Linton Quarry Overview

Company Background

Hirock is a fully owned subsidiary of Higgins Family Holdings Ltd, we are a Palmerston North based business which encompasses Property Development, Concrete manufacture and delivery, Dairy Farming and Quarry operations and was originally started in 1958 as Dan Higgins and Son.

Hirock is the quarry arm of the business and operates 6 hard rock or alluvial quarries in the Wellington, Tararua, Hawkes Bay and Manawatū regions employing 50 odd site staff. Most of these quarries integrate with product sold into our concrete business, the quarries have specialty products and general aggregates for the local markets and client base.

History

An arm of Higgins Group Holdings - Higgins Aggregates acquired the Linton Quarry in 2014 when the then owner Infracon was liquidated by its then shareholders (Tararua and Central Hawkes Bay District Councils), it was subsequently sold to Winstone Aggregates in 2016 when Higgins Group Holdings and associated businesses were purchased by Fletcher Building.

During the 2-year period Higgins Aggregates owned the quarry it was identified the consent was in need of updating and a process was about to begin, it was slowed somewhat by the lack of information and systems of the former owners to get exact facts during that time.

An opportunity arose in August 2020 and Hirock purchased the Linton quarry off Winstone Aggregates (Fletcher Building), at that time it was identified that the resource consent for the quarry had not been updated, this is when the current consent process commenced.

The quarry land is owned by the Tootell Family, at the finish of the quarry life the site will be remediated and handed back to the Tootells, from what I understand they owned a larger parcel of land from which the Quarry was subdivided from. The quarry was originally started in the late 1990's by Alan Brownell and Tararua Roading which then morphed into Infracon Ltd, this is when the current consent was applied for and granted, my understanding is those companies like ours operated on a royalty agreement with the Tootell Family for product sold.

Quarry Operations

The Linton Quarry is different to our other aggregate sites where it is a hard rock quarry and specializes in what is called armor rock, this makes the quarry unique and an essential product supplier to the wider infrastructure and construction industry.

Most other quarry sites in the lower North Island are alluvial or what we call river-based sites, mainly extracting from land-based sites as the extraction from the rivers itself has been banned by regional councils unless there is a need for what they call river management.

Another unique fact about the Linton Quarry is it goes down and creates a hole, most other hard rock quarries extract horizontally and form benches, at Linton we extract down and form benches rather like an ice cream cone shape, ultimately the area at the bottom is too small to extract.

At the start of the process the overburden is removed and placed in the onsite fill areas, the blue hard rock is exposed, the seam of blue rock doesn't cover the footprint of the quarry, it is a narrow seam which varies in width, quality and depth within the site. Some use of explosives to loosen the product is used when the excavators are unable to rip the material, the pattern for the explosives and extraction process is formed depending on the client orders and product size requirements.

Product size for the armor rock varies from 200 mm up to 3 mts in diameter, these rocks are constantly in demand from regional councils and major projects around the bottom half of the North Island.

The rocks are used for flood protection and remediation works in rivers, streams, and embankments. As has been seen recently in the East Coast region the rivers and water ways will need to be upgraded or even placed back in their original position, this type of rock is ideal for this work and that's why this type of quarry is essential to the country's infrastructure and given its location has lower carbon footprint and out turn costs for the clients.

The main customers who we have constant supply requests for the armor rock are; Greater Wellington Regional Council for ongoing flood protection works in the Otaki and Hutt rivers, and also the upper reaches of the Tauherenikau River near Featherston, horizons regional council use the rock for flood protection works on the Manawatū and Oroua rivers, NZTA / Waka Kotahi for major projects such as Transmission Gully, M2PP and PP2O expressways, and general stormwater flood protection of state highway road bridges and water courses on the roading network. A local project being the Manawatū Gorge replacement highway is requiring large quantities of rock for water protection works, currently this is being transported from the Taranaki or Bay of Plenty regions so the project can complete works, they are hopeful we gain consent as the costs of this product are exceeding the costs allowed which effects the overall budget of the project.

We are also having enquiries from the Hawkes Bay Regional council, and local authorities in the Hawke's Bay for our hard rock products for water management and replacement work since the flood event earlier this year, there local rock supply has been exhausted and the limestone rock which is available doesn't have the hardness, density or resilience of the Linton rock to withstand the water flows over long periods.

Other projects we haven't been able to commit to have been the Riverlink project on the Hutt River, which is due to start later this year, and also the new cycleways from Ngauranga to Petone and also the Eastbourne cycleway, both of these projects are now receiving rock from Motueka in the Tasman Bay region, the rock is being barged to the Wellington Harbour when sea conditions allow.

Our smaller blue type rocks which aren't large enough for the above work are crushed into railway ballast for Kiwirail, this product is transported from Linton Quarry to sites in the Manawatū, Whanganui, Taranaki, Hawke's Bay and Wairarapa regions as required for railway track repairs. The product specification for Kiwirail is hard to manufacture, the Linton Quarry being the only source locally where it can be made due to the rock type.

The undersized or smaller by product type material that is left over from the above processes when it is extracted from the pit is manufactured into lower grade aggregates which is used predominantly in the general construction market in the Palmerston North area for new house floor foundations, driveways, commercial developments, and the like. Recently this lower grade product was used for roading at the Tararua Windfarm project. Due to the high clay percentage of this overburden type product, it cannot be used on local or highway roading projects as it doesn't meet the M4 NZTA specifications.

