Date: 02/05/2024

Memorandum

To: Dudley Clemens

From: Greg Akehurst

Kieran McLean

Re: Matamata Metal Supplies Ltd: Metal Supplies Quarry - Fast Track Application

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Matamata Metal Supplies Limited ("MMS") are seeking a consent under the Fast Track Approvals Bill 2024 ***to enable the extension of*** the Metal Supplies quarry, located in Matamata, eastern Waikato. Given the importance of aggregate and the need for efficient supply, granting fast track consent has the potential to be beneficial. MMS has commissioned Market Economics to assess the economic effects of the proposed quarry extension, highlighting the importance of granting a Fast Track consent.

This assessment is not a full consideration of all potential economic effects. Rather it seeks to provide context around the economic benefits that would result from proposed extension as part of consideration for the Schedule 2A list of automatically referred applications. This analysis considers the quarry extension in terms of:

- The local aggregate market,
- The Impacts to supply, and
- The ability to support infrastructure development.

This assessment has taken into account the existing supply and demand of aggregate and utilises these relationships to demonstrate the expected role of the Metal Supplies quarry within the local context of the Waikato region. The analysis relies on bespoke modelling capability, which is consistent with the approach used for other aggregate quarrying operations across New Zealand.

Context

The Metal Supplies quarry has been owned by MMS since 1986 and the site has operated as a quarry since it was established in 1958. The quarry is located at the end of Barton road, 9km east of Matamata on the Waikato site of the Kaimai Range. The quarry site provides a central location which has the ability to service the Waikato and Bay of Plenty regions, supporting the aggregate requirements of infrastructure projects. The quarry has supplied aggregate to significant projects such as providing all of the AP40 for the Port of Tauranga's Sulphur Point Wharf construction and subsequent extensions and over two decades provided railway ballast for the construction and maintenance of the Kiwirail rail network though out the central North Island and western Bay of Plenty.

Currently the quarry is constrained by a Queen Elizabeth II ("QEII") covenant which restricts access to the future aggregate resource of the quarry. MMS estimate that, as things stand, the quarry will scale down and cease operation within a 10-15 year timeframe. The historical production of MMS is between 150,000 to over 200,000 tonnes per annum, but has been forced to scale back to 90,000 tonnes per annum. A Fast Track consent would allow MMS access to the QEII covenant land, dramatically extending the lifespan of the quarry.

The extension area has an expected yield of 12.8 million tonnes which would equate to 51.2 years of production at a target rate of 250,000 tonnes per annum.

Historic Aggregate Production

The availability of information on aggregate quarrying in New Zealand is somewhat limited. The New Zealand Petroleum and Minerals (NZP&M) division within MBIE collects and publishes data about aggregate production in NZ, covering national and region supply with aggregate categorised by construction purpose rather than by rock type. The NZP&M reports the results from a voluntary survey with varying response rates. The variability means that there is degree of uncertainty in the data. In 2021 and 2022, the survey response rate was around 54%, compared to an average of around 76% between 2012 and 2020. This means that some caution is needed when using the data. For example, a study by Fulton Hogan on Auckland's aggregate market (2019) suggests that the NZP&M study could be understating aggregate production by 28%. A closer inspection of the data (specifically the years with higher response rates) shows that there is some variability in the data and this variation is across commodity grouping and regionally. Therefore, the analysis considers historic ratios and the relative spread of those ratios. Based on the spread and variability, we conclude that the data is sufficiently robust to inform this assessment.

The historic aggregate production estimates for the Waikato region are shown in Figure 1 and Table 1 shows the production of the Waikato region and neighbouring regions over the last ten years.

