From:	[redacted]
To:	Hearings
Cc:	submissions@golder.co.nz
Subject:	Notifications Consent Submission: Group 422
Date:	Monday, 3 June 2019 8:28:23 PM
Attachments:	MJFQuarrySubmission-v1.0-d20190603.docx

Group ID: 422

Consent name: Fulton Hogan - Roydon Quarry

Consent number: CRC192408, CRC192409, CRC192410, CRC192411, CRC192412, CRC192413, CRC192414, RC185627

Name: Martin Flanagan

Care of:

[redacted]

Contact by email: Yes

Is a trade competitor: No

Directly affected: Yes

Consent support/hearing details

- CRC192408: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192409: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192410: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192411: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192412: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192413: oppose | WANT to be heard | WILL consider a joint hearing
- CRC192414: oppose | WANT to be heard | WILL consider a joint hearing
- RC185627: oppose | WANT to be heard | WILL consider a joint hearing

Reasons comment:
I live near the proposed quarry and will be unacceptably impacted from significant adverse effects on local amenity, traffic, noise, air quality, ground water, health, and remediation. Also, the economic benefit to Christchurch does not justify the impact of the quarry on the large number of people in the local community with cumulative effects from multiple issues over a long period of time.

Consent comment:
The applications should be refused. If the application is not refused conditions will be sought local amenity, traffic, noise, air quality, ground water, health, and remediation.

Fulton Hogan - Templeton Quarry Submission

Martin Flanagan
June 2019

1 About me

I live near Templeton with a rural aspect all around the house. My family and I moved here from Christchurch for that rural feel, to a place with less congestion, cleaner air, and less noise. We found that and more, but the proposed Templeton Quarry will change all that significantly. Even the proposal has changed our lives with concern about the impact on our lives since the announcement.

I am a manager in a local company in the Health Sector; my role is focused on business planning, project management and performance improvement. My work background includes structural engineering, civil engineering construction, business casing significant engineering and business projects. I have a Civil Engineering degree from Canterbury University and an MBA from Cranfield University (UK).

2 Summary of submission

The Fulton Hogan Application for the Templeton Quarry must be denied as it fails to:

- justify the need for the gravel in Christchurch; and
- does not demonstrate a sufficient economic benefit to the community;

while significantly impacting people living near the site, while:

- ignoring the impact to majority of people who live close by;
- understating the impact to those people living closest to the site; and
- where acknowledging there is greater impact, obfuscating and understating the impact with language designed to confuse.

If approved, the quarry will adversely impact thousands of people, over a number of decades, with an accumulation of effects, which are “more than minor”. The application should be refused.

3 Introduction

The proposed quarry will significantly change the amenity for those living near the site (I live about 1500m from the site boundary), but also for those living further away affected by quarry generated traffic. The proposed site for the quarry impacts more than 2,000 people (2013 census put the population of Templeton at 1800) in an area zoned urban rural fringe. We, like most people who live in this area, were looking for a rural aspect close to the city.

The proposed Fulton Hogan quarry is an industrial activity, which creates significant long-term impacts on visual and local character, air pollution, land contamination, noise pollution, traffic, ground water pollution, people’s physical and mental health, and leaves a permanent impact after the quarries end of operation.

The large number of people impacted, and the scale and duration of the impacts means that the quarry application needs to clearly demonstrate that the overall benefit of this site to the Christchurch community justifies the impact to those people living near the site. This application does not achieve that level of justification.

4 Key issues

Key issues that warrant the application to be refused are:

4.1 Demand and supply of gravel

The application reports appear to overstate Christchurch's future demand for gravel and understate its current gravel capacity to fulfil that demand. The combination of these two factors reduces both the need for and benefit of the proposed quarry to Christchurch.

The application's economic assessment in Appendix J appears to have a number of gaps and unjustified assumptions that combined lead to:

- an overstatement of future gravel demand;
- an understatement of currently consented gravel capacity; and
- unclear economic benefits for this site when compared to sites with lesser impacts.

4.1.1 Future gravel demand

The economic assessment states future gravel demand is based on evidence from Mr Richard English in October 2015. Mr English has been providing advice and evidence quantifying future gravel demand and gravel capacity in Canterbury since 2007. His reports have been used in many quarry applications by various companies since 2014. The 2015 English report has a number of unjustified assumptions that appears to significantly overstate future gravel demand and leads to the overstatement of the gap between future demand and supply.

