FILE: 2026
(02 – 04)
Transfer

Resource Consent

Document Date: 12.04.2019

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the council") does hereby grant a Resource Consent to:

VENTIA NZ OPERATIONS LIMITED

To undertake the following activities at Puketona Quarry on Sec 3 SO 449324, Lot 1 DP 62723, and Pt OLC 59 Blk VI Kawakawa SD, State Highway 11, Puketona, within the catchment of Waitangi River, at or about location co-ordinates 1689480E 6093000N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

Land Use Consent:

AUT.002026.02.03 Extract rock and remove and place overburden.

Discharge Permit:

AUT.002026.03.03 Discharge stormwater to land and water from land disturbance activities.

Water Permit:

AUT.002026.04.03 Divert stormwater associated with land disturbance activities.

Subject to the following conditions:

1 The Consent Holder shall undertake the works in general accordance with the **attached** Quarry Management Plan (QMP) entitled: *"Puketona Quarry State Highway 11, Bay of Islands"*; dated 2016; including Appendix 13.3 – Extraction Plan and Appendix 13.4 – Water Management Plan.

2 The Consent Holder shall review and amend the QMP in consultation with the Council's assigned monitoring officer at not less than ten yearly intervals from the commencement of these consents, and at any other time when major changes to operational activities takes place at the quarry during the period of the consents.

3 No new quarrying extraction shall take place within 20 metres of the perimeter boundary of Sec 3 SO 449324, or any Mineral Zone boundary identified in the Far North District Plan. Earthworks within this setback distance may occur only for the purpose of undertaking remedial land stabilisation works.

4 No overburden removal operations shall be carried out between 1 May and 30 September in any year without the prior written approval of the Council's Compliance Manager.

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

5 All stormwater runoff from the quarry site and overburden disposal area(s) shall be diverted into sediment detention ponds prior to being discharged from the site.

6 Soil, vegetation, debris and detritus shall not be placed in a position where it may enter the unnamed tributary of the Waitangi River.

7 To minimise sediment loss, all areas of overburden shall be topsoiled and established with suitable vegetation to achieve not less than an 80% ground cover by 31 May immediately following the earthworks season, or in accordance with any concessions granted in relation to Condition 4.

8 The exercise of these consents shall not cause any of the following effects on the water quality of the unnamed tributary of the Waitangi River, as measured at the downstream property boundary of the quarry:

(a) The level of suspended solids to exceed 100 grams per cubic metre;

(b) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials, nor emissions of objectionable odour;

(c) Any conspicuous change in the colour or visual clarity.

9 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

Advice Notes:

1 The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga.

2 Archaeological sites P05/212 and P05/213 are close to the quarry operations and no works are permitted that would adversely affect those features without authority from Heritage New Zealand Pouhere Taonga.

10 The Consent Holder shall, for the purposes of adequately monitoring the consent as required under Section 35 of the Act, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with this consent:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and

(b) Immediately notify the Council by telephone of an escape of contaminant; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(d) Report to the Council's Monitoring Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

With regard to telephone notification, during Council opening hours the Council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of Council opening hours, then the Environmental Hotline shall be contacted.

***Advice Note**:* *The Environmental Hotline is a 24 hour, 7 day a week, service that is free to call on 0800 504 639*

11 The Council may, in accordance with section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of May for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 30 APRIL 2051

This consent is granted this Seventeenth day of March 2017 under delegated authority from the Council by Paul Maxwell, Coastal and Works Consents Manger

Quarry Management Plan

Puketona Quarry
State Highway 11
Bay of Islands

2016

TABLE OF CONTENTS:

1.0 QUARRY MANAGEMENT PLAN

The purpose of the Quarry Management Plan (QMP) is to assist in the environmental management of the site. The plans are reviewed annually or earlier if required.

The QMP should be read in conjunction with relevant statutes, regulations, codes of practice, guidelines, standards and Broadspectrum Environmental Management Plan and operating procedures.

2.0 LOCATION & LEGAL DESCRIPTION

The quarry is located on State Highway 11 approximately three kilometres from Puketona Junction. The legal description is: Pts OLC 59 Pt Sec3 SO449324, Lot 1 DP 62723

3.0 MINERAL ZONE DESIGNATION

FNDC has designated the Puketona Quarry as being in a Mineral Zone.

The activities under those rules are summarised below.

#	RULE	ACTIVITY
8.8.5.1.4	**Setback from Boundaries** No building within 10 metres of a boundary No extraction within 20 metres of a boundary	Permitted Permitted
8.8.5.1.5	**Traffic Intensity** < 200 daily one way movements	Permitted
8.8.5.1.7	**Noise** 0700 to 2200 hours < 55 dBA L_{10} 2200 to 0700 hours < 45 dBA L_{10} < 70 dBA L_{max}	Permitted
8.8.5.1.8	**Blasting and Vibration** Peak particle velocity 95% compliant to 2 mm/s and 100% compliant to 10 mm/s Air overpressure < 120 dBC (peak)	Permitted

4.0 ENVIRONMENTAL EMERGENCIES

The site has an Environmental Emergency Action Plan which details what to do in the event of an environmental contamination.

In summary, in the event of an environmental contamination:

1. Firstly consider yours and others safety prior to taking action.
2. Then take action as necessary to stop and/or contain the contamination.
3. Take all reasonable steps to mitigate any adverse effects on the environment resulting from the contamination.
4. Contact the Quarry Manager
5. The Quarry Manager is to contact the Compliance & Training Team as soon as possible.
6. The Compliance & Training Team will ensure appropriate bodies have been contacted.