Figure 1: Annual Aggregate Production (tonnes) 2000-2022

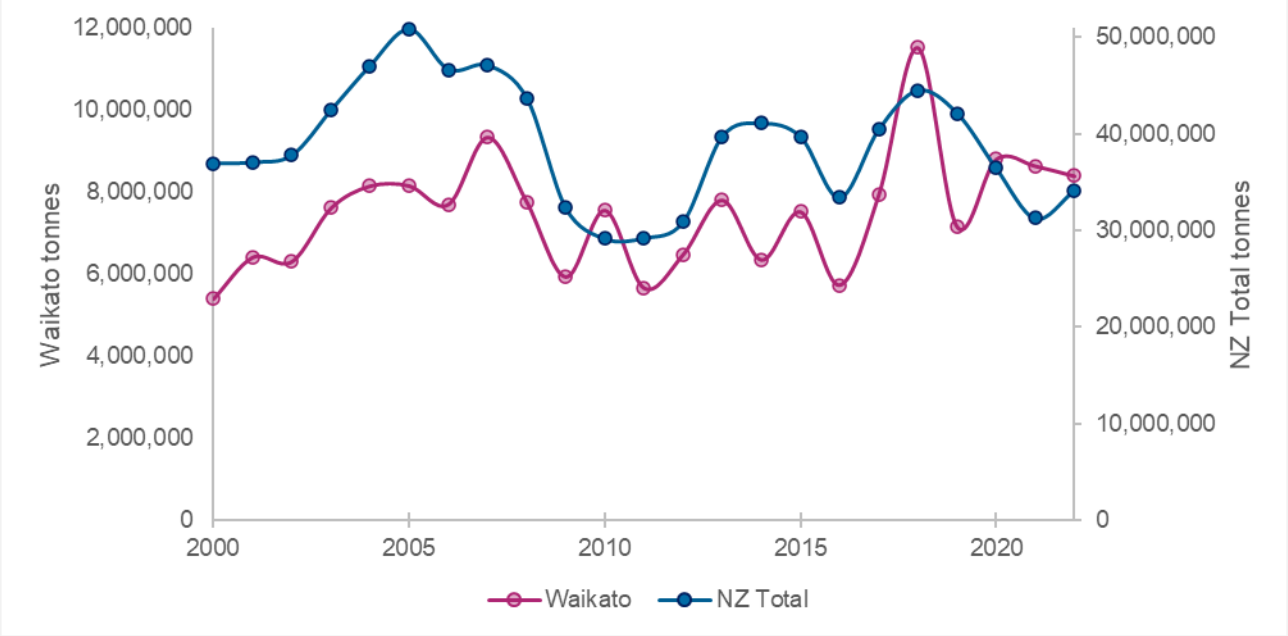

Table 1: Annual Aggregate Production by region (million tonnes) 2013-2022

Region	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Waikato	7.8	6.3	7.5	5.7	7.9	11.5	7.2	8.8	8.6	8.4
Bay of Plenty	2.6	2.5	0.9	0.9	1.9	1.6	1.8	1.6	0.2	0.8
Auckland	6.0	7.9	10.7	8.1	10.3	8.7	10.3	10.0	10.1	12.9
Total New Zealand	**39.8**	**41.1**	**39.7**	**33.4**	**40.5**	**44.5**	**42.2**	**36.5**	**31.3**	**34.2**

The Waikato region's aggregate production is large compared to other regions on a per person basis. According to NZP&M data, aggregate production levels in the Bay of Plenty peaked in 2018 at 11.5m tonnes despite a low year in 2016 with 5.7m tonnes. Aggregate production in the Bay of Plenty region has declined over the past decade (according to the above data) from 2.6 m tonnes in 2013 to less than 1.0m tonnes by 2022. . However, insights from the Fulton Hogan study and other employment-based approaches suggest that these production figures could be higher.

The MMS site is in close proximity to the Bay of Plenty region in general and Tauranga in particular, along with Western Bay of Plenty (combined they form the main economic hub of the region). Most of the Bay of Plenty region's growth is anticipated to occur within these 2 districts. A large volume of Bay of Plenty's aggregate requirements are imported to meet the needs of growth in urban-economic centres as well as maintenance of regional infrastructure, such as roads throughout the region and for use in the rural sector.

Aggregate Production per Capita

The historical relationships between estimated production rates and population, as well as economic performance, serve as the foundation for designing scenarios to forecast aggregate demand levels in the future. Statistics New Zealand provides population estimates for each Territorial Authority throughout New Zealand, which are analysed to derive the aggregate use per capita ratio.

Table 2 shows the per capita production ratio since for Waikato, Bay of Plenty, and New Zealand. This ratio, along with other sources, is then utilised to estimate regional self-sufficiency in aggregate production. These ratios relate local aggregate quarry totals to population and can be seen as a metric of relative supply.