Key issues that warrant a new demand assessment are:

1. The English report uses a number of assumptions that seem to overstate the growth in demand for gravel for Christchurch. These assumptions include:
    - Post-earthquake gravel use at almost twice the pre-earthquake level.
    - Subsequent growth in gravel demand starting at 4.5% and while reducing over time, is significantly higher than expected population or GDP growth over the same period.
    - These and other assumptions are not justified anywhere in the report nor verified with any independent references.

    The assumptions create very large forecast demand for Christchurch by the year 2041:
    - Total gravel demand forecast is 5.5m tonnes per year almost double the 2010 pre-earthquake level of 2.5-3m tonnes per year; a forecast for Wellington gravel demand by Spire consulting forecasts significantly lower levels of growth for that city.
    - Gravel use per head of population forecast in the report is 12.5 tonnes per person per year; my research has found no jurisdiction in the world using or forecasting gravel usage at this level. (Current/forecast usage include: NZ 8 tonnes; EU 6 tonnes; California 9 tonnes).
2. Many one-off usage estimates in the report can be removed from the forecast as they have now occurred in the 4 years since the report was completed. These include high earthquake repair demand and special projects such as the northern and southern motorways.

Changes to the forecast assumptions to those used in other jurisdictions would reduce the total gravel demand over the period to 2041 by 10's of millions on tonnes. A reduction of that magnitude would put the need for a new quarry in Christchurch back by decades.

4.1.2 Current Gravel Supply

The economic assessment states that since the English report 'I am aware of only two quarries that have been established in the Greater Christchurch sub-region …'. The report then ignores the increase to the total gravel supply for Christchurch of those two quarries and ignores completely other quarries that have been consented but not established. Not taking into account the increase in gravel supply since 2015 significantly understates the future gravel supply and leads to an overstatement of the gap between future demand and supply.

The applicant should provide an:

- *an up-to-date, independent, and bottom-up assessment of future gravel demand for Christchurch for 2020 onwards.*
- *an up-to-date, independent current assessment of the total consented gravel supply in Canterbury.*
- *an assessment of the gap between demand and supply and the actual need for a new quarry for Christchurch.*

4.2 Economic Benefit

The Economic assessment discusses a range of economic benefits of a quarry. These benefits can only be realised if there is a real gap in demand and capacity; developing a quarry that is not required is a cost to the community and has no benefit.

The benefits of a quarry outlined in the Economic Assessment report (low cost extraction, jobs, etc.) are the same whatever the quarry site location. The only differentiating factor for this application on this site is the lower cost of transport. The Economic assessment does not quantity this benefit, but tries to indicate they are significant by discussing generic benefits of low transport costs. The economic benefits should be clearly stated for this project only.

4.2.1 Transport costs

The report states 'As an approximate rule of thumb the cost of a truckload of aggregate doubles if it needs to be transported 30 kms from its source of supply'. The report also goes on to state that Christchurch has a comparative advantage from lower cost aggregate of $167.5 million dollars per year. All the statements in the report are general statements about the gravel industry and the Christchurch gravel market.

There is general statement of benefit taken from the English report that states if all the shortfall in gravel where to be transported an additional 15 km the cost over the 25 years of the assessment would approach a total of $200 million. This is meaningless as a benefit for this site. It is also overstated if the volume of the estimated volume of gravel to be transported is also overstated, as discussed in the section above.

The economic assessment should quantify the actual benefit for this site, 20km from the centre of Christchurch compared to a site at 30 km and at 40kms from the city centre. That would clearly state actual economic benefit of this site. The applicant should easily be able to do this analysis as they have will have full actual transport cost data available within their company.

The applicant should demonstrate:

- *An actual comparison of transport cost benefit comparing this site at 20 km to one at 30km and one at 40km.*
- *The actual level of economic benefit to the Christchurch economy of this site to one further from the city centre.*

4.3 Amenity

We moved to this area 2 years ago to be in a rural area, out of the City but within easy access. We knew about the quarry zone to the north, but felt that it was sufficiently far away. Also, that the ownership of land (Department of Corrections) and size of properties meant that extension of quarrying south of State Highway 73 was unlikely. No one wants to live near a quarry in Christchurch as their operational reputation is very poor.