The following are **examples** of environmental events that must be reported on an Incident report form:

- Diesel or fuel oil spillages greater than 10 litres
- Diesel or fuel oil spillages of any quantity that ends up in a waterway
- Water discharges which exceed consented allowances
- Any other impact on the environment which would be considered significant.

5.0 ENVIRONMENTAL NON COMPLIANCE

All incidents of non compliance (including complaints) are to be recorded on an Incident report form and include the following information:

- Date and Time Complaint received
- Nature of complaint
- Complainant and contact details
- Actions taken to resolve complaint
- Date and time above taken
- Miscellaneous details

The Quarry Manager is to complete the form. Incident reports will be reviewed at the Management Review Meetings.

6.0 WATER MANAGEMENT

6.1 Potential Adverse Environmental Effects

The quarry is situated in the catchment area of the Waitangi Stream. There are no natural waterways through the site although discharge is consented and does occur into an unnamed tributary of the stream.

The discharge of sediment to watercourses and marine areas is known to result in adverse environmental effects. These adverse effects are not only on the immediate area where the discharge occurs but also on areas downstream. The cumulative effects of sediment

discharges can be wide reaching and significant. The effects of sediment discharges include:

- Smothering of aquatic life
- Loss of aquatic habitat
- Loss of food sources to aquatic life
- Fine sediment can cause damage to fish gills and mouths
- Cloudiness (turbidity) can increase stream temperatures and prevent aquatic life from being able to see food
- Damage to this section of the food chain affects all parts of the food chain
- Blocked culverts can cause flooding
- Sediments can accumulate in marinas, in channels and on beaches

See **Appendix 13.4 - Water Management Plan** for details of catchments, flow directions and site discharge points.

6.2 Mitigation Measures

There are two main aspects of water management on the site. One is the management of the "process" water and the other is managing the stormwater runoff.

6.2.1 Process Water Management:

Water is pumped from the settlement ponds and piped to the screening plant where it is sprayed onto the aggregate in the screening process to wash the coarse aggregate and separate the sand fraction off. The water containing the sand fraction is passed through a sand-screw de-waterer and the water and silt sized fraction is discharged into the silt settlement ponds. The primary separation of the silt and water occurs in the forebay, the water then flows over a level spreader and enters the first in a system of 5 ponds. The water recirculates through the pond system back to the pump inlet. Polydadmac flocculent is frequently used to speed up settlement of silts to assist pond management by retaining more solids in the forebay and to ensure the wash water is as clean as possible for the processing plant.
A recent change in pond cleaning methodology has been implemented,- in the past pond cleaning has been undertaken with excavator and trucks. From now on it is intended that (whenever practicable) the sludge will be pumped as required from the forebay so that the use of heavy equipment in the pond area is minimised, thereby decreasing risk, both environmental and safety, and decreasing the costs associated with handling semi-liquid sludge.

6.2.2 Stormwater Runoff Management:

The most significant impact on the water quality for the site is that of stormwater run-off due to the large catchment area of the site. The pond/wetland systems created on site for water treatment are not GD05 structures, however they are substantially larger than those referenced in GD05. Natural wetland vegetation is encouraged wherever possible, in some instances wetland species have been planted to act as natural pond baffles to slow flows and ensure maximum settlement of fine particles. Suspended solids tests undertaken following rain events shows the efficacy of the wetlands with test results always substantially below consent limits.

Stormwater runoff is directed into a number of silt ponds situated around the site. Suspended solids settle out in the ponds with the overflow water flowing into the final settlement ponds. A large marshy area within the extraction area further filters the water before discharging.

Bunding and contouring of haul roads and stripping areas ensure that any run off from exposed areas is contained within the catchment area and directed to the settlement ponds.

Small silt traps are created as needed around the site for the entrapment of unconsolidated silt. This also prevents the erosion and loss of soils.

Borrow areas and surplus fill disposal areas will be located and managed to avoid or minimise erosion of sediment into watercourses. All runoff shall be directed through silt ponds to reduce suspended solids discharge from the site. Silt fences are used if required.

6.3 Resource Consent Particulars:

The site has restrictions placed on the discharge of water as detailed in the Resource Consent CON20060202602, which states the following (abbreviated):

The discharge shall not cause the water quality of the receiving waters at a point 50 metres downstream of the discharge point to fall below the following limits:

a. *The pH of the water shall be within the range 6.5 – 9.0*
b. *The level of suspended solids is not to exceed 100 grams per cubic metre*
c. *There shall be no conspicuous oil or grease films, scums or foams, floatable or suspended materials or emissions of objectionable odour.*
d. *There shall be no destruction of natural aquatic life by reason of a concentration of a toxic substance.*

Quality checks on the suspended solids content of the discharging water is monitored and sampled by Broadspectrum employees and filed in the site office.

6.4 The Catchments

See **Appendix 13.4 Water Management Plan** for the catchment plan.

The site can be broadly divided into 4 main catchment areas with 4 discharge points.

6.4.1 Catchment 1:

This catchment includes the scoria pit, seal chip yards, washing settlement ponds, the washing plant, the stockyard, the Firth plant, MJC office and yard. The majority of this area has an unsealed aggregate surface, with some smaller high traffic areas concreted or sealed. All water in this area is directed to the settlement ponds which eventually discharge to the west of the property at Discharge Point 1.