Table 2: Aggregate Production per capita, 2013-2023, tonnes per capita

Year	Tonnes per capita per year		
	Waikato	Bay of Plenty	NZ
2013	18.4	9.3	9.0
2014	14.7	8.8	9.1
2015	17.0	3.1	8.6
2016	12.7	2.9	7.1
2017	17.1	6.1	8.4
2018	24.2	4.9	9.1
2019	14.7	5.5	8.5
2020	17.6	4.7	7.2
2021	17.0	0.5	6.1
2022	16.3	2.3	6.7

Source: Calculations based on NZP&M, StatsNZ data

The production per capita for Bay of Plenty has consistently been at a low level over the past 10 years. In comparison, Waikato per capita production has generally been around two time greater than national average, peaking at 24.2 tonnes per capita in 2018. The regional figures do not necessarily behave the same way as the national average, as large regional infrastructure projects and events, such as the rebuilding of Christchurch, can have a significant effect on how production changes to meet demand. Therefore, any forward-looking application of the per capita ratio should not be based on a single year's data, but instead reflect a longer timeframe. In recent years, it is likely that the average tonnes per capita is understating production levels due

to the constraints associated with the Covid lockdowns, and the strong recovery in the post-Covid environment (that is not shown in the data).

It is evident that over the past 10 years, ***Waikato Region*** has consistently produced aggregate at a level which is over and above the national average. This indicates that local production is satisfying all local demand, and a significant portion of ***supply meets the needs of other regions which require imported aggregate – notably Auckland and Bay of Plenty Regions.***

Bay of Plenty Region has consistently produced less aggregate on a per capita basis than NZ and much lower than Waikato. The Bay of Plenty is an importer of aggregate because its internally produced aggregate is considerably lower quality and therefore volume than the expected per capita levels seen nationally (NZ). ***As the Waikato is the most accessible region to the Bay of Plenty, the Waikato region's quarries provide the majority of aggregate imported to the Bay of Plenty.***

Forward Looking Aggregate Demand

The relationship between the quarry (supply) and demand levels is outlined by illustrating the relationship between supply and demand, i.e., the regional output gap.

Two scenarios have been used to show the likely spread of aggregate demand over the medium to long term. The scenarios show a medium- and high-growth pathway and are based on StatsNZ's population projections. It is important to note that the high scenario is used to reflect an upper bound for the assessment and illustrates a strong growth future. It is included to ensure that the assessment does not 'undershoot' future demand levels and to ensure that sufficient resource is available in future to cater for growth.

The core drivers of the scenarios are:

- The medium-growth scenario
    - Medium population growth.
- A high-growth scenario
    - High population growth plus an additional factor to reflect shifts like higher demand arising from infrastructure reinvestment, climate change and related responses, e.g., building in resilience and rebuilding activities.

Waikato Region demand projections for the two scenarios are shown in Table 3. Scenario 1 reflects the medium population growth and a lower per capita demand rate. Scenario 2 uses the higher population projections and a higher pathway in terms of aggregate demand per capita (+2.5%).

The scenario outlook (demand levels) is compared against the estimated production levels (aggregate supply). If supply exceeds demand, then the region can support its own needs using internal resource. If demand is greater than regional supply, then there is a deficit and aggregate needs to be imported. The scenarios reflect different growth pathways and are then compared against the production estimates in Table 4. Importantly, it is assumed that the current production levels are maintained, i.e., no new quarries are established, and the existing quarries maintain current production. The output gaps are shown in Table 4, positive values show a surplus of supply over demand within Waikato Region.

Table 3: Waikato Aggregate Demand Outlook – Scenarios (million tonnes)

	2023	2028	2033	2038	2043	2048	% change 2023 -2048
Medium Growth Scenario	2.9	3.0	3.2	3.3	3.4	3.5	23%
High Growth Scenario	4.5	5.2	6.1	7.1	8.1	9.4	110%

Table 4: Output Gaps in Bay of Plenty - Scenarios (million tonnes)

	2023	2028	2033	2038	2043	2048
Medium Growth Scenario	5.5	5.4	5.2	5.1	5.0	4.9
High Growth Scenario	3.9	3.1	2.3	1.3	0.2	-1.0

The scenarios suggest that Waikato regions growth and investment in infrastructure will not cause aggregate demand to exceed supply – meaning a surplus in aggregate is projected to be maintained. That is, Waikato region will produce enough aggregate to meet local demand and be able to continue exporting to other regions. Under the medium growth scenario, this gap is expected to slightly decrease over time from 5.5m tonnes in 2023 to 4.9m tonnes in 2048. The gap under the High Waikato Region growth scenario is projected to decrease from 3.9m tonnes in 2023 to -1.0m in 2048. This would mean that in later years, after a period of peak demand, the surplus output gap may turn in to a small deficit (assuming no other quarries are consented). The path of aggregate demand growth, and therefore the sufficiency gap, is expected to fall somewhere in between the modelled growth scenarios.

