

Appendix P

Consultation Documentation

6 November 2018

McPherson Resources Limited – McPherson Quarry Resource Consent Application

Kinetic Environmental Consulting Ltd (Kinetic Environmental) have been engaged by McPherson Resources Ltd (McPherson) to prepare and lodge resource consent applications required to allow the McPherson Quarry to carry on with its existing operations. The McPherson Quarry is a weathered greywacke quarry located on McPhersons Road off State Highway 2 (SH2) in the vicinity of Pokeno, approx. 3 km from the SH1/SH2 intersection.

The McPhersons are seeking consent to extract and move up to 490,000 tonnes annually from the quarry (as compared to around 400,000 tonnes for 2018). In order to do so, resource consents are required from Waikato Regional Council for vegetation clearance, overburden and cleanfill disposal, the taking of surface water, discharge of stormwater, and water diversions. In addition, resource consents are required from Waikato District Council for mineral extraction and processing along with all associated earthworks and vegetation clearance.

The purpose of the consents is to allow the McPherson Quarry to continue operating and to cater for the future sustainable extraction of greywacke, a mineral of both local and regional significance. Based on the available resource, the McPhersons are intending on expanding the quarry over four stages covering a period of between 60 to 80 years. Based on the difficulty of accurately assessing the effects of an activity so far in the future, only the first three stages are the focus of this consent application, covering a period of around 45 years.

The intention of this letter is to provide an explanation of the operation and to seek your written approval as a party located adjacent to or with an interest in the local area.

The Proposed Operation

As you know, the McPherson Quarry has operated in its Pokeno location for over 60 years and has extracted aggregate that entire time, largely under existing use rights allowed by the Resource Management Act 1991 (save for the last decade, when the McPhersons have held consents relating to water extraction and discharges).

In order to extract the aggregate it has to be exposed to the elements by the removal of any vegetation, overburden and topsoil covering the same. As a result, quarries naturally expand their footprint over time, which is followed by rehabilitation/remediation once the extraction process is complete.

In this case, the McPhersons intend to focus their extractions on specific areas in three separate stages, per the plan in **Appendix A** to this letter. The stages are briefly outlined below:



Stage	Summary	Details
1	Expansion of the existing quarry to the north and west, with a minor expansion to the east, resulting in the removal of a small area of regenerating vegetation.	<p>Vegetation removal: The Stage 1 expansion footprint includes the largest block of indigenous forest which sits in the south-west edge of an extant 30-hectare regenerating manuka shrubland and mixed hardwood/podocarp forest.</p> <p>Overburden: A total cut topsoil/overburden volume for Stage 1 is estimated as approx. 5,327,680 m³, with an estimated 1,427,655 m³ cut to fill (stockpile) and an estimated 999,360 m³ of that kept onsite as cleanfill (depending on sales), based on a conservative estimate of retention of 70% of the total amount of overburden removal. The McPhersons will on-sell as much overburden as possible, meaning that in reality (based on site history) the disposal site is likely to contain much less than 70% of the overall overburden volume.</p>
2	Expansion to the north and west of Stage 1 with the inclusion of a water diversion channel, removal of Pond B and implementation of a small bund above the quarry face.	<p>Vegetation removal: Stage 2 will occur in a heavily modified landscape with several vehicle access tracks and a constructed pond within the footprint. The vegetation is dominated by pasture with clumps of wiwi. Woody vegetation consists of gorse, small patches of manuka, meaning only small stands of native vegetation will be removed.</p> <p>Overburden: A total cut topsoil/overburden volume for Stage 2 is estimated as approx. 3,787,609 m³, with an estimated 892,770 m³ cut to fill (stockpile) and an estimated 627,939 m³ of that kept onsite as clean fill (depending on sales), based on a conservative estimate of retention of 70% of the total amount of overburden removal (as a 'worst case').</p> <p>Drainage: Pond B is removed in stage 2. The extension of the pit to the north requires a small bund to protect the pit face from surface water. Stage 2 reduces the total catchment and therefore also reduces the flows.</p>
3	Expansion to the west. Vegetation removal is largely pasture and gorse, with two small stands of native regenerating bush at the extreme west of the stage.	<p>Vegetation removal: Stage 3 is grazed throughout and consists of primarily pasture with a large area of gorse. This stage will involve removal of another stand of indigenous vegetation on the western end.</p> <p>Overburden: A total cut topsoil/overburden volume for Stage 3 is estimated as approx. 9,668,730 m³ (over the course of 30 years), with an estimated 4,044,323 m³ cut to fill (stockpile) and an estimated 2,831,026 m³ of that kept onsite as clean fill (depending on sales).</p> <p>Drainage: Due to the natural gradient directing flows away from the pit excavation, only one clean water diversion drain is required in this stage. The existing vegetation below the level spreader will provide good erosion protection. As Stage 3 pit removes a substantial portion of this catchment, even with the clean water diversion drain in place the total flows entering this catchment will be less than the existing.</p>

