approval of the Project will ensure these environment issues can continue to be addressed without disruption of supply and that demand growth can be met. As addressed in Application report, Graymont will also be implementing measures as part of an environmental betterment proposal to improve the local environment post its consent being implemented. One of these measures involves the reduction of sediment from its landholdings (and some around them) to waterbodies. This is a significant issue facing the Waikato Region.

6.7 THE COUNTERFACTUAL

Ms Hampson discusses the counterfactual of not expanding the Oparure quarry with the SW Pit.

While the existing pit at Oparure Quarry has some remaining resource covered by its existing consent, the 'stripping ratio' to access this remaining deposit (effectively the cost/tonne extracted) is very high. Relying on this is unlikely to sustain the economic viability of the Waikato operations as higher extraction costs are unable to be passed onto customers and allow Graymont to remain competitive in the industry. The stripping ratio of the SW Pit will be lower, ensuring the quarry is economically viable and will therefore provide the investment security that Graymont needs to continue operations.

If Graymont is unable to develop the SW Pit, the Oparure Quarry will close. In addition to possible job losses and reduction in opex and capex spend at the quarry; this could have a range of effects:

1. Demand for limestone products usually supplied by Oparure Quarry (including agricultural and industrial limestone) would not cease. Other regional quarries would need to lift their production to cope with transferred demand. It would be unlikely that quarries further afield (including investing in expanding Graymont's South Island site) would be able to satisfy all of the Quarry's existing direct (bulk) limestone customers at the same price due to increased transport costs for some customers. This may drive up limestone prices (and transport

externalities) and reduce profits or drive up prices for their downstream customers (i.e. a ripple effect of price rises).

2. Any redistribution of demand to other existing quarries will:
 - a) Likely require further capital and operational investment to increase output.
 - b) Accelerate those quarries that pick up Oparure's customer demand towards their end of quarry-life. They in turn would need to apply for new consents for expansions if feasible to do so.
 - c) Require some customers to seek substitutes (which may be less efficient or effective) or decrease their own production with consequent adverse economic flow-on effects (upstream and downstream).
3. Demand from Oparure's existing customers may not be met (including in terms of quality). Limestone production in the market may decrease in net terms along with GDP and employment.
4. If Graymont were required to purchase high-grade limestone feedstock from another quarry (other than their own Oparure Quarry) the operation of the kiln sites is expected to be economically non-viable for them.
5. The two kiln sites would need to find a new source of high-quality limestone feedstock within an efficient travel distance and at a viable price to remain in operation. This is uncertain, meaning the closure of the Oparure Quarry could have direct adverse impacts on these kilns.
6. Importantly, any redistribution of kiln feed-stock demand to other existing quarries will:
 - a. Likely require further capital and operational investment to increase output.
 - b. Accelerate those quarries that pick up Oparure's quicklime and hydrated lime customer demand towards their end of quarry-life. They in turn would need to apply for consents to seek expansions if feasible to do so. In other words, it just shifts the issue that the Project is trying to address somewhere else.
 - c. Mean that not all demand from Oparure's lime customers may be met (including in terms of quality). In that case, lime production in the market may decrease in net terms as would GDP and employment.
 - d. Some customers may need to seek substitutes (which may be less effective or efficient) or decrease their own production, with consequent adverse economic flow-on effects (upstream and downstream). Lime substitutes could include sourcing quicklime or hydrated lime from Websters in Hawke's Bay or from Graymont's South Island site subject to significant capital investment to increase output). Either domestic option would face additional transport costs for most customers (and associated transport externalities). These alternative domestic sources would not satisfy New Zealand Steel as it will not be steel-grade lime.
 - e. See some customers resorting to quicklime and hydrated lime imports. Currently the very small quantity of lime product imported comes from Oman (75%), followed by United Kingdom (10%), Malaysia (5%) and Chile (4%) based on 2025 import statistics. Some of these may be the countries that increase supply to meet New Zealand demand. Increased reliance on imports, particularly for the quantities needed by New Zealand Steel would expose them to supply chain risks and shocks and is likely to increase their supply chain carbon footprint (both from transport and kiln production).
 - f. Alternatively, if too many customers seek alternatives, it may not be viable to keep the Te Kuiti and Ōtorohanga kiln sites open. If they close, then around 28 specialist staff will lose their jobs. The full GDP and employment contribution of the Oparure

Quarry and two kiln sites would be at risk of being lost (up to \$₂₀₂₃43 million/annum and up to 225 FTE jobs less any transfer in market share of limestone or lime product to other quarries).

Ms Hampson concludes that if the Project is not approved, significant disruption is likely across the North Island and beyond, affecting industries that rely on a stable supply of high-quality limestone and lime products at competitive prices. This will in turn result in major constraints on market supply and a contraction of production and associated upstream economic impacts, particularly in the short-term, unless fully offset by other producers increasing their market share and expenditure.

Downstream customers unable to source a suitable domestic substitute are likely to increasingly rely on imported products with consequent risks to the resilience of industrial supply chains. The need for more open pit limestone quarries will be inevitable in or near Waitomo District given the location of key demand markets. This counterfactual scenario will likely be less efficient in economic terms, with lower economic benefits to New Zealand businesses and communities and potentially with higher environmental and transport externalities than associated with the Project.

6.8 CONCLUSION ON SIGNIFICANT REGIONAL AND NATIONAL ECONOMIC BENEFITS

Ms Hampson concludes that, *“having regard to the New Zealand limestone quarry and processing industry and understanding the critical role that Graymont’s Oparure Quarry and related kiln sites currently play in that industry, I consider that the Project will deliver **significant and long term national and regional economic benefits and meets the purpose of the Act.**”*

7 ASSESSMENT OF ENVIRONMENTAL EFFECTS

Schedule 5 Clause 5(4)(a) - (1) The assessment of an activity's effects on the environment must include the following information: (a) an assessment of the actual or potential effects on the environment: (c) if the activity includes the discharge of any contaminant, a description of— (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and (ii) any possible alternative methods of discharge, including discharge into any other receiving environment: (d) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect of the activity: (e) identification of persons who may be affected by the activity and any response to the views of any persons consulted, including the views of iwi or hapū that have been consulted in relation to the protected customary right.

Schedule 5, Clause 6(2) provides that a consent application need not include any additional information specified in a relevant policy statement or plan that would be required in an assessment of environmental effects under clause 6(2) or 7(2) of Schedule 4 of the Resource Management Act.

Schedule 5, Clause 7 The assessment of an activity's effects on the environment must cover the following matters: (a) any effect on the people in the neighbourhood and, if relevant, the wider community, including any social, economic, or cultural effects: (b) any physical effect on the locality, including landscape and visual effects: (c) any effect on ecosystems, including effects on plants or animals and physical disturbance of habitats in the vicinity: (d) any effect on natural and physical resources that have aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations: (e) any discharge of contaminants into the environment and options for the treatment and disposal of contaminants: (f) any unreasonable emission of noise: (g) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.

7.1 CULTURAL VALUES

Graymont remains committed to continuing to engage with tangata whenua, as it has over the last several years through the iwi-led Regional Management Committee and the Oparure Marae.

A CIA (**Appendix S**) has been prepared by Oparure Marae and Te Tokanganui-a-noho Whare which included reviewing draft expert reports. The CIA adopts an analytical framework based on the key values of the marae that are also supported by Ko Tā Maniapoto Mahere Taiao (the Maniapoto Environmental Plan) and Te Ture Whaimana (Vision and Strategy) which directly speak to the aspirations of tangata whenua affiliated through whakapapa with the Waipā River system and recognising its downstream connection to Te Awa Waikato.

The CIA does not constitute agreement to the application nor unfettered support by tangata whenua of the quarry activities.

Graymont recognises the important role tangata whenua have as kaitiaki and supports their vision for a flourishing Mangapu River. Concerns raised and recommendations made in the CIA have informed expert studies, the assessment of adverse effects, Graymont's Betterment Plan and the draft conditions. **Section 8.2** discusses how each condition recommended in the CIA has been considered for inclusion in the draft Conditions (**Appendices T1 and T2**).

Graymont is committed to work with the Oparure Marae to implement the CIA. The Marae have indicated that the Cultural Monitoring Plan, a provision of the conditions, is expected to be a key part of this, and Graymont look forward to being given the opportunity to review and implement it.

7.2 GEOLOGY AND SOILS

7.2.1 Slope stability

PDP (**Appendix F**) reports that the stability of cut slopes into soft / weak volcanic ash and mudstone is likely to be more critical than the stability of rock slopes. The SW Pit slope design is based on slope performance at the Oparure Pit. Stable slopes cut into the overburden that are <20 m vertical height have been previously achieved where bedding and rock fabric was favourably oriented.

The overburden thickness in the SW Pit will exceed this height in places, notably for the western pit slope (required cut of approximately 45 m vertical height). Observations of the Oparure Pit northern batter slopes indicates that cuts of this magnitude can show signs of instability and that combinations of buttressing, benching and slope dewatering may be required to improve batter stability. Temporary pit walls are also recommended by PDP to be constructed, tested, and reviewed prior to final slope design. Further investigations are required to determine the nature of the surficial ash and underlying mudstone deposits and the extent of potential mitigation measures.

Provided that the above design and construction requirements are implemented through the P&HMP (**Appendix U**) and in accordance with the conditions of consent, the effects associated with overburden placement stability are considered by PDP to be less than less than minor.

7.2.2 Stripping, stockpiling and placement of topsoil and overburden

Earthworks activities, with potential to impact the environment are the stripping, stockpiling and placement of topsoil and overburden. These activities are likely to generate sediment and therefore controls are required.

Mitigation measures are implemented through:

- An Erosion and Sediment Control ('ESC') Plan and associated ESC Stage Plans, which address sediment generation and water quality effects (**Appendix U**), and
- The Pit and Haul Road Site Management Plan ('P&HMP') and detailed geotechnical design, which address construction methodology, engineered landform performance and stability.

The controls to be implemented include:

- Limiting the exposure by minimising the area to be exposed at any one time and by having defined campaigns in stages;
- Diverting and separating clean surface water;
- Using benching, roughening and check dams to shorten flow paths and reduce velocities on stripped surfaces, and providing drains at the toe of highwalls to intercept runoff and direct to pit floor soakage;
- Stabilising exposed areas; and
- Applying weather, material and inspection controls.

WRC draft Conditions

SW Pit & Haul Road Site Management Plan

27. The consent holder shall, not later than two months prior to the exercise of this resource consent, submit a SW Pit & Haul Road Site Management Plan ('**the P&HMP**') to the Chief Executive Officer of the WRC (or delegate) for certification that the P&HMP meets the objectives in condition 28 and addresses the matters set out in condition 29.
28. The objective for the P&HMP shall be to avoid, remedy, manage or offset the identified environmental effects of the Project.
29. The P&HMP shall include but not be limited to the following subparts, all of which shall be undertaken to achieve the objective set out in condition 25:
 - a. An outline of the new pit and haul road operation and processes;
 - b. An Ecological Betterment Plan ('**EcoBP**') (which shall include but not be limited to a Karst and Riparian Management Plan ('**KRMP**')) and shall accord with the requirements of conditions 35 and 36;
 - c. An Air Quality Management Plan ('**AQMP**') in accordance with conditions 70, 71 and 72;
 - d. An Erosion and Sediment Control Plan ('**ESCP**') in accordance with conditions 44 to 49;
 - e. A Spill Response Plan ('**SRP**') in accordance with conditions 38 and 39;
 - f. A Topsoil Management Plan ('**ToMP**') in accordance with conditions 77 to 80;
 - g. Detailed descriptions of all of the contingency and control measures that are not set out within the EcoBP, AQMP, ESCP, ToMP or SRP and that are to be employed by the consent holder to avoid the generation of adverse effects in the first instance, and the remediation and mitigation measures that are to be employed to minimise any adverse effects where avoidance is not practicable and/or is not required by these conditions of consent; and
 - h. The reporting that is to be undertaken by the consent holder. This shall include the detail of what is to be reported when for each year for the term of the resource consent.

With the recommended controls in place, any adverse effects will be **less than minor** in magnitude.

7.3 NATURAL HAZARDS

FTAA Schedule 5 Clause 7(g) - the assessment of effects on the environment must cover any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations

7.3.1 Seismic Hazards

PDP report in **Appendix F** that no known active faults are located within the Site. The nearest active fault (Turi Fault) is offshore >40 km from the site and is a normal west dipping fault. The northern extension of this fault is unlikely to exist onshore. There is also no evidence of reported fault displacement at the Site in the recent deposits. The risk of **fault rupture** is therefore considered negligible.

The Site is in an area with historically low **seismic activity** and only moderately strong earthquakes (<MM6) are expected at some time in the future. Appendix F describes how the geotechnical design of the Project has taken the estimates of ground motion due to earthquakes into account (**Appendix F**).

Liquefaction hazard at the Site is anticipated to be low due to the presence of limestone rock, low groundwater levels and presence of relatively thin, dense / stiff, quaternary deposits overlying the limestone (**Appendix F**). Fill materials at the Site, making up the in-pit engineered landform will comprise of a combination of rock fill and compacted soils (clay, silts and mudstone). While a strong earthquake could potentially trigger localised liquefaction, cyclic softening and lateral spreading where fill is not engineered or is not constructed in accordance with the design / specification of an

engineered fill, seismicity and liquefaction hazard is considered low risk due to absence of active faulting, and the expected level of ground shaking/likelihood of occurrence during the life of the quarry and fill engineering design life of the Project and fill engineering design.

7.3.2 Ground and Slope Stability

While there is evidence of localised **slope instability** at the site, although no largescale landslides have been mapped in the area (**Appendix F**). Landslides are likely to be rainfall triggered / influenced events. Strong earthquake shaking (MM6 or greater) could initiate larger landslides on the steeper slopes at the Site particularly if weak, softer lithologies are present (i.e. the Taumatamaire Formation mudstone and the volcanic ash).

There is a rockfall hazard in undisturbed areas of the Site due to the naturally occurring steep limestone slopes and bluffs and the flaggy / blocky nature of the limestone. As the Project is developed into a quarry operation, this hazard can be mitigated by formation of engineered landforms (e.g. catch benches, earth bunds), controlled blasting and geotechnical management.

Landslides and rockfalls are not unexpected to occur over the lifetime of the Project. These are considered normal hazards for the Site that can be mitigated by appropriate geotechnical management.

Sinkholes are a recognised geo-hazard feature at the Site and are managed by site access controls, surface water control / drainage and filling where required. PDP reports that the water table is expected to be below the base of the proposed quarry floor, with the exception of localised short duration ponding that is likely to drain rapidly. Localised dewatering of cover deposits due to the quarrying may occur (where the quarry intersects any perched groundwater in these deposits). However, any dewatering of cover deposits is not expected to induce / enlarge sinkholes in the limestone because of quarry water control measures / limited influence.

7.3.3 Geotechnical hazard mitigation

Geotechnical hazards associated with the Project are managed through a combination of engineered design, construction methodology and ongoing monitoring (**Appendix F**). Specific mitigation measures include slope design based on site specific geotechnical assessment, with of groundwater and surface water controls, use of benching and buttressing, and ongoing inspection and review of slope performance. These measures are to be implemented as part of the overall geotechnical design and management framework for the Site. With these measures in place, the residual geotechnical effects are considered to be less than minor.

7.4 WATER

Linda Shamrock, Blair Thornburrow and Celyn Khoo (hereafter referred to as the PDP Water team) undertook a water quality assessment in support of the application.

The activity of excavating overburden and limestone will mean that during some rainfall events, an elevated concentration of suspended sediment is incorporated into stormwater flows, some of which will infiltrate into the underlying karst strata. Stormwater that drains through the karst system will, as for the existing pit at the quarry, emerge at Pōtea Spring and Pumphouse Spring. The Pōtea Spring and Pumphouse Spring flow to the Mangawhitikau Stream, which is part of the Mangapu catchment.

The PDP Water team identified several potential contaminants that could arise from quarrying activities. The primary contaminant of concern is TSS. TSS can increase through the entrainment of dust and sediment from the quarry site that is then carried out to wider catchment. Particularly, PDP notes that *‘there may be a temporary increase in the cumulative sediment load in the wider Mangapu catchment associated with the development of the SW Pit while Oparure Quarry remains in operation, which will require mitigation.’*

While TSS is the main contaminant of concern, PDP notes that nutrients, bacteria, and hazardous substances could also arise from the quarry site. Specifically, nutrients (particularly nitrogen) can arise from the disturbance of topsoil containing legacy nutrients from historic agricultural use. Another potential source of nitrogen contamination is nitrate derived from explosives used for blasting. Bacteria could also become mobilised as a result of the disturbance of soils that have been used for agricultural purposes - bacterial contamination is typically associated with faeces from livestock. Further, a mobile crushing plant will be operated within the Project area. The operation of this plant requires the use of diesel, hydraulic fluids, oils and greases. These hydrocarbons are also a potential water contamination source.

PDP notes that erosion and sediment control measures within the quarry will be required to manage the discharge of sediment from the Site. The following controls are recommended:

- Staging of works to minimise the area and duration of exposed surfaces;
- Implementation of progressive stabilisation;
- Clean/dirty water separation and drainage management to minimise connectivity of sediment-laden runoff to tomos/dolines and other sensitive karst features where practicable;
- Operational controls and contingencies for rainfall-triggered risk periods such as pre-storm preparedness, post-storm inspections and corrective actions.

These recommendations are incorporated into **draft WRC conditions 44 - 57**. While PDP states that the proposed erosion and sediment control measures will greatly assist in minimising sediment contamination, it is noted that these measures are best at capturing larger sediment particles and that some finer particles are still likely to be lost in the wider environment.

Although the potential effects associated with suspended sediment concentrate from sediment discharges from the SW Pit will be less than minor, quarrying at the SW Pit will represent an additional sediment load within the catchment. PC1 also requires an improvement to the Mangapu River water clarity, in both in the short (10 year) and long-term (80 year).⁶ PDP modelled the predicted suspended sediment loads from the SW Pit over its lifetime, taking into consideration the pit staging plan and proposed erosion and sediment controls. This modelling found that sediment loads peak around year 13 at 180,837 kg/yr. PDP notes that in order to achieve no net increase of TSS across the catchment, betterment activities will need to be undertaken to reduce sediment inputs from other sources. Graymont therefore is proposing a mixture of improved sediment control within steep pastoral land within the Mangawhitikau Stream catchment, riparian planting, and planting of the area between and around SNAs to provide an offset of TSS across the catchment, as set out in **draft WRC condition 37**.

⁶ On 28 May 2025, the Environment Court released its interim decision on appeals on PC1. This interim decision provides clarity on some matters, but the Court has identified that more work needs to be done before a final decision is released. As such, the interim decision does not change the legal effect of the PC1 rules, and the version attached to the decision that the WRC notified on 22 April 2020 remains the proposed plan change under the RMA.

Draft WRC Conditions**Betterment Initiatives**

37. The consent holder shall ensure that the following betterment initiatives are identified and implemented no later than three (3) years after the commencement of this resource consent. The EcoBP shall set out how each of the following betterment initiatives are implemented:

- b) Not less than 6.7 hectares of planting between and around SNAs;
- c) Improved sediment control within pastoral land on not less than 9.4 ha within the Mangawhitikau Stream catchment to reduce sediment loads entering downgradient waterways;
- d) Not less than 11.8 hectares of riparian planting or enhancement of existing native vegetation (using appropriate, locally sourced, indigenous / native plant species) shall be undertaken in the catchment of the Camelot Cave Stream. The areas of riparian planting shall be identified by an independent suitably qualified and experienced expert. The 11.8 hectares of riparian planting shall be in addition to the habitat that is to be protected and enhanced in accordance with the other clauses of this condition.

Table 8 shows the reductions in TSS (on a catchment level) that PDP estimates will result from the proposed betterment initiatives.

Table 8: Estimated sediment load reduction from proposed betterment

Measure	Sediment load reduction rate (kg/ha/year)	Total area proposed (ha)	Sediment load reduction (kg/year)
Riparian Planting (Upper Camelot Catchment)	6,731	11.8	79,426
Planting in Mangawhitikau Stream Catchment	6,627	9.4	62,294
Planting of area between/around SNAs	6,463	6.7	43,302
TOTAL		27.9	185,022

Overall, PDP concludes that with the implementation of the betterment strategy, the adverse effect of TSS on a catchment-wide basis will be negligible, and even possibly net-positive.

In respect to nutrients and bacteria, PDP considers that the shift from agricultural land use is likely to result in a decrease in the input and discharge of these contaminants. Further, the ability of these contaminants to enter water is largely linked to the movement of sediment. Therefore, methodologies used to minimise sediment transport are also expected to reduce contamination by nitrogen and bacteria.

Nitrates that derive from explosives are expected to be minimal, particularly on a catchment-wide scale and in relation to historic agricultural use. However, PDP recommends that blasting only be undertaken during stable weather conditions (not during rainfall) to reduce the risk of water contamination from blasting. PDP considers that the risk of hydrocarbons from the mobile crushing plant resulting in water contamination can be mitigated by:

- Use of a suitable diesel transfer nozzle designed to minimise spill risk;
- Emergency shut-off systems to immediately stop fuel dispensing;
- Availability of a spill response kit located with the tanker;

- Locating the mobile crushing plant away from stormwater management devices and away from the Camelot Stream; and
- Storage of hydraulic fluids, oils and greases within the existing Oparure Quarry site.

Table 9 summarises the possible adverse effects, proposed mitigations, associated draft conditions, and assessed level of effect following mitigation.

Table 9: Summary of assessed water quality impacts, mitigations, and level of effect after mitigation

Adverse effect	Recommended Mitigation	Draft WRC conditions	Assessed level of effect after mitigation
Discharge of sediment due to blasting and excavation	Adoption of erosion and sediment controls and betterment activities	Erosion and sediment controls: 44 - 57 Betterment: 35 - 37	Nil negative impact to potentially beneficial impact on a catchment level
Discharge of nutrients from blasting and excavation	Adoption of erosion and sediment controls	Draft conditions 44 -57	Negligible
Discharge of bacteria from excavation of former farmland	Adoption of erosion and sediment controls	Draft conditions 44 -57	Negligible
Discharge of hazardous substances from mobile crusher	Adoption of good management practices, exclusion zones, and spill response	Draft conditions 40 - 43	Less than minor to negligible

Continuous monitoring of turbidity is proposed at an unnamed tributary that flows into the Camelot Stream upgradient of the SW Pit and at Pōtea Spring. Event-based monitoring in rivers and monitoring of the stormwater conveyance and sediment retention ponds associated with the SW Pit will also be undertaken.

7.5 CAVES

As set out in **Appendix Q**, Mr Lines (Baseline Geotechnical) has assessed the Project development plans to provide a judgement on the risk of the Project to the Camelot Cave system. Mr Lines concludes that eventually, the final pit design will extend over the Camelot Cave system, with a vertical offset between the cave roof and the pit floor of approximately 8 - 10 m. However, Mr Lines acknowledges that currently, there is still some uncertainty about the exact positioning of the Camelot Cave system.

The risks to the Camelot Cave system from the Project include:

- Pit excavation encountering the cave system; and
- Damage to the cave system due to the mining method.

To account for the uncertainty in the position of the Camelot Cave system, Graymont has proposed a 200 m wide buffer zone to allow for early stage mining to be undertaken away from the cave system and to enable more information to be gathered about the exact extent and position of the cave (**Figure 5**).

Mr Lines has considered the proposed buffer zone and pit development plans in his assessment of the risk of excavation encountering the Camelot Cave system. Mr Lines considers that the risk of excavation encountering the Camelot Cave system in the early years (up to year 8) to be very low. However, he notes that other inaccessible voids that may have a direct connection to the Camelot Cave could be discovered in these early years.

Mr Lines estimates that around year 13 there is a risk that the mining method may cause damage to the Camelot Cave system. In this respect, the key risk arises from blast vibrations. As the pit excavation approaches the Camelot Cave in later quarry stages, the magnitude of vibrations felt in the cave crown can be expected to increase, with an increasing potential for damage to the cave.