We were looking for a rural setting, with clean air and was quiet, and that is what we have. The proposed Templeton Quarry will impact all aspects of our current lifestyle in the same way quarries in Yaldhurst impact their neighbours and people:

- Views across open land to the Alps being closed off with bunds and trees.
- Views into the industrial deserts that are the base level of quarries.
- Dust blowing over the boundaries to neighbouring properties and roads.
- Noise of operation from truck movements often on rural back roads.
- Stress of worrying about the impact of a quarry on our lifestyle and the value of our property.

These are exacerbated by the extreme operating conditions that Fulton Hogan has proposed:

- Large open operational areas.
- 24 hour operations for most of the week.
- Inadequate monitoring, mitigations and protections for local people.

The proposed quarry, if approved will change this area forever, leaving an impact on the landscape and community long after Fulton Hogan gone. The impact on the amenity is significant and cannot be mitigated.

4.4 Traffic

The transport report focuses mainly on explaining that most trucks will go onto State Highway One (SH1) and hence will have little impact on the local community. However, the traffic model appears to be very simple and does not reflect all the trip types nor reflect the decisions that actual truck drivers may make in actual traffic conditions.

Issues not assessed:

- Turning left onto SW1 at the Dawsons Road roundabout will be difficult in the morning with rush hour traffic going into Christchurch. The Southern motorway is stated to take 50% of the current traffic from SW1, but 50% going into the roundabout is still a significant volume. Making a left hand turn will difficult with mainly north and south bound traffic only entering the roundabout. This is likely to lead to queues to turn left and with only sufficient room for two truck and trailer units to queue between SW1 and the railway line. If there is such a queue to turn onto SW1 many truck drivers may make the decision to continue down Jones Road and through Templeton.
- The road safety implications of trucks queueing back into the SW1 roundabout do not appear to be adequately addressed.

- There are currently 24 trains a day closing the road for about a minute each time. Each time a truck leaves the quarry and reaches the intersection when there is a train there is a likelihood many truck drivers may make the decision to continue down Jones Road and through Templeton.
- Currently SW1 traffic queue back from the intersection at Pound Road and Gravel trucks working on the new motorway are observed coming off SW1 and going down Jones Road, possibly to avoid waiting in the SW1 queue. This observed behaviour makes it more likely drivers with a perceived delay will choose an alternative route.
- It is likely a lot of truck will shortcut via Jones Road. If 5% of drivers decide to use Jones road each day it result in an increase of an additional 40 truck movements through Templeton.
- Traffic assessments only seem to allow for movement to and from delivery sites they do not allow for other movements that may put more truck traffic down the narrow rural roads. These movements include trucks travel from home to the quarry and for trucks moving between quarries especially to the Fulton Hogan quarries in Yauldhurst and Pound Road.
    - At my home the first empty quarry truck can drive past at 4.30 a.m. An empty quarry truck has a noise volume of 80dB, the same as an alarm clock. Truck drivers who take their trucks home drive from all over Christchurch, at all hours, impacting significant numbers of people all along their routes.
    - The local rural roads are not safe for trucks of this size. Dawsons Road has 3m wide lanes with no hard shoulder. Large trucks on these roads are a health and safety risk, especially when two are meet going in opposite directions. A gravel truck on Newtons Road between Dawsons and Kirks road is significantly less safe with lane widths of 2.5 m.
    - Trucks damage these local roads; they are not designed to carry the axle loads of gravel trucks. When Kirks Road was closed for a new sewer line this year the trucks detouring via Newton and Dawsons road caused significant damage to the tarmac at the intersection require multiple calls for repairs to by the council to maintain the safety of the intersection.
- All of the above issues will get worse as traffic volume continue to increase over time.

All of the above issues occur well beyond the boundary of the quarry, impact thousands of people and with the proposed hours will do so 24 hours a day for most of the year. None of which is a minor impact.

The applicant should assess the:

- *Likelihood and impact of trucks drivers deciding it would be quicker to use Jones Road and the subsequent impact on the people of Templeton on amenity, safety, noise, dust, and health.*
- *Likelihood and safety implications of the SW1 roundabout from trucks queueing in the north and southbound lanes when a train causes a queue. Verified by NZTA.*
- *Volume, timing and impact of trucks travelling for all reasons other than delivery of gravel; especially not on SW1; For example, empty trucks driving from their homes to the quarry in early morning or trucks moving between quarries.*
- *Legal options that will prevent gravel trucks using local roads rather than merely trying to influence driver behaviour.*
- *How to ensure monitor and ensure compliance given the number of trucks movements, the number of companies, the number of drivers and requirement for evidence.*

4.5 Noise

Industrial noise added into a rural setting can have a significant impact on the lives of people living nearby. Beyond the quarry site the key noise impact is gravel trucks on rural roads especially at night.

