



12 March 2018

Mr Murray McDonald
Whangarei District Council
Manager RMA Consents

Mr Hartstone
Whangarei District Council
Consultant Planner

Dear Sirs

RE: GBC WINSTONE – PEGRAM OVERBURDEN DISPOSAL AREA – OVERVIEW OF OTHER OPTIONS CONSIDERED FOR DISPOSAL OF OVERBURDEN AT OTAIKA QUARRY

Please find below a discussion of other options considered by GBC Winstone (GBCW) for disposal of overburden from Otaika Quarry. It is important to note that while these options have been considered by the Company, GBCW does not own or have access to any of these other sites.

Use of overburden in third party projects

Submitters have been critical of the company for not finding alternative uses for the overburden generated at Otaika Quarry and have suggested using overburden to build a new runway at the Airport, filling in holes from sand mining at Urititi Beach or for noise bunds along roads of national significance. These projects do not currently exist. The company has made efforts over the years to provide overburden free of charge for use by third parties, but it is expensive to transport and is not geotechnically suitable for many projects for example subdivisions. In principal GBCW has no objection to providing overburden to third parties, but to date no-one has been willing to take it.

Possible options for disposal of overburden at Otaika Quarry

As part of the long term planning for Otaika Quarry, the company has considered a range of options for the disposal of overburden.

The following matters were considered by the Company when assessing suitable options and the risks and costs associated with those options:

- Proximity and accessibility to Otaika Quarry. Is the site within close proximity and is readily accessible to the Quarry?
- Does the site have sufficient capacity to accommodate 35 years' worth of overburden disposal?

- Does the Company own the land and/ or have guaranteed access and permission to use the land, if owned by a third party?
- Does the option allow for sustainable management of the Otaika Quarry in terms of allowing for full extraction of the aggregate resource?
- Commercial Viability: Does the option incur additional costs over and above the normal/reasonable operating costs of the quarry?
- External Transport: Does the option involve transportation out of the immediate quarry area and include public roads/areas?
- Potential Effects: Can the effects of overburden disposal on the site be avoided, remedied or mitigated to an acceptable level?

Remaining Opportunities for Overburden Disposal at Otaika Quarry

Overburden disposal is an activity closely associated with quarrying. It cannot occur anywhere, overburden disposal sites need to be located within close proximity to where the overburden is stripped from.

The challenge of managing overburden disposal at Otaika Quarry is finding sufficient space within close proximity to the area of extraction. For the last 30 years overburden has been placed on top of future areas to be quarried. On site options for disposal of overburden (without impacting on current quarry development, and without sterilising exposed rock) are extremely limited. The future development of the quarry is primarily constrained due to its ability to dispose of the overburden generated. At Otaika the overburden disposal options within the main quarry area are near exhaustion.

Currently overburden is being removed and placed in a small area to the north west of the pit. Storage capacity in this area is limited and can only accommodate a small amount of overburden. This area sits on top of unquarried aggregate resource, earmarked for future extraction. As a result, all overburden currently being placed in this area will need to be re-handled – placed and then moved when extraction reaches this point. This is only a very short-term option.

Disposal of overburden in the existing Otaika Quarry pit

Latest quarry design investigations show that the pit has not yet reached its final depth and (subject to obtaining further consents) that there is approximately 80-100 years (subject to market demand) of quarriable aggregate remaining at Otaika. If the company had to use the pit for overburden disposal (**in pit disposal**), quarrying would become uneconomic and the quarry would need to close in approximately 15 years (depending on market demand) because we would no longer be able to access the resource on site. In this context, it is important to note that the operational life of the quarry is reduced and becomes waste bound from the point at which it is decided to begin in-pit disposal (i.e 2019 if consents for Pegram are not obtained) as opposed to the date that the quarry closes because it sterilizes future resource. This is not an option at this time as it would drastically reduce the workable life of the quarry.

Options for Overburden disposal on sites adjacent to Otaika Quarry

The Company undertook an exercise whereby other sites adjacent to Otaika Quarry were evaluated for the suitability for overburden disposal. These included Otaika Recreation Ground – former Blue Goose land (owned by WDC), Pompellier Estate; and Conservation Land. All of these sites had sufficient proximity to the quarry and locations that would enable them to be accessed internally from Otaika Quarry, without using the public roading network and allow for the most efficient means of movement and placement of overburden, because quarry dump trucks can be used as opposed to road trucks.

GBCW has explored the possibility of storing overburden on nearby **Otaika Recreation Ground (Blue Goose Land)**, owned by Whangarei District Council (WDC). Over the last 15 years, GBCW has made a number of approaches to WDC in an attempt to secure the use of this site (at one point WDC proposed to sell this land for development as an industrial area, and GBCW entered into discussions with the potential purchaser regarding overburden disposal on the site). Ultimately GBCW was unable to gain access to this land. WDC opted to retain the land and chose to further develop it for recreational uses. A high level assessment of the site indicated that this site could only accommodate an estimated 0.7 million m³ of overburden (which falls considerably short of the 35 years of overburden volume needed).