Mr Lines conducted modelling to analyse the likely impacts of blast vibration to the Camelot Cave over the life of the Project. Based on this analysis, BGL finds that the maximum displacement post-excavation is approximately 26.4 mm along the pit floor and 20.8 mm in the cave system, with a maximum displacement of the cave walls of between 12 and 18 mm. Mr Lines deduces that while the blasts are short in duration, it is likely that noticeable vibrations on the cave walls will occur, with the effect on cave stability limited to dropouts of small scale and in localised areas of otherwise mostly stable limestone. The overall integrity of the cave walls and roof is not expected to be compromised. However, Mr Lines recommends that in order to limit the potential risk to the cave system, the charge weights as excavation nears the cave system be set as shown in **Table 10**.

Table 10: Charge weight restriction to limit risks to the Camelot Cave system

Weight Explosives (kg)	Offset Limit (m)	Equivalent Peak Particle Acceleration (PGA, g)
40 kg	25 - 35 m	2.38 g
76 kg	35 - 45 m	2.31 g
120 kg	45 m +	2.21 g

Mr Lines is of the opinion that the effect of blasting vibrations on the Camelot Cave system at the limiting threshold of 2.4 g could be considered less than minor. Graymont has adopted this assessment and incorporated a limit of 2.4 g peak particle acceleration within 25 m - 100 m of the nearest edge of the Camelot Cave (**draft condition 15(b)**).

Mr Lines also recommends a 'no-blast zone' be implemented within 25 metres of the Camelot Cave. Graymont has adopted this recommendation in **draft condition 15(a)**.

It is estimated that the distance between the pit floor and the crown of the cave is expected to be in the range of 8 - 16 m in the final pit. However, the staging plan enables greater investigation into the exact location and position of the Camelot Cave system over a course of decades prior to the pit coming close to the anticipated location of the Camelot Cave. Mr Lines considers the proposed 200 m buffer zone in conjunction with ongoing investigations as the pit is developed to be appropriate measures to limit the risk of damage to the Camelot Cave system. Camelot Cave protection measures aligning with this recommendation are adopted in proposed **draft conditions 14 - 18**. With the conditions implemented, Mr Lines predicts the effect of the Project on the Camelot Cave System to be less than minor.

Draft WRC and WDC conditions

Physical Protection of the Camelot Cave System

14. Prior to the commencement of quarrying activities authorised by this resource consent, the consent holder shall confirm the coordinates of the 'Camelot Cave Buffer Zone' ('CCBZ'), which shall extend 100 metres either side of the estimated centre line of Camelot Cave defined on the plan entitled 'Figure 2', dated 16 June 2026 and attached as **Appendix A** to this resource consent. The CCBZ shall be surveyed and marked on the site. No quarry excavation or overburden placement shall be undertaken in the CCBZ until:
 - a) The extents and geometry of the cave system have been confirmed by an independent suitably qualified and/or experienced expert and provided to the Chief Executive Officer of the WRC (or delegate) for certification in accordance with condition 23(a); and
 - b) The WRC has certified the extents and geometry as sufficiently accurate to position the Camelot Cave with respect to the proposed quarry.
15. Upon certification of the extents and geometry of Camelot Cave under condition 14(b) of this resource consent, the following restrictions shall apply:
 - a) No blasting activities shall be undertaken within 25 metres of Camelot Cave ('No Blast Zone');
 - b) Within 25 – 100 metres of Camelot Cave, a 'Blast Vibration Restriction Zone' ('BVRZ') shall apply, where blast design shall limit Peak Particle Acceleration ('PPA') to less than 2.4g at the nearest part of the cave system;
 - c) Prior to any blasting occurring within the BVRZ, the consent holder shall install permanent vibration monitors. The monitors shall be positioned to monitor blast vibration at the ground surface above Camelot Cave; and
 - d) At distances greater than 100 metres from Camelot Cave, no restrictions on blasting or excavation activities shall apply (with respect to protection of the cave system).
16. A Blast and Vibration Management Plan shall be developed and submitted to Chief Executive Officer of the WRC (or delegate) for certification in accordance with condition 23(a) that it complies with Conditions 17 and 18.
17. The objective of the Blast and Vibration Management Plan is to ensure that all blasting activities are planned, undertaken, and monitored in a manner that protects people, property, infrastructure, and the environment, while achieving operational requirements and complying with all relevant legal and consent obligations.
18. The Blast and Vibration Management Plan shall include the following:
 - a) Plans illustrating the Camelot Cave Buffer Zone, the Blast Vibration Restriction Zone and the No Blast Zone.
 - b) The limitations on PPA (2.4 g) to be applied in the Blast Vibration Restriction Zone.
 - c) Proposed controls on the Maximum Instantaneous Charge ('MIC') and delays to limit PPA to below the threshold for protection of the cave system.
 - d) The proposed positions of permanent blast monitoring devices.
 - e) Procedures for reporting on each blast.
 - f) Procedures for notifying WRC of vibration exceedance events.

7.6 AQUATIC ECOLOGY

Laura Drummond (Stantec) has undertaken an Aquatic Ecology Assessment on identified aquatic ecology values within and downgradient of the proposed SW Pit, to determine the potential level of effect from the proposed quarry activities, identify measures to avoid or mitigate any adverse ecological effects, and to seek opportunities for ecological betterment. The assessment applied the mitigation hierarchy (avoid, remedy, mitigate, offset, compensate).

No direct impact or loss of surface waterbodies is predicted to occur as a result of the Project. Sediment from the Project site could, however, potentially affect aquatic ecology in rivers downstream of the Site.

Potential effects associated with stormwater infiltration to ground include:

- Elevated suspended sediment within the water column can cause increased invertebrate drift, fish avoidance, a reduction in feeding and growth, as well as mortality at highly elevated levels (>2000 Nephelometric Turbidity Units); and
- High levels of deposited fine sediment can smother the stream bed, removing habitat for benthic aquatic species and in turn provide food resources for fish.

Potential direct **effects to Camelot Cave Stream** are avoided through a proposed buffer area and commitment to conduct further investigations to define the extent of the Camelot Cave, which will inform future avoidance strategies. This is implemented the WRC and WDC draft conditions 14 to 18 as discussed in **Section 7.5**.

Remaining effects are limited to the infiltration of fine sediment to downgradient receptors associated with rainfall events and indirect effects associated with quarry operations (noise, vibration). Sediment losses from the SW Pit area will be mitigated through best management practices for erosion and sediment control.

A summary of the ecological value, magnitude of effect and overall level of effect for the SW Pit receiving waterways is provided in **Table 11**.

Table 11: Level of effects summary for the proposed SW Pit for each aquatic ecological feature

Ecological Feature	Ecological Value	Magnitude of Effect	Level of Effect	RMA Level of Effect
Camelot Stream	High	Low	Low	Less than minor
Pōtea Spring	Moderate	Low	Low	Less than minor
Pumphouse Spring	Low	Low	Very Low	De minimis
Mangawhitikau Stream	High	Very Low - Low	Negligible - Low	Nil - Less than minor
Mangapu River	Moderate	Negligible	Very Low	De minimis
<i>Note: Range in Mangawhitikau Stream row indicates effects from suspended solids - deposited sediment</i>				

The level of effect for waterways has been assessed by Ms Drummond as negligible to low. The reasoning for this is the localised and short duration of increased turbidity related to rainfall events (dye tracing detected at Pōtea Spring). However, the activity will result in an increase in sediment to the catchment. Average sediment loads entering the karst system through the SW Pit have been calculated, with a peak load modelled to occur in Year 13 of 180,837 kg/year. Sediment load reduction options have also been calculated. Graymont proposes to provide net zero sediment load for water clarity issues in the Mangawhitikau Stream and Mangapu River during rainfall events. This will align with the Te Ture Whaimana o Waikato and will provide positive outcomes for aquatic ecology values in the catchment through avoiding cumulative effects.

Proposed **sediment loss reduction activities** within the Mangawhitikau River catchment, will be finalised for submission in the substantive application, and include details of the following:

- Improved sediment control for Camelot Stream headwater inputs by reducing overland runoff to ephemeral gully streams through riparian planting and fencing;
- Improved sediment control within steep pastoral land (targeted slope of >20 degrees) within the Mangawhitikau Stream catchment to reduce sediment loads entering downgradient waterways;
- Pest and predator management (including fencing) of significant forested areas, tomos and at entrances to caves.
- Restoration and enhancement of Significant Natural Areas (SNAs) under the proposed Waitomo District Plan.
- Gate Spring native riparian enhancement.

Aquatic ecology monitoring proposed is to undertake ecological surveys in the Mangawhitikau Stream at representative locations approximately 20 m and 100 m upstream and downstream (four sites) of the Pōtea Spring confluence, to monitor streambed conditions and any changes to instream communities in the Mangawhitikau Stream as a result of infiltration of water from the site. Aquatic ecology surveys are proposed to be undertaken annually (between November and March) for the first five years of the consent by a suitably qualified and experienced freshwater ecologist. Surveys are then proposed to be reduced to every three years. Surveys will include the following:

- Deposited fine sediment surveys (percent cover and depth) using the SAM2 method (Clapcott et al., 2011);
- Macroinvertebrate sampling following the National Environmental Monitoring Standard (2022) '200+ Fixed Count with Scan for Missed Taxa' method;
- Invertebrate drift sampling at Pōtea Spring and Pumphouse Spring using 250 µm and 500 µm mesh nets;
- Periphyton and macrophyte surveys (percent cover and type) following National Environmental Monitoring Standard 2020 methods; and,
- Environmental DNA samples at Pōtea Spring.

Ms Drummond also proposes **event-based monitoring** is also proposed, once physical works (excavations, quarrying or disturbance activities) associated with the South-Western Pit commence within the Camelot Cave Buffer Zone or the Blast Vibration Restriction Zone. When continuous turbidity monitoring triggers at Pōtea Spring are reached, a series of actions will be undertaken, including alerting the consent holder so that onsite activities can be recorded, sediment controls checked, data trends tracked and reporting undertaken.

If the trigger exceedance continues, actions are to include ecological assessments of eDNA at Pōtea Spring and deposited fine sediment and benthic invertebrate surveys within the Mangawhitikau Stream (20 and 100 m up and downstream of the confluence with Pōtea Spring) using the methods described in the annual monitoring above. This event-based monitoring is intended to provide an assessment of if unexpected discharge events result in adverse ecological events. A report is to be prepared, investigating the actual and potential short- and long-term effects of the activity and recommending next steps. Further detail is provided within the conditions.

WRC draft Conditions

19. The Consent Holder shall monitor turbidity continuously at the unnamed tributary that flows to the Camelot Stream and that is upgradient of the SW Pit at or about NZTM 1778110E: 5753300N (**'the Upstream Turbidity Monitoring Site'**) and the Camelot Stream resurgence being Gate (Potea) Spring at or about 1783186E: 5755306N (**'the Downstream Turbidity Monitoring Site'**) once the physical works (excavations, quarrying or disturbance activities) associated with the SW Pit commence within the CCBZ or the BVRZ. The purpose of the continuous turbidity monitoring is to identify if the turbidity at the Downstream Turbidity Monitoring Site exceeds the turbidity at the Upstream Turbidity Monitoring Site, with an initial trigger level of 2,000 NTU.

20. If the turbidity reading at the Downstream Turbidity Monitoring Site exceeds 2,000 NTU, the following protocol shall be followed:
- a. If the NTU at the Downstream Turbidity Monitoring Site is higher than the turbidity at the Upstream Turbidity Monitoring Site, with the concentration at the downstream site >2,000 NTU, then:
 - i. Action 1: a data exceedance alert shall be sent to the consent holder to review and track. The consent holder shall compare the turbidity reading at the Downstream Turbidity Monitoring Site to the turbidity reading at the Upstream Turbidity Monitoring Site, noting travel delay¹.
 - ii. Action 2: The Site manager shall be informed, and the current site activities shall be recorded.¹
 - iii. Action 3: The consent holder shall undertake a Site check of the sediment controls in the CCBZ or BVRZ .
 - b. If the NTU at Downstream Turbidity Monitoring Site remains >20% higher than the Upstream Turbidity Monitoring Site and >2,000 NTU for >48 hrs, then:
 - i. Action 1: The data trend shall be assessed to determine if the turbidity levels are increasing, reducing, or stable. If the turbidity levels are reducing, the consent holder shall prepare a report to Council addressing the trigger exceedance, summarise available data and steps undertaken by the consent holder.
 - ii. Action 2: If the data trend is not reducing at the downstream site, works within the CCBZ or BVRZ will be put on hold until NTU reduces below the turbidity at the upstream site or returns to <50 NTU.
 - c. If the NTU at Downstream Turbidity Monitoring Site remains >20% higher than the Upstream Turbidity Monitoring Site and >2,000 NTU for >72 hrs, with no reducing trend, then:
 - i. Action 1: The consent holder shall not resume works within the CCBZ or BVRZ until NTU reduces below the turbidity at the upstream site or returns to <50 NTU and results as per action 2 (condition 20(c)(ii)) and action 3 (condition 20(c)(iii)) are confirmed.
 - ii. Action 2: The consent holder shall take an eDNA sample at Pōtea Spring and send it to an accredited laboratory for processing.
 - iii. Action 3: An independent suitably qualified and/or experienced expert(s) appointed by the consent holder shall undertake macroinvertebrate and deposited sediment surveys in the Mangawhitikau Stream 20 m upstream and 100 m downstream of the Pōtea Spring confluence. Macroinvertebrate samples are to be sent to an accredited laboratory for urgent processing. Samples to be taken when safe instream conditions allow.
 - iv. Action 4: The results of ecological monitoring shall be reviewed by an independent suitably qualified and/or experienced expert(s) appointed by the consent holder. The consent holder shall resume works in the CCBZ or BVRZ and prepare a report that shall be submitted to the Chief Executive Officer of the WRC (or delegate) no more than two weeks after works resume, if the following are met:
 - A <20% increase in deposited sediment percent cover at downstream Mangawhitikau Stream monitoring site compared to the upstream site;
 - MCI and QMCI scores remain in the same NPSFM attribute band at upstream and downstream Mangawhitikau Stream site.
 - d. If condition 20(c)(iv) cannot be met, the independent suitably qualified, experienced person/expert(s) appointed by the consent holder shall prepare a report, investigating the actual and potential short- and long-term effects of the activity. This includes an investigation into the source of the increased turbidity. This report shall include:
 - i. Data collected, and actions taken by the consent holder.
 - ii. A summary of site works immediately prior to the turbidity exceedances, weather conditions, and investigations into alternative sediment sources, if applicable.

- iii. Recommendation of measures to address the adverse effect(s) to the point whereby it will be, in the opinion of the independent suitably qualified and/or experienced expert(s), be acceptable. The recommended measures shall identify the timeframes associated with their implementation, and the monitoring that is to be undertaken (including its frequency and duration) to assess the effectiveness of the measures.
- iv. Recommended monitoring to determine persistence of effects.
- v. Recommend timeframes for restarting works.
- vi. Recommend mitigation, offsetting or compensation, if required.

The consent holder shall submit the report referred to in this condition to the Chief Executive Officer of the WRC (or delegate) within six weeks of the monitoring referred to in condition 20(c)(iv) being taken.

All excavations / quarrying or other earth disturbance within the Camelot Cave System CCBZ or BVRZ shall not re-commence until the measures recommended by the independent suitably qualified and/or experienced expert(s) are in place / are being implemented.

21. Where a report produced in accordance with condition 20(d) recommends the adoption of additional measures to address an unacceptable adverse effect, the Chief Executive Officer of the WRC (or delegate) shall certify that the additional measures will, in their opinion, ensure that any adverse effect(s) will be acceptable. If the Chief Executive Officer (or delegate) is unable to certify the additional measures, the process set out in conditions 22(c) and 22(d) shall be followed.

With sediment reduction measures and ecological betterment in place, and monitoring to confirm success, it is considered that no net loss in aquatic ecology values will occur as a consequence of the Project, and over time net ecological gain is predicted.

7.7 TERRESTRIAL ECOLOGY

Dr Vaughan Keesing (Blue Green Ecology Limited) undertook an assessment of the actual and potential effects of the Project on the terrestrial environment. Dr Keesing states that the Project will result in the following actual and potential effects:

Actual effects:

- Direct and permanent loss of approximately 1.0 ha of High value, significant karst ecosystem features;
- Direct and permanent loss of approximately 1.4 ha of native vegetation/habitat;
- Removal/loss of 7 short, small cave systems and entrances; and
- Permanent loss of moderate value habitat and food source for native fauna.

Potential effects:

- Potential injury/death of native fauna (birds, bats, lizards) due to habitat removal;
- Potential indirect effects on fauna, including increased amounts of dust, noise and lighting on the remaining habitats nearby the boundaries of the SW Pit; and
- Potential effects on remaining vegetation on western boundary (such as edge effects and damage to root systems).

Dr Keesing used the EIANZ values and magnitude of effect matrix to assess the level of effect to a number a number of terrestrial ecology values. The results of this assessment are summarised in Table 12.

Table 12: Summary of assessed ecological effects

Ecological feature/effect	Assessed value	Magnitude of effect	Assessed level of effect
Karst landscape features -- loss	Moderate	Negligible	Very low (less than minor)
Terrestrial vegetation -- loss	Low	Negligible	Very low (less than minor)
Avifauna - common native species - habitat loss and/or death	Low	Negligible	Very low (less than minor)
Bush Falcon (At-Risk - recovering) - death	Moderate	High	Moderate (more than minor)
Herpetofauna - habitat loss (at an Ecological District level)	Low	Low	Very low (less than minor)
At-Risk - Declining lizard taxa (copper and ornate skink) - death	High	Moderate	High (major)
Bats - roost tree loss	Low	Negligible	Very low (less than minor)
Bats - death	High	High	Very high(avoid)
Bats - indirect effects	High	Negligible	Very low (less than minor)
Terrestrial invertebrates - habitat loss and death	Low	Negligible	Very low (less than minor)

Dr Keesing notes that while he does not see a need to provide additional mitigations where the level of effect is less than minor, harm to lizards, bats and bush falcon should be avoided where possible. To this end, he recommends that management plans including a Lizard Management Plan ('LMP'), Bat Management Plan ('BaMP'), and a Bird Management Plan ('BMP') prepared by suitably qualified wildlife experts be prepared and adopted. Dr Keesing notes that Graymont already has authority under the Wildlife Act 1953 for the incidental handling and mortality of lizards; the requirements of this authority will be followed. Further, it is recommended that DOC bat roost tree felling protocols be followed.

Graymont has commissioned the preparation of the recommended management plans. These have been provided along with the Substantive application as **Appendix U5 (BaMP)**, **Appendix U8 (BMP)**, and **Appendix U13 (LMP and Wildlife Act Approval)**. In addition to this, Graymont is proposing as a part of the draft conditions (**draft conditions 35 and 36**) a requirement to prepare an Ecological Betterment Plan ('EcoBP') (**Appendix U1**) with specific identified betterment initiatives (**draft condition 37**).

Following the adoption of the management plans and proposed betterment conditions, Dr Keesing concludes that the impacts on At-Risk and Threatened species will be appropriately managed through avoidance. Dr Keesing concludes that the implementation of the proposed EcoBP will result in a net positive ecological outcome for karst ecosystems and lizard habitat. Overall, Dr Keesing concludes that the Project 'will bring about a net gain [in ecological values] as set against the current permitted land use activities.'

7.8 SUBTERRANEAN ECOLOGY

A detailed EcIA for subterranean habitat and troglobite (true cave dwelling) fauna has been completed by Boffa Miskell, with inputs from Blue Green Ecology⁸ (Appendix K). Blue Green Ecology has been retained by Graymont to finalise a Subterranean Ecology Assessment to support the substantive application should the Project be referred to the fast-track process.

Each cave system on the Project site has been surveyed and the in-cave fauna recorded to assist with determining ecological value following the EIANZ process. The criteria common to determining significance was used as a basis to examine the cave systems as a whole.

Cave surveys recorded no “threatened or at-risk” taxa, and none are expected. The fauna generally are cave entrance and forest litter taxa, not Troglobites or even Troglophiles. All the caves appear to be in early formation and without constant water inputs which would assist their growth. All are in a farmed landscape with an absence in general of entrances with native vegetation cover and all are open to mammalian pests.

The development of the proposed SW Pit will result in the direct loss of the seven identified caves, with a loss of 111 m² of cave floor area and 12.75 m² of organic debris. Dr Keesing assessed the effect of cave habitat loss in the context of the wider cave environment, concluding that the lost caves likely make up approximately an 11.7% reduction in the amount of subterranean habitat within the very local area and 1.6% reduction in the wider catchment area.

It is noted that the effects of blasting vibration vary based on the charge weight, and it is acknowledged that some caves within 50 m of works may experience vibration impacts. The potentially impacted caves are B1, E4 and Camelot. However, Dr Keesing states that the felt vibration at these caves is likely to be roughly equivalent to the vibration felt from a human walking on a wooden floor. Therefore, the overall assessed impact of vibration on cave systems is negligible. Dr Keesing assesses the loss of cave habitat to have a less than minor adverse effect, this is because the caves to be lost represent a small proportion of the caves in the area and tend to be smaller caves which are not home to troglobitic life.

Dr Keesing notes that the Project is also likely to result in sedimentation into remaining caves outside of the pit boundary, and that ground vibration from blasting may cause disruption to cave habitats. A summary of the ecological value, magnitude of effect and overall level of effect for the small cave systems within the SW Pit area is provided in Table 13.

Table 13: Level of effects summary for the proposed SW Pit subterranean features

Ecological Feature	Ecological Value	Magnitude of Effect	EcIA Level of Effect	RMA Level of Effects
Cave systems	Low	Negligible	Very Low	Less than minor

Potential direct effects to the Camelot Cave Stream will be avoided through the proposed buffer around the known extent of the system. Graymont will also conduct further investigations to define the extent of the Camelot Cave Stream, which will inform future avoidance strategies. All subsurface flow will be retained in the Camelot catchment, as occurs for the existing quarry.

Quarrying could result in sedimentation within cave systems that occur at lower elevations than the pit floor, beneath, or immediately downgradient of the pit. The main cave of concern in relation to this effect is Camelot cave. In order to mitigate this potential impact, Graymont is proposing that sediment retention and management devices be implemented. These measures are outlined in draft WRC conditions 44 to 57.

Dr Keesing concludes that the sedimentation control measures proposed by Graymont are adequate to manage the risk of sedimentation to the Camelot cave system. Overall, he is of the opinion that the residual sedimentation effect is expected to be negligible, and likely an improvement from the current effects from farming discharges.

Graymont is proposing minimisation efforts for the protection of the Camelot cave system (identified as the highest value cave system in the proximity of works) to include a 200 m buffer until the location and geometry of the cave can be accurately determined, then a 25 m no blast zone buffer (see **draft conditions 14 - 18**). This is to ensure that the Camelot cave system is retained intact. Dr Keesing accepts these mitigations as positive and considers it likely that the ecology of the Camelot cave system will not be adversely affected by the works if these measures are adopted.

To offset for the loss of the seven caves, Dr Keesing recommends that seven cave entrances be protected and enhanced (including 111m² of cave floor). Consultation with the WRC and the Oparure Marae regarding the betterment initiatives over the last six years, included 21 cave entrances and a floor area of 224 m² being enhanced. Graymont has decided to maintain these numbers, which are included in the draft conditions.

This means that the less than minor effect of the removal of the poor quality cave entrances in the Oparure Quarry site will be managed to a net ecological gain.

The additional offset for cave entrances will be located within Graymont owned land, or within land which Graymont hold landowner agreements to undertake habitat restoration. A range of identified cave entrance sites are shown as yellow dots in **Figure 8**. Details of the enhancement, which includes indigenous planting specific to cave entrances, fencing to exclude goats, pigs, deer and stock, and pest and predator control will be provided in the Karst and Riparian Management Plan (**Appendix U7**).