6.4.2 Catchment 2:

This catchment includes the main extraction face together with the quarry floor. The top benches contain higher percentages of clay fines while the lower benches and floor are mainly unweathered rock. The upper benches have had the more highly weathered material removed, and the majority of this area is moderately weathered 'brown' rock, that is less erodible than the clay soils/overburden. The stormwater runoff is directed to the large pond in the floor. The runoff water from the main floor is then pumped to the large pond/wetland area for settling before being discharged at Discharge Point 2
The pond in the main floor has an (estimated) 300,000M3 storage capacity. Pumping of this water introduces another opportunity to manage sediment discharge by holding pumping if the sediment load is higher than acceptable.

The catchment also includes the surrounding area of the swamp and up to an including some of the old overburden tip on the eastern side of the quarry. The surface is a mixture of rock through to clay sized particles. All stormwater is directed to the central swamp.

6.4.3 Catchment 3:

This catchment includes the historic eastern overburden dump. There has been no placement of overburden for many years, and the overburden dump sites are vegetated at this time. The area is comprised of re-sown pasture and manuka and kanuka this is captured in two 35m x 12m ponds at the base of the hill. Water from the pond is then discharged at Discharge Point 3.

6.4.4 Catchment 4:

This catchment is the current dump area. It has a catchment area of approximately 4Ha
The area is separated from the clean water flow from the Area 2 ponds by clean water channel and bunds. The two flow paths meet at Discharge Point 2

6.5 Settlement Ponds

The settlement ponds have been designed utilising the Auckland Council Publication GD05 Erosion and Sediment Controls publication.

The dead storage of the ponds will be 30% of the volume. The ponds will be lined (where possible) with geotextile material to reduce the scour created by concentrated water flow. The discharge point from the settlement pond system will also be geotextile cloth as opposed to level spreaders.

Additional silt traps will be put in place prior to settlement ponds where large quantities of product are being moved by water.

The following are details of the catchment ponds for each of the catchments:

6.5.1 Catchment 1:

The catchment requires a holding capacity of 4,000 cubic metres. The pond/wetland system has a holding capacity of approximately 10,000 cubic metres which exceeds the requirement.

6.5.2 Catchment 2:

The requirement is 5,000 cubic metres. The swamp is 20,000 square metres x 1 which gives a holding capacity of 20,000 cubic metres which exceeds the requirement.
In addition to the swamp treatment area is the quarry floor itself which has the ability to hold more than 300,000 cubic metres

6.5.3 Catchment 3:

The catchment requires a holding capacity of 1800 cubic metres. The ponds have a holding capacity of approximately 1800 cubic metres which meets the requirement.
Note that there is currently no activity in this area, the area is vegetated and no overburden is placed here at the time of writing.

6.5.4 Catchment 4

The catchment requires a holding capacity of 1000 cubic metres. The pond has a holding capacity of approximately 1,600 cubic metres which exceeds the requirement.

6.6 Other Stormwater Control Runoff Devices

Refer to the Auckland Council Guidance Document 05 – Erosion and Sediment Controls

1. Earth Bunds (refer GD05 2.6)
   - Earth bunds are useful for both diverting run off and as a safety barrier to prevent vehicles driving over embankments.
   - The bunds are to be constructed out of impermeable material, dimensions of 1 metre by 1 metre with a flattened top e.g.

2. Runoff Diversion Channels (refer GD05 1.1)
   - These diversion channels will direct the water to more substantial watercourses and will prevent water scouring out slopes and increasing sediment loads
   - These channels should be scalloped out to a depth of at least 300mm, ideally with an excavator.

3. Rock Check Diversion Water Courses (refer to GD05 1.1, 1.4)
   - These diversion channels are similar to above but are lined with rock to reduce water velocities and therefore scouring
   - The channels should be at least 500mm deep and wide and should be lined with a gabion sized rock with a few large boulders placed in it as well.

6.7 Monitoring and Inspections

The monitoring and inspection of the erosion and sediment controls will be undertaken at a regular interval and after significant storm events. Main Haul roads are graded/maintained after every significant rainfall event to maintain a good trafficable surface, and prevent formation of water scour channels.

6.7.1 Monthly Inspections

Monthly inspections will verify that the approved controls are installed correctly and that they are operating efficiently. Any maintenance issues will be promptly actioned. Any minor adjustments to the Erosion and Sediment Control measures will be determined at this time.

Inspections take place on a monthly basis and after major storm events. Items inspected, among others, include:

- cut and fill batters for slumping
- decant facilities for malfunction
- integrity of flume and discharge culvert
- contour drain for blockage or scouring
- culverts for blockage
- silt pond for slumping or erosion
- earth bunding for scouring or slumping
- level of silt in ponds
- Scour at culvert outlet.
- culvert and grate drain blockage
- integrity of fuel storage bunding
- pumps for malfunction

6.7.2 Storm Events

Additional inspections will also be made prior to forecast heavy rain. After a storm event the control measures should be inspected to ensure that there is no damage, no improper discharge or that sediment loads do not exceed the consented volumes

6.7.3 Records

All inspections should be recorded in the site diary.

6.8 Maintenance

The maintenance of the erosion and sediment controls will be undertaken as required to ensure that at all times the installed controls comply with GD05. Typically the following timeframes will be followed:

- The removal of accumulated sediment within sediment retention devices will occur before the total storage volume of the device has been reduced by 20%. This accumulated sediment will be spread, dried and compacted into the fill disposal areas.
- Any perimeter controls (including ponds) requiring maintenance will be repaired immediately that the maintenance issue is found.
- Internal controls such as contour drains etc will be repaired prior to forecast rain.