In a general sense and applying to all stages, the quarry face will be cut and benched as the quarry expands. Vertical faces will be a maximum of 15 m high with a 7.5 m wide bench, which is smaller than that currently experienced in the quarry.

The time period for the expansion is not definitive and could be expected to take a number of years, depending on the volume of resource. As an indication, Stage 1 and 2 is estimated to take 10-15 years and Stage 3 up to 30 years (i.e. a total of 45 years). As the quarry expands, soil will be stripped along with overburden, a process which is required to expose the rock for quarrying. This will be carried out using a combination of hydraulic excavators, front-end loaders, dump trucks and bulldozers. All recoverable soil will be stored on-site for future rehabilitation uses or onsold (depending on demand). Overburden which is not saleable will be located in the overburden placement sites, with material being transported within the site by dump truck. Overburden will be placed on land to the south of the quarry area, as shown in **Appendix A**.



As noted above, the applicant is applying for an extraction and movement rate of 490,000 tonnes annually from the quarry. In addition, the applicant seeks resource consent for importing cleanfill on trucks that are leaving the site with aggregate or other quarry material (ensuring that no additional traffic is generated, given that the trucks would be arriving to site anyway, except they would be filled rather than empty on arrival).

Assessment of Effects

Due to the length of the Assessment of Environmental Effects (AEE), we have provided a summary of the same below. This approach is accepted by both Councils in lieu of you signing each page of the 56 page AEE document. However, if you do wish to see the complete document, please contact us using the details on the last page of this letter.

Visual, Landscape and Natural Character

Visual effects are assessed taking into account public vantage points and views from neighbouring properties. The McPhersons engaged WSP Opus International Consultants (WSP Opus) to prepare a Landscape and Visual Assessment report (LVA) which has been lodged with the AEE and consent application.

The LVA notes that the proposal will bring about changes to the landscape through the excavation of the site to remove the rock resource. This excavation will create large cut faces and benching, with a maximum height of 15 m, which is smaller in scale than the existing quarry cut faces and benches. A small amount of indigenous forest will be removed as the quarry expands. This will happen slowly over time and affect small patches of forest which form part of a much larger area. This the removal will occur in front of existing bush and the perception of removal will therefore be low.

In summary, the proposed expansion of the McPhersons Quarry will be a gradual process (up to 45 years) to an already existing feature. It is therefore considered that effects overall will be less than minor, with minor effects for the closest neighbour.

Noise

The McPhersons engaged Hegley Acoustic Consultants to prepare a report assessing noise, which was lodged with the AEE and consent application. One of the noisiest activities at the quarry is drilling of rock to blast it, so that the fractured rock can be removed or extracted. Other machinery used which contribute to the noise levels are the excavators, bulldozers, dump trucks, loaders and a mobile crusher.

The noise modelling assessed all of the referred to plant operating on a busy day at the most exposed location and compared those to the existing operations. The noise levels recorded therefore represented the 'worst case' scenario, which is unlikely to occur. Even so, the results showed the noise levels from the quarry operation as being well within the daytime allowed limit (per both the Operative and Proposed District Plan) of 50 dBA L_{Aeq} in the Rural zone. In summary, the noise effects generated by the quarry operations (existing and future) are described as less than minor.

Vibration

Another element of quarrying is blasting, which can lead to vibration effects on surrounding properties. In order to ensure that these effects are appropriately monitored, the McPhersons regularly receive vibration and blast reports from Orica Mining Services, being a world leader in blasting technology. Orica records specifics of the blasts, including peak vector sum velocity and peak overpressure.

The two latest blasting records were lodged with the AEE and confirm that the McPherson Quarry blasting activities fall well within the requirements under the Operative District Plan (which allow a peak particle velocity of 10 mm/s, whereas Orica recorded peak particle velocities of 0.73 mm/s and 3.30 mm/s respectively). In other words, the vibration effects of current and future activities are determined to be negligible.