Importance of Quarry Supply

As previously established, the Waikato produces large quantities of aggregate, above local demand. Waikato aggregate is used to meet demand in its neighbouring regions which have a deficit. The quarries of the Waikato region have been used to meet aggregate demand in the high growth area of the 'Golden Triangle' with several Waikato quarries located close to the borders between the Waikato and the neighbouring Auckland and Bay of Plenty regions. Table 5 provides an extension of Table 4, including the output gaps of the Auckland and Bay of Plenty.

Table 5: Output Gaps in Neighbouring Regions - Scenarios (million tonnes)

	2023	2028	2033	2038	2043	2048
Waikato						
Medium Growth Scenario	5.5	5.4	5.2	5.1	5.0	4.9
High Growth Scenario	3.9	3.1	2.3	1.3	0.2	-1.0
Bay of Plenty						
Medium Growth Scenario	-1.1	-1.2	-1.3	-1.4	-1.4	-1.5
High Growth Scenario	-2.4	-2.9	-3.5	-4.1	-4.9	-5.7
Auckland						
Medium Growth Scenario	0.3	-0.2	-0.9	-1.6	-2.2	-2.8
High Growth Scenario	-0.7	-2.9	-5.7	-8.9	-12.4	-16.4

This highlights that while Waikato meets its own demand, Bay of Plenty and Auckland are projected to have increased aggregate deficits over time in the medium growth scenario, and the deficits will increase towards

the levels of the high growth scenario in times of high demand. Therefore, the Waikato market must also be viewed in a wider regional context as an exporter of aggregate to these regions.

The MMS quarry sits just inside the Waikato region, on the border with Bay of Plenty just north of State Highway 29 (the main thoroughfare) and in close proximity into Tauranga City. The quarry has the ability to service the demand of the Tauranga submarket and has done so in the past. The aggregate from MMS only needs to be transported 38km to reach the edge of the Tauranga urban area. Ignoring existing supply arrangements into the Waikato (eg Kiwirail ballast) and assuming the expected production of 250,000 tonnes per annum is fully used to supply Tauranga, this would account for 22% of the Bay of Plenty's medium growth scenario deficit in 2023 and 17% in 2048.

MMS has the ability to support a range of infrastructure projects due to its central location. The 'Golden Triangle' is an important area for future economic and population growth with significant infrastructure projects being developed. The aggregate from MMS can be used to support growth and projects such as:

- Hamilton and Tauranga population growth: By 2048, StatsNZ medium growth projections have the populations of the Waikato and Bay of Plenty regions to grow by 23% and 18%, respectively. Aggregate is a key component in resident construction, particularly within the development of higher density forms of housing; and
- Significant road construction projects: the quarry site has the ability to service extensions to State Highway 1 through the Waikato region and upgrades to State Highway 29 between Hamilton and Tauranga, including SH29 that is the main road connection from Tauranga to the Waikato.

Costs and Benefits of MMS's Matamata Quarry

The availability of aggregate and the capacity of aggregate resources to meet market demand are key drivers of direct and indirect economic impacts. Adverse economic impacts from distant quarries, include costs such as high transport costs and externalities including high emissions. On the benefit side, quarries located close to demand have potentially positive effects including security of supply and avoided transport costs.

The economic effects of quarrying operations are closely linked to transporting rock to market, which is determined by the location of the quarry and the destination of the aggregate. This section outlines the key assumptions underpinning the analysis. These assumptions are presented to provide visibility of the metrics used to estimate the costs and benefits of maintaining the supply of the Quarry. The costs and benefits are viewed as the net change relative to a without MMS Matamata Quarry situation. Avoided costs are a benefit, they include;

- Transport costs
- Environmental costs
- Social costs.