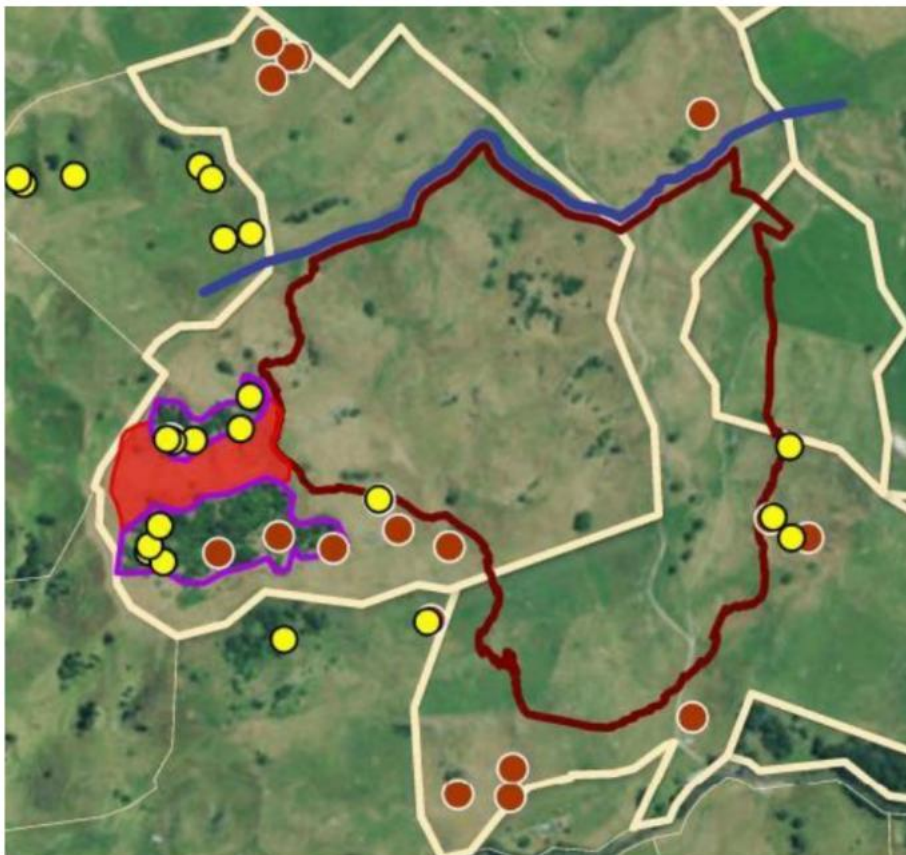


Figure 8: SNAs, cave entrances, dolines, revegetation areas,

7.9 ARCHAEOLOGY AND HISTORIC HERITAGE

An Archaeological Effects Assessment was prepared by Clough & Associates (**Appendix H**). The assessment notes it does not include an assessment of effects on Māori cultural values, as such assessments should only be made by tangata whenua.

The Project will have no effects on any known archaeological or historic values. Clough & Associates consider it possible (but unlikely) that unrecorded subsurface remains may be exposed during development. In order to account for this possibility, Clough & Associates recommends that accidental discovery protocols - developed in consultation with tangata whenua and in accordance with the requirements of the Heritage New Zealand Pouhere Taonga Act 2014 - be included in the conditions of consent.

7.10 LANDSCAPE AND VISUAL

Brown NZ Ltd has assessed the Project by undertaking a site survey and conducting viewpoint analysis. The SW Pit is located in a pasture-dominated, working rural landscape that is used for sheep farming and is bisected by fencing and tracks. Without mitigation, the Project could have effects on viewpoints for:

- Viewpoint 1. 531 Boddie Road
- Viewpoint 2. Boddie Road - near Kiwi Caves Rafting
- Viewpoint 3. Mangatea Road
- Viewpoint 4. Oparure Road - Kia Toa Farm Access Point

Only one viewpoint is affected to more than a 'very low' degree, with a 'low' impact rating identified in relation to Viewpoint 3, originating on an elevated part of Mangatea Road - which provides access to the Motiti Marae.

The SW Pit would start to become visible from Year 33 onwards, most of which reflects the commencement of benching and extraction down the western side of the SW Pit. The viewpoint is very confined and the viewing distance is 5.1 km, resulting in very low landscape effects.

Graymont therefore proposes a line of tree planting north-east of the SW Pit to screen and buffer its expansion into rising terrain down the western and south-western sides of the site in the future (**Figure 9**).

Mr Brown concludes that 'despite its physical extent, the proposed quarry would . . . be largely isolated from most vantage points'. He states that any visual and landscape effects would be of 'low' to 'very low' effect, and that 'these impact ratings are exceptionally low for a development of the scale proposed.'

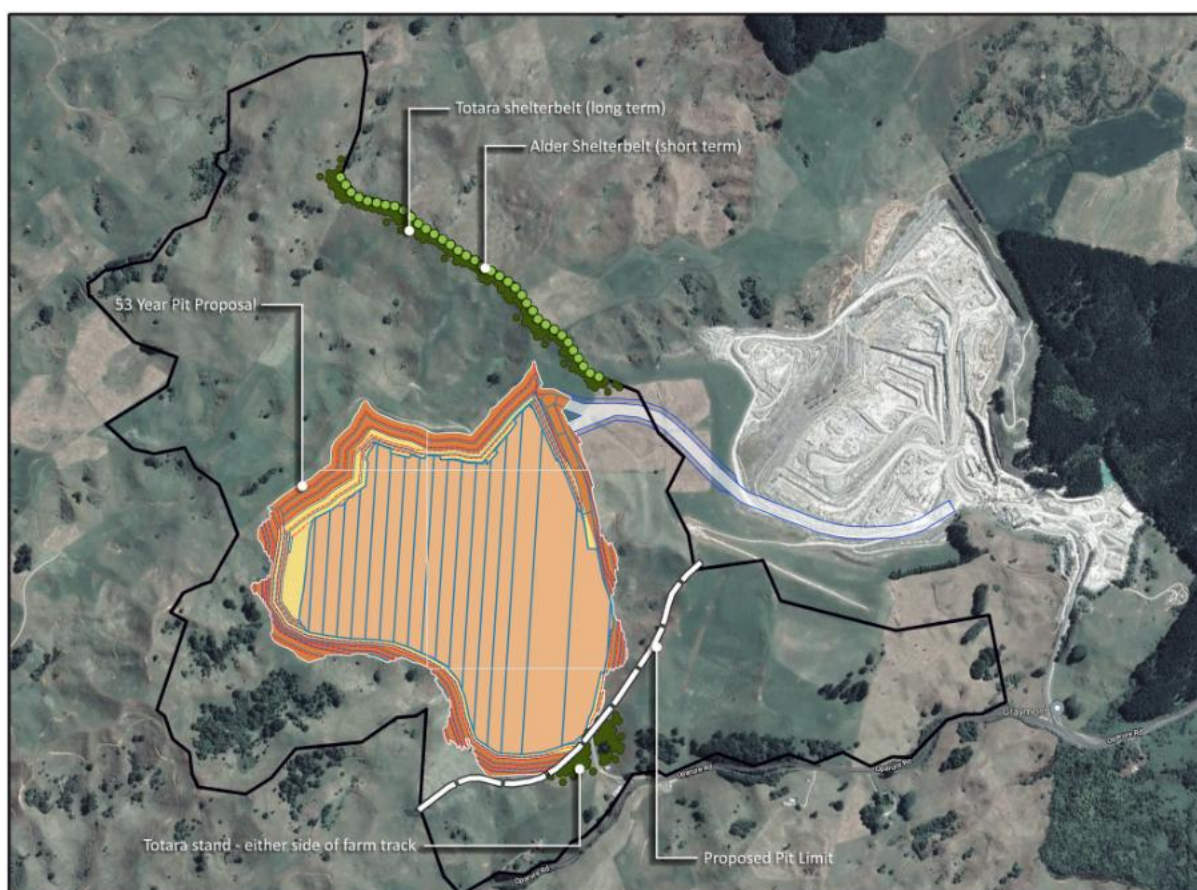


Figure 9: Landscape mitigation - tree planting

7.11 NOISE AND VIBRATIONS

7.11.1 Operational Noise

There are two sets of permitted noise standards in the PWDP that apply to the Project. The first relates to noise generated in the Rural production zone and applies to the boundary of the property with that zone. The second relates to sensitive receptors, such as dwellings, that are located in the General Rural Zone where the NOISE-S2 standards. NOISE-R1 states that not complying with NOISE-S2 is a Restricted Discretionary activity.

The Styles Group took onsite noise measurements of the equipment used at the quarry to establish sound power (source) noise levels of the noise-generating activities during **operations** within the site. These measurements were used to inform computer noise modelling to predict the expected noise generated as a result of the Project. This model finds that the predicted noise will comply with the relevant noise standard in the PWDP⁷ at all times and locations except between the hours of 7pm and 7am at 966 Oparure Road. Written approval has been obtained from this property owner. Resource consent is sought under NOISE-R1.

7.11.2 Vibration effects

The Styles Group supervised vibration monitoring of six blast events conducted within the Oparure Pit to determine the level of vibration generated. Vibration levels measured were only marginally above detection limits of the instrumentation. The monitoring confirms that blasting at the SW Pit complies with the relevant vibration limits in the PWDP for all nearby properties and *'were generally*

⁷ The RURAL limits apply at residences, and RPROZ limits apply at the site boundary of the operation.

below the level that a human would normally be able to perceive.' Mr Styles does not anticipate any adverse effects on the Spellbound caves from blasting in the SW Pit.

7.11.3 Construction noise and vibration

The noise environment will temporarily be of a different character during the **construction period**, at which time, haul roads and temporary infrastructure (such as drainage) will be constructed. Mr Styles concludes that construction noise and vibration effects will comply with the relevant standards in the PWDP at all receiving environments.

7.11.4 Noise and Vibrations recommendations and draft conditions

Mr Styles recommended controls and mitigations are detailed in **Table 14**.

Table 14: Recommended Noise and Vibration Conditions

Activity	Recommendation	Draft condition(s)	Comments
Operational noise	Compliance with the maximum permitted noise levels in NOISE-S4, except at 966 Oparure Road (where written approval has been provided).	WDC: 32 & 33	The actual proposed limits are more stringent than the limits allowed in the RPROZ, those being: NOISE-S4 75 dBA(LAeq) from 7am-7pm 65 dBA(LAeq) from 7pm - 10pm 60 dBA(LAeq) from 10pm - 7am 90 dBA(LAmax) from 10pm - 7am
Reverse Alarms	Prohibition of the use of tonal reverse alarms on all plant machinery that are permanently operated within the SW Pit. This condition should specify that broadband reverse alarms shall be fitted to all plant requiring reverse alarms (except mobile crusher).	WDC: 34	The actual proposed draft condition prohibits tonal reversing alarms on all vehicles or plant operated within the Site.
Construction noise and vibration	Compliance with the maximum permitted construction noise and vibration levels prescribed by NOISE-S9 (1) and (2).	WDC: 37& 38	The construction noise standard in the PWDP relies on compliance with the New Zealand Standard NZS 6803:1999 Acoustics - Construction Noise
Blasting	Compliance with the standards set out in Rule R19	WDC: 39	The proposed draft condition deviates slightly from the standards in Rule R19, but in general cohere and in places (such as hours of operation for blasts) are more stringent than the relevant standard.

The draft conditions are more stringent than required by the PWDP and recommended by Mr Styles because they are based on the previous WDP requirements that were operative at the time that consultation with the WDC and the Marae commenced in 2000.

WDC Draft Conditions

32: The noise (rating) level from the activities authorised by this consent shall not exceed:

- (a) 50 dB $L_{Aeq(15 \text{ min})}$ between the hours of 7am and 10pm from Monday to Saturday and 8am to 5pm on Sundays and public holidays; and
- (b) 40 dB $L_{Aeq(15 \text{ min})}$ and 70 dB L_{AFmax} at all other times

33: The noise limits set by condition 28 of this resource consent shall not be exceeded at the notional boundary of any adjacent site except at 966 Oparure Road (where no noise limit applies). All noise measurements and assessments shall be in accordance with the New Zealand Standards NZS 6801:2008 *Acoustics - Measurement of environmental sound* and NZS 6802:2008 *Acoustics - Environmental noise*.

34: Tonal reversing alarms shall not be used on any vehicles or plant that are based on the site. Broadband alarms or non-tonal alternative devices are permitted.

35: The consent holder shall not, when condition 28(b) of this consent applies, use heavy machinery and plant for quarry development (this shall include, but is not limited to, trucks on haul roads, excavators, bulldozers, drilling, blasting, crusher operation and overburden removal) where there is a direct line of sight from the machinery to any notional boundary and the machinery is located 800 metres or closer to the notional boundary.

36 No work shall be undertaken on the site on the following days (from 12.01 am to 11.59pm) of each calendar year (except as set for ANZAC Day in bullet point e)):

- a) Christmas Day;
- b) Boxing Day;
- c) New Year's Day;
- d) Good Friday; and
- e) ANZAC Day (until 12pm noon).

37. The consent holder shall ensure that the noise from construction work does not exceed the noise limits in the following table except at 966 Oparure Road (where no noise limit applies). The noise shall be assessed one (1) metre from the façade of any dwelling that is occupied during the works, and shall be measured and assessed in accordance with NZS 6803: 1999: *Acoustics - Construction Noise*:

Time period	Maximum noise levels	
	L_{Aeq}	L_{AFMax}
7:30am - 6:00pm Monday to Saturday	70 dB	85 dB
6:00pm - 7:30am on all days and at any time on a Sunday	45 dB	70 dB

38: For the purposes of condition 37, 'construction work' shall be defined in accordance with that set out in NZS6803:1999. This generally includes the construction of haul roads, drainage and other infrastructure associated with the development of the quarry, but it does not include noise from the ongoing quarry development, extraction and rehabilitation.

Draft Condition 39: The consent holder shall:

- (a) Ensure that the vibration from all blast events does not exceed a limit of 5mm/s PPV when measured on the foundation of any dwelling (not including 966 Oparure Road);
- (b) Ensure that all blast event vibration measurements are within 500mm of ground level on the foundations, piles, footings or structural element on the perimeter of the buildings not on the Site. All measurements and assessments shall be conducted in accordance with the requirements of DIN4150-3:1999 *Structural Vibration - Effects of vibration on structures*;
- (c) Ensure that the air over pressure from all blast events does not exceed 115dB L_{7Peak} when measured as the incident level at any dwelling on another site (not including 966 Oparure Road);
- (d) Only fire blasts between the hours of 10am and 5pm on weekdays. No blasting shall occur on weekends or public holidays; and

- (e) Ensure that advanced notice of blast events are published on Graymont's website. The notice will provide a minimum of three days of notice of blast events, and five (5) hour time window for blasting. The notice should specify that blast events may be rescheduled due to meteorological conditions or other unforeseen circumstances. The webpage should provide an option for receivers to sign up to receive email updates of any changes to scheduled blast events.

Mr Styles concludes that with the adoption of the recommended mitigations, the noise and vibration effects associated with the Project will be **less than minor**.

7.12 AIR QUALITY

The primary air contaminant of concern in relation to the Project is dust. Dust can arise from multiple activities at the Site including the removal and stockpiling of soil and overburden, mineral extraction (including blasting), mineral crushing and screening, vehicle movements, and site remediation including the replacement of overburden and topsoil. Dust can cause nuisance effects such as reduced visibility and impact on human health and have a negative impact on plant life and ecosystems if not properly controlled.

Minor air emissions will also be generated from combustion associated with the use and refuelling of heavy machinery and from blasting. The main emissions from heavy machinery are oxides of nitrogen and fine particulate matter. The storage of fuel onsite may result in minor emissions of volatile organic compounds ('VOCs'). Emissions of VOCs are expected to be infrequent, small and in short duration.

The Environment Protection Authority Victoria guidelines recommend a separation distance of 500 m from sensitive receptors for quarrying activities. Receptors within 500 m were therefore identified and considered.

Two dwellings were identified as sensitive receptors within 500 m (**Figure 10** and **Table 15**):

- 966 Oparure Road: approximately 146 m from the proposed pit/haul road footprint; and
- 873 Oparure Road: approximately 496 m away.

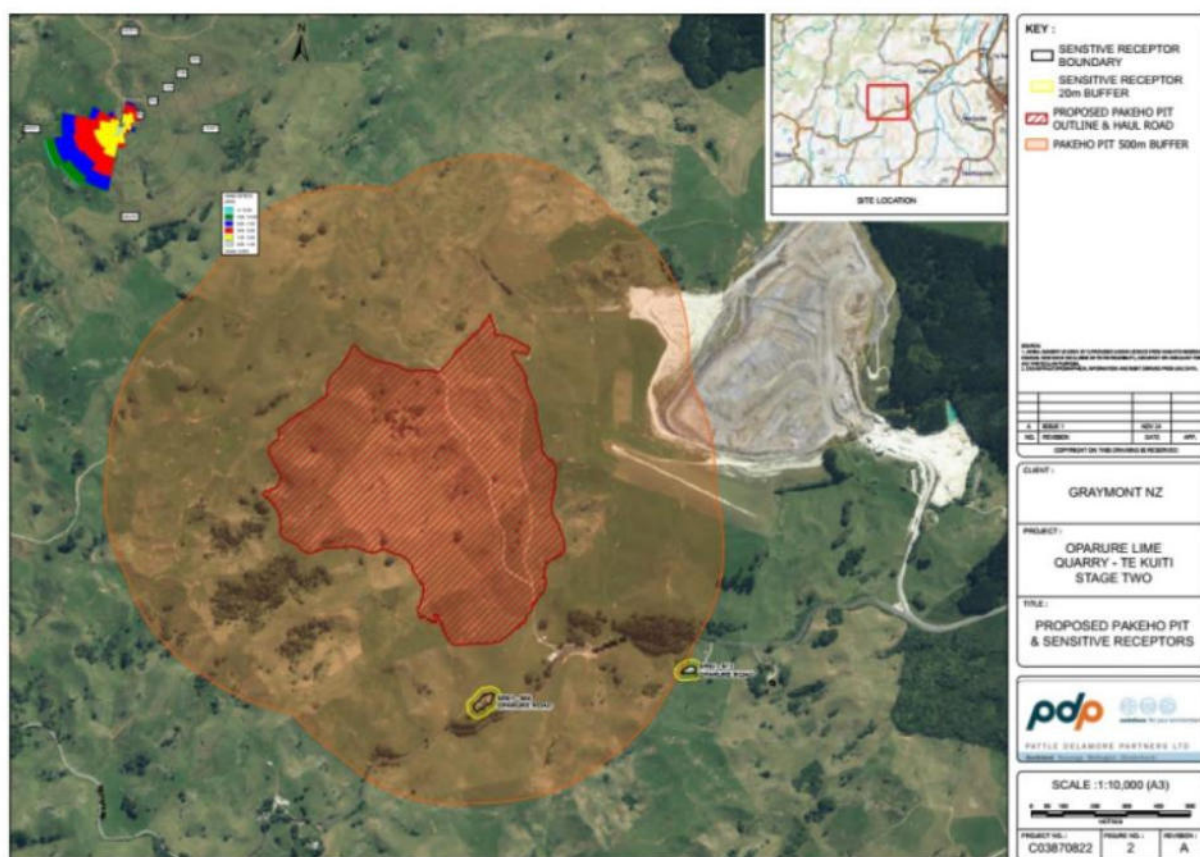


Figure 10: Sensitive Receptors

Table 15: Sensitive receptors

Type	Identifier	Address/Coordinates	Shortest Distance to SW Pit ⁹	Downwind direction
House	SR01	966 Oparure Road	146 m	305 - 44
House	SR02	873 Oparure Road	496 m	272 - 13

Mr Jeff Bluett (PDP) used the MfE Dust Good Practice Guide, National Environmental Standards for Air Quality, New Zealand Ambient Air Quality Guidelines, and the World Health Organisation Air Quality Guidelines to set a baseline for assessing the health impacts of dust from the Project. FIDOL (frequency, intensity, duration, offensiveness, location) criteria were used to assess the amenity effects of dust. The assessment considered the effects on the two identified sensitive receptors.

The primary factors that influence the potential for dust to be generated from the Site include:

- Wind speed and direction;
- Moisture content of the material;
- Area of the exposed surface;
- Percentage of fine particles in the material; and
- Disturbances such as traffic and unloading of materials.

Prior to the application of mitigations, PDP assesses the amenity dust impact risk to SR01 to be a 'slight adverse effect' and to SR02 to be 'negligible effect'. Human health effects were assessed as being 'negligible' due to the predominant size of the dust particles generated (>30 µm in diameter) and the low toxicity of soil and limestone dust particles. PDP recommends the following mitigation measures to minimise emissions to air:

- Vehicles used onsite should be regularly maintained and in good working order;

- A separation distance of at least 100 m between any fuel storage tanks and the site boundary should be maintained at all times;
- Application of water for dust suppression in priority areas such as haul roads and working areas and when specified by a certified Air Quality Management Plan ('AQMP') as well as targeted application of water when activities occur within 250 m of sensitive receptors;
- The implementation of a detailed AQMP to include quarry management practices to minimise air discharges and wind monitoring to determine when water suppression should be implemented;
- Use of on-site meteorological monitoring to enable staff to identify and respond to high risk dust conditions proactively; and
- Regular visual dust monitoring.

Critical to this strategy to mitigate dust effects is the availability of sufficient water. Mr Bluett assessed the availability of water in **Appendix L**.

Mr Bluett concludes that with the adoption of the above mitigations, the risk of amenity and health impacts at the identified sensitive receptors is negligible and that any measurable cumulative impact from the operation of the existing Oparure Quarry and proposed South-West Pit will be limited to a low-sensitivity area located within the Site and between the two pits.

Draft conditions 70 - 75 and 40 respond to the recommendations made in the Air Quality Assessment Report.

Mr Bluett concludes that the separation distances and proposed dust mitigation measures, the risk of dust impacts arising at the identified sensitive receptors is assessed as being negligible and the Project is considered unlikely to cause offensive or objectional dust effects. Beyond the receptors specifically covered in the assessment, the assessment demonstrates that dust amenity and health impacts in the area surrounding the SW Pit will be negligible.

Draft WRC Conditions

Air Quality Management Plan

70. The consent holder shall ensure that the implementation of this resource consent does not result in a discharge of airborne particulate matter that causes offensive or objectional visible plumes or deposited dust beyond the boundary of the Site.

71. The consent holder shall engage an independent suitably qualified and/or experienced person(s) to prepare an Air Quality Management Plan (or 'AQMP') which shall form part of the P&HMP. The objective of the AQMP is to ensure compliance with condition 70. More particularly, it is to:

(a) Set out the measures and methods that are to be implemented to avoid, remedy or mitigate any adverse effects of discharges of dust generated from the extraction of material and associated crushing activities undertaken at the Site;

(b) Promote proactive solutions to control of dust discharges from the Site; and

©Ensure the effective and targeted use of available dust suppression water so that adverse effects of dust discharges are mitigated.

72. The AQMP shall include, but shall not be limited to the following:

a) The measures that the Applicant shall use to:

- i. Manage, mitigate and/or suppress dust emissions within the boundary of the site that have the potential to create dust impacts beyond the Site's boundary;
- ii. Control discharges of dust to air from stockpiles;
- iii. Limit exposed unconsolidated surfaces as much as practicable;
- iv. Limit discharges of dust caused by vehicle movements;
- v. Manage discharges associated with earthmoving and quarrying;
- vi. Manage discharges of dust resulting from trucks being loaded / unloaded;
- vii. Comply with the requirements of conditions 71, 73, 74 and 75 of this resource consent;

b) The visual and meteorological monitoring that the consent holder shall undertake to monitor the effectiveness of its air quality controls; and

c) The reporting that will be provided to the Chief Executive Officer of the WRC (or delegate) including the frequency of such reporting.

Dust Management

73. The maximum area of unconsolidated land comprising the excavation areas, backfilling areas and unvegetated rehabilitation areas shall not exceed 59.6 hectares.

74. If at any time, including outside normal operating hours, visible dust is blowing beyond the boundary of the Site the Consent Holder shall:

- a) Cease any activity that is generating the visible dust;
- b) Continue or start dust suppression activities including but not limited to the immediate watering of both active and inactive exposed surfaces;
- c) Investigate possible sources of the dust; and
- d) Only recommence the dust generating activity once measures are in place and operating to ensure that condition 70 is achieved.