- Any failure of controls as a result of, or during, rain events will be repaired as soon as is practical taking account of the location, nature of the failure and weather conditions.

6.9 Sampling and Testing

6.9.1 Sampling Locations

There are three sampling points for the site, as per consent they are 50m downstream of the discharge points. See Appendix 13.4 for discharge point locations. Sampling will take place approximately every three months unless there is a non-conforming result. Samples will only be taken after significant rainfall to ensure meaningful results.

6.9.2 Sampling Procedure:

1. Obtain 2 plastic sampling vessels between 300 and 600ml holding capacity.
2. Detail the following on the bottle:
    a. The site
    b. The date
    c. Previous period rainfall
    d. Sample point
    e. Sampled by.
3. Go to the designated sampling points as per above map.
4. Ensure that the sample is not contaminated by sediments from the stream floor when sampling
5. Forward the sample bottles to an IANZ laboratory

6.9.3 Testing:

1. Samples must be tested by an IANZ registered laboratory
2. Samples should be tested for suspended solids

6.9.4 Records:

1. Rainfall readings from the rain gauge are recorded on a daily basis when the site is manned.
2. Sampling details are to be recorded in the daily diary including dates, times, rainfall, who did samples, site conditions etc.
3. Sampling dates are to be recorded on monthly environmental checklist.
4. Results of tests are to be recorded in a file (or daily diary) and details added to the monthly environmental checklist.

7.0 DUST MANAGEMENT

There are two main issues relating to dust generation at the quarry although both are minimal due to the position of the quarry in the hills and away from the site boundaries.

The first is the visual perception of dust as a nuisance. The majority of the visible dust is generated through the production process or by the movement of vehicles within the quarry. The grain size of this material means that it does not travel very far and is in fact deposited

within 20 to 30 metres of the source as the distance of travel of fine particulate is inversely proportional to the grain size.

The second is described as fugitive dust emissions. This is the very fine particles that may not always be visible. This is often recognised as a light coating of dust on items at a distance from the dust source.

The generation of dust, or more specifically the deposition of this dust has a number of potential adverse environmental effects, generally these are of a nuisance nature and include:

- Contamination of drinking water supplies to nearby residents
- Nuisance effects such as dust indoors, dust on washing, dust on houses of nearby residents
- Traffic safety issues due to impaired visibility
- Damage to nearby watercourses and marine areas by the deposition of dust
- Damage to nearby flora

7.1 Mitigation Methods

1. Exposed surfaces should be minimised as much as possible with vegetation clearance only occurring when required.

2. Modify work practices if possible dependent upon wind direction

3. Use water carts or sprinklers to apply water.

4. Revegetate exposed surfaces where possible.

5. Use mist sprinklers on crushing and screening plants

6. Spray stockpiles with water to reduce fines being carried by the wind

7. Keep speeds lower in dry or windy conditions

7.2 Monitoring and Reporting

The generation of dust will be monitored continuously by site Operators who will determine the most appropriate measure available to minimise this dust.

All complaints regarding dust will be recorded on an Incident report form with a record of the wind direction, work location and nature and whether the compliant is a recurring complaint.

8.0 NOISE MANAGEMENT

Refer to Section 3.0 Mineral Zone Designation for noise levels

8.1 Mitigation Methods

1. Ensure activities do not exceed noise level and time designations specified by FNDC.

2. Haul roads and working areas to be located away from boundaries where possible.

3. All equipment to be fitted with the correct manufacturer's specified muffler systems.

4. Natural landforms, protective bunding and tree planting on the boundaries will limit noise.

5. Manage activity in accordance with weather conditions such as wind direction.

6. Enclose noisy plant items if possible e.g. pumps

7. Ensuring best practice blasting practices are used.

8.2 Blasting Activities

Blasting is undertaken by contractors yet remains under the management of the Quarry Manager, whom is a qualified Shot Firer. Blasting has the potential to cause both excessive noise as well as ground vibrations.

Blasting best practice should be used – which is too detailed to detail in the QMP. However this should ensure that the following are minimised as much as possible.

- Fly rock
- Noise
- Dust
- vibration

8.3 Monitoring and Reporting

The generation of noise (or vibration) will be monitored continuously by site Operators who will determine the most appropriate methods of reduction.

Noise or vibration monitoring can also be used as a method of determination whether the activities are within the permitted levels.

All complaints regarding noise or vibration will be recorded on an Incident report form with a record of the all the relevant details. This will be reviewed at the Quarry Management Meetings.

9.0 VEGETATION REMOVAL & VISUAL DISTURBANCE

The removal of vegetation can result in a number of adverse environmental effects. These effects include issues such as loss of habitat and aesthetic qualities; issues such as these have been addressed and mitigated by the consents granted and the design, including final revegetation and landscaping design.

The physical works involved in vegetation removal can also result in adverse environmental effects. These effects include:

- Damage to vegetation outside those areas to be cleared
- Damage to stream beds
- Washing of organic material into watercourses
- Disturbance of soil resulting in sediment discharge
- Dispersion of noxious weeds

9.1 Overburden / Vegetation Removal

One weeks notice in writing prior to any overburden removal is to be given to the Northland Regional Council. No vegetation removal is to take place between 1st of May and 30th September

To minimise erosion and sedimentation, the overburden dumpsites will be compacted and overlaid with suitable rock material immediately following the placement of overburden or established with a suitable grass/legume mixture to achieve an 80% groundcover by June 30 following the earthworks.