As has previously been established, MMS is located in the Waikato region which currently produces enough aggregate to meet demand. However, the site's ability to supply aggregate to the Bay of Plenty region, in particular to Tauranga, means that the quarry needs to be considered from the perspectives of this regional market. The costs and benefits of extending the life of the Matamata quarry are assessed against its principal alternatives. In this case, we anticipate that without supply from the Matamata quarry, aggregate will instead have to be transported at greater distances to Tauranga from other Waikato quarries. The distance from the Matamata quarry to Tauranga as well as for comparable local Bay of Plenty quarries and potential alternatives outside of the Bay of Plenty region are shown in **Table 6**.

Table 6: Distances of Potential Alternate Quarries

Quarry	Distance to Tauranga Crossing / Tauriko (km)	Additional Distance compared to MMS (km)
Matamata Metal Supplies	39	0
Bay of Plenty Suppliers		
Corbet Road	67	28
Katikati	39	0
Hyndman Quarry	63	24
Alternatives outside of Bay of Plenty		
Toatoaroa	56	17
Whitehall (Winstones)	65	26

The benefits of allowing MMS to proceed are the transport cost savings achieved by replacing comparable rock of similar quality, which can be used for the same construction purposes. The principal alternatives are the other large Waikato based quarries. Therefore, this analysis considers the costs per 100,000 tonnes per annum of aggregate that might be supplied by the quarry.

Using the additional distances, the main transport assumptions are for a truck size of 30 tonnes and a cost of $0.38 per km tonne. The cost factors for emissions and social costs are described in Table 7.

Table 7: Emission and Social Cost Factors

	Emission costs and factors				
	CO	NOx	PM2.5	VOC	CO2-e
Cost/tonne (Rural)	$0.23	$28,843	$58,880	$73	$94
Cost/tonne (Urban)	$5.84	$1,038,788	$1,024,422	$47,193	$94
Emissions factors 2023 (g/tonne) Diesel Articulated	1.36-1.37	4.58-4.67	0.17-0.18	0.13	675.78-720.13

	Social Costs		
	Death	Serious injury	Minor Injury
Social cost ($ per instance @2023 prices)	$14.2m	$0.7m	$0.08m
Deaths/Injuries per 100 million km (risk factor)	2.5	4.3	17.5

The cost of aggregate movements associated with the quarry is assessed using the above assumptions and per 100,000 tonnes of aggregate. The results are reported for the Tauranga sub-market. Table 8 reports the additional costs of the alternative quarries.

Table 8: Cost of Alternatives per 100,000 tonnes of Aggregate

Quarry	Driving distance (km)	Transport costs	Social costs	Emissions costs	Total costs
Delivering to Tauranga Crossing/Tauriko					
Matamata Metal Supplies	260,000	$3.0m	$0.1m	$0.1m	$3.1m
Toatoaroa	373,000	$4.3m	$0.2m	$0.1m	$4.5m
Whitehall (Winstones)	433,000	$4.9m	$0.2m	$0.1m	$5.2m
Additional from Toatoaroa	113,000	$1.3m	$0.0m	$0.0m	$1.4m
Additional from Whitehall (Winstones)	173,000	$2.0m	$0.1m	$0.0m	$2.1m

Based on the above transport, environmental and social costs that would be avoided by enabling the Matamata quarry extension is valued at $1.4m to $2.1m per 100,000 tonnes per annum of aggregate supplied to Tauranga.

The base case analysis (per 100,000 tonnes of aggregate from Matamata) estimates economic benefits (in the form of avoided costs) that accrue to Bay of Plenty's economy – and ultimately households. In particular, the results highlight the importance of the Matamata quarry for supplying the Tauranga sub-market. Avoiding higher direct transport costs will support the Bay of Plenty aggregate market by:

- Addressing a portion of the aggregate shortfall, thereby providing significant support to the construction sector by reducing costs and providing an alternative source; and
- Helping with cost management by providing an easier to access resource that is close to end-users, and thereby reducing transport costs, which will ultimately end up reducing cost pressures for households.

Concluding Remarks

Efficient and sustainable access to aggregate will be an important factor in both facilitating and providing infrastructure such as roading, buildings, and other infrastructure to support Waikato's growing population and economy. Table 6 provides commentary illustrating how Stage 3 aligns with the eligibility criteria as outlined in Clause 17(3). The presence of the aggregate close to where it is needed, and the ability to access it sustainably contributes significantly to the economic wellbeing of the Bay of Plenty region.