7.13 RECREATION AND TOURISM

Greenaway and Associates assesses the potential effects of the Project on caving, cycling, walking, equestrian use, and fishing. This includes potential impacts on caves from sedimentation and vibration, impacts on road users from truck traffic, and potential impacts on recreational fishing

resources from surface water sedimentation. In order to do this, Mr Greenaway relied on a combination of a site visit, literature review, review of other technical reports prepared as a part of this application process, and interviews with road cyclists.

Potential adverse impacts on cave users include sedimentation of caves, visual and landscape impacts on users visiting caves, and noise and vibrational impacts on recreational cave systems. A review of Mr Brown's Visual and Landscape Assessment shows that tourists accessing the Mangawhitikau Cave from Boddie Road may be able to see the quarry briefly. It is considered that this is a very low impact on tourists whose main attraction is the underground cave environment and that this is unlikely to have any impact on patronage or satisfaction for tourists at the Mangawhitikau Cave. Mr Greenaway notes that dye tracer tests conducted by PDP found no connection between the SW Pit area and the Guildford Cave system and that noise and vibration testing by The Styles Group found that vibration from blasting within the SW Pit area would be imperceptible. Mr Greenaway therefore concludes that there are no relevant effects on recreational caving to consider.

Mr Greenaway found that while the Project does not represent an increase in the volume of trucks operating on Oparure Road, the existence of truck traffic in this area does pose a risk to active users such as cyclists, walkers, and equestrians. Therefore, Mr Greenaway recommends that heavy traffic warning signage be erected for cyclists entering Oparure Road from Fullerton and Troopers Roads and SH3. This recommendation is echoed in the traffic assessment by Team Traffic.

It is acknowledged that suspended sediment from quarrying could have an adverse effect on instream habitat in the Mangawhitikau Stream, and thereby an adverse impact on any recreational angling that may occur there. While Mr Greenaway considers the potential impact of this effect to be low, he notes that Graymont has proposed the implementation of a Betterment Plan to restore habitat at Gate Spring where Camelot Stream emerges. The Betterment Plan includes stock fencing, riparian planting, pest and predator control and erosion and sediment control. With the implementation of Graymont's proposed Betterment Plan, Mr Greenaway concludes that no adverse effects on recreational angling are anticipated from the Project.

Overall, Mr Greenaway concludes that most of the potential adverse effects from the Project will be adequately managed through the implementation of existing management mechanisms and/or mitigations recommended in other sections in this report. The one mitigation he recommends specifically for recreational impacts is the implementation of warning signage along Oparure Road for cyclists, pedestrians and equestrians. This recommendation is adopted in **condition 31** of the draft WDC conditions included with this application.

With this mitigation measure, Mr Greenaway concludes that the adverse effects from the Project on recreation and tourism are negligible.

31) The consent holder shall install an additional PW-50 (truck crossing) sign approximately 160 metres to the west of the quarry access intersection. This work is to be undertaken to the satisfaction of the Roading Manager, Waitomo District Council.

7.14 TRAFFIC

Due to the sub-optimal nature of the construction of Troopers Road for two-way truck traffic, Team Traffic has advanced its assessment under the assumption that Troopers Road will not be used by large quarry trucks unless necessary. The Project includes a new internal haul road to be constructed that will link the new SW Pit with the current processing plant. Team Traffic states that the Project is not expected to generate any significant long-term increase in heavy vehicle movements to and from the quarry and the current weigh bridge is expected to continue to meet vehicle movement demand. Material will be excavated from both the Oparure Pit and the SW Pit and will be processed by the same plant - that will remain at its current location. This will allow the current high-quality vehicle access to Oparure Road to continue to be utilised.

The Team Traffic report recommends that:

- the reduced speed limit on Oparure Road on the approach to and past Te Wharekura o Maniapoto be maintained;
- NZTA advanced permanent warning sign for schools (PW32) be retained; and
- School parking and drop off continue to be separated from traffic flows on Oparure Road.

These are outside of the scope of this consenting process, but Graymont supports these measures.

The report recommends that the following conditions be adopted:

- Installation of safe hit delineators (installed to the satisfaction of WDC) on the western side of the intersection of the site's access with Oparure Road to protect the visibility sightlines to the west (this is included in WDC Draft Condition 29);
- Use of wheel wash by existing trucks to reduce the tracking of sand onto Oparure Road (this is included in WDC Draft Condition 30).

With the adoption of the above conditions, Team Traffic considers the effects of the Project to be 'acceptable from a traffic engineering perspective', and less than minor.

29) Safe hit delineators shall be installed on the western side of the Oparure Road and quarry access road intersection to prevent parked vehicles from obstructing the sightline looking west. This work is to be undertaken to the satisfaction of the Roading Manager, Waitomo District Council.

30) A wheel wash shall be installed and operated by the consent holder (at the point vehicles exit from the Site to Oparure Road) to reduce the rise of dust nuisance effects and the tracking of sand onto Oparure Road.

8 DRAFT CONDITIONS

Decisions on substantive applications are made by Expert Consenting Panels under Section 81 of the FTAA. Schedule 5, Clause 18 requires the provisions of Parts 6, 9 and 10 of the RMA to apply.

Graymont has consulted various parties including tangata whenua, the WRC and WDC over the last six years on draft conditions.

8.1 EXPERT ASSESSMENT RECOMMENDATIONS

Section 7 of this report assesses the actual and potential effects of the Project, based on the technical assessments commissioned by Graymont.

The technical assessments recommend measures to avoid, minimise or mitigate potential adverse effects, as well as aspects of the environment that should be monitored. These are set out in **Table 16** with an indication of how they have informed the Draft Conditions, which are provided in full in **Appendix T1** and **T2**. The draft conditions include a provision (WRC Draft Condition 22 and WDC Draft Conditions 19) that provides a mechanism for documents required under the conditions to be certified by the councils and defines a suitably qualified and/or experienced expert (WRC Draft Condition 24 and WDC Draft Condition 21).

Table 16: Proposed mitigation and management measures and how they inform the draft conditions

Actual and Potential Effects	Summary of Proposed Mitigation Measures	Draft WRC Condition number	Draft WDC Condition number
See Table 17	- Cultural Monitoring Plan - Annual hui	8 - 13 82	8 -13 42
Potential physical effects on the Camelot Cave system	- Prior to the commencement of quarrying activities, the consent holder shall confirm the coordinates of the 'Camelot Cave Buffer Zone' ('CCBZ'), which shall extend 100 metres either side of the estimated centre line of Camelot Cave. The CCBZ shall be surveyed and marked on the site. - No quarry excavation or overburden placement shall be undertaken in the CCBZ until the extents and geometry of the cave system have been confirmed by an independent suitably qualified and/or experienced expert and certified by the WRC. - Upon certification of the extents and geometry of Camelot Cave, the following restrictions shall apply: - No blasting activities shall be undertaken within 25 metres of Camelot Cave ('No Blast Zone'); - Within 25 - 100 metres of Camelot Cave, a 'Blast Vibration Restriction Zone' ('BVRZ') shall apply, where blast design shall limit Peak Particle Acceleration ('PPA') to less than 2.4g at the nearest part of the cave system; - Prior to any blasting occurring within the BVRZ, the consent holder shall install permanent vibration monitors to monitor blast vibration at the ground surface above Camelot Cave; and	14 - 18	14 - 18

Actual and Potential Effects	Summary of Proposed Mitigation Measures	Draft WRC Condition number	Draft WDC Condition number
	d) At distances greater than 100 metres from Camelot Cave, no restrictions on blasting or excavation activities shall apply (with respect to protection of the cave system). - A Blast and Vibration Management Plan shall be developed and certified. The Blast and Vibration Management Plan shall include the following: a) Plans illustrating the Camelot Cave Buffer Zone, the Blast Vibration Restriction Zone and the No Blast Zone. b) The limitations on PPA (2.4 g) to be applied in the Blast Vibration Restriction Zone. c) Proposed controls on the Maximum Instantaneous Charge ('MIC') and delays to limit PPA to below the threshold for protection of the cave system. d) The proposed positions of permanent blast monitoring devices. e) Procedures for reporting on each blast. f) Procedures for notifying WRC of vibration exceedance events.		
Earthworks activities (stripping, stockpiling and placement of topsoil and overburden) are likely to generate sediment.	Mitigation measures are implemented through: - An Erosion and Sediment Control ('ESC') Plan and associated ESC Stage Plans, which address sediment generation and water quality effects (Appendix U), and - The Pit and Haul Road Site Management Plan ('P&HMP') and detailed geotechnical design, which address construction methodology, engineered landform performance and stability	ESCP - conditions 44 to 49 P&HMP - condition 27 - 34	N/A
Discharge of sediment due to blasting and excavation	Adoption of erosion and sediment controls and Betterment initiatives	ESC - conditions 44 -57 Betterment - condition 37	N/A
Discharge of nutrients from blasting and excavation	Adoption of erosion and sediment controls	ESC conditions 44 -57	N/A
Discharge of bacteria from excavation of former farmland	Adoption of erosion and sediment controls	ESC conditions 44 -57	N/A
Discharge of hazardous substances from mobile crusher	Minimum Requirements for the Storage & Use of Hazardous Substances - Any hazardous substances stored within the Site shall be contained within a bunded area, where the ground is covered with an impermeable surface (such as concrete). - All machinery shall be operated in a manner that ensures that spillages of fuel, oil and similar	40 - 43	N/A

Actual and Potential Effects	Summary of Proposed Mitigation Measures	Draft WRC Condition number	Draft WDC Condition number
	contaminants to soils, the karst system and water (both surface water and groundwater) are prevented during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body such that any spillage can be contained so it does not enter any natural waterway systems. Refuelling shall also not be undertaken within the CCBZ. - Any mobile crushing plant used within the Site shall have a spill response kit located at the plant and shall not be located within 200 metres of one of the boundaries to the CCBZ established by condition 14 of this resource consent or within 100 metres of any stormwater management control device. - Any tanker supplying diesel, hydraulic fluids, oils and greases to a mobile crushing plant located within the Site shall have appropriate spill control measures, including a diesel transfer nozzle that limits the potential for spills to occur, an emergency shutoff system to deactivate diesel dispensing and a spill response kit located with the tanker.		
Potential adverse effects on aquatic ecology as a result of an increase in sedimentation	Event-based monitoring once physical works (excavations, quarrying or disturbance activities) commence within the Camelot Cave Buffer Zone or the Blast Vibration Restriction Zone. When continuous turbidity monitoring triggers at Pōtea Spring are reached, a series of actions will be undertaken, including alerting the consent holder so that onsite activities can be recorded, sediment controls checked, data trends tracked and reporting undertaken. If the trigger exceedance continues, actions are to include ecological assessments of eDNA at Pōtea Spring, and deposited fine sediment and benthic invertebrate surveys within the Mangawhitikau Stream (20 and 100 m up and downstream of the confluence with Pōtea Spring) using the methods described in the annual monitoring above. This event-based monitoring is intended to provide an assessment of if unexpected discharge events result in adverse ecological events. A report is to be prepared, investigating the actual and potential short- and long-term effects of the activity and recommending next steps. Further detail is provided within the conditions.	WRC conditions 19 to 21	N/A
Terrestrial Ecology - Direct and permanent loss of approximately 1.0 ha of High value, significant karst	Not less than 21 cave entrances shall be protected from stock and enhanced by planting and pest control. The cumulative floor area of the cave shall sum to not less than 224 m² in area. All of the cave entrances that are protected and enhanced shall be within 10 kilometres from the cadastral boundaries of the Site; and	37(a) and (b)	24(a) and(b)

Actual and Potential Effects	Summary of Proposed Mitigation Measures	Draft WRC Condition number	Draft WDC Condition number
ecosystem features.	Not less than 6.7 ha of planting between and around SNAs.		
Direct and permanent loss of approximately 1.4 ha of native vegetation/habitat and Permanent loss of moderate value habitat and food source for native fauna. Potential effects on remaining vegetation on western boundary (such as edge effects and damage to root systems), Potential injury/death of native fauna (birds, bats, lizards) due to habitat removal, Potential indirect effects on fauna, including increased amounts of dust, noise and lighting on the remaining habitats nearby the boundaries of the proposed new pit	Not less than 11.8 hectares of riparian planting or enhancement of existing native vegetation (using appropriate, locally sourced, indigenous / native plant species) shall be undertaken in the catchment of the Camelot Cave Stream. The areas of riparian planting shall be identified by an independent suitably qualified and experienced expert. The 11.8 hectares of riparian planting shall be in addition to the habitat that is to be protected and enhanced in accordance with the other clauses of this condition.	37(d)	24(d)
Removal/loss of 7 short, small cave systems and entrances	Not less than 21 cave entrances shall be protected from stock and enhanced by planting and pest control. The cave entrances that are protected and enhanced shall be identified by an independent suitably qualified and/or experienced expert and the cumulative floor area of the cave shall sum to not less than 224 square metres in area. All of the cave entrances that are protected and enhanced by the consent holder shall be within 10 kilometres from the cadastral boundaries of the Site;	37(a)	24(a)
Plant and animal pest damage	Pest Management Plan	75	25
Recommended aquatic quality monitoring	Aquatic ecology monitoring to confirm that effects are as expected.	59 - 63	N/A
Dust	Air Quality Management Plan	70 - 74	N/A
Accidental discovery of archaeology, taonga or koiwi	Accidental discovery protocol	79 - 81	40 - 41

Actual and Potential Effects	Summary of Proposed Mitigation Measures	Draft WRC Condition number	Draft WDC Condition number
Pit closure	Pit Rehabilitation Plan - that includes calculations for bond amount to cover liability.	86 - 102	45 - 48
Landscape and visual effects	Tree planting as screening	N/A	27 - 28
Traffic	Safe-hit delineators to be installed on the western side of the intersection of the Site's access and Oparure Road More stringent use of the wheel wash	N/A	29 - 31
Noise and vibration	Operational Noise - Compliance with the maximum permitted noise levels in NOISE-S4, except for 966 Oparure Road for which resource consent is sought. Reverse alarms - prohibit tonal reverse alarms. Broadband reverse alarms shall be fitted. Construction noise and vibrations Compliance with NOISE-S4 (1) and (2). Blasting - Compliance with NOISE-S10 of the PWDP.	N/A	32 - 39

8.2 CULTURAL IMPACT ASSESSMENT RECOMMENDATIONS

Particular consideration was given to the recommended conditions presented in section 3.3 on page 32 the CIA (**Appendix S**) detailed in **Table 17**. The recommended conditions address kaitiakitanga, rangatiratanga, customary activities, cultural heritage, and papakāinga, marae and pā.

Table 17: Conditions recommended in CIA

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
1	Kaitiakitanga and Rangatiratanga Condition 1 that Graymont assist in resourcing Oparure marae to co-develop with them a unique "Strategic Intent Plan" which will be intended to address matters outlined in this CIA in addition to others that may be out of scope for the consent but are considered important to the relationship moving forward. This plan could be used to address information gaps presented in the technical reports regarding experience and/or valued landscapes, sites and species, but should not be limited to that alone. Graymont have indicated support for the establishment of an MoU with the Marae to start this process.	Graymont may agree to assist in resourcing Oparure marae to co-develop with them a unique "Strategic Intent Plan", but this falls outside of the scope of conditions to a resource consent because it does not address a potential adverse effect of the proposed activities. No condition added.
2	Condition 2: that any perceived Air quality issues onsite to be jointly reviewed between Graymont and Oparure marae at least every 5 years during Life of Quarry (LoQ).	Air quality issues are addressed by WRC draft conditions 70 - 72. Cultural monitoring (WRC draft conditions 8 to 13) could include air quality. WRC draft conditions 83 - 84 are provisions for a complaints procedure through which any specific air quality events can be raised.

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
		Graymont is required to discuss the results of monitoring and complaints that include air quality at the Annual Hui (WRC draft conditions 82).
3	<u>Continuation of support from Oparure marae for a condition (3)</u> to delay advancement of the Camelot system. While the current proposal from Graymont recommends assessment for the first 12 years and the undertaking of all necessary monitoring and sediment controls to prevent decline in the water quality of other connected systems, Oparure marae with to reiterate their deep concern for this tomo (and others on the site). Marae members will only maintain their support if monitoring of potential risks is robust, and maintain regularity in a way that ensures that potential risks to the system are clearly identified BEFORE the activity impacts on the system. Thus, ensuring that Oparure marae can participate in decisions regarding appropriate actions for mitigation and/or avoidance of those risks to Camelot.	WRC draft condition 14 - 18 requires the consent holder to obtain certification that proposed activities will not adversely affect the Camelot Cave System prior to activities in the Camelot cave System Refinement Zone, as well as monitoring of water quality effects while activities are taking place.
4	With this in mind, they support an <u>additional condition (4)</u> (with amendments) posed by the RMC in the original CIA that Oparure marae is resources to participate in the monitoring and associated components (including application of appropriate tikanga) as cultural monitors and advisors during this period for both Camelot System and other tomo impacted by the activity.	WRC and WDC draft conditions 8 to 13 provide a Cultural Monitoring Plan.
5	The Marae also presents an <u>additional condition (5)</u> that Oparure marae are engaged in a timely fashion by Graymont that ensures the monitoring results and recommendations of the cultural monitors are factored appropriately within any decisions relating to impacts (perceived and actual) on the Camelot system, but also other tomo in the Pakeha site. This includes associated decisions relating to improvements to other tomo as captures under the proposed Betterment Plan.	WRC draft condition 82 Annual Hui requires the consent holder to arrange an annual hui for, <i>inter alia</i> , the discussion of the results of all monitoring undertaken in accordance with the conditions of the WRC and WDC resource consents.
6-9	Continuation of support from Oparure marae for a <u>condition (6)</u> to develop and implement the plans on the next page with the <u>Condition 7</u> that Oparure marae members are resources to participate within the identification of culturally important considerations within those (including culturally important species), and <u>Condition 8</u> that culturally appropriate monitoring indicators and methods are co-developed and co-implemented with Oparure marae [also see Conditions 3,4 and 5 above]: - Site Management Plan - Native Species management /recovery plan - Pest animal and Pest/Invasive Plant management Plans	WRC condition 30 requires the consent holder to provide a draft copy of the P&HMP to TNN and Oparure Marae no later than two months prior to the exercise of this resource consent. Graymont also intends to provide the draft P&HMP and associated management plans to the Marae and TNN while the fast-track approvals process is still underway, which will be in advance of this two month period, to provide them with sufficient time to review the documents. All comments received from the Oparure Marae and TNN together with the consent holder's responses to the same, shall

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
	- Dust Management Plan and related strategies - Site Rehabilitation Plan - Karst Enhancement Plan including off setting of the loss of 10 tomo with up to 30 over the life of the Quarry extension.	be provided to the Chief Executive Officer of the WRC (or delegate) at the same time that the P&HMP is submitted to Chief Executive Officer of the WRC (or delegate) for certification. The P&HMP includes: a) An outline of the new pit and haul road operation and processes; b) An Ecological Betterment Plan ('EcoBP') (which shall include but not be limited to a Plant and Animal Pest Management Plan ('PMP'), , a Lizard Management Plan ('LMP') and a Karst and Riparian Management Plan ('RKRMP')). c) An Air Quality Management Plan ('AQMP') d) An Erosion and Sediment Control Plan ('ESCP'); e) A Spill Response Plan ('SRP'); and f) A Topsoil Management Plan ('ToMP'). WRC and WDC draft conditions 8 to 13 also provide a Cultural Monitoring Plan.
9	<u>Condition 9</u> that further work would be required into the impacts of the quarry activity on any critically endangered local (Mangawhutukau) freshwater species <u>if identified</u> with an expectation that research and monitoring protocols would be developed immediately <u>if identified</u> , and Oparure marae would be involved in a meaningful way.	Additional aquatic ecology baseline surveys have been undertaken since receiving the CIA (Appendix J). Councils cannot require a consent holder to undertake research that is not related to the management of potential effects of the consented activities. The draft conditions provide for monitoring of the water quality of the receiving freshwater bodies and responding to any adverse effects that could affect any freshwater species.
10	<u>Condition 10</u> that Oparure marae is part of the communications plan for all monitoring and reporting against the conditions and relevant plans.	The following provisions provide for the involvement of Oparure marae in monitoring and reporting: • WRC and WDC draft conditions 8 to 13 provide a Cultural Monitoring Plan. • WRC draft conditions 83 - 84 are provisions for a complaints procedure through which any specific air quality events can be raised. • WRC draft condition 81 Annual Hui requires the consent holder to arrange an annual hui for, <i>inter alia</i>, the discussion of the results of all monitoring undertaken in accordance with the conditions of the WRC and WDC resource consents.
11	<u>Condition 11</u> that Graymont will commit to on-going research and investment (where possible) into either augmenting current products with sustainable alternative sources and/or with a long term goal for	Councils cannot require a consent holder to undertake research that is not related to the management of potential effects of the consented activities.

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
	phasing out of their landscape altering sources from within the Oparure catchment.	
12	<u>Condition 12</u> that the TNN Accidental Discovery Protocols are adopted and upheld for the activity. Waahi Tapū to be included.	Accidental Discovery protocols are included in WRC draft conditions 79 - 81 and WDC draft conditions 40 - 41.
13	<u>Condition 13</u> that Graymont formalise and translocate existing access agreements for RMC (WHARE) monitors on Oparure site to also cover Pit 2, but with the addition that Oparure marae members are engaged as cultural monitors for both sides.	WRC and WDC draft conditions 8 to 13 provide a Cultural Monitoring Plan.
14	<u>Condition 14</u> that Oparure marae or their approved agents are involved in timely seed and/or propagule collection from vegetation to be removed from Pit 2 site for seed-banking and propagation at jointly approved nursery.	Although a third party can't be required to do something in the conditions, this may be addressed in the CMP, which is anticipated. Not covered in draft conditions.
15	<u>Condition 15</u> for lighting design on the Pakeha site that measurably reduces the impact of the activity on the local nightscape, with a commitment from Graymont to consider transferring these designs to the existing Oparure site as an exemplar of best practice.	Not covered in draft conditions. Not related to the activities to be authorised under this resource consent.
16	<i>Customary Activities</i> <u>Condition 16</u> that plants utilised in the screening of the site include native species of importance to Oparure Marae.	Shelter belts are required under WDC condition no. 27. Draft condition 27 states: <i>"Both shelterbelts are to be planted using evergreen species that are capable to being at least five metres tall within 10 years of them being planted"</i> . Riparian planting required under WDC condition 20 shall, however be <i>"using appropriate, locally sourced, indigenous / native plant species"</i> .
17	<u>Condition 17</u> that any endangered native trees under 5m that would otherwise be destroyed in the quarry's activities are jointly considered for safe removal and translocation.	This is not required by the draft Conditions.
18	<u>Condition 18</u> that Oparure marae is given "first right of refusal" over culturally significant resources that will be impacted by the activity and are able to be removed safely.	WRC draft condition 79-81 provide an accidental discover protocol to be followed for any archaeological site, taonga (Māori artefacts) or koiwi being uncovered during the exercise of this resource consent, the accidental discovery protocols.
19-21	<u>Condition 19</u> that the consent period is mutually agreed (initially) with an additional <u>condition 20</u> of a 'stop-go' review period at year 12 of the consent linked to the Camelot System analysis. This should also be conditional on the proven and resourced participation of Oparure marae in an agreement to undertake a 'cultural compliance review', and to	Activities consented cannot be subject to subsequent approval from a third party.