Dust

The quarry operations have for many years implemented measures to deal with dust suppression through use of water sprays and staging. The internal roads are unsealed but sprayed regularly in order to minimise dust. In addition, crushing



is used intermittently and only when needed, which is a key source of dust generation. Other dust measures are used as part of the quarry operations such as: retaining existing vegetation, staging of earthworks to limit exposed soil areas, setting a defined Limit of Works area, enforcing a maximum vehicle speed, and management of the stockpiles. In summary, the dust effects are less than minor when using the above noted mitigation measures.

Traffic

The McPhersons engaged WSP Opus to carry out a Traffic Impact Assessment (TIA) to assess any potential effects on traffic. As it is, the quarry is located at the end of McPherson Road, which comes off SH2 approx. 3 km east of the intersection between SH1 and SH2. Being a state highway, the annual average daily traffic of SH2 is higher than a local road (recorded at just under 17,000 vehicles per day in 2017). However, the McPherson Road/SH2 intersection forms part of the proposed Pokeno to Mangatarata Improvements of SH2. Accordingly, if this realignment is constructed, the existing SH2 alignment within the vicinity of the McPherson Road intersection will revert to a local road, primarily providing access to local properties, meaning traffic volumes would reduce significantly.

The estimated annual quarry extraction yield of 490,000 tonnes determined the vehicle movements to be approx. 165 vehicles per day (82 inbound and 82 outbound). Averaging the daily flow over 11 hours (being when the quarry is open), the hourly vehicle movements would be 16 (8 inbound and 8 outbound) assuming consistent movement throughout the day.

The TIA identified that the McPherson Road/SH2 intersection lacked the required site distances and turning treatments. As a result, the McPhersons have been in discussions with the NZ Transport Agency in an effort to resolve these safety concerns and have agreed on three mitigation measures relating to modifying the southern bank to increase site distance and constructing a right-turn bay as well as an auxiliary lane for left turning vehicles. When taking into account these measures, the effect of the proposal on traffic and safety are determined to be negligible.

Vegetation Loss

The McPhersons engaged WSP Opus to prepare a Vegetation Assessment report, which was lodged with the AEE and consent application. That report determines that the majority of the vegetation affected by the three stages is pasture and gorse with negligible ecological value.

The total impact site is approximately 55 ha in area out of which 4 ha is indigenous vegetation. In other words, a very small proportion of the vegetation to be removed is defined as 'Significant Natural Area' (per the Proposed Waikato District Plan). The effects of removing this vegetation has been assessed as Moderate meaning that some mitigation is required. In order to address this effect, the McPhersons will prepare a detailed planting and rehabilitation plan which will include offset planting. The planting plan will ensure that there is a no net loss impact from the quarry activities using good practice offsetting. In conclusion, taking into account the proposed planting plan and offset planting, the overall effect of the vegetation removal will be less than minor.

Erosion, Sediment and Stormwater

An important part of quarrying is erosion and sediment control. The McPhersons engaged WSP Opus to prepare a detailed Erosion and Sediment Control Plan (ESCP) for Stage 1 and a Concept Plan for Stages 2 and 3, with the intention to prepare detailed plans for Stages 2 and 3 at a later date. This is because at this stage, it is difficult to assess with any certainty what the effects will be insofar as erosion and sediment control is concerned for these stages. With the implementation of these plans (which includes measures such as minimising disturbance, staging, protection of steep slopes and watercourses, installation of perimeter controls and weekly monitoring), the erosion and sediment effects will be less than minor.

The McPhersons also engaged WSP Opus to prepare a report on the anticipated stormwater effects. That report confirms the proposed stormwater management devices for each stage and includes measures to deal with the proposed ponds/dams, any required watercourse treatment, the access tracks, and any existing springs (and seepage from the same). In essence, due to the quarry pit extension reducing the adjacent catchments the effects in terms of the external stormwater is considered minimal as the staging will reduce the total surface water flows.



Your Approval

We are approaching you as neighbouring property owners and as parties with a vested interest in the area. We are seeking your written approval to carry on with the quarry operation as described above. You do not have to provide written approval, and you can withdraw any approval you do give at any time up until the final determination of the resource consent application by the respective Councils. If you do not want to give written approval to the proposal we are still interested in any comments you may have.

If you are willing to grant written approval, please complete the relevant details on the attached affected persons forms. We also need you to date, sign or initial each page of this letter (including the Appendix). Once you have completed signing the various documents please return the completed set to Mike McPherson (who will pick them up or they can be emailed) or to myself via post or email. If you would like to keep a copy of the documents for your own records, please let us know and we can email or post you a signed set.