9.2 Mitigation Measures

1. Aspects of quarries to be managed as best possible to reduce their visual impact.
2. Vegetation removal to be limited to operational areas only.
3. Ensure adequate erosion and sediment controls have been put in place for any new activity
4. Where possible revegetate, mulch or hydro seed as soon as the activity is complete – especially where the area is exposed to neighbours or highly visible.
5. Use only appropriately sourced flora and suitable hydro seeding.
6. Noxious weeds to be sprayed at appropriate times of the year. Care must be taken not to over expose ground surface.
7. Position stockpiles in appropriate positions (where possible) so that they are not visible outside the site.
8. Buildings and fixed plant ideally are to be painted in less obtrusive colours.
9. Overburden dumps are to be contoured to fit in with surrounding landscapes.

9.4 Monitoring and Inspections

Prior to commencement of vegetation removal in an area the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Felling and removal methods adjacent to watercourses and on steep slopes
- Stabilisation methods for exposed surfaces
- Sediment Controls required
- Archaeological protocols

During vegetation removal the site quarryman will confirm on a daily basis that the controls and methodologies determined are being followed.

9.5 Housekeeping

Refer to the Housekeeping Standard for details of expectations

10.0 HAZARDOUS SUBSTANCES

Hazardous substances (including fuels and oils) can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refuelling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers.

The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

The potential effects of a fuel or oil spill include:

- Poisoning of aquatic life including seabirds
- Poisoning of aquatic habitat
- Poisoning of food sources to aquatic life
- Contamination of soils

10.1 Mitigation Methods

1. All refuelling is now undertaken by Minifuels on a daily basis, currently we do not store bulk fuel on site
2. Refuelling of plant is to be done away from watercourses or ponds.
3. If bulk fuel (and lubricants) is required to be used all storage facilities shall have a secondary containment system.
4. No hazardous substances are to be discharged to the ground.
5. Any contaminated areas are to be cleaned up in the appropriate manner.
6. Spill containment kits are to be located on all operating sites. The kits are to contain gloves, a boom and a container for the disposal of contaminated material.
7. Waste bins shall be provided for the collection of waste rags, filters etc.
8. All equipment is to be kept in such a condition so as to prevent the leaking of diesel, oil or any other fluids.
9. All hazardous substances that are toxic to the environment shall be stored in an approved manner so as to prevent any leakage or spillage.

10. Check the Material Safety Data Sheets (MSDS) for information on hazardous substances (including disposal)

11. All hazardous substance containers are to be labelled appropriately and closed when not in use.

12. All hazardous substance stores are to have the appropriate signs.

13. Sites are to be kept tidy.

14. Ensure appropriate exhaust devices are in place to reduce emissions to air.

10.2 Monitoring and Reporting

As part of the Site Supervisor's and the operator's ongoing daily supervision, the condition of plant will be assessed and appropriate repairs made to avoid the occurrence of burst hoses etc. All Quarryman will also need to monitor all work practices to ensure that the refuelling, greasing etc is being undertaken to minimise the potential for a spill.

11.0 ARCHAEOLOGICAL & HISTORICAL SITES

11.1 Mitigation Methods

The following procedures will be followed when an archaeological site has been identified or suspected on site.

1. All earthworks in the immediate vicinity of the site shall immediately cease
2. The operator is to contact the Quarry Manager who should then contact the Quarries Divisional Manager
3. The Quarries Divisional Manager will contact the relevant parties.
4. No activity will continue until the proper protocols have been followed.

Examples of items that require the ceasing of activities:

- Human remains
- Storage pits, shell midden (a mixture of shell, ash, burnt stone, charcoal etc)
- Other items of Maori origin including stone, bones, wood or shell artefacts
- Signs of early European settlement