We do have occasional sales for the top layer of stripped over burden which is a high clay type material, this gets brought by local contractors to use as a fill material where the site needs raising, clients who take this are Massey University and other larger building projects, the only other option is raw river material, this is not available in the quantities usually required and is cost prohibitive due to the shortage of the product as Horizons Regional Council has allocation restrictions on all rivers.

This overburden material is sometimes used by Horizons Regional Council for flood protection work where they need to raise or repair stop banks adjacent to waterways, due to the high clay content it is ideal as it compacts down well and has a high resistance to water penetration.

The nearest other sources from the Linton quarry for supply of armor rock are in the Taranaki Area at the mountain base, the Whakatane area where Horizons are currently receiving product from and the Wairoa/Gisborne area where there are small sites of Limestone rock, the Lime rock does not have the solid density requirements for major flood events, with the rock unavailable from Linton Quarry due to existing consent restrictions, the rock availability has been depleted significantly from these sites and the long term availability is in question. Other sources should these not be available are even further away in the Auckland and northern Waikato Regions.

Environmental and Social Considerations

As a comparison on Co2 carbon footprint and increased cost:

Carting a 25ton load of Armor rock from New Plymouth to the Manawatū Gorge Project (Te Ahu a Turanga) produces

- 951kg of Co2 at a cost of $306 per ton compared to 209 kg of Co2 and $130 a ton cost from Linton Quarry.
- This is an increase of 355 % in Co2 emissions and 135 % increase in cost.

The distance to cart product is critical to make projects and site remediation financially viable for infrastructure and flood protection, all projects now have requirements to meet specific Co2 levels to minimize carbon emissions. These requirements start at the quarry and end at job completion, and are covered by equipment age and type, load size for cartage and automation of equipment to speed up placing or extraction processes.

Socio-economics - One of the most visible economic impacts of Linton quarrying operations on the community is the employment that it generates. At Linton we have on site team of about 10 employees depending on product demand, they range from machine Operators, Admin, and Management, we also have a team of 3 people off site in our Main office taking care of financials and customer care. The larger impact of job creation is due to the unique product we deliver, our customers and their workforce range from Horizons Regional Council, Tararua District Council, Greater Wellington Regional Council and all their flood protection teams, Linton has also been an integral part in all the Major Windfarm Projects surrounding Palmerston North.

The day-to-day client base reliance for staff employment could be as high as 200 people managing, placing, carting and handling the product daily. These clients range from small site works type contractors to the larger project type work and river protection.

As part of Hirock's strategic resource management plan we have by means of iwi engagement and professional industry consultants identified how we could enhance the quarry's biodiversity by on-going protection of the native forest as well as a 1 to 10 offset planting in the stream to the North of the site where we will establish a new Nikau Palm Forest. We will also be upgrading the existing

Erosion and Sediment Control Pond to improve the quality of the stormwater discharge. On-going dust management as well as improvements to the Kendalls Line road surface and providing a limestone walkway to allow safe pedestrian access along Kendalls Line has been a substantial focus of our work following initial discussions with neighbours.

Hirock has a signed MOU with the PNCC for the on-going maintenance of Kendalls Line, the road surface has recently been laser profiled and benchmarked following the latest road repairs and reseal to the Kendalls Line carried out by PNCC's contractor earlier this year, and we have agreed to carryout annual road condition surveys so PNCC can ensure that any future damage to the road is repaired in a timely manner. The MOU also states Hirock will contribute to some of the costs associated with the road repairs and maintenance while the quarry is in operation but excludes periods when the forestry trucks are using the road. The road maintenance and repairs are all managed through the PNCC roading department and their nominated road maintenance contractor. This MOU should ensure Kendalls Line is kept in a better condition than it has been in the past, the issues that were experienced causing noise, dust and vibration should now be dealt with sooner.

Higgins Family Holdings have a great relationship with Rangitāne iwi, whether they are quarry, farm or commercial developments in the Manawatū they support us to achieve environmental and social outcomes, we are also an employer of choice for their younger iwi members who are seeking job opportunities or cadetships. At the Kendalls Line quarry we have agreed initiatives with their environmental team on developing a closure plan for the quarry, protection of the native forest remnant and the restoration planting of the stream, they have also supported us with the removal of seeds from the Nikau Palm trees and the planting of these seeds adjacent to the stream.

Higgins Family Holdings are a proud business which has been integral to the development of the local region since 1958, we pride ourselves on being a supporter of the local commerce, community and city organisations and events. We always ensure we are complying and at the forefront of innovation for the benefit of the region.

Conclusion

Aggregate is an essential commodity in New Zealand, everyone uses it from grandma in the back garden to all building and roading infrastructure works, playgrounds, footpaths and the list goes on, in fact per head of population every New Zealander uses 7.1 ton of aggregate per year, the average in the USA is 9.7 ton per head per year.

If we don't gain consent for increased truck movements and volumes the viability of the quarry is marginal, this will result in all the rock requirements mentioned above having to be transported from outside the region at an ever-increasing cost to the rate payers in that region. We will have to consider the working life of the quarry and remediation options along with job losses or total closure if we are not successful in our consent application for the increase in vehicle movements and production above what we have at present.