- Is the noise levels calculated in the Acoustic Report the total noise (current noise plus quarry additional) received by people? Current background noise is already at recommended maximums for health impacts.
    - The noise limits recommended by the WHO and Council guidance is the limit a person should experience so as not to be suffering health effects.
    - Current noise levels measured in the report show daytime average noise levels of over 50 dB, night-time average noise levels of over 40 dB and day and night peaks about 65 dBs.
    - Local District Plans recommend daytime noise under 55 dB; night-time noise under 45; and night-time peak under 70 dB (well above current WHO recommendation of 60 dB).
- The Acoustic report states that it assumes that night trucks on rural roads will bel be prohibited. How is it to be prohibited? It is not clear where this assumption is stated.
- The Acoustic report states on page 61 “As there are so few proposed quarry truck movements on local roads …, there will be not be any notable increase in the frequency of maximum Lmax noise events.” This is incorrect; I live on a local road and every additional truck movement at night at 80 dB wakes me up, affecting my family’s sleep and health.
- The noise of these trucks should be assessed especially for the impact of late night and early morning truck movements. Truck noise at 80 dB at 10 metre is well above recommended night-time noise limits of 70 dB (WHO states 60 dB). One truck shortcutting Jones Road at 3.00 a.m. at 80 dB will likely wake every resident on that road and then have the same impact along Waterloo Road.
- How many quarries in Canterbury are currently allowed to work 24 hours per day 7 days a week for a third of the year; 24 hours per day for 6 days per year for half the year? It seems to be unprecedented.

The applicant should assess the:

- *The impact of truck noise based on the reassessed truck movement on rural roads.*
- *Confirm noise levels are the total noise at the site not just the quarry generated noise.*
- Reassess the impact of a late night truck on people who live on rural roads.

4.6 Air quality and dust

The dust report ignores, without justification, any impact beyond 500m. It seems to assume no dust will go beyond this arbitrary limit. However, there is no question that dust can travel much further than 500m and that that dust has the potential for nuisance to all people and create health issues to vulnerable people. The report uses language that is difficult for the lay person to understand the impact on them, especially for people living close to the site.

Impacts not assessed:

- A dust and air pollution expert can assess the level of dust but they are not experts in Health. Assessing health effects based on 24 hour averages when later evidence states the dust will be raised to in short wind period. The health effects should also be assessed for breathing in the maximum short term dust levels

- The report evidence for health impact is based on an Ecan Media release: 'This was reflected in the Ecan media release7 that quoted the CDHB Medical Officer of Health stating the following: "Overall, the results show there is no serious public health risk to Yaldhurst residents from airborne dust"'

  The health assessment for this quarry should be better than quoting a media release for another quarry and extrapolating the result. The health assessment should be a report on the impact of this quarry on these local people from a qualified health professional.

- The dust report states that "EPA Victoria (2013) includes a separation distance of 500 m where quarrying is undertaken for aggregate containing crystalline silica." Then dismisses this as confusing, the statement seems clear and indicates a significant health risk is trying to be managed.
- Impacts on people living close the site are discussed and the impact on these people is more than minor and the proposed mitigations are not quantified in their effectiveness. Without quantification it cannot be shown the mitigation is effective and if the consent is given on this basis those living close will have a major impact with quarry able to say they have done all they can.
    - Frequency of dust events should be stated as a number of events per year not as a percentage. The percentage looks small however these are made up of many short term events and the estimated actual number should be stated.
    - Intensity section does not discuss the dust intensity people will receive, this needs to be assessed not ignored
    - Duration shows the events will be short, but it is this evidence that suggests the % frequency will translate into a large number of events
    - Offensiveness suggests it will be no more offensive than current dust levels. The offensiveness of the increased frequency and intensity of dust, not the generic offensiveness of dust
- The report states that mitigation will be required during but does not provide any evidence that the mitigations will be sufficient to reduce the impact to minor.