Crown land managed by the Department of Conservation that is to the south of the quarry. This land has conservation values and is managed by the Department of Conservation as a public reserve. Use of this land for overburden disposal would require public access to be restricted and is incompatible with the purpose for which this land is held. GBCW has been advised that use of this land would require additional permission and concessions under the Reserves Act 1977, which it would be unlikely to obtain.

GBCW has also explored the possibility of storing overburden on the nearby **Pompellier Estate**, which is the area of land directly to the west of the quarry pit. The company does not own the land but has considered acquiring this property (which it has done due diligence on) and there are a large number of archeological sites recorded as being present on this property. This land does not have the capacity required for the 35 years, and use of this land for overburden disposal may impede public access to the Council/ Department of Conservation reserve land.

Off-Site Disposal Options further afield

The Company, has also considered off-site disposal options that are not adjacent to the Quarry. Overburden disposal further afield is very rare due to the high cost and effects associated with transporting overburden via the public roading network that quickly accumulate to make the activity unviable. The cost of disposing overburden at an off-site location up to 5km away, (which requires the use of road trucks as opposed to dump trucks in order to use public roads) is approximately six or seven times the cost of disposing overburden on the Quarry site, or on an adjacent site, with the largest costs being attributable to the use, running, loading and unloading of road trucks. GBCW are unaware of any examples in New Zealand where off-site overburden disposal of overburden is currently undertaken which involves the long term transport of overburden along the public roading network.

Overburden disposal at an off-site existing landfill/ cleanfill. To my knowledge there are now no suitable consented cleanfill or landfill sites within the district with sufficient capacity within viable carting distance of Otaika Quarry.

The HEB Quarry. This is the only unused quarry site that could potentially be consented as an OBDA. GBCW does not own or have access to the site, it is not consented for this activity, and does not have sufficient capacity to take the overburden generated at Otaika Quarry. At approximately 5.6 km away from Otaika, transport via road truck is unviable.

Develop and consent a new “out of area” – OBDA. GBCW does have access to part of a site adjacent to Portland Quarry, which it also owns. There is very limited fill capacity over and above what is required for the cement operations. Investigations have shown that it could only hold volume equivalent to one overburden campaign (providing overburden disposal for 3-5 years). The costs associated with transportation (it is 8km away from Otaika Quarry to the site access point) and consenting make OBDA disposal at this site uneconomic. In addition there is no long term certainty that this site can be secured as fill site available is also in the area proposed as one of the options for the current State Highway 1 upgrade.

Concluding comments

While a number of submitters have raised the possibility of sites other than the Pegram Block, some of which have been considered by the Company, I note that investigations have shown that the sites suggested are not reasonable or proper alternative options for overburden disposal. GBCW must have permission from the owners of those sites to access and use the land (which cannot be obtained or has not been forthcoming) or have the ability to purchase the site. Without this, they do not represent reasonable, secure or feasible options.

Even if access is secured (which at present it cannot), preliminary investigations by the Company into these other potential sites have also demonstrated that these sites have features which make them inherently unsuitable for the placement of overburden, would result in a higher level of effects and/or have far less capacity for overburden disposal than the Pegram Block. Overburden disposal is resource constrained in that it can only occur within viable carting distance of the quarry from which it is from which is why adjacent sites are necessary. Disposal at off-site locations further afield is cost prohibitive. Consenting multiple smaller capacity sites would result in duplication in terms of consenting and operational costs, increased effects associated with the spread of the same amount of overburden over multiple sites as opposed to long term concentration on a single site.

Of all of the options considered by the Company, the Pegram Block was the only option that met all of the criteria and is considered to be the only viable/feasible option available at this time. GBCW owns the land, can accommodate disposal of overburden on the site in the quantities needed and reports in the AEE have demonstrated that it is possible to keep any adverse effects to a minimum. The site can be internally accessed from Otaika Quarry in terms of keeping transportation costs low and avoiding wider traffic network effects associated with heavy vehicles used for the transportation of overburden. Its location enables overburden disposal to be carried out in efficient campaigns and initial assessments indicated that adverse effects could be kept to acceptable levels due to the size of the site.

Method of placement

In terms of other ways of carrying out the activity on the Pegram Block, due to the nature of overburden placement, there are very few alternative methods/means of placing the material on the Pegram Block. GBCW has adapted its method of undertaking overburden placement from its extensive experience of placing overburden at Otaika Quarry and at its other quarries all around New Zealand, these have been further tailored to suit the characteristics of the proposed site. During the scoping and design stage of the project, GBCW considered several footprint designs and detailed technical feedback was provided from GBCW's experts and parties consulted in terms of how the project could best be designed to avoid, remedy or mitigate the effects to an acceptable level. These have been incorporated into the proposed design and suggested conditions of consent.

GBCW trust this provides Council with a better understanding of the difficulties of finding a suitable site for overburden disposal and the very limited options available to the Company.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Chris Edmonds', written in a cursive style.

CHRIS EDMONDS

GBC Winstone Northern Operations Manger