On the basis of the assessment presented above, granting fast track consent to the development of the Matamata Quarry generates significant regional benefits for the Bay of Plenty Region.

Table 6: Alignment with Fast Track Legislation Criteria

Eligibility criteria Clause 17(3):	Comment
(b) will deliver regionally or nationally significant infrastructure	Aggregate is an essential ingredient of concrete, and concrete is needed across the entire urban landscape. Aggregate is also used in raw format across a range of other non-concrete uses. The MMS quarry provides the ability to provide rock for the local Waikato market and provide an important source of high quality aggregate not found elsewhere within the Bay of Plenty.
(d) will deliver significant economic benefits	See comment above. Plus ensure on going supply from important markets, which enables resilience from spikes in demand, response to climate change emergencies and increased supply options within the wider market, which all lead to keep costs down for households and ratepayers.
(f) will support development of natural resources, including minerals and petroleum	The MMS quarry is an existing quarry site which is used to meet the aggregate demands across the Waikato and the Bay of Plenty regions. Ensuring the long term future of the MMS resource/mineral is consistent with developing resources in a responsible and efficient way.
(g) will support climate change mitigation, including the reduction or removal of greenhouse gas emission	Minimising the distance that aggregate, and concrete, travels to end users ensures that the associated emissions are kept to a minimum. The analysis illustrates large effects of transporting aggregate on emissions. This proposed project will have an immediate, and direct impact on reducing emissions. The project will deliver a step-down in emissions and given the long project lifecycle will ensure that locally generate emissions is minimised.
(h) will support adaptation, resilience, and recovery from natural hazards	Supply of materials such as railway ballast and material for the Port of Tauranga to enable resilience and recovery from severe weather events and road wash outs and erosion. High quality aggregates are in limited supply within the Bay of Plenty of which MMS can supply in response to specific engineering requirements for recovery post sever weather events.

Yours sincerely,

Greg Akehurst Kieran McLean

Matamata Quarry – Fast Track Referral Project

Summary of actual or potential adverse effects on the environment

Many of the known and anticipated adverse effects of the project are those typically associated with the expansion and operation of a quarry. The effects associated with ecology are of particular significance and are addressed below.

The applicant has received advice from a number of technical experts in preparing this summary.

At a high-level, the actual or potential effects are:

- **Effects on conservation and biodiversity values (terrestrial)** – the project will involve the loss of indigenous vegetation and habitat for fauna. There is ahigh level of existing information as to the nature and extent of vegetation and fauna within the intended area of the expansion.
  A resource consent application would provide:
  - A detailed evaluation of the values of the fauna (birds, lizards, bats etc) and flora to determine areas where expansion should be avoided (because their values are of such significance) and those where fewer adverse effects would result and opportunities exist to address those effects.
  - A comprehensive package of off-setting, mitigation and compensation measures with the future resource consent application.
  - A plant and animal pest management plan.
  - A lizard salvage management plan.
  - An avian management plan to manage vegetation clearance outside the bird nesting season.
  - Should bats be identified, a bat management plan to manage vegetation clearance.
  - A mitigation plan to address the loss of habitat and biodiversity values.
  - A rehabilitation (end use) plan for the planting of the site at the completion or the works and/or closure of the quarry.

  The development of the pit would occur over several decades. This provides an opportunity to progressively undertake mitigation and offsets, including in advance of the works to maintain an overall net gain in biodiversity values.
- **Erosion and sediment loss** – these effects will continue to be managed as per measures for the existing quarry operation to comply with district plan and regional plan rules, and best practice methodologies. This includes sediment retention ponds, dirty water diversions and the use of the quarry pit itself as a sump.
  An updated Quarry Management Plan and Stormwater Management Plan (erosion and sediment control) would address the approaches to annual erosion and sediment control measures, along with the manner in which erosion and sediment control measures are implemented with the expansion of the quarry pit. The measures associated with the existing processing areas are well established and already consented, are high performing (as validated by compliance monitoring) and therefore there is no need to change these.
- **Effects on freshwater ecosystems and values (aquatic)** – the project will involve stream diversion and reclamation associated with the quarry pit. These works would occur over a period of decades as the pit is expanded. There is a high level of existing information as to the nature and extent of streams within the proposed pit area.