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
	evaluate monitoring of impacts to-date and mitigation undertaken by Graymont to remedy those (condition 21).	
22	Condition 22 Graymont to provide a formal commitment to develop a 'Community land Exit Strategy' for any repatriated land post quarrying. This is based on the information at hand that the activity will likely continue for at least a further 80 years. Oparure marae at TT-Whare view the 'Exit Strategy' to connected Land and its future use to have cultural and economic benefits. This will also ensure a wider community benefit.	WDC draft conditions 45 to 48 require a Pit Closure Plan that the Oparure Marae and TNN for its review and comment at least 18 calendar months prior to the planned closure of the new pit. The fate of the land will be determined once it has been rehabilitated.
23	Recommendation 23 for council to better consider the cumulative impacts of all heavy vehicle operations at Oparure road associated with industry in this part of the district. Review of a potential reduction in speed on Oparure road to enhance safer access and utilisation of the school and marae; provide more signage (perhaps with potential for permanent temporary activity notice signs for Tangi and other Events) in key locations to better communicate to all road users; This supports and upholds council obligations under Te Ture Whaimana and Ko Tā Maniapoto Mahere Taiao.	WDC draft conditions 29 to 31 require safe hit delineators and additional road signs to manage potential effects of the activities. Cannot require council to undertake additional actions that are not directly related to the activities being authorised.
24	Condition 24 (in addition to condition 23 above) for restriction on the hours of vehicular movement to and from the quarry during drop off and pick up times, and also tangihanga.	Not included as a draft condition. The Roading and Traffic Impact Assessment (Appendix N) states that observations of the parking and pedestrian activity associated with Te Wharekua o Maniapoto school during the normal morning and afternoon peak periods showed that all of this activity is confined either to the car parking area within the site or the off-road recessed parking and drop off area adjacent to the school entrance. All of the activity occurs in locations that are physically separated from the road, with no pedestrian-vehicle interaction observed occurring on the road with passing quarry trucks.
25	Condition 25 that Graymont work with the Oparure marae to incorporate environmental and landscape projects that they deem to best support tribal betterment within the proposed 'Betterment Plan'. Oparure marae supports the original sentiments of the RMCs in their support for the Betterment Plan concept and its principle of betterment.	WRC condition 30 requires Graymont to provide a draft copy of the Betterment Plan to TNN and Oparure Marae no later than two months prior to the exercise of the resource consent. Graymont also intends to provide the draft P&HMP and associated management plans to the Marae and TNN while the fast-track approvals process is still underway, which will be in advance of this two month period, to provide them with sufficient time to review the documents. All comments received from the Oparure Marae and TNN, together with the consent holder's responses to the same, shall be provided to the Chief Executive

	Recommended conditions from the CIA assessment (Appendix S)	How these are reflected in draft conditions
		Officer of the WRC (or delegate) at the same time that the Betterment Plan is submitted to Chief Executive Officer of the WRC (or delegate) for certification.
26	<u>Condition 26</u> for baseline monitoring of noise impacts to the papakāinga and Oparure marae, and a confirmed plan for ongoing monitoring and appropriate mitigation of noise impacts to the local community and marae for the life of the activity.	WDC draft conditions 32 - 38 provide noise and vibration management measures to ensure that noise and vibrations are within acceptable levels. Cultural monitoring (WRC draft conditions 8 to 13) could include noise.

9 ASSESSMENT AGAINST RELEVANT PROVISIONS IN PLANNING INSTRUMENTS

9.1 INTRODUCTION

Schedule 5 clause 17(1) of the FTAA sets out the matters for decision-makers to consider and assess in relation to applications for resource consents, as:

*“(a) the purpose of this Act; and
(b) the provisions of Parts 2, 3, 6, and 8 to 10 of the Resource Management Act 1991 that direct decision making on an application for a resource consent (but excluding section 104D of that Act); and
(c) the relevant provisions of any other legislation that directs decision making under the Resource Management Act 1991.”*

9.2 PURPOSE OF THE FAST-TRACK APPROVALS ACT

Application form Part 4: Subpart 1 and section 43(1)(b)(i) of the FTAA.

When considering applications under the FTAA, Expert Consenting Panels are required to give the greatest weight to the purpose of the FTAA, which is:

“to facilitate the delivery of infrastructure and development projects with significant regional and national benefits.”

The Economic Effects Assessment (**Appendix R**) highlights that Graymont’s lime and limestone products are essential inputs across the New Zealand economy, including for clean drinking water treatment, steel manufacturing, construction and roading, agriculture, and environmental remediation. As the biggest limestone quarry in New Zealand (by output), Graymont is critical to the country’s capability in these essential limestone products.

The Project site is zoned as a Rural Production Site and identified as a regionally significant mineral resource. The Oparure Quarry operates to the highest environmental standards and Graymont’s own rigorous practices.

The Project is essential. To protect New Zealand’s domestic supply of calcium-based solutions, supporting local jobs and regional development, and meeting the country’s needs for decades to come.

These benefits are material in the context of the local and national economic climate. The scale and diversity of these downstream linkages – spread across almost the entire North Island and reaching a substantial share of the national population – means that even small disruptions to supply would have disproportionate consequences for national productivity, supply chain resilience, and community wellbeing. By avoiding these risks, and by maintaining an efficient, centrally located, high-quality source of limestone and lime products, the Project secures economic benefits that are enduring, wide-reaching, and significant at the national level. These economic benefits are additional to the Project’s net positive environmental benefits, achieved through the proposed Ecological Betterment Plan discussed elsewhere in the application.

9.3 RESOURCE MANAGEMENT ACT 1991

Pursuant to clause 5(1)(g) of Schedule 5 to the FTAA, the requirement to assess an application for resource consent against Part 2 of the RMA is limited to sections 5, 6 and 7, with section 8 of the RMA being excluded. Therefore, an assessment of Part 2 of the RMA is provided below.

9.3.1 Part 2 of the RMA: Purpose and Principles

Resource consent applications under the FTAA must also be assessed against the relevant provisions of the applicable statutory documents. Those documents are listed in **Section 5** of the RMA and are (Schedule 5, Clause 5(2)):

- “a national environmental standard:
- other regulations:
- a national policy statement:
- a New Zealand coastal policy statement:
- a regional policy statement or proposed regional policy statement:
- a plan or proposed plan; and
- a planning document recognised by a relevant iwi authority and lodged with a local authority.”

Section 104(2) states that “When forming an opinion for the purposes of paragraph (a), a Consent Authority may disregard an adverse effect of the activity on the environment if a NES or plan permits an activity with that effect.”

As discussed in **Section 5.2** it is noted that the Project is able to meet the Permitted Activity standards quarrying under PROZ-R13 in the WDP and for discharge of contaminants to air, discharging water to aid dust suppression and drilling holes for blasting under the WRP.

We now summarise our assessment of the Project against the applicable provisions of the relevant statutory instruments, as is required by Section 104(1)(b) of the Act, namely:

- National Policy Statements (**Section 9.4**);
- National Environmental Standards (**Section 9.5**);
- Waikato Regional Policy Statement (2014) (**Section 9.6**);
- Waikato Regional Plan (**Section 9.7**);
- Proposed Waitomo District Plan (**Section 9.8**);
- Operative Waitomo District Plan (**Section 9.9**);
- Tu Ture Whaimana (**Section 9.10**); and
- Maniapoto Environmental Management Plan (**Section 9.11**).

Section 6 of the RMA deals with matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(a) *the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development*

The Site is not located close to the coastal environment and there are no surface wetlands, lakes or rivers on the Site. The Camelot Stream flows below ground - any effects on this stream and associated caves have been assessed and are protected by the draft conditions.

(b) *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*

(c) The Site is not identified as containing any Outstanding Natural Features or Landscapes in the PWDP. *the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna*

Dr Keesing assessed significance (as it relates to Section 6(c) of the RMA) using the significance criteria described in Waikato Regional Council Technical Report 2017/371, Environment Waikato technical report TR2002/152 and the Waikato Regional Policy Statement (2016). The vegetation

and/or habitat when tested against those criteria is considered significant if it meets one or more of the criteria described. Dr Keesing noted that the regional criteria have not been updated to align with the National Policy Statement for Indigenous Biodiversity (NPS IB) (2022) Appendix 2 significance criteria and where there are material differences, Dr Keesing favoured the NPS IB criteria and interpretations. Dr Keesing notes that, even though features on the Site carry the “Karst” label because they are limestone outcrops, most of the karst features present do not represent those prior to human settlement, missing most species and form and condition. Dr Keesing estimates around 1 ha of the features present could be considered significant under the RPS criteria no 5 (**Appendix K**). Dr Keesing assessed the effect of the Project on the Karst Ecosystem (where 1 ha will be permanently lost) as negligible.

Dr Keesing notes that those native vegetated karst fragments could also be significant if long-tailed bats, bush falcon, or ornate skink rely on or frequently use those areas, as opposed to merely visiting them occasionally as part of their wider territories. The terrestrial vegetation on the Site is currently farmed and not fenced and not protected and are not recognised as significant in regional or district planning regime.

The effects management analysis (**Appendix K**) concludes that habitat related effects (the loss of farmland with scattered remnant karst features and native scrub and trees, potential bat roost trees and invertebrate and avian habitat) is less than minor.

Given the level of adverse effects that are anticipated, we are of the opinion that the Project will not cut across the level of preservation required by section 6(c) of the RMA.

- (d) *the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers*
- (e) *The Site is not located in or adjacent to the coastal marine area. the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*

Graymont has been consulting with the Oparure Marae for several years. Specific consultation relating to the Fast-track application is detailed in Section 10.4 with records presented in **Appendix C**.

In response to an invitation, a CIA was prepared by Oparure Marae and Te Tokanganui-a-noho Whare which included reviewing draft expert reports. The CIA adopts an analytical framework based on the key values of the marae that are also supported by Ko Tā Maniapoto Mahere Taiao (the Maniapoto Environmental Plan) and Te Ture Whaimana (Vision and Strategy) which directly speak to the aspirations of tangata whenua affiliated through whakapapa with the Waipā River system and recognising its downstream connection to Te Awa Waikato. The CIA states that “To the people of Maniapoto, the Waipā River is a ‘taonga’ and their relationship with their Rivers is “historic intellectual, physical and spiritual””. The Site is located in a sub-catchment of the Waipā River.

Graymont recognises the important role tangata whenua have as kaitiaki and supports their vision for a flourishing Mangapu River. Concerns raised and recommendations made in the CIA have informed expert studies, the assessment of environmental effects, Graymont's Betterment Plan and the draft conditions.

- (f) *The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga have therefore been recognised and provided for. the protection of historic heritage from inappropriate subdivision, use, and development*

historic heritage— (a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities:

- (i) archaeological:
- (ii) architectural:
- (iii) cultural:
- (iv) historic:
- (v) scientific:

- (vi) technological; and

(b) includes—

- (i) historic sites, structures, places, and areas; and
- (ii) archaeological sites; and
- (iii) sites of significance to Māori, including wāhi tapu; and
- (iv) surroundings associated with the natural and physical resources

The PWDP does not list any Historical and Cultural Values / Sites (such as Heritage Buildings and Structures, Significant Archaeological Sites, Sites of significance to Māori, Marae) on or adjacent to the Site. This has been confirmed by an archaeological assessment (**Appendix H**). Historical heritage has therefore been recognised and provided for.

(g) *the protection of protected customary rights*

(h) Protected customary rights are legal rights held by Māori groups to carry out specific customary activities in the common marine and coastal area. They are recognised under the Marine and Coastal Area (Takutai Moana) Act 2011. This Project does not affect the common marine and coastal area, and no protected customary rights therefore apply. *the management of significant risks from natural hazards*

Natural hazards that have been considered in the preparation of this application are earthquakes and associated liquefaction, volcanic eruptions, landslides, sinkholes and rockfalls (**Section 7.3** and **Appendix F**).

Seismicity and liquefaction hazard is considered low risk due to absence of active faulting, and the expected level of ground shaking/likelihood of occurrence during the life of the Project and fill engineering design.

Sinkholes are a recognised geo-hazard feature at the Site and are managed by site access controls, surface water control / drainage and filling where required. PDP (**Appendix F**) reports that the water table is expected to be below the base of the proposed quarry floor, with the exception of localised short duration ponding that is likely to drain rapidly. Localised dewatering of cover deposits due to the quarrying may occur (where the quarry intersects any perched groundwater in these deposits). However, any dewatering of cover deposits is not expected to induce / enlarge sinkholes in the limestone because of quarry water control measures / limited influence.

Hazards associated with the Project are managed through a combination of engineered design, construction methodology and ongoing monitoring (**Appendix F**). Specific mitigation measures include slope design based on site specific geotechnical assessment, with groundwater and surface water controls, use of benching and buttressing, and ongoing inspection and review of slope performance. These measures are to be implemented as part of the overall geotechnical design and management framework for the site. With these measures in place, the residual geotechnical effects are considered to be less than minor.

Not only have natural hazards been considered in the application, but The Project will enable Graymont to continue to supply limestone and lime products that play a critical role in road and track maintenance and repair to support the recovery from natural hazard events.

Natural hazards have therefore been recognised and provided for.

Section 7 of the RMA provides matters that all persons having functions under the powers of the RMA should have particular regard to in achieving the purpose of the RMA, namely:

(a) *kaitiakitanga*:

The Oparure Marae was identified as tangata whenua and prepared a CIA in response to an invitation from Graymont (**Appendix S**). The CIA confirms that kaitiakitanga is one of the eight Waikato-Tainui objectives defined by Waikato-Tainui (2021), and describes the intent as “That central, Regional and local government entities with decision making functions implement a holistic and co-ordinated approach to the management and use of the resources of the Waikato River and its catchment”. The

CIA includes recommended conditions, which includes condition 4 that that Oparure marae is resourced to participate in the monitoring and associated components (including application of appropriate tikanga) as cultural monitors and advisors during this period for both Camelot System and other tomo impacted by the activity. Draft WRC and WDC conditions 8 to 12 provide for a Cultural Monitoring Plan in response to this (**Appendices T1 and T2**).

(aa) the ethic of stewardship:

The ethic of stewardship came about as a non-Māori rendition of Kaitiakitanga⁸ and refers to caring for and responsibly managing natural and physical resources on behalf of present and future generations, recognising long-term environmental responsibilities and avoiding unnecessary degradation, waste or irreversible harm where possible. Graymont's application shows through the proposed EcoBP and suite of Management Plans that the Project is appropriately designed to minimise adverse environmental effects. The technical reports supporting the applications and draft conditions demonstrate how this will be achieved.

(b) the efficient use and development of natural and physical resources:

The Project relates directly to the development of natural mineral resources.

(ba) the efficiency of the end use of energy:

Not applicable to this application.

(c) the maintenance and enhancement of amenity values:

The SW Pit would be largely isolated from most vantage points, and expert opinion (Appendix xx) is that any visual and landscape effects would be of 'low' to 'very low' effect, and that 'these impact ratings are exceptionally low for a development of the scale proposed.' Graymont is, none-the-less, proffering a line of tree planting north-east of the SW Pit to screen and buffer its expansion into rising terrain down the western and south-western sides of the Site in the future. *(d) intrinsic values of ecosystems:*

Aquatic (**Appendix J**), Terrestrial and Subsurface Ecology (**Appendix K**) effects have been assessed for this application.

The definitions in Section 2 of the RMA states that "*intrinsic values, in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including—*

(a) their biological and genetic diversity; and

(b) the essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience". This essentially refers to ecological values that exist independently of human use.

In **Appendix K**, Dr Keesing identifies 1 ha of Karst Ecosystem will be lost by the Project. Betterment initiatives are included draft WRC condition 37 and draft WDC condition 24 require that not less than 21 cave entrances shall be protected from stock and enhanced by planting and pest control. The cumulative floor area of the cave shall sum to not less than 224 m² in area. All of the cave entrances that are protected and enhanced shall be within 10 kilometres from the cadastral boundaries of the Site and not less than 6.7 hectares of planting between and around SNAs.

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⁸ Report to the Minister for the Environment's Resource Management Act 1991 Principles Technical Advisory Group, February 2012

We are therefore of the opinion that particular regard has been given to the intrinsic value of ecosystems and that the project can be advanced in a manner that gives effect to this aspect of the Act's purpose.

(f) maintenance and enhancement of the quality of the environment:

Graymont aims to maintain the quality of the environment by proffering draft conditions that aim to monitor key aspects of the environment as well as draft conditions that actively manage actions to prevent any degradation of the natural environment. Key management measures include erosion and sediment control measures, water quality and aquatic ecology monitoring, dust management, pest management, bat, bird and lizard management and planting screening trees.

The betterment initiatives that Graymont has committed to will clearly enhance the quality of the environment, specifically the water quality (sediment levels) in the downstream rivers.

This, in our opinion, reflects the need for particular regard to be given to the maintenance and enhancement of the quality of the environment.

(g) any finite characteristics of natural and physical resources:

This provision recognises that many natural and physical resources are limited. They are not inexhaustible, and once they are used up, degraded, or irreversibly damaged, they may not be able to be replaced. It encourages sustainable management by recognising scarcity and limits.

Limestone is itself a finite resource. Society needs access to these limited mineral resources, so providing for access to significant limestone deposits may be an important consideration. The Project makes efficient use of established quarry infrastructure (avoiding the need for a new quarry elsewhere), and progressive rehabilitation will return disturbed areas to productive farmland and restore the landscape over time.

(h) the protection of the habitat of trout and salmon:

No trout or salmon habitat are affected by this Project.

(i) the effects of climate change:

The main climate-related risks for limestone quarries are likely to be:

- More intense rainfall causing erosion and sediment discharge.
- Greater variability in water availability.
- Increased dust during longer dry periods.
- More frequent severe weather affecting operational resilience.
- groundwater changes and slope stability are also of concerns.

The rainfall depths used to calculate and design erosion and sediment control measures (**Appendix U3**) have accounted for changes in rainfall intensity associated with climate change by considering a Representative Concentration Pathway 4.5 (RCP4.5) climate change scenario⁹ for the period between 2031-2050.

The design of the SW Pit, as well as monitoring dust and slope stability on the site will ensure that any long-term changes in environmental conditions caused by climate change are taken into account.

(j) the benefits to be derived from the use and development of renewable energy.

Not applicable to this Project.

Section 5 of the RMA sets out its purpose:

⁹RCP4.5 is an intermediate climate change scenario that assumes global greenhouse gas emissions peak around mid-century and then decline due to mitigation measures. It represents a future with moderate emissions reductions and is widely used in New Zealand climate change assessments to evaluate the potential impacts of climate change under a medium emissions pathway.

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The Project enables the continued extraction of a nationally significant limestone resource from an existing quarrying operation, supporting employment, primary production, manufacturing, infrastructure and broader economic and social wellbeing, while making efficient use of established quarry infrastructure and avoiding the need for a new quarry elsewhere. Progressive rehabilitation will return disturbed areas to productive farmland and restore the landscape over time, ensuring that the long-term productive capacity of the land is maintained. The Project therefore enables people and communities to provide for their social and economic wellbeing while sustaining the potential of natural and physical resources for future generations.

The Project has been informed by comprehensive technical investigations and has been designed to safeguard the area's karst landforms, groundwater, surface water, caves and ecosystems. Measures including a buffer to the Camelot Cave system until the extent of the cave is confirmed, progressive rehabilitation, erosion and sediment controls, water quality management, ecological enhancement, and ongoing monitoring and adaptive management required through the proposed consent conditions and management plans. The assessment of environmental effects concludes that potential adverse effects can be appropriately avoided, remedied or mitigated, while the Project delivers significant and enduring social and economic benefits. Overall, the Project appropriately balances the use and development of natural resources with the protection of environmental and cultural values and therefore achieves the sustainable management purpose of section 5 of the RMA.\

9.3.2 Part 3 of the RMA: Duties and Restriction

Part 3 of the RMA contains provisions that detail when a resource consent is required in relation to land (section 9), the CMA (section 12) and discharges (section 15). The resource consents required to undertake the Project activities are discussed in **Section 4** of this report.

9.3.3 Part 6 of the RMA: Resource Consents

Key considerations of Part 6 of the RMA that direct decision-making on an application are sections 104 (Consideration of applications), 105 (Matters relevant to certain applications), 107 (Restriction on grant of certain discharge permits) and 108 (Conditions of resource consents).

Any actual and potential effects on the environment of allowing the activity (Section 104(1)(a) of the RMA) are discussed under **Section 7** of this report. Management measures recommended by experts have been incorporated into draft conditions (**Section 8** and **Appendices T1 and T2**). The Project is not anticipated to result in any unacceptable adverse effects on the environment with the mitigation and ecological betterment measures included in the draft conditions. offset (Section 104(1)(ab) of the RMA)

National Environmental Standards (Section 104 (1)(b)(i) of the RMA) are discussed in **Section 9.5** of this report. The Project does not trigger the requirement for further resource consent applications to be made under them. No other regulations have been identified as applicable to this application

(Section 104(1)(b)(ii) of the RMA). NPSs (Section 105(1)(b)(iii) of the RMA) are discussed in **Section 9.4** of this report. The NPS-IB has been applied to the assessment of ecology. The NZCPS (Section 104(1)(b)(iv) of the RMA) is not relevant to this Project.

The Waikato RPS (Section 104(1)(b)(v) of the RMA) is discussed in **Section 9.6** of this report and the Waikato RCEP (Section 104(1)(b)(vi) of the RMA) does not apply. Assessment against the PWDP (Section 104(1)(b)(vi) of the RMA) is included in **Section 9.9** and other matters (Section 104(1)(c) of the RMA) are presented in **Sections 9.11** (Te Ture Whaimana) - **9.12** (Maniapoto Environmental Management Plan) of this report.

Section 104B of the RMA relates to the determination of applications for discretionary activities. Although controlled (Section 104A) and restricted discretionary (Section 104C) activities are included in this application, the bundling principle has been applied.

Section 105 of the RMA refers to matters relevant to certain applications. Section 105 (1) requires the application for a discharge permit or coastal permit to have regard to:

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) the applicant's reasons for the proposed choice; and*
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.*

Discharge of stormwater to surface and groundwater is being applied for as a discretionary activity under WRP Rule 3.5.11.8, and the discharge of stormwater to land as a controlled activity under WRP Rule 3.5.11.6. The nature of the discharge and the sensitivity of the receiving environment have been assessed in detail in **Appendix I** (water), **Appendix J** (aquatic ecology) and **Appendix K** (terrestrial and subsurface ecology). Alternative discharge options are assessed in section 5 of **Appendix I**, and include:

- Collection and discharge of water to an onsite reticulated stormwater network which then discharges to the Mangapu River and Mangawhitikau Stream, and
- Collection of surface water for re-use on site.

The PDP water assessment concludes that the proposed approach is considered the most appropriate and technically feasible.

Section 107 of the RMA relates to restrictions on the granting of certain discharge permits. None of the effects prohibited by Section 107 are anticipated as a result of this Project.

Section 108 of the RMA guides the imposition of consent conditions. Draft conditions are discussed in **Section 8** and **Appendices T1** and **T2**.

9.3.4 Part 8 of the RMA: Designations and Heritage Orders

This application does not include any designations or heritage orders.

9.3.5 Part 9 of the RMA: Water Conservation Orders

This application does not relate to any water conservation orders.

9.3.6 Part 10 of the RMA: Subdivisions and Reclamations

This application does not include any subdivisions or reclamations.

9.4 NATIONAL POLICY STATEMENTS

The NPS for **Greenhouse Gas Emissions from Industrial Heat 2023** is not relevant to this application. This application is for the development of a new pit and the quarrying of limestone. The only processing included is a mobile crushing plant, which is not an industrial heat device. The activities do not, therefore, trigger the requirements for a resource consent under this NPS.

The NPS for **Highly Productive Land 2022** was amended in December 2025 to, *inter alia*, includes a definition and reference to quarrying activities. This NPS does not trigger the requirement for resource consent because the Land Use Capability across the Site is Land Use Capability 4 - 6, which does not meet the NPS for Highly Productive Land definition of highly productive land.

The NPS for **Freshwater Management 202** was updated in 2025 to add an 'operational need' test in relation to quarrying and mining (see clause 3.22). This NPS does not trigger the requirement for a resource consent because the Site contains no natural inland wetlands.

The objective of the NPS for **Indigenous Biodiversity 2023** is:

- (a) To maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and
- (b) To achieve this:
 - (i) Through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and
 - (ii) By recognising people and communities, including landowners, as stewards of indigenous biodiversity; and
 - (iii) By protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and
 - (iv) While providing for the social, economic, and cultural wellbeing of people and communities now and in the future.

Amendments to clause 3.11(1)(a) were made in December 2025 to enable adverse effects on SNAs when the effects are required for the extraction of minerals and ancillary activities or quarrying activities with significant national or regional benefits. This is generally enabling for quarrying activities, however, an assessment of the regional and national benefits of the quarry is required to justify effects on SNAs under this clause. These changes came into effect on the 15th of January 2026.