It is important to note that should you be willing to provide your written approval, all owners and occupiers of your property must give individually their written approval or the person providing written approval for a number of individuals must acknowledge that they have authority to provide this written agreement.

Thank you for your time in considering this request. If you would like any further information about the proposal or require clarification of any aspect of it, please feel free to contact us using the details below.

Regards,



Christian McDean

Principal Planner & Director

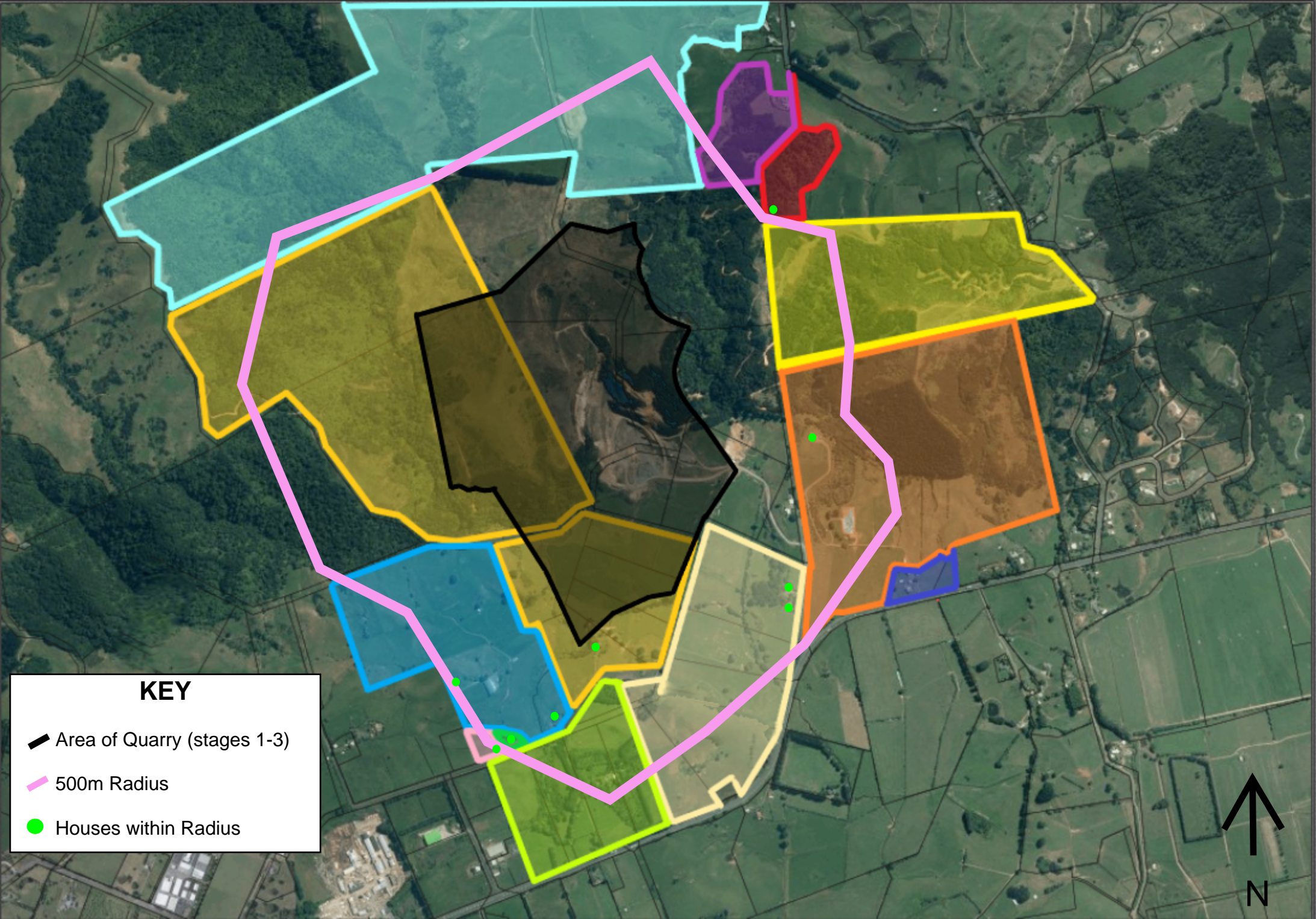
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Appendix P


Consultation Documentation Map of neighbours



KEY

 Area of Quarry (stages 1-3)

 500m Radius

 Houses within Radius