12.0 QUARRY REHABILITATION

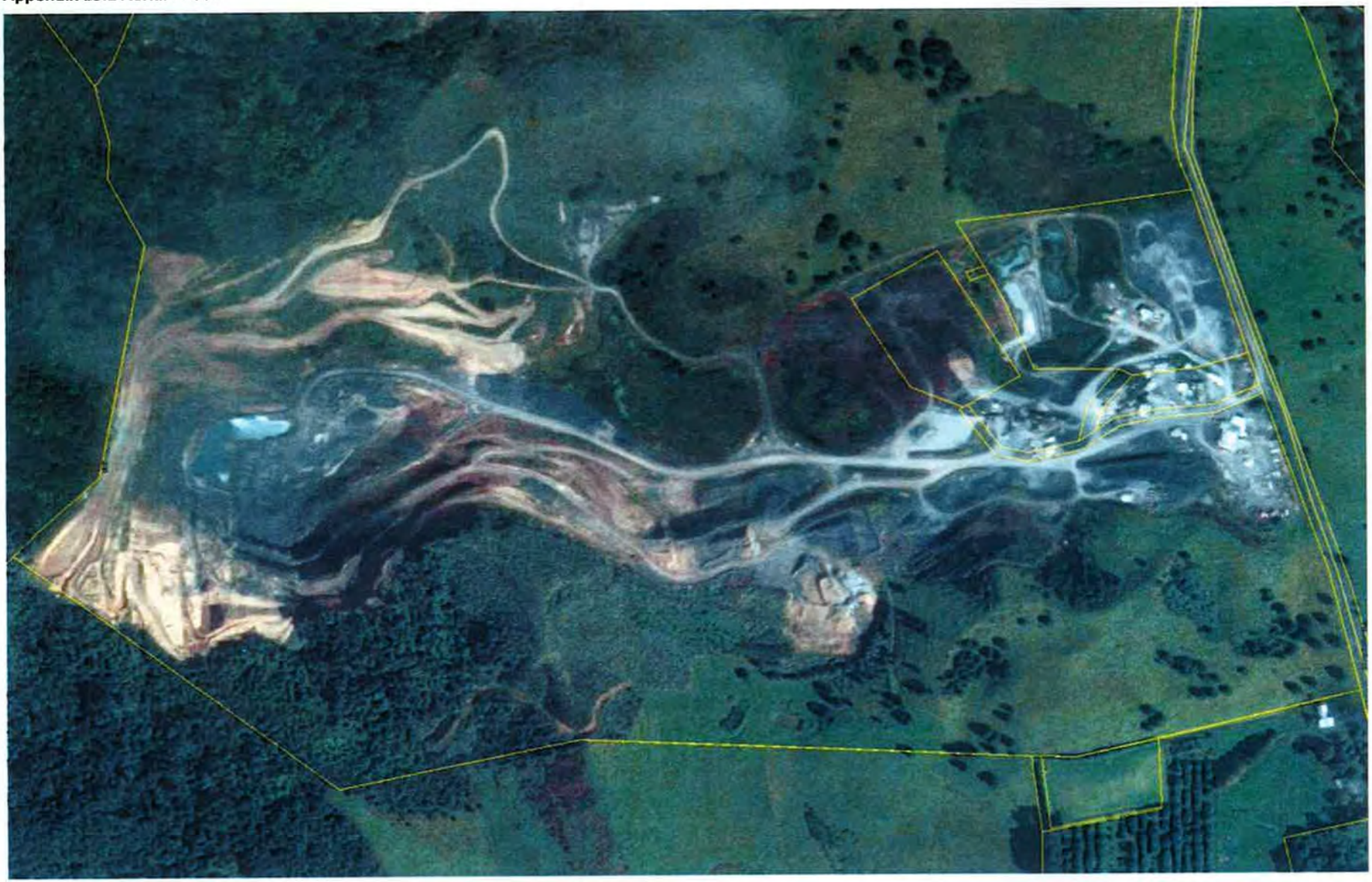
Overburden dumps

Overburden dumps will be stabilised following placement, as described in section 9.
The historic eastern overburden dump has been placed on a ridge where it is now limiting the widening of the quarry floor (Extraction Plan: - Northern end of the Greywacke extraction area) this dump is currently vegetated (primarily scrubby weeds).
The extraction plan necessitates removing this material, which contains a significant amount of useable rock. The intention is to progressively remove this material, preceding the widening of the quarry floor, and screen off and sell the useable/larger rock. The unsuitable portion will be placed in overburden dump site.
Whenever possible overburden is placed where it can be utilised to create access roads or as fill to form stockpile areas.
Overburden placed in dedicated, permanent, dump areas will be returned to pasture or planted in trees as appropriate.

Main Quarry Faces

There is little that can be done with the finished faces due to the face profile and total absence of any soils. The finished benches can be planted with hardy coastal species that are able to survive on the rock. Examples are Pohutukawa, Coprosma acerosa. These initial bench plantings will assist to create an environment that in time will promote the establishment of a more diverse range of vegetation.
This planting process can only take place towards the end of the quarry operating life, as access to the benches is required for safety inspections and maintenance.