A resource consent application would provide:

- A detailed evaluation of the aquatic values of the streams.
- A comprehensive package of off-setting, mitigation and compensation measures with the future resource consent application.
- A fish salvage plan.
- A plan to recreate stream morphology and function with diversions around the pit.
- A plan to plant and fence riparian margins of existing streams and wetlands to offset the loss of stream values.

Erosion and sediment control measures as detailed above including, where necessary, chemical treatment of stormwater, would be utilised to minimise the discharge of sediment from the site into the receiving environment.

- **Air quality and dust effects** – these will continue to be monitored and managed through the checking of weather conditions, control of vehicle speeds within the site (maximum 30km/h), dampening of haul roads, adopting good blasting practices such as the wetting of rock faces and tight controls on the quantities of explosives and use of sequential firing, use of watercarts and fixed sprinklers. The area is remote and benefits through the lack of dwellings and neighbours. The measures associated with the existing pit, haul roads and processing areas are well established and already consented, are high performing (as validated by compliance monitoring)and therefore there is no need to change these. An updated Quarry Management Plan would extend these measures to apply to the expansion area.
- **Effects on groundwater** – The current pit intercepts intermittent flows of groundwater based on storm events. Should groundwater be diverted with the pit design, then the application would prepare an assessment of effects on groundwater associated with any effects on groundwater bores within proximity to the site. It is noted that due to the remote nature of the area, interaction with other bores is unlikely and has not been encountered to date.
- **Acoustic Effects** – All noise associated with quarry works will continue to be suitably managed to comply with district plan standards. The quarry and intended areas of expansion are well separated from adjacent dwellings (being located with an existing farm and bordering the Kaimai Ranges). An acoustic assessment would be provided with the application to confirm compliance with the District Plan standards.
- **Vibration and Blasting Effects -** The quarry and intended areas of expansion are well separated from adjacent dwellings and vibration concerns have not arisen with the existing operation. A vibration and blasting assessment would be provided with the application to confirm compliance with the District Plan standards.
- **Transportation Effects** – the quarry has been operating since 1958 and is well established. The road has been progressively upgraded to cater for trucks. If an increase in truck volumes is to occur, then a traffic assessment would evaluate the existing roads and records of any crashes that point to a deficiency in the road network, along with the capacity of the road network to accommodate the additional volumes.
- **Effects on and from natural hazards** – the site design will ensure that areas of overburden and the pit design do not create instability effects.
- **Landscape, natural and rural character and visual amenity effects** – the existing quarry is relatively discrete, being located distant from the road network, urban areas and high numbers of receivers, and has screen planting in place. The existing quarry is visible from closer locations

such as Old Te Aroha Road and Barton Road, and from parts of Douglas Road. The adjoining areas are either the Kaimai Ranges or productive rural areas, with a number of marae on Douglas Road. A landscape and visual assessment would be prepared with the resource consent application to illustrate the progressive development of the pit and overburden areas, and what measures such as further screen plantingand staging can be utilised to minimise landscape and visual amenity effects

The quarry progressively rehabilitates parts of the site, for example the overburden areas, as works are completed. This minimises the ongoing visual landscape effects of the activity. Ultimately with the cessation of quarry activities, the site would be rehabilitated to minimise effects on the wider landscape. This would involve stabilisation, regrassing and revegetation as necessary.

- **Cultural heritage, effects on Mana Whenua Values and archaeology** – the applicant has previously consulted/engaged with relevant iwi for previous consent applications, and maintains a positive relationship through the existing Quarry Engagement Group. The quarry will continue to work collaboratively with iwi through these next stages, including preparation of the consent application. .

  The bigger picture with the proposal is that the current quarry pit (including its identification in the District Plan) is currently extracting aggregate resource from a maunga - Te Weraiti, being of of high significance to local iwi. The intention of the new proposal is to utilise an alternative aggregate resource within the property (the proposal) in order to ultimately cease quarrying on Te Weraiti, and relocate to more suitable locations, as defined in this proposal. This is considered a positive outcome.

  No archaeological sites are recorded with the site. Accidental discovery protocols will be implemented should earthworks reveal any unrecorded archaeological sites.
- **Effects on highly productive land** – LUC mapping confirms that no land within the site is considered to be “Highly Productive Land”.