The applicant should assess the:

- *Nuisance impact for dust for the thousands of people who live further than 500m so that they can understand in plain English the impact on their lives from dust; i.e. do they need to close windows on hot windy days, or have to wash their houses more often, or have to rewash clothes drying outside.*
- *Frequency of excessive dust events in plain English with and without the stated mitigations. For example: one hour averages are pointless evidence when the impact is a 20 minute dust storm. The events should be stated as events per week or month.*
- *Level of dust reduction of the proposed mitigations in plain English, so people can understand if it will make an actual difference to dust levels or is it simply doing something but will have no real effect on the dust impact.*
- *Health impact on local people by this proposed quarry, written by a respiratory medical professional; especially from high short duration exposures.*
- *Current overseas quarry best practice dust monitoring and control as a comparison to the current proposals and justify why they think these practices are not a reasonable expectation of a proposed quarry so close to a large population.*
- *Impact of dust from trucks on traffic, cyclist and pedestrian safety on Jones Road.*

- *Victoria EPAs interpretation of their guidelines for dust in quarries especially with Crystalline Silica, as the writer of the report finds their guidance confusing.*

4.7 Ground water

My water comes from a bore and I am very concerned about the potential contamination of my drinking water from fine particles, fuel spills, and contaminated fill.

The clean fill (described in the draft clean fill management plan) will be deposited in a manner that encourages free draining storm water runoff in the permeable ground (as described in the remediation report). This means that if the fill is not clean that water will permeate through and potentially move any contaminants present into the ground water. This should mean that the clean fill monitoring should be rigorous to prevent future ground water contamination.

The draft clean fill management plan is not rigorous:

- How can contaminated soils be identified visually?
- How is the source site of materials communicated and confirmed not to have come from a site on the Listed Land Use Register or a Hazardous Activities and Industries List? A declaration by the driver does not seem adequate.
- The clean-up of spills states the site shall be cleaned, it does not state the contaminated material should be removed from site. Spilt fuel in soil cannot be cleaned it should be removed from the site.

The draft cleanfill plan states that the clean fill should be deposited one metre above ground water, presumably to ensure the fill never comes into contact with the water table. However, the ground water level analysis is done over a very short very recent history of bore levels. No analysis has been done on whether the recent levels are normal, high or low to historic levels. No analysis has been done to look at potential future ground water levels with changes in irrigation practice (e.g. impact of the central plains water scheme); or from changes in rainfall and aquifer recharge associated with climate change; or from changes in sea level associated with climate change. All these could increase the level of the water table by over 1m over the next 50 years or beyond.

The applicant should demonstrate/assess:

- *The estimated maximum future ground water level over the next 50 and 100 years.*
- *Provide a more rigorous method to ensure clean fill is not contaminated.*

4.8 Remediation

Remediation will never return the site to its previous state. After the quarry is closed there will always be a 170 hectare hole in the ground. That hole will remain an impact on the community in perpetuity.

The proposal is not clear about the use of the site at the end of live of the quarry. The draft plans conditions are loose and contradictory. In its current form this creates a high risk that rehabilitation will not occur until the end of the quarry's life, which is the current practice in Christchurch quarries.

- The rehabilitation objectives do not cover clearly:
  - the form of rehabilitation
  - the maintenance of rehabilitated areas e.g. the control of animal and plant pests happens during rehabilitations works, but not after the rehabilitation works are complete

    - timing for rehabilitation to minimise open areas to those stated elsewhere in the application
- The objective to reduce the footprint of open area as far as practicable is a 'get out of jail free' statement that could allow no rehabilitation, as it is never practable.
- Cleanfill operations state cleanfill deposited could be reused, how will it be stored (stockpiled) or will it be used for fill under rehabilitated land but may dug up and removed?
- The rate of rehabilitation is not clear, the report states rehabilitation will take place as sufficient clean fill becomes available this is too open ended with low levels of clean fill could allow large areas to remain open.
- Is there allowance for sufficient in-situ material maintained to allow battering of slopes if there is insufficient cleanfill for battering?
- Rehabilitation time scale should be in smaller staged areas and over shorter periods that the stated 5 phases. The phased description leaves the risk of 36 hectares open at one time.
- If approved the consent should state the end use, firstly for certainty for all parties, secondly to allow rehabilitation to work towards that goal from the start.

The applicant should clarify:

- *Clarify the time of rehabilitation with a guaranteed timing or maximum open quarry.*
- *What is the phasing of bunds are they built and removed in the same phasing as the quarry development and rehabilitation? Are bunds more effective closer to the noise source, rather than 100s of metres away at the boundary?*
- *Will the bunds be removed during rehabilitation?*
- *Is planting in front of the bunds so mature trees are not affected by bund removal?*
- *Agree with the community the form of rehabilitation prior to any consent being granted.*