Appendix 13.1 Aerial Photo



Property Map

Date Printed: 17-January-2017

SCALE 1: 10,000

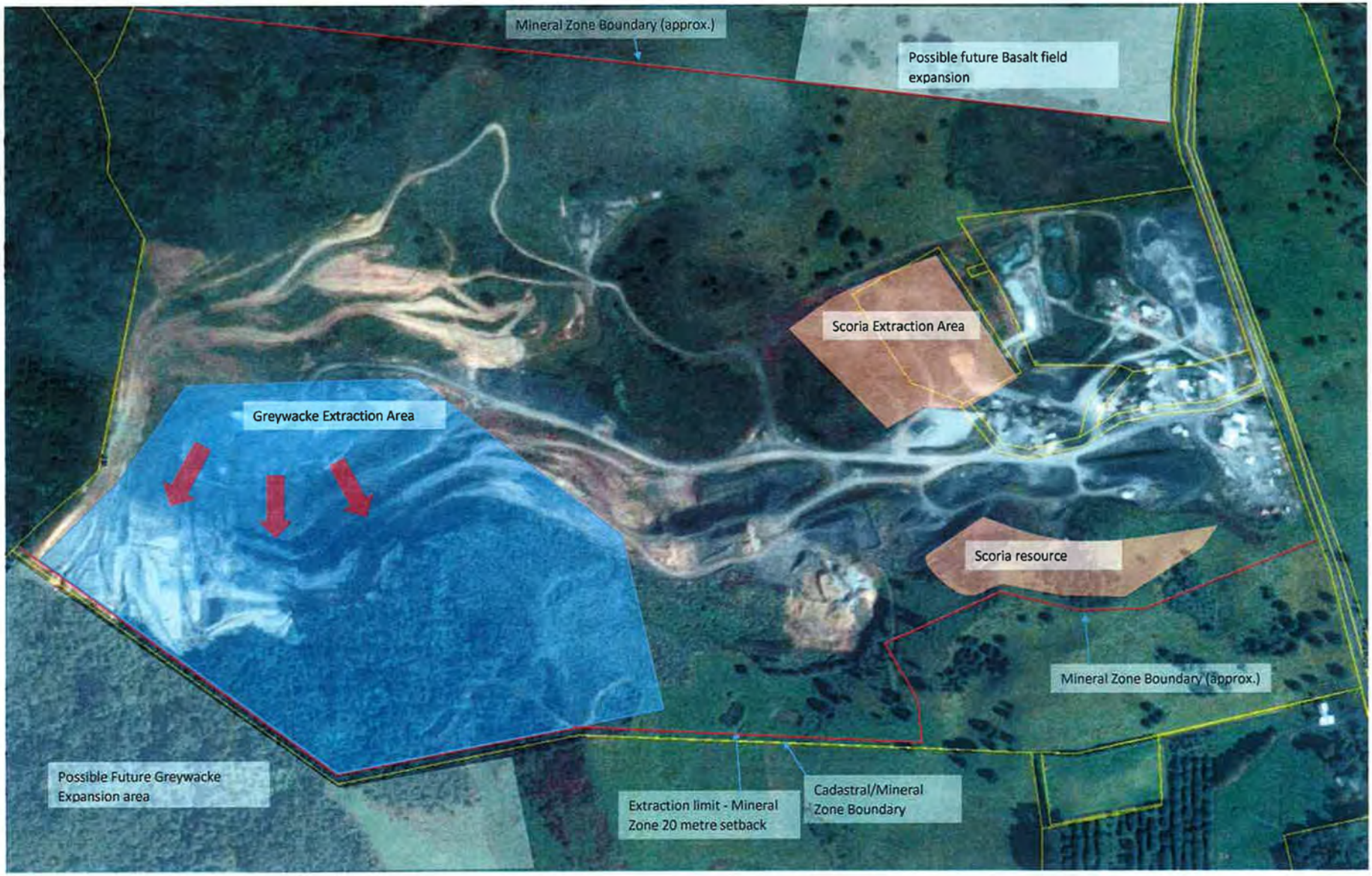
0 500

Meters

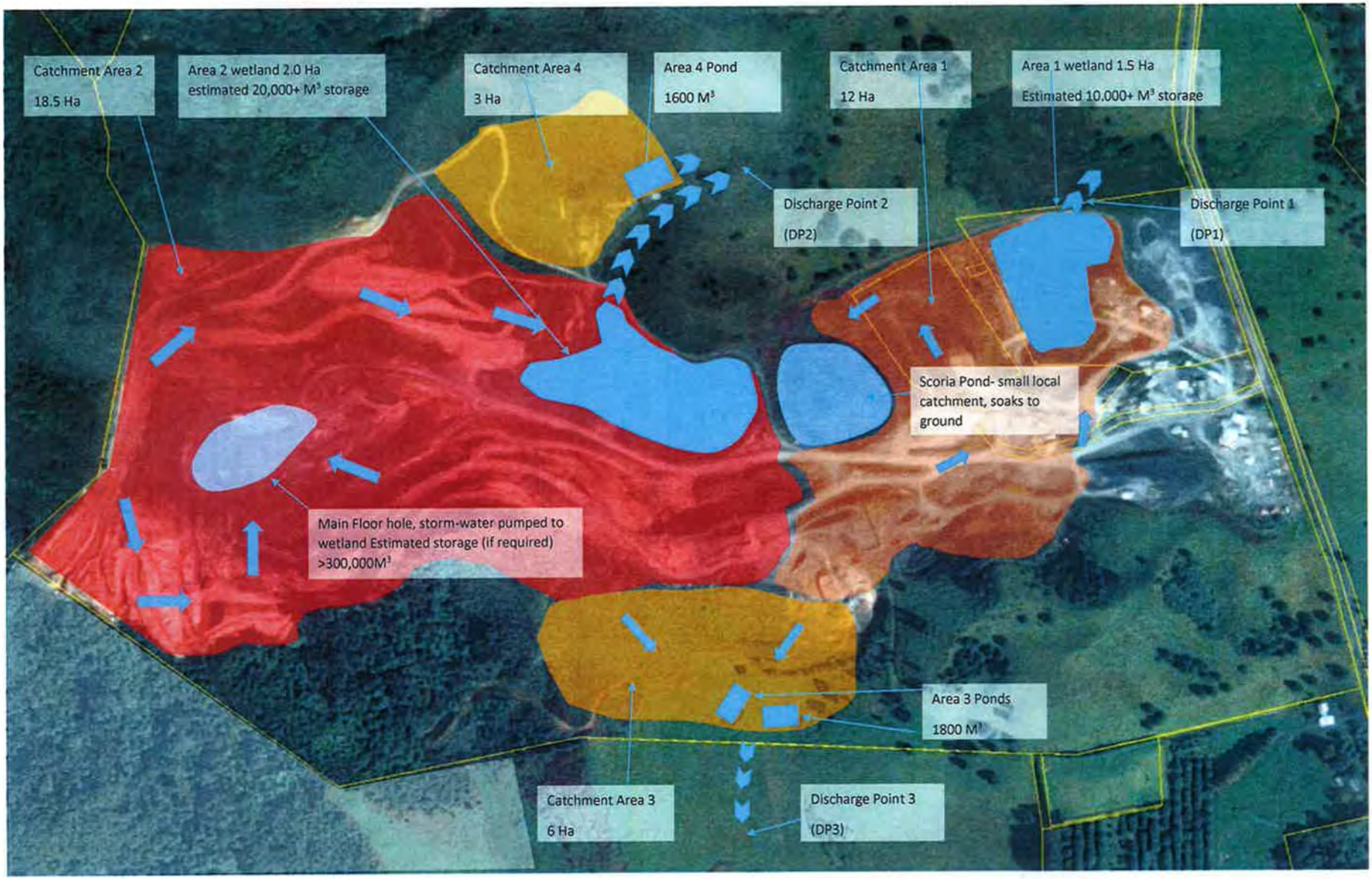
Projection: NZGD_2000_New_Zealand_Transverse_Mercator