Dr Keesing applied the NPS-IB to his assessment of significant indigenous vegetation and significant habitats of significant fauna, which has also been applied to the assessment of section 6 of the RMA (see **section 9.3**).

Although the 1 ha of karst ecology that will be permanently lost has not formally been identified as an SNA in the planning tools, the NPS-IB requires the NPS-IB principles to be applied. The NPS-IB requires avoidance of the adverse effects as a first principle. Avoidance is not possible because the area needs to be cleared for the SW Pit to be developed. The effects management hierarchy therefore applies and requires that the following must be assessed, in this order:

- Minimise: it is not possible to minimise the effect because the area will be permanently lost;
- Remedy: this would involve repairing, rehabilitation or restoring the affected area (the same footprint), which is not possible;
- Mitigate: sediment and erosion control and pest control are mitigation measures associated with the Project, but will not address the loss of 1 ha of karst ecology.
- Offset: Principle 1 in the principles for biodiversity offsetting in Appendix 3 of the NPS IB state that (emphasis my own) "*A biodiversity offset is a commitment to redress **more than minor residual adverse effects** and should be contemplated only after steps to avoid, minimise, and*

remedy adverse effects are demonstrated to have been sequentially exhausted.” Dr Keesing has assessed that the residual effects of the loss of 1 ha of karst ecology would be less than minor, and that an offset is therefore not required under the NPS-IB. Despite not being required under the NPS IB, Graymont is committed to protecting not less than 21 cave entrances (with a cumulative cave floor area of not less than 224 m² in area) from stock and enhancing them by planting and pest control. Graymont is also committed to not less than 6.7 hectares of planting between and around SNAs. These measures provide an offset for the loss of 1 ha of significant karst ecology and will result in a net ecological gain.

The NPS for **Renewable Electricity Generation**, for **Electricity Networks (NPS-EN)** and the National Policy Statement on **Urban Development** do not apply to this Project.

The NPS for **Natural Hazards 2025** came into force on the 15th of January 2026, but does not apply to this application as the activity under consideration is ‘quarrying’, which falls under the definition of primary production in the National Planning Standards, and the NPS for Natural Hazards does not apply to primary production (See 1.3(2) of NPS for Natural Hazards).

The purpose of the NPS for **Infrastructure 2025** is to ensure that infrastructure is provided for in a dynamic manner that supports the needs of New Zealanders now and into the future. The definition of infrastructure in this NPS aligns with the definition in the RMA, but excludes infrastructure governed under the NPS for Electricity Networks and NPS for Renewable Electricity Generation, being:

- Pipelines;
- Telecommunications networks;
- Radiocommunications networks;
- Water supply distribution systems (including irrigation systems);
- Drainage and sewerage systems;
- Transportation networks;
- Facilities for the loading and unloading of cargo and passengers, by land or sea;
- Aerodromes;
- Navigation installations; and
- Network utilities operations.

The Project does not include any of the above.

9.5 NATIONAL ENVIRONMENTAL STANDARDS

5(1)(h) and 5(2) and 5(3)

The Project does not trigger the requirement for further resource consent applications to be made under:

1. The National Environmental Standard for Freshwater Management Regulations 2020 on the basis that no reclamation, weirs or culverts will occur on ephemeral, intermittent or perennial streams (as these all occur within overland flowpaths);
2. The National Environmental Standard for Sources of Human Drinking Water Regulations 2007;
3. The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 on the basis that no HAIL sites were determined to exist within the SW Pit footprint or be disturbed as a result of the Project;
4. The National Environmental Standard for Air Quality Regulations 2004;
5. The Resource Management (National Environmental Standards for Detached Minor Residential Units) Regulations 2025;
6. The Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2023;

7. The Resource Management (National Environmental Standards for Greenhouse Gas Emissions from Industrial Process Heat) Regulations 2023;
8. The Resource Management (National Environmental Standards for Marine Aquaculture) Regulations 2023;
9. The Resource Management (National Environmental Standards for Storing Tyres Outdoors) Regulations 2021;
10. The Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2021; or
11. The Resource Management (National Environmental Standards for Commercial Forestry) 2023.

9.6 WAIKATO REGIONAL POLICY STATEMENT - - TE TAUAKI KAUPAPAHERE TE-ROHE O WAIKATO

The Waikato Regional Policy Statement - Te Tauaki Kaupapahere Te-Rohe O Waikato ('WRPS') sets out overall regional direction for the integrated management and protection of Waikato's natural and physical resources. The second generation WRPS became operative on 20 May 2016. The current version of the WRPS includes changes that have been made since 2016 to give effect to the mandatory requirements of the NPS for Urban Development and to restructure the WRPS to give effect to the National Planning Standards. Council adopted the recommendations of the Hearing Panel on 26 October 2023 as Council's decision on Proposed WRPS Change 1. Decisions were publicly notified on 15 November 2023. Three separate appeals were lodged. One has been resolved and the other two appeal processes are underway.

- Under the WRPS: The Project represents the extension to a 'Regionally Significant Industry', being the Oparure Quarry (which is recognised as being important within the PWDP).
- The Project site does not support any outstanding freshwater bodies.
- The Project site is within the catchment of the Waikato River, which is deemed to be a 'priority catchment'; and
- The Project site is not within an identified Outstanding Natural Feature or Outstanding Natural Landscape.

Consistency with the objectives and policies of the WRPS, based on expert advice, are discussed below.

Integrated Management

Provisions	Theme
IM-P1 - Integrated Approach	An integrated approach to resource management will be adopted that: 1. recognises the inter-connected nature of natural and physical resources (including spatially and temporally) and the benefits of aligning the decisions of relevant management agencies across boundaries; 2. maximises the benefits and efficiencies of working together; 3. recognises the multiple values of natural and physical resources including ecosystem services; 4. responds to the nature and values of the resource and the diversity of effects (including cumulative effects) that can occur; 5. maximises opportunities to achieve multiple objectives; 6. takes a long-term strategic approach which recognises the changing environment and changing resource use pressures and trends; 7. applies consistent and best practice standards and processes to decision making; and 8. establishes, where appropriate, a planning framework which sets clear limits and thresholds for resource use.
IM-P2 - Collaborative approach	WRC will:

Provisions	Theme
	1. recognise and provide for the unique role that territorial authorities have in the implementation of the provisions of the WRPS; and 2. encourage collaboration, participation and information sharing between resource management agencies, tangata whenua and relevant stakeholders, particularly where there are shared or overlapping responsibilities or functions for issues or resources, and including when resources or issues cross boundaries.

Having considered the Project against IM-P1 and IM-P2:

- a. Graymont has engaged with tangata whenua from the outset of the RMA resource consent application process and continues to do so. This has involved a site visit being conducted with tangata whenua to explain the Project 'on the ground', engaging a party recommended by tangata whenua to prepare a CIA, and providing drafts of all of the technical reports to tangata whenua for review and comment. Graymont is committed to continuing authentic and transparent engagement with tangata whenua to ensure genuine opportunities to exercise kaitiakitanga, and to influence the Project and the way it is realised.
- b. The Project represents an extension to a regionally significant industry as the Oparure Quarry uses natural and physical resources and generates regionally and nationally significant social and economic benefits.
- c. The Project is therefore consistent with IM-P1 and IM-P2.

Air

The relevant air policies are detailed below.

Provisions	Theme
AIR-P2 - Manage discharges to air	Manage discharges to air (other than from home heating or transport) to ensure any resulting degradation avoids unacceptable risks to human health and is as low as reasonably achievable. In determining whether any degradation is as low as reasonably achievable, the following will be taken into account: 1. existing air quality; 2. the age of and ability to upgrade existing infrastructure; 3. any alternative modes/methods of discharge; 4. applicable emission control techniques; 5. the extent to which it is possible to apply the best practicable option; 6. the relative effects on the environment of the options; 7. economic and social factors; 8. managing discharges to air where there is high or good air quality; 9. national environmental standards and guidelines for ambient air; and 10. the duration of the discharge and whether the discharge is temporary or short-term.
AIR-P3 - Manage adverse effects on amenity	Ensure discharges to air are managed so as to avoid, remedy or mitigate objectionable effects beyond the property boundary.

Sensitive receptors have been identified located within 500 m of the SW Pit. These are two houses, located at 966 Oparure Road and at 873 Oparure Road. Graymont's experts have confirmed that:

- a. The emissions to air from the transportation activities that form part of the Project do not, either by themselves or in association with other discharges to air, degrade air quality to the point where the receiving environment will be adversely affected to a notable extent. Any adverse air quality effects will range from de minimis to less than minor and are considered acceptable.

- b. The very small adverse air quality effects include the projected adverse air quality effects on human health.
- c. A range of measures are proposed to ensure that all discharges to air are managed to ensure that there are no objectionable adverse effects beyond the Project site's boundaries.
- d. The Project is therefore consistent with AIR-P2 and AIR-P3.

Fresh Water Bodies

The policies relating to fresh water bodies are LF-P3 and NATC-P1.

Provision	Theme
LF-P3 - All fresh water bodies	Manage the effects of activities to maintain or enhance the identified values of fresh water bodies and coastal water including by: 1. reducing: a. sediment in fresh water bodies and coastal water (including bank instability) that is derived from human based activities; b. accelerated sedimentation of estuaries; c. microbial and nutrient contamination; d. other identified contaminants; and 2. Where appropriate, protection and enhancement of: a. riparian and wetland habitat; b. instream habitat diversity; c. indigenous biodiversity; and 3. providing for migratory patterns of indigenous freshwater species up and down rivers and streams and to the coastal marine area where practicable; and 4. avoiding: a. physical modification of fresh water bodies where practicable; and b. inappropriate development in flood plains; and 5. managing: a. groundwater and surface water flow/level regimes, including flow regime variability; b. linkages between groundwater and surface water; and c. pest and weed species where they contribute to fresh water body and coastal water degradation.
NATC-P1 - Preserve natural character	Ensure that activities within the coastal environment, wetlands, and lakes and rivers and their margins are appropriate in relation to the level of natural character and: 1. where natural character is pristine or outstanding, activities should avoid adverse effects on natural character; 2. where natural elements/influences are dominant, activities should avoid significant adverse effects and avoid, remedy or mitigate other adverse effects on natural character; 3. where man-made elements/influences are dominant, it may be appropriate that activities result in further adverse effects on natural character, though opportunities to remedy or mitigate adverse effects should still be considered; 4. promote the enhancement, restoration, and rehabilitation of the natural character of the coastal environment, wetlands and lakes and rivers and their margins; and 5. regard is given to the functional necessity of activities being located in or near the coastal environment, wetlands, lakes, or rivers and their margins where no reasonably practicable alternative locations exist.

The expert Aquatic Ecology Assessments show that:

- a. While no direct impacts or loss of surface waterbodies will occur as a result of the proposed SW Pit, indirect effects associated with stormwater discharges to ground cannot be fully avoided, as the Site will become an active quarry. Potential effects associated with stormwater infiltration to ground include:

- Elevated suspended sediment within the water column can cause increased invertebrate drift, fish avoidance, a reduction in feeding and growth, as well as mortality at highly elevated levels (>2000 Nephelometric Turbidity Units); and
 - High levels of deposited fine sediment can smother the stream bed, removing habitat for benthic aquatic species and in turn provide food resources for fish.
- b. A detailed Terrestrial and Subsurface Ecological Assessment following the EIANZ guidelines was completed for the SW Pit. This included an assessment of the mitigation hierarchy (avoid, remedy, mitigate, offset, compensate). Graymont is committed to ensuring potential direct effects to the Camelot Cave Stream are avoided until further investigations are conducted to define the extent of the Camelot Cave, which will inform future avoidance strategies. Remaining effects are limited to the infiltration of fine sediment to downgradient receptors associated with rainfall events and indirect effects associated with quarry operations (noise and vibration). Sediment losses from the pit area will be mitigated through best management practices for erosion and sediment control.
 - c. Graymont proposes to provide net zero sediment load for water clarity issues in the Mangawhitikau Stream and Mangapu River during rainfall events. This will align with the Vision and Strategy for the Waikato River, and will provide positive outcomes for aquatic ecology values in the catchment through avoiding cumulative effects. Monitoring is proposed to confirm the magnitude of effects associated with the expected stormwater discharges and identify any unexpected effects (thereby enabling a proactive response to them by Graymont). Streambed and aquatic ecology monitoring is also proposed. With sediment reduction measures and ecological betterment in place, and monitoring to confirm success, it is considered that no net loss in aquatic ecology values will occur as a consequence of the Project, and over time net ecological gain is predicted.
 - d. All subsurface flow will be retained in the Camelot catchment, as occurs for the Oparure Pit.
 - e. No net loss in sediment load within the catchment will occur as a result of sediment reduction initiatives, with a net reduction expected over time.
 - f. Robust monitoring is proposed to confirm success of sediment reduction and enhancement measures, as well as diffuse stormwater discharges.
 - g. The Project is therefore consistent with LF-P3 and NATC-P1.

Heritage

HCV-P2 and HCV-P3 relate to Historical and Cultural Values, as shown below.

Provision	Theme
HCV-P2 - Relationship of Māori to taonga	Recognise and provide for the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga.
HCV-P3 - Effects of development on historic and cultural heritage	Manage subdivision, use and development to give recognition to historic and cultural heritage and to integrate it with development where appropriate.

Expert assessments prepared for the applicant confirm that:

- a. There are no recorded archaeological or other historic heritage sites within the SW Pit.
- b. Two recorded archaeological sites are located in close vicinity on the Mangawhitikau Stream valley, to the north of the existing quarry and Project area - S16/305 Pa and S16/216 Pa. These two pa sites (depending on their current condition) will be both archaeologically significant and of traditional significance to Māori, and potentially of high significance. They rely on the natural defences of the precipitous limestone cliffs in this area. Within the wider vicinity of the Project area, the recorded sites are primarily focused along the major river systems and their tributaries of the Mangapu River and Mangatea Stream to the north-east.

- c. Development of a limestone pit within the proposed area will have no effects on any known archaeological sites and therefore, will have no effect on any known archaeological or historic values.
- d. An assessment of effects on Māori cultural values should only be made by the tangata whenua.
- e. A general resource consent condition relating to the accidental discovery of archaeological sites will be included in the draft conditions in the substantive application, requiring that if any archaeological remains are exposed during development, work should cease in the immediate vicinity and the Council and Heritage NZ should be informed.
- f. The Project is therefore consistent with HCV-P2 and HCV-P3.

Indigenous biodiversity

ECO-P1, ECO-P2 and ECO-P3 are relevant policies relating to Ecosystems and Indigenous Biodiversity. The WRPS recognises nine broad ecosystem types in the Waikato Region. One of these is karst ecosystems. Indigenous vegetation in karst ecosystems contributes to the significance of indigenous biodiversity.

Provision	Theme
ECO-P1 - Maintain or enhance indigenous biodiversity	Promote positive indigenous biodiversity outcomes to maintain the full range of ecosystem types and maintain or enhance their spatial extent as necessary to achieve healthy ecological functioning of ecosystems, with a particular focus on: 1. working towards achieving no net loss of indigenous biodiversity at a regional scale; 2. the continued functioning of ecological processes; 3. the re-creation and restoration of habitats and connectivity between habitats; 4. supporting (buffering and/or linking) ecosystems, habitats and areas identified as significant indigenous vegetation and significant habitats of indigenous fauna; 5. providing ecosystem services; 6. the health and wellbeing of the Waikato River and its catchment; 7. contribution to natural character and amenity values; 8. tangata whenua relationships with indigenous biodiversity including their holistic view of ecosystems and the environment; 9. managing the density, range and viability of indigenous flora and fauna; and 10. the consideration and application of biodiversity offsets.
ECO-P2 - Protect significant indigenous vegetation and significant habitats of indigenous fauna	Significant indigenous vegetation and the significant habitats of indigenous fauna shall be protected by ensuring the characteristics that contribute to its significance are not adversely affected to the extent that the significance of the vegetation or habitat is reduced.
ECO-P3 Collaborative management	Maintaining and enhancing indigenous biodiversity shall be promoted in an integrated and efficient manner including by working collaboratively with landowners, resource managers, tangata whenua and other stakeholders.

Experts engaged by Graymont have assessed the adverse effects on Terrestrial and Subterranean Ecology, and the following is noted:

- a. The permanent removal of karst ecosystem and small indigenous bush remnants are the key terrestrial effects associated with the SW Pit. The SW Pit is located adjacent to two portions of a SNA, with a 10 m setback proposed to avoid/mitigate adverse effects. To provide ecological betterment as a result of karst and vegetation habitat loss associated with pit development, Graymont proposes habitat rehabilitation through indigenous planting to provide a vegetated link between the two native bush blocks. This will provide increased habitat for terrestrial fauna including birds, bats and lizards. Rehabilitation will include pest and predatory control, and fencing to exclude goats, pigs, deer and stock. It is expected that this restoration will provide a net betterment for terrestrial ecology values lost from pit

development by increasing the size and quality of indigenous vegetation and karst habitat in the local area. In addition to this habitat restoration, fauna management plans will be developed to mitigate adverse effects to birds, bats and lizards. Monitoring will be required to confirm indigenous planting success and pest and predator control.

- b. The development of the SW Pit will result in the direct loss of seven identified small cave entrances. To offset for the loss of the seven small cave entrances, Graymont have identified 21 cave entrances and a floor area of 224 m² that would be enhanced.
- c. Direct loss of vegetation, bird, bat, and lizard habitat will occur, this will be managed and mitigated for through the relevant Management Plans.
- d. Ecological enhancements are proposed to improve local biodiversity and ecology values.
- e. Robust monitoring is proposed to confirm success of sediment reduction and enhancement measures, as well as diffuse stormwater discharges.
- f. With the proposed actions to be captured in an Ecological Betterment Plan, Management Plans and proposed monitoring, no net loss in ecological values is expected as a consequence of the proposed SW Pit. Over time, a net ecological gain is predicted as a result of proposed habitat restoration.
- g. The Project is therefore consistent with ECO-P2 and ECO-P3.

Landscape, Natural Character and Amenity

The relevant policy relating to Landscape, Natural Character and Amenity is NFL-P1 as shown below.

Provision	Theme
NFL-P1 - Outstanding natural features and landscapes	Identified values and characteristics of outstanding natural features and landscapes (including seascapes) of regional or district significance are protected from adverse effects, including cumulative effects, arising from inappropriate subdivision, use and development.

The SW Pit is not located in an Outstanding Natural Landscape and does not contain any Outstanding Natural Features.

9.7 WAIKATO REGIONAL PLAN

The Project has been assessed against the version of the WRP that became operative on 4 December 2024 which includes Plan Change 1. The plan change contains objectives and policies which generally apply to all activities that affect water quality in these catchments. Appeals are currently being processed by the Environment Court.

WRP Topic	Comment
Matters of Significance to Māori Objective 2.3.2	Graymont have continuously engaged with tangata whenua since the outset of investigations into the Project, including consulting on applying for the Project to be referred to the Fast-track Approvals process.
Water Management Objective 3.1.2 Policies 1, 2, 3, 4, 8 Methods 3.2.4.2 and 3.2.4.6	a. The Project is being advanced in a manner that will enable people and communities to provide for their social and economic wellbeing, while also ensuring that: i. Graymont involves tangata whenua in a way that enables them to the exercising of kaitiakitanga; including in relation to the manner in which water is used on site, and how water quality is maintained; ii. Water quality will be improved as a consequence of the betterment initiatives that form part of the Project. Further, Graymont has confirmed that it will adopt a number of measures to control stormwater across / sediment losses from the Project site, to ensure that any adverse water quality effects are minimised; iii. Any adverse aquatic ecological effects are very small, and that they will be more than offset by the betterment initiatives (as per expert advice);

WRP Topic	Comment
	iv. Considerable care is taken to ensure that the Project does not adversely impact on any surface water and groundwater pathways, thereby ensuring that the SW Pit does not detract from any low flow regimes, or adversely impact on any existing downstream user / uses and / or the potential for new uses to be allocated water in the future; v. No new allocation of water is required. Instead, Graymont is proposing to use water that has already been allocated across a wider area to ensure that any dust effects are minimised. This represents a more efficient use of the water that is available to Graymont; vi. Betterment outcomes are achieved for various environments in, around and downstream of the proposed Site. b. The Project is to be managed so as to ensure that all discharges do not give rise to unacceptable adverse water quality effects. This includes the use of a range of measures that have been proven to be effective in the existing pit. Importantly, the discharges from the Project will not cause the outcomes set out in Policy 4 and methods 3.2.4.2 and 3.2.4.6 to be exceeded (Policy 4 and methods 3.2.4.2 and 3.2.4.6 set the standards for those surface water bodies that are not otherwise classified). This is due, in part at least, to the proposed widespread use of sediment detention devices within the SW Pit; c. The proposed mixing zone is minimised to the extent practicable. Objective 3.A.1 relates to fish passage. This does not affect the Project because the Project site does not contain any river or streams where the passage of fish will be affected.
Water Takes Objective 3.3.2 Policy 11 Policy 12	a. No new takes of water are proposed. In this regard, while the Project will see some flow paths changed, considerable care has been given to ensure that the changes will not noticeably alter the wider hydrological regimes that exist downstream of the Project site. As a consequence of this care: i. The Project will not adversely impact on downstream groundwater or surface water takes and uses (including domestic and municipal takes and takes associated with any downstream renewable electricity generation), or the implementation of the water allocation regimes that are established within the WRP; ii. The Project involves the more efficient use of water that is already allocated to the Project Site / Graymont; iii. For the same reasons that are expressed in bullet point (i.) the use of water on Project Site will not reduce the assimilative capacity of downstream surface and groundwater resources, or reduce the water that is available for downstream ecosystems and habitats; b. The use of water on the Project site will be beneficial, insofar as it will help to control dust emissions, and thus reduce the potential for adverse effects from an activity (the proposed pit) that is expected to generate significant social and economic benefits. Further, the proposed use of water improves the level of efficiency that is associated with the take; insofar as more is being done with the same amount of water that is presently allocated to Graymont; c. The engagement with tangata whenua has been in relation to the whole Project; d. Expert advice has concluded that the proposed use of water on the Project Site is both appropriate and efficient. From that analysis we understand that Graymont requires access to all of its present allocation to control dust from the Project Site. As we have noted, the proposed use of water involves the more efficient utilisation of an existing allocation. Graymont will abide by any water shortage directions that are given in accordance with its existing resource consents; e. The use of the existing allocated water is the most appropriate alternative when all matters are considered. In this regard, the Project involves the reuse of stormwater for dust control and/or the use of an existing groundwater allocation for dust control over a greater area; and

WRP Topic	Comment
	f. Water quality and the aquatic ecological values will not be unacceptably impacted as a consequence of the proposed use, and that when the betterment initiatives are factored in, that water quality and aquatic ecology values will be improved as a consequence of the Project.
Efficient Water Use Policy 1 Policy 2	The proposed taking and use of water is both justified and accords with 'industry good practice' and that the Project is more efficient than the status quo (given that it is seeking to apply the same amount of water allocated to Graymont across a larger area). Quarry-impacted stormwater will be passed through several erosion and sediment controls before being ultimately directed to the SW Pit. The quarry-impacted stormwater will be directed to one or more low points in the SW Pit (sumps), where the stormwater will be retained within the pit sump; within these low points the 'In-pit Sediment Infiltration Pond' will be excavated/engineered to filter out the majority of the residual sediment in the stormwater prior to infiltration into the Karst System. This will act in a manner similar to the natural infiltration of the water into the karst system (and to the groundwater below) were the SW Pit not developed.
Discharges to Water and Land Objective 3.5.2 Policies, 1, 2, 3, 4, 5 and 6	a. While discharges will occur and may cause adverse effects, such effects will be minimal and are not projected to result in unacceptable outcomes. A comprehensive array of proven and best practice measures will be employed to retain as much sediment on the Project Site as is possible. While not all sediment will be captured, experts have advised that the discharge of this sediment to water will not cause notable adverse water quality and aquatic ecology effects. In addition, the proposed betterment initiatives will result in both the water quality and aquatic ecology being improved from the status quo; b. Given the foregoing, the proposed discharges do not cut across the outcomes sought in Section 3.1.2 and Chapter 3.3 of the WRP; c. Stability, erosion or flooding are not anticipated but in keeping with industry good practice, any stability, erosion and flooding is rectified quickly and appropriately, and in a manner which protects neighbouring properties; d. The discharges that occur will be to land and will thus be to the karst system. Any adverse effects will be less than minor and will not unacceptably impact on the values that the karst system (including the caves and their habitats) are known to support. Any impact that does occur will be more than offset by the proposed fencing and planting of a vegetation and around 21 cave entrances; e. As noted, the discharges that do occur are not expected to unacceptably impact on the water quality and habitats associated with the downstream surface water courses. Again, the proposed betterment initiatives are expected to more than offset any impact that does occur; f. Graymont is promoting discharges to land. Not only is this option the Best Practical Option, but it is also the option that will best address the actual and potential water quantity effects that the proposed discharges could generate; g. Furthermore, the use of the water from the Sediment Detention Ponds is also a means of ensuring that the treated water is reused prior to being discharged (again, with the discharge being to land).
Damming and Diverting Objective 3.6.2 Policies 3 and 4	a. The damming and diversions that are associated with the Project are principally 'offline' (or 'off-stream') and are all associated with the formal stormwater control and treatment systems that are proposed. There are likely to be instances where the quarrying activity creates depressions that impound water after a rainfall event; and thus, act as informal components of the stormwater control infrastructure (insofar as they impound stormwater and enable it to infiltrate into the underlying karst system). Being offline, the proposed damming and diversion activities do not result in a loss to any aquatic habitats. However, there are no watercourses on the Project Site and the overland flow paths do not support any notable environmental values. b. As a consequence of the foregoing, the damming and diversion works do not impede fish access or cause modifications to any surface watercourses. They do alter overland flow paths (which only contain surface water during and immediately after rainfall events) within the

WRP Topic	Comment
	Site, but do not substantively disrupt the surface and groundwater flow paths; meaning that the contribution the Site makes to the downstream surface water courses and the underlying groundwater resources is not expected to be altered; c. While the small size of the various impounding structures limits the potential for flooding (as a consequence of their failure), Graymont will maintain the facilities in a state of good repair and will locate all facilities of this nature to ensure that if they do fail, the water will be directed into the floor of the SW Pit, the existing Pit or a depression on the Project Site. As a consequence, any increased risk of flooding will be felt by Graymont. The same applies to any increased risk of instability; d. For the reasons we have previously discussed, the Project (including the proposed damming and diversion of water) will not reduce the downstream water quality or cause assimilative capacity to be reduced in surface and groundwater;
Non-Point Source Discharges Policies 1, 2 and 3.	a. While not a part of the proposed quarrying, Graymont has accepted the recommendation of its experts that Graymont works to reduce the runoff from the portion of its property that is grazed / used for agricultural purposes. These initiatives form part of the betterment proposals and are expected to reduce the nutrient and sediment runoff from the Project site to the point that the downstream water quality will be improved from the status quo. Indeed, we understand the advice of PDP to be that the implementation of these initiatives accord with Plan Change 1 ('PC1'); and b. The betterment initiatives include riparian management, riparian planting and the fencing of water waters to prevent stock access.
River and Lakebed Structures	No watercourses are located on the Project Site, and therefore the provisions are not relevant.
Riverbed Disturbances	No watercourses are located on the Project Site, and therefore the provisions are not relevant.
Discharges onto or into Land Objectives 5.2.2 Policy 2	a. The majority of the discharges will be to land. In this regard, it is only during storm / rainfall events that discharges will be of water to water. Sediment is expected to be the main contaminant that is discharged, although it is possible that small quantities of other contaminants may also be present within the discharge. The Project will also see the continued placement of overburden in the existing Oparure Pit; something which the WRC treats as a discharge to land; b. The discharges will not contaminate the soils of the Project Site to the point where it presents a significant risk to human health or the wider environment, and that they will not detract from the water quality or ecological values / habitats to a point that exceeds what is contemplated within the WRP; and c. Any discharges to air will only have very minor adverse effects.
Contaminated Land Objective 5.3.2 Policy 5	a. Areas of potential contamination within the broader area have been investigated, but that none exist within the areas to be developed as the SW Pit or the proposed haul road to the SW Pit. Any risks of contamination (and thus associated adverse effects) will be indiscernible, which we understand means that any adverse effects will be 'negligible'. This outcome achieves, in our opinion, that sought by Objective 5.3.2; and b. PDP has regard to Policy 5, to the extent relevant, in coming to its opinions.
Regional and Local Air Management Objectives 1,2 and 3. Policies 2, 3, 4 and 5.	a. The significant characteristics of air quality will be afforded the level of protection warranted by Objective 1, will not result in significant adverse air quality effects beyond the boundaries of the Project site, and will not generate cumulative effects that could cut across the outcomes sought in Objective 3; b. All relevant ambient air quality guidelines (including those contained within the WRP) and national codes of practice have been considered by PDP when it completed the air quality assessment. The Project does not cause the air quality at or beyond the Project Site to exceed any of the guidelines, either by itself or when combined with the existing discharges; c. The proposed dust suppression techniques represent the Best Practicable Option; and

WRP Topic	Comment
	d. The proposed discharges to air are an integral part of the wider Project and therefore form part of an activity which is expected to generate a number of positive social and economic effects.
Plan change 1 to WRP Objectives 1 - 4 Policies 1, 5, 8, 11, 12, 13, 17 and 19	a. Particular care and attention has been focussed on identifying the potential losses of sediment and other contaminants from the Project, and then to identifying / refining and then confirming strategies to minimise those losses so they do not (either by themselves or in tandem with other losses to the environment), after reasonably mixing, generate unacceptable adverse effects on groundwater and surface water or impacts on the species and habitats these waterbodies contribute to / support. As a consequence of this approach, Graymont has been careful to understand the values that exist and that could be impacted by the Project, and then to work hard to protect them all in a manner that recognised experts have advised is appropriate; b. In addition to this approach, Graymont will continue to be proactive over the life of the Project to reduce the nutrient losses that occur from those portions of the Project site that are not being quarried / will support other activities post their rehabilitation. This will see nutrient and sediment losses being reduced from the Project site over the life of the Project in a manner that accords with the direction set by PC1. This will help to improve the health and wellbeing of the Waikato and Waipā Rivers; with the consequential benefits to the social, economic, spiritual and cultural wellbeing of the people and communities in the catchments of these waterways. This reduction will ensure that the Project results in a net aquatic ecology and net water quality benefit (that is, the improvements will more than offset the small adverse water quality effects that the Project will generate); and c. Graymont recognises the special and enduring relationship that tangata whenua has with the Project Site, and the catchments within which the Project Site sits. Graymont has, as a consequence, engaged early, and openly, and sought to both understand the cultural values and relationships and sought to both recognise and provide for the exercise of kaitiakitanga by tangata whenua.

Objective 3.A.1 Fish Passage was added to the WRP in 2021. The Project Site does not contain any river or streams where the passage of fish will be affected.

In summary, the Project is consistent with the relevant Objectives and Policies of the WRP.

9.8 REGIONAL COASTAL ENVIRONMENTAL PLAN

The application does not directly affect the Coastal Marine Area; therefore, the provisions of the Regional Coastal Environmental Plan do not apply.

9.9 PROPOSED WAITOMO DISTRICT PLAN

The Appeals Version of the proposed WDP (1 October 2025) is operative.

The Project Site is:

1. Located on Map 12 (Zones and Overlays) of the planning maps associated with the pWDP;
2. Situated within the RPROZ;
3. Does not contain any Designations;
4. Situated within the Upper Waipa Catchment;
5. Has SNA - S16UP044 Local - located adjacent to it (Mangapu Cave System, Pakeho polygonal karst, Waipapa Rd cave system);
6. Partially covered by Karst Areas KO05. Digne Camelot Caves. In accordance with the pWDP Schedule 12, it supports the only example of gypsum rope in a cave system in New Zealand. It is part of the largest autogenic karst system known in the North Island. This Karst system has troglodytic biota, consists of two caves and has a large streamway (Camelot);
7. Not within a Natural Hazard Area;
8. Within the Limestone Country - LHAV 3 - Landscape of High Amenity Value;

9. Does not contain any Historical and Cultural Values / Sites (such as Heritage Buildings and Structures, Significant Archaeological Sites, Sites of significance to Māori, Marae);
10. Does not contain a lake or have a river running through / located within it;
11. Does not support a Railway, National Gridline or Gas Transmission Pipelines Lines; and
12. Does not contain a road. The Site is , however, directly adjacent to Oparure Road.

Topic	Provisions	Comment
Rural Production Zone	RPROZ-O1, RPROZ-O2, RPROZ-O3 (adverse effects), RPROZ-O4, RPROZ-O5 (visual), RPROZ-O6, RPROZ-P2, RPROZ-P3 (existing quarry in karst overlay), RPROZ-P4 (effects management), RPROZ-P6 (local character), RPROZ-P7, RPROZ-P9, RPROZ-P10, RPROZ-P11.	a. The Oparure Quarry is identified as RPROZ-3 based on its significant mineral resource. The RPROZ includes the proposed expansion footprint (the SW Pit). b. Graymont intends to implement measures / strategies / initiatives to ensure that the adverse effects of the Project are internalised, or avoided, remedied or mitigated as far as practicable including, but not limited to: - An overburden stripping approach to be employed that will minimise the amount of earth and rock exposed at any one time to only what is needed to sustain the market that Graymont is serving. - Topsoil will be located to avoid any sensitive receiving environment, will be weed free and graded to prevent ponding. It will also be placed in areas that are accessible, flat and that are dry/free draining. The topsoil stockpile will be designed and operated in a manner that minimises nutrient loss from the soil. Further, Graymont will prepare a Topsoil Management Plan to ensure the topsoil is stored in a manner that ensures it can be used in the rehabilitation that is undertaken. - In-pit overburden disposal will infill as much of the quarry pit space as possible so as to restore the landscape to a natural form and maximise reinstatement of productive farmland. - Graymont will take a precautionary approach to protecting the Camelot Cave System by imposing a buffer zone around the likely subsurface extents of this system in order to avoid any adverse effects to the cave system that would result in unacceptable effects. - In order to offset the residual adverse aquatic ecology and water quality effects, an Ecological Betterment Plan is proposed. - Neighbouring caves and cave entrances will be protected and enhanced. - Graymont proposes to implement a Bird Management Plan, a Lizard Management Plan and a Bat Management Plan in order to manage any adverse effects to birds, lizards and bats as a result of the Project. c. The Project will not result in an exceedance of the available capacities for servicing and infrastructure and new infrastructure provision is not required. d. A total of 1.19 ha of vegetation will be lost as a consequence of the overburden stripping activities that are proposed. Graymont proposes to offset this at a 2:1 ratio on a per area basis for the total area of vegetation lost. A Planting Plan is proposed and this will give details of the plant species, numbers and densities to be planted. e. One of the betterment initiatives proposed would see planting occurring on the margins of the surface watercourse. Further, no removal of indigenous vegetation is proposed in perennial surface watercourses. f. The potential for the Project to impact upon the district's road network has been thoroughly assessed. The outcome of that assessment is that no adverse traffic effects are predicted. This correlates to the Project making efficient use of the district's roading resource. g. The SW Pit is to be opened up in stages with progressive rehabilitation of each stage as new areas are opened. The

Topic	Provisions	Comment
		placement of overburden is an essential part of the rehabilitation strategy. Graymont will develop a Quarry Closure Plan after determining the exact nature of the rehabilitation (e.g. regrassing) to be undertaken. The Quarry Closure Plan will be submitted to the councils for their review and certification, prior to implementation. Graymont will also prepare a Topsoil Management Plan, as discussed above, which will be periodically reviewed and updated where necessary to ensure the topsoil is stored in a manner that ensures it can be used in the rehabilitation that is undertaken. h. Any stormwater generated within the SW Pit will be directed to new SDPs that Graymont will install where physical sedimentation processes will occur. These SDPs will be positioned to not be directly above any known subsurface watercourse, to reduce the risk of discharges to these environments, should cracks appear within the SDPs. Water within the SDPs will either be used for quarry activities (as part of water authorised to be taken under Resource Consent AUTH140823.01.0118), transferred to the atmosphere via evaporation or will infiltrate to the underlying strata (as designed). j. The SW Pit will be served by existing office and manufacturing facilities at the existing quarry, and no additional services are required.
Natural Features and Landscapes	NFL-O4, NFL-O5, NFL-P4, NFL-P5, NFL-P6	The Site is located within the Limestone Country - LHAV 3 - Landscape of High Amenity Value. The Site is still partially covered by Karst Areas KO05, Digme Camelot Caves. For the loss of karst landscape that cannot be replaced, Graymont proposes to protect, fence and then improve 21 currently unprotected cave entrances (which is 3:1 ratio of protected to affected cave entrances), and a floor area of 224 m². The SDPs would be located away from the Camelot Stream (noting the provision of a proposed buffer so that stormwater will discharge to areas with poor connectivity to the main subsurface flow pathways, which will maximise the attenuation of sediment loads downstream).
Noise	NOISE-O1, NOISE-O2, NOISE-P1, NOISE-P2	a. The rural production zone is a higher noise environment than rural general. Management of noise at site boundaries is particularly important to ensure that the potential for cumulative effects outside of these zones are addressed. b. The noise and vibration effects associated with the SW Pit will comply with the rules and standards prescribed by the pWDP, except for at 966 Oparure Road. Using the noise and vibration limits permitted by the pWDP for quarrying activities in the RPROZ as a measure for what constitutes a reasonable level of noise, the noise levels from the Project will be reasonable for all receivers. c. A comprehensive assessment of noise and vibration effects in accordance with the pWDP and relevant noise and vibration standards will be provided as part of the substantive application. The assessment sets out the results of computer noise modelling and predicts the noise levels from the staged operation of the SW Pit. Conditions recommended have been included in the draft Conditions for the WDC resource consent.
Ecosystems and Indigenous Biodiversity	ECO-O4, ECO-P3, ECO-P4, ECO-P12	a. The Project site does not have any SNA located within it, although it does have a SNA (S16UP044) located adjacent to it. We understand that the Project will not have an adverse effect on this SNA. b. Care has been taken to identify all of the ecological values that are existing within the Project site, and which exist in proximity but could still be impacted by the Project. Considerable care has also then been taken to design the Project so as to minimise the potential for these values to be impacted (irrespective of whether the values are deemed to be of ecological significance) and to advance betterment initiatives to ensure that the ecology of the broader environs is improved as a consequence of the SW Pit proceeding.

Topic	Provisions	Comment
		c. An 'Ecological Betterment Plan' has been developed in consultation with tangata whenua. With the implementation of the Ecological Betterment Plan a net ecological gain is projected for the Project.
Signs	SIGN-O1, SIGN-O2, SIGN-P1, SIGN-P7, SIGN-P8, SIGN-P11	a. The rural production zones have a comparatively lower level of amenity than other zones. Signs are an accepted feature in this working environment. b. Signs may be required by the New Zealand Transport Agency, KiwiRail, Fish & Game, WDC or to meet legislative requirements such as health and safety legislation. c. Along with the already mounted 'Truck Crossing' signs, Graymont will (subject to the agreement of the road controlling authority) erect and maintain heavy traffic warning signs for cyclists entering Oparure Road from Fullerton and Troopers Roads and SH3.
Transport	TRAN-O4, TRAN-P2, TRAN-P4, TRAN-P10	It is not proposed to construct a road as part of the SW Pit. The Project Site remains, however, directly adjacent to Oparure Road. The effects on the local and wider public roading network from the Project are no more than negligible from a traffic engineering perspective, provided traffic-related safety measures experts (including the WDC's traffic expert) have recommended are undertaken.
Cultural and Heritage Values	HH-O1, HW-O5, HW-P6	The Project will not impact on any Designated Sites, Historic Places; Historic Sites or New Zealand Archaeological Association Points or Heritage / Cultural Sites. An Accidental Discovery Protocol is proposed to ensure that any unrecorded sites are appropriately managed should they be unearthed as the SW Pit is developed. Tangata whenua have been actively engaged over the Project and a CIA has been completed that provides an understanding of the values and sites of cultural significance.
Natural hazards	NH-O1, NH-P11	a. The SW Pit does not impact on any natural Hazard Area. b. All hazardous substance storage will occur at the Oparure Quarry which does not form part of the SW Pit application. The two key natural hazard risks facing and/or associated with the SW Pit are erosion and land instability within the Project site, and the flooding of land adjacent as a consequence of the either one of the proposed impoundments failing or stormwater being redirected towards an adjacent property. Graymont will work so as to maintain the stability of the Project site as the SW Pit is developed.

Overall, the Project is consistent with the Proposed WDP.

9.10 OPERATIVE WAITOMO DISTRICT PLAN

The Waitomo District Plan ('WDP') became operative on the 1st of March 2009 and when implemented was considered to be *'a global strategy of sustainability at a local level'*. The scope of the WDP is primarily restricted to controlling the effects of land use activities in the Waitomo District. It is considered to be permissive in relation to the use and development of land, while at the same time being compatible with the philosophy of sustainable management. The WDP addresses a number of activities including those related with mineral resources and mining, noting that these activities provide significant wealth and employment to the district, and have potential for considerable growth in the future.

Since the WDP became operative, WDC has undertaken a district plan review. WDC notified the proposed WDP in October 2022, receiving 58 submissions. Hearings were then held in July and November 2024. WDC notified its decision on the Proposed WDP in June 2025, receiving four appeals, two of which have since been resolved by consent orders. The remaining appeals are specific to:

- The definition of Conservation Activities;
- Coastal Environment Policy CE-P3; and Rule CE-R15 - Coastal Environment Indigenous vegetation removal rule CE-R1;

- Energy Rule ENGY-R6 - Freestanding solar panels greater than 6m² and up to 25m² in area per site, Energy Rule ENGY-R8 - Hydro electricity generation activities with an output of more than 5kW and up to 20kW of electricity per site and Energy Rule ENGY - R10 - Renewable energy exploration activities;
- Ecosystems and Indigenous Biodiversity Objective ECO-01, ECO-P1, ECO-P2, ECO-P10, ECO - Table 1 - Activities rules ECO-R1 to ECO-12 and ECO-16 (these rules all apply to Significant Natural Areas in all zones);
- General Rural Zone - Rule GRUZ-R15 - Vegetation clearance outside of an identified significant area and Rule GRUZ-S6 - Minimum setback from the boundary of a rural production zone or the boundary of an established site of intensive indoor primary production or intensive outdoor primary production (pig farming); and
- Rural Production Zone Policy ROROZ-P4, Policy PRPOZ-P6, RPROZ-S6 - Outdoor Storage Screening and RPROZ-SCHED1 - Scheduled rural production sites.

Other than those provisions set out above, all of the other provisions in the proposed WDP are now operative. Resource consents for the Project have been applied for under the Proposed WDP. We note that only the three provisions set out above, pertaining to the Rural Production Zone are specifically relevant to the Project, and that the provisions of the proposed WDP are generally consistent with the WDP. Given this, and that the Project is consistent with the proposed WDP, we have not sought to provide an analysis of the WDP provisions here.

9.11 TE TURE WHAIMANA

Te Ture Whaimana o Te Awa o Waikato - the Vision and Strategy for the Waikato is the primary direction-setting document for the Waikato and Waipa Rivers and their catchments which include the lower reaches of the Waipa River (and are some 11,000 square kilometres in size). The Vision and Strategy was developed by the Guardians Establishment Committee, iwi, and communities of the Waikato River catchment, and is periodically reviewed by the Waikato River Authority (established in 2010 as the body responsible for overseeing the implementation of the clean-up of the Waikato River). The Vision and Strategy is intended to restore and protect the health and wellbeing of the Waikato River. It responds to four fundamental issues:

- *“The degradation of the Waikato River and its catchment has severely compromised Waikato River iwi in their ability to exercise mana whakahaere or conduct their tikanga and kawa;*
- *Over time, human activities along the Waikato River and land uses through its catchments have degraded the Waikato River and reduced the relationships and aspirations of communities with the Waikato River;*
- *The natural processes of the Waikato River have been altered over time by physical intervention, land use and subsurface hydrological changes. The cumulative effects of these uses have degraded the Waikato River; and*
- *It will take commitment and time to restore and protect the health and wellbeing of the Waikato River”*

Te Ture Whaimana o Te Awa o Waikato is deemed, in its entirety, to be part of the WRPS (assessed in **Section 9.8**). The WRPS cannot be inconsistent with the Te Ture Whaimana o Te Awa o Waikato. If there is any inconsistency, Te Ture Whaimana o Te Awa o Waikato prevails over that part of the WRPS.

Objectives, policies and methods in IM - Integrated management and Part 3 - Domains and Topics of this WRPS assist in achieving the purpose of the Vision and Strategy.

The provisions, or the objectives and strategies of the Vision and Strategy that are relevant to the Project are set out in **Table 18**.

Table 18: Te Ture Whaimana relevant Objectives and Strategies

Provision(s)	Theme
Objective a Objective c Strategy 6 Strategy 10	Restoration and protection of the health and wellbeing of the Waikato River and the relationship between Waikato-Tainui and Waikato River Iwi with the Waikato River, including their economic, cultural, social and spiritual relationships
Objective e Objective m Strategy 2 Strategy 3	Integrated approach of the latest scientific methods and maatauranga Maaori. Developing and implementing targets and programmes for improving the health of the Waikato River.
Objective g Objective h Objective f	Adoption of a precautionary approach to effects. Avoidance of adverse cumulative effects and potential cumulative effects of activities undertaken on the Waikato River and within its catchments, on the health and wellbeing of the River. Recognising that the Waikato River is degraded and should not be required to absorb further degradation as a result of human activities.

We discuss these provisions of Te Ture Whaimana when we consider the Project against the WRPS. In that regard, and as highlighted above, section 1.9.4 of the WRPS adopts Te Ture Whaimana into the WRPS, with section 1.9.5 restating Te Ture Whaimana. Ultimately, however, we are of the opinion that the application is advanced so as to accord with the outcomes and directions that are promoted within Te Ture Whaimana.

Further, the CIA that is attached as **Appendix S** to this report provides an analysis of Project against the relevant provisions of Te Ture Whaimana, highlighting Graymont's willingness to adapt the Project and take on board feedback so as to better recognise and apply Te Ture Whaimana.

With regard to the key themes of Te Ture Whaimana, we reiterate that Graymont has engaged with tangata whenua from the outset of the RMA resource consent application process (prior the FTAA process) and continues to do so. A site visit has been undertaken with tangata whenua to explain the Project 'on the ground', engaging a party recommended by tangata whenua to prepare a CIA, and providing drafts of all of the technical reports to tangata whenua. Graymont is committed to continuing authentic and transparent engagement with tangata whenua to ensure genuine opportunities to exercise kaitiakitanga, and to influence the Project and the way it is realised. Further to this, Graymont has carefully considered the advice of its technical experts and is proposing a number of measures, including but not limited to betterment (Condition 35), erosion and sediment control, site management and monitoring to assist with restoring and protecting the environment.

The Project is therefore consistent with Te Ture Whaimana.

9.12 MANIAPOTO ENVIRONMENTAL MANAGEMENT PLAN

The Maniapoto Environmental Management Plan ('MEMP') has been reviewed as it provides a detailed description of cultural issues, values and matters of importance to Maniapoto. The MEMP covers a larger area than the SW Pit.

The MEMP was prepared by the Maniapoto Māori Trust Board ('Maniapoto Board') on behalf of the people of Maniapoto. For the purposes of section 35A of the RMA, the Maniapoto Board is considered an iwi authority for Maniapoto and the MEMP is considered an iwi management plan. The Maniapoto Board was established to represent the people of Ngāti Maniapoto under the Māori Trust Boards Act 1955 and provides for regional management committees pursuant to the Maniapoto Maori Trust Board Act 1988. The purpose of the Maniapoto Board is to provide and promote the health, social and economic welfare, education and vocational training and any other purpose determined by the Maniapoto Board for the benefit of Maniapoto descendants. The Maniapoto Board also has responsibilities under the Nga Wai o Maniapoto (Waipā River) Act 2012 relating to restoring the health

and well-being of the Waipā River. The following values relevant to the Project have been identified through the MEMP:

Air: Maniapoto value and respect air. It is a taonga with its own mauri and life-supporting capacity, to be protected and enhanced. High air quality levels and air amenity values are important for the health and wellbeing of Maniapoto and the environment.

Freshwater: Freshwater has a deep spiritual significance to Maniapoto. Water is the wellspring of life. Historically, the waters were such that they provided all manner of sustenance to Maniapoto, including physical and spiritual nourishment that has, over generations, maintained the functions of marae and the health and wellbeing of whānau, hapū and Iwi. The health and wellbeing of the people of Maniapoto is closely linked to the health and wellbeing of freshwater resources. The degradation of waterways, declining water quality and the loss of fisheries and mahinga kai is a significant source of distress for Maniapoto. The restoration and protection of the mauri of all waterways is paramount to Maniapoto to ensure the quality and integrity of waterways continues to sustain the health and wellbeing of Maniapoto and the environment. Maniapoto list their values for freshwater resources as mauri, native fisheries, mahinga kai and indigenous biodiversity.

Fisheries: Maniapoto wish to protect, restore, use and manage fisheries and their habitats to protect and enhance the mauri of fisheries and waterbodies and the health and wellbeing of the people of Maniapoto and to pass on mātauranga Māori, traditional practices and tikanga to future generations.

Land: The relationship the people of Maniapoto have with land and the environment is inextricably linked to a sense of kinship with all things through whakapapa, history and cosmology. Land underpins physical and spiritual contemporary identity and wellbeing of the people of Maniapoto. Central to the protection, use and management of land and the environment is the recognition of the role of Maniapoto to exercise of rangatiratanga and kaitiakitanga - a responsibility and obligation inherited by Maniapoto from their tūpuna to take care of the land and environment within Maniapoto rohe.

Natural Heritage and Biodiversity: The protection, enhancement and use of natural heritage and biodiversity are important to the people of Maniapoto. Maniapoto natural heritage and biodiversity values include but are not limited to:

- Wetlands, lakes and rivers;
- Karst ecosystems - limestone outcrops, some of which contain rare species of koromiko;
- Indigenous forest remnants;
- Indigenous birds;
- Freshwater fish and other species;
- Indigenous plant and tree species; and
- Introduced, but important, species such as pūhā and kāngā wai.

Natural Hazards: The management of land use activities and natural resource use in areas prone to natural hazards is important to Maniapoto. The removal of vegetation in the Waipā and other catchments and steep hill country prone to erosion; and associated low lying areas of floodplains are all susceptible to natural hazard events. There are also extensive karst landscapes that may pose a risk to people and the environment.

10 CONSULTATION

Graymont consulted with the following parties:

- Waikato Regional Council (see Section 10.1),
- Waitomo District Council (see section 10.2),
- Te Nehenehenui (see Section 10.3),
- Oparure Marae (see Section 10.4),
- The Waikato River Authority (see Section 10.5), and
- Owners and occupiers of adjacent land (see Section 10.6).

10.1 WAIKATO REGIONAL COUNCIL

Consultation with the WRC, including expert conferencing, has been ongoing for several years. Consultation that relates specifically to this application to the Fast-track Approvals process is summarised in Table 19, with records presented in Appendix C.

Table 19: Consultation with Waikato Regional Council

	Date	Consultation format	Comment
1	28/11/2025	E-mail from Graymont	Informing Council of intention to apply for referral to the Fast-track approvals process
2	12/12/2025	Email from WRC	Confirmation that no additional information is required pre-referral. Confirmation that existing contracts for RMA process have been extended to 30 April 2026. WRC welcomes working with Graymont and Enspire to further refine draft conditions to reach agreement and assist the Fast-track panel in its decision. Indication that if Graymont requires a formal response to close out consultation requirements, those can be directed to [REDACTED].
3	17/12/2025	Letter sent by e-mail to WRC	Letter detailing the Project, current Site status, Project history, and proposed next steps.
4	14/01/2026	Letter Sent by e-mail from WRC	WRC sent a letter indicating confirmation that Graymont has undertaken consultation with WRC in relation to the Project to an adequate degree to meet the requirements for a referral application under the FTA. The letter also confirms that no further information is required from Graymont at this time.
5	22/06/2026	Letter received from WRC by e-mail	Section 30 response.
6	25/06/2026	Meeting in Hamilton	Meeting with [REDACTED] [REDACTED] to discuss the status of the application and the additional information relating to the Camelot Cave system that is now available.

10.2 WAITOMO DISTRICT COUNCIL

Consultation with the Waitomo District Council relating specifically to this application for the Fast-track Approvals process is summarised in Table 20, with records presented in Annexure C.

Table 20: Consultation with Waitomo District Council

	Date	Consultation format	Comment
1	28/11/2025	Email from WDC	Setting up meeting regarding the application
2	1/12/2025	Email from Enspire	Sending consultation document to WDC
3	09/12/2025	E-mail from Graymont	Informing Council of intention to apply for referral to the Fast-track approvals process

4	9/12/2025	Email from Graymont	Sending update, site development flyer, and updated consultation document
5	9/12/2025	Email from WDC	Providing comment expressing an interest in Graymont working through an agreement with WDC regarding the impacts of the Project on the roading network
6	9/12/2025	Email from Graymont	Confirmation that Graymont will work with WDC on an MOU to address roading network concerns

Consultation with the Department of Conservation is summarised in Table 21, with records presented in Appendix C.

Table 21: Consultation with the Department of Conservation

	Date	Consultation format	Comment
1	9/12/2025	E-mail from Graymont	Informing Council of intention to apply for referral to the Fast-track approvals process
2	11/12/2025	Email from DOC	Sending through initial invoice for consultation and providing information on the consultation process
3	28/01/2026	Email from Graymont	Email to [REDACTED] (assigned Fast-track project manager at DOC) to follow up on an online meeting on the 27 th of January and confirm that Graymont is not seeking further Wildlife Act approvals for the Project.
4	28/01/2026	Email from DOC	Confirmation that DOC understands that Graymont is not intending on seeking additional Wildlife Act approvals. Confirmation of DOC's intention to provide a record of pre-lodgement consultation and an indication of a desire to further discuss the Project at the substantive stage.

10.3 TE NEHENEHENUI

The Maniapoto Māori Trust Board have a Joint Management Agreement with the WRC and WDC. TNN is the Post-Settlement Governance Entity established to represent Maniapoto after their Treaty settlement. TNN represents and acts on behalf of Maniapoto (inclusive of all within TNN). TNN acknowledges its partnership with the Waitomo District Council under the Ngā Wai o Maniapoto (Waipā River Act) 2012 and Maniapoto Claims Settlement Act 2022 Joint Management Agreement. TNN is responsible for ensuring that all resource consent applications within the rohe are consistent with the Maniapoto Environmental Management Plans.

TNN has made comments on the project in the past which have been resolved, and are expected to provide technical comments. The letter from TNN (Appendix C) states that: *“Fasttrack applications rely on iwi authorities to represent the views of mana whenua. Generally, for resource consents it is our approach to provide technical feedback and rely on mana whenua as kaitiaki, for their comments on cultural matters.*

In this instance, TNN is obligated to express the views of Ōparure Marae who as mana whenua, do not support this proposal.

Should this matter progress as a substantive application under the legislation, it is important to advise you that TNN will express the views of Ōparure Marae who have ongoing and long-standing concerns with aspects of the proposal. TNN will ensure that the exercise of mana whenua's customary rights and interests are upheld.”

Consultation with TNN is summarised in Table 22, with records presented in Appendix C.

Table 22: Consultation with Te Nehenehenui

	Date	Consultation format	Comment
1	9/12/2025	Email from Graymont	Notification of intention to apply under Fast-track and sending through consultation documents.
2	14/12/2025	Email from O'Callaghan Planning	Confirmation of receipt of initial emails, request for confirmation about the scope of the Project and request for a deadline for comments.
3	15/12/2025	Email from Graymont	Confirmation that the Project is the same as that which Graymont consulted TNN on earlier in 2025. Request that feedback be provided by mid-January.
4	27/01/2026	Email from Graymont	Following up on consultation request, confirming that it is Graymont's intention to submit the referral application in February and that they hope to incorporate consultation comments prior to this.
5	27/01/2026	Email from O'Callaghan Planning	Confirmation of receipt of the previous email and that if the application hasn't changed, no additional information is required. Request for a deadline for consultation.
6	28/01/2026	Email from Graymont	Request that feedback be provided by the 6 th of February (Waitangi Day).
7	28/01/2026	Email from TNN	Request for confirmation of the date at which Graymont intends to lodge referral application.
8	28/01/2026	Email from Graymont	Response that Graymont intends to lodge the referral application in mid-February. Confirmation that Graymont has indicated an intention to lodge in early 2026 to Oparure marae and confirmation of ongoing consultation with the marae. Description of the FTAA referral process and further steps. Confirmation of an intention to continue consultation through additional steps in the process should the application be referred.
9	Ongoing	Ongoing consultation with TNN	Graymont continues to consult with TNN regarding the referral application and SW Pit.

10.4 OPARURE MARAE

Consultation with Oparure Marae on this project has proceeded over several years and was integral to the development and refinement of the CIA. This consultation is discussed in the CIA from page 9, which explains the process of information sharing, wananga and initial introductory hui that commenced from 2020. In 2022 the CIA was issued, and the Oparure Marae subsequently invited Graymont to hui during late 2022 and 2023. The original CIA was then revised and reissued in September 2024 to emphasise the voice of the Oparure Marae members - this involved further consultation hui with Graymont.

Further consultation on addressing the items raised by the CIA was undertaken later in 2024 and early in 2025. This included a proposed agreement between Graymont and the Marae, and a mediated discussion in 2025 post-notification of the consent.

The consultation under the FTAA process is summarised in Table 23, with records presented in Appendix C.

Table 23: Consultation with Oparure Marae

	Date	Consultation format	Comment
1	21/11/2025	Email from Graymont	Summary of Project progress and notification of intention to apply through the Fast-track process
2	24/11/2025	Email from Oparure Marae	Confirmation of the Marae's continued opposition to the consent application, but with an attitude of openness to

			continued engagement. Request to continue to work on the MOU between the Marae and Graymont.
3	27/11/2025	Email from Graymont	Confirmation of Graymont's willingness to continue working on the MOU. Request for an online meeting.
4	9/12/2025	Email from Graymont	Sending consultation documents to Oparure Marae.
5	9/12/2025	Email from Oparure Marae	Confirmation of the receipt of consultation documents and request to discuss the translocation of mokomoko (lizards).
6	18/12/2025	Email from Graymont	Response from Graymont with suggestions for a meeting date to discuss lizard translocation. Request that the meeting also discuss road speed limit. Attached a draft letter detailing request that the speed limit at Oparure Road be set permanently at 50 km/hr.
7	31/12/2025	Email from Oparure Marae	Request to meet 23 rd January 2026 at 10 am (confirmed by Graymont and cultural advisor).
8	22/1/2026 & 23/1/2026	Txt message exchange	Confirming arrangements for the following day; request from Marae to postpone to the following week; acknowledgement and undertaking to come back after coordination with cultural advisor.
9	29/1/2026	Email from Graymont	Suggestion to meet 3 rd or 4 th February; sharing road speed limit consultation notice from WDC.

Graymont has continued to meet regularly with Marae representatives to understand their concerns and are working towards a range of outcomes including outside this application process.

10.5 THE WAIKATO RIVER AUTHORITY

Consultation with the Waikato River Authority (WRA) is summarised in **Table 24**.

Table 24: Consultation with the Waikato River Authority

	Date	Consultation format	Comment
1	4 June 2026	E-mail	Request for consultation.
2	30 June 2026	In person meeting in Hamilton	Mr [REDACTED] (Graymont), Mr [REDACTED] (Enspire) and Mr [REDACTED] (WRA) meeting to introduce the Project prior to lodging.
3	30 June 2026	E-mail	Copies of draft technical reports provided to WRA.

10.6 LANDOWNER AND OCCUPIER APPROVALS

Graymont has been consulting with adjacent and surrounding landowners and occupiers for several years. Landowner approval under the RMA was obtained from all adjacent landowners for the 2022 RMA resource consent application. Graymont continued consultation leading up to this application, and approvals relevant to this fast-track approvals process that have been received are indicated on the map in **Appendix E1** and provided in **Appendix E2**.

10.7 HOW CONSULTATION HAS INFORMED THE PROJECT

Consultation with councils, tangata whenua, adjacent landowners and other interested parties has been ongoing over several years, and has been fundamental in the development of the Project to the point that it is today. As set out above, key aspects of the Project resulting from consultation include:

- Limiting the geographic extent of the originally proposed quarry to the southern catchment to avoid adverse effects on the aquatic, cave and recreational values in the northern catchment.
- Including measures to ensure that the Camelot cave system is not adversely affected.
- The approach to and content of the ecological betterment plan.

- The approach to managing erosion and sediment control.
- Traffic measures on the Oparure Road.
- The development of draft conditions, particularly relating to the involvement of tangata whenua.

11 CONCLUSION

11.1 EXTENT OF BENEFITS

Graymont's lime and limestone products are essential inputs across the New Zealand economy, including for clean drinking water treatment, steel manufacturing, construction and roading, agriculture, and environmental remediation. Graymont operated as an essential service during COVID-19, highlighting the strategic importance of maintaining secure domestic supply of these products. As the biggest limestone quarry in New Zealand (by output), Graymont is critical to the country's capability in these essential limestone products.

The Project Site is zoned as a Rural Production Site and identified as a regionally significant mineral resource. The Oparure Quarry operates to the highest environmental standards and Graymont's own rigorous practices.

The Project is essential to protect the domestic supply of calcium-based solutions, support local jobs and regional development, and meet New Zealand's needs for decades to come.

These benefits are material in the context of the local and national economic climate. The scale and diversity of these downstream linkages – spread across almost the entire North Island and reaching a substantial share of the national population – means that even small disruptions to supply would have disproportionate consequences for national productivity, supply chain resilience, and community well-being. By avoiding these risks, and by maintaining an efficient, centrally located, high-quality source of limestone and lime products, the Project delivers economic benefits that are enduring, wide-reaching, and significant at the national level. These economic benefits are additional to the Project's net positive environmental benefits, achieved through the proposed Ecological Betterment Plan discussed within the application.

11.2 SUMMARY OF ADVERSE EFFECTS

Experts have determined that:

- Earthworks activities, with potential to impact the environment are the stripping, stockpiling and placement of topsoil and overburden. These activities are likely to generate **sediment** and therefore controls are required. Mitigation measures are implemented through an Erosion and Sediment Control Plan and associated Stage Plans and a Pit and Haul Road Site Management Plan and detailed geotechnical design, which address construction methodology, engineered landform performance and stability.
- PDP modelled the predicted **suspended sediment loads** from the SW Pit over its lifetime, taking into consideration the pit staging plan and proposed erosion and sediment controls. This modelling found that sediment loads peak around year 13 at 180,837 kg/yr. PDP notes that in order to achieve no net increase of TSS across the catchment, betterment activities will need to be undertaken to reduce sediment inputs from other sources. Graymont is proposing improved sediment control within steep pastoral land within the Mangawhitikau Stream catchment, riparian planting, and planting of the area between and around Significant Natural Areas to provide an offset of sediment across the catchment. Reducing sediment in the catchment will more than compensate for any effects on aquatic ecology from increased sediments in rivers.
- Seismic **hazard** is considered low risk, ground and slope stability and geotechnical hazards are assessed and managed through a combination of engineered design, construction methodology and ongoing monitoring.
- A key component of the Project is managing the risk of damage to the **Camelot Cave system** which is known to exist within the land proposed for quarrying. To account for the uncertainty in the position of the Camelot Cave system, Graymont has proposed a 200 m wide buffer zone to allow for early-stage mining to be undertaken away from the cave system and to enable more

information to be gathered about the exact extent and position of the cave. Around year 13 there is a risk that the mining method may cause damage to the Camelot Cave system - with the key risk arising from blast vibrations. Geotechnical assessments estimate that the effect of blasting vibrations at the limiting threshold of 2.4 g could be considered less than minor. Graymont has therefore adopted this assessment and incorporated a limit of 2.4 g peak particle acceleration near the Camelot Cave and a 'no-blast zone' within 25 m of the Camelot Cave.

- No direct impact or loss of **surface waterbodies** is predicted to occur as a result of the Project. Monitoring of **aquatic ecology** is detailed in the draft conditions. Additional event-based up and down stream monitoring by continuous turbidity monitoring is also required by the draft conditions. With sediment reduction measures and ecological betterment in place, and monitoring to confirm success, it is considered that no net loss in aquatic ecology values will occur as a consequence of the Project, and over time, net ecological gain is predicted.
- In terms of **terrestrial ecology**, the Project will result in:
 - Direct and permanent loss of approximately 1.0 ha of High value, significant karst ecosystem features;
 - Direct and permanent loss of approximately 1.4 ha of native vegetation/habitat;
 - Removal/loss of 7 short, small cave systems and entrances; and
 - Permanent loss of moderate value habitat and food source for native fauna.
- Following the adoption of the management plans and proposed betterment conditions, experts conclude that the impacts on At-Risk and Threatened species will be appropriately managed through avoidance. The implementation of the proposed Ecological Betterment Plan will result in a net positive ecological outcome for karst ecosystems and lizard habitat. Overall, the Project will bring about a net gain in ecological values.
- The Project will have no effects on any known **archaeological or historic values**.
- The SW Pit would start to become visible from Year 33 onwards, most of which reflects the commencement of benching and extraction down the western side of the SW Pit. The viewpoint is very confined, and the viewing distance is 5.1 km, resulting in very low **landscape effects**. Graymont nevertheless proposes a line of tree planting north-east of the SW Pit to screen and buffer its expansion into rising terrain down the western and south-western sides of the Site in the future.
- Predicted **noise** will comply with the relevant noise standard in the Proposed Waitomo District Plan ('PWDP') at all times and locations, except between the hours of 7pm and 7am at 966 Oparure Road. Written approval has been obtained from this property owner. Construction noise and vibration effects will comply with the relevant standards in the PWDP at all receiving environments.
- The SW Pit is expected to comply with the relevant **vibration** limits in the PWDP for all nearby properties and readings from monitoring of blasting at the Oparure Quarry '*were generally below the level that a human would normally be able to perceive.*' No adverse effects on the Spellbound caves from blasting in the SW Pit will occur.
- Noise and vibration effects associated with the Project are predicted to be less than minor.
- The primary air contaminant of concern in relation to the Project is **dust** from multiple activities at the Site including the removal and stockpiling of soil and overburden, mineral extraction (including blasting), mineral crushing and screening, vehicle movements, and site remediation

including the replacement of overburden and topsoil. Dust will be managed through an Air Quality Management Plan that sets out the measures and methods that are to be implemented to avoid, remedy or mitigate any adverse effects of discharges of dust generated from the extraction of material and associated crushing activities undertaken at the Site, through limiting exposed areas, watering exposed areas, and other measures.

- An assessment of the effects on **recreation and tourism** activities including caving, cycling, walking, equestrian use, and fishing has been undertaken. The findings from this assessment are that most of the potential adverse effects from the Project will be adequately managed through the implementation of existing management mechanisms and/or mitigations recommended in other sections. The one mitigation recommended specifically for recreational impacts, is the implementation of warning signage along Oparure Road for cyclists, pedestrians and equestrians. This recommendation is adopted in the conditions.
- The Project includes a new internal haul road to be constructed that will link the new SW Pit with the current processing plant. Assuming that Troopers Road will not be used by large quarry trucks unless necessary, the Project is not expected to generate any significant long-term increase in heavy vehicle movements to and from the quarry and the current weigh bridge is expected to continue to meet vehicle movement demand. With recommendations adopted in draft conditions including installation of safe hit delineators on the western side of the intersection of the Site's access with Oparure Road, together with the use of wheel wash facilities by existing trucks to reduce the tracking of sand onto Oparure Road, the effects of the Project are expected to be acceptable from a **traffic** engineering perspective.

The Project is not anticipated to result in any unacceptable adverse effects on the environment with the mitigation and ecological betterment measures included in the draft conditions.

11.3 OBLIGATIONS TO ACT IN A MANNER THAT IS CONSISTENT WITH THE OBLIGATIONS ARISING UNDER EXISTING TREATY OBLIGATIONS

Obligations under existing treaty settlements are summarised in Section 3.3 and demonstrate that Graymont has incorporated mechanisms through betterment initiatives and conditions to undertake the Project in a manner that is consistent with these obligations.

11.4 STATUTORY ASSESSMENT

The Project:

- Is not located in or adjacent to a coastal marine area
- Does not have any surface wetlands, lakes or rivers
- Is not identified as containing any Outstanding Natural Features or Landscapes
- Has an estimated 1 ha of significant habitat of indigenous fauna (Karst Ecosystem) that will be permanently lost by the Project. The Ecological Betterment Plan includes a requirement to, in addition to flora protected and enhanced under other provisions, protecting not less than 21 cave entrances (with a cumulative cave floor area of not less than 224 m²) from stock and enhancing them by planting and pest control. Graymont is also committed to not less than 6.7 ha of planting between and around SNAs
- Recognises and provides for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and
- Recognises sinkholes and rockfalls as natural hazards that have been provided for in the project design.

The Project therefore avoids or offsets and matters of national significance identified under Section 6 of the RMA.

The Project entails the development of a limited natural resource that society needs access to, provides opportunities for Kaitiakitanga, visual and landscape effects would be less than minor, and the ethic of stewardship is applied through the ecological betterment initiatives. Particular regard has been given to the intrinsic value of ecosystems through the required by betterment initiatives encoded in draft conditions that not less than 21 cave entrances (with a cumulative cave floor area of not less than 224 m² in area) are protected from stock and enhanced by planting and pest control. Graymont is also committed to not less than 6.7 ha of planting between and around SNAs. These measures will offset the loss 1 ha of Karst Ecosystem that will be lost by the Project.

Graymont aims to maintain the quality of the environment proffering draft conditions that aim to monitor key aspects of the environment as well as draft conditions that actively manage actions to prevent any degradation of the natural environment. Key management measures include erosion and sediment control measures, water quality and aquatic ecology monitoring, dust management, pest management, bat, bird and lizard management and planting screening trees. The betterment initiatives that Graymont has committed to will clearly enhance the quality of the environment, specifically the water quality (sediment levels) in the downstream rivers.

The preparation of this application has, therefore, had particular regard to the matters listed in section 7 of the RMA.

The Project appropriately balances the use and development of natural resources with the protection of environmental and cultural values and therefore achieves the sustainable management purpose of section 5 of the RMA.

The Project does not trigger the requirement for any resource consent applications to be made under the NESs. No other regulations have been identified as applicable to this application. The NPS-IB has been applied to the assessment of ecology, and an offset for the loss of 1 ha of significant Karst Ecology is provided for in the conditions. No other NPSs apply to the Project.

The Project is consistent with the WRPS, Te Ture Whaimana and the Maniapoto Environmental Management Plan. This application includes the application for resource consents triggered under the WRP and PWDP.

The application has had regard to the matters relevant to discharges required by Section 105 of the RMA and draft conditions have been proposed.

11.5 PROPORTIONALITY TEST

Section 3 of the FTAA sets out the purpose of the FTAA, namely, to facilitate the delivery of infrastructure and development projects with significant regional or national benefits. The FTAA's Schedule 5 sections 17(1)(a) require that the panel gives greatest weight to the purpose of the FTAA and 17(1)(b) and 17(2)(a) requires that the panel considers RMA sections 5, 6 and 7.

The Project avoids any inappropriate adverse effects on matters of national importance subject to protection under Section 6 of the RMA. The Project also responds positively to the other matters that must be given regard to under Section 7 of the RMA.

The assessment of environmental effects concludes that potential adverse effects can be appropriately avoided, remedied or mitigated, while the Project delivers significant and enduring social and economic benefits. Overall, the Project appropriately balances the use and development of natural resources with the protection of environmental and cultural values and therefore achieves the sustainable management purpose of section 5 of the RMA. There are therefore no adverse impacts that, after conditions, are so serious that they are out of proportion to the Project's regional or national benefits.