FAR NORTH MAPS

Appendix 13.3 Extraction Plan



Appendix 13.4 Water Management Plan



Resource Consent

FILE: 3015
(01 to 04)
Change to (01)

Document Date: 19.08.2020

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the council") does hereby grant a Resource Consent to:

BELLINGHAM QUARRIES LIMITED, PO BOX 144, KAITAIA 0441

To carry out the following activities associated with the operation of a quarry on Lot 1 DP 43463, Lot 1 DP 49811, Lot 1 DP 172915, Pt Secs 29, 49 & 57 Blk X Takahue SD, and place overburden on Okahu 3A and 4A Blk IX Takahue SD (Larmer Rd, Kaitaia) within unnamed tributaries of the Tarawhataroa and Ngahuirangi Streams at or about location co-ordinates 1625166E 6109613N and 1624507E 6110021N.

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.003015.01.05	**Take water from the Ngahuirangi Stream at or about location co-ordinates 1625666E 6109314N and from on-site storage ponds for workshop, wash down, and seal chip-washing purposes.**
AUT.003015.02.07	**Remove and place overburden, and extract rock.**
AUT.003015.03.04	**Discharge stormwater to water from land disturbance activities.**
AUT.003015.04.01	**Divert stormwater associated with land disturbance activities.**

Subject to the following conditions:

AUT.003015.01 – Water Take

1 The maximum rate of taking from the Ngahuirangi Stream shall not exceed 200 cubic metres per day.

2 The council may require the Consent Holder to cease the exercise of this consent when flows in the Tarawhataroa Stream, as measured at the council's Puriri Place Recorder Site, are at or below 49 litres per second.

***Advice Note**: The above flow is the best estimate of the seven day mean annual low flow (7dMALF). The council will notify the Consent Holder when flows at this recorder site are receding towards the flow stated in Condition 2.*

3 The Consent Holder shall install and maintain a meter with an accuracy of ±5% to measure the volume of water taken in cubic metres. The meter shall be operated and maintained in accordance with the manufacturer's specifications. The Consent Holder shall, at all times, provide safe and easy access to the meter for the purposes of undertaking visual inspections of the meter and water take measurements.

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

4 The Consent Holder shall, using the meter required by Condition 3, keep a record of the volume of water taken daily in cubic metres, including nil abstractions. A copy of these records for the period 1 July to 30 June (inclusive) shall be forwarded each year to the council's assigned monitoring officer by the following 31 July. In addition, a copy of these records shall be forwarded immediately to the council's assigned monitoring officer on written request. The records shall be in an electronic format that has been agreed to by the council.

Advice Note: *If no water is taken during the period 1 July to 30 June (inclusive) then the Consent Holder is still required to notify the council's assigned monitoring officer in writing of the nil abstraction. Water use record sheets in an electronic format are available from the council's website at www.nrc.govt.nz/wur.*

5 A screen device shall be maintained on the Stream pump intake that limits the intake velocity across the screen to less than 0.3 metres/second and has no holes or slots with a diameter or width greater than 5 millimetres.

AUT.003015.02, AUT.003015.03, AUT.003015.04

6 The Consent Holder shall undertake quarrying and associated sediment control activities generally in accordance with:

(a) The **attached** document entitled: *"Larmer Road Quarry Management Plan";* Revised Date 10.1.20; and

(b) The **attached** aerial photo plans entitled: *"Overburden Area and Stockpiles", "Larmer Rd Water Flow",* and *"Site Locations Map".*

If there are any differences or apparent conflict between the document, plans and conditions of this consent, then the conditions of consent shall prevail.

7 The Consent Holder may, in consultation with the council's assigned monitoring officer, amend the plans and document referred to in Condition 6 at any time during the term of the consent. A copy of the updated plan and/or document shall be provided to the council's Compliance Manager for certification. For compliance purposes, the works shall be undertaken generally in accordance with the most recent plan and/or document that has been received and certified by the council.

8 The Consent Holder shall ensure that no works and operations are undertaken that would threaten the integrity and stability of the existing pa site (NZAA reference O04/575) located on the ridge directly above the quarry.

9 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga and Te Runanga O Te Rarawa (admin@terarawa.co.nz). Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

Advice Note: *The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga.*

10 No overburden removal and placement operations shall be carried out between 1 May and 30 September in any year unless the prior written agreement of the council's Compliance Manager has been obtained.

11 All erosion and sediment control measures shall be maintained so that they operate effectively.

12 Soil, overburden and debris shall not be placed in a position where it may enter any watercourse.

13 All earthworks operations shall be carried out in a manner that minimises the potential for slope instability and soil erosion. Effective mitigation measures shall be installed as required to mitigate and/or remedy any slope failures.

14 All discharges of stormwater from areas of bare land associated with the operation of the quarry shall be via suitably designed and constructed sediment detention structures. As a minimum, the working storage volume for each sediment detention structure shall be calculated at no less than 300 cubic metres of storage per hectare of contributing catchment.

15 Accumulated sediment shall be removed from each sediment detention structure before the sediment level reaches one third of its working storage volume. All sediment removed from the sediment detention structures shall be placed in a stable position where it will not enter any water body nor re-enter any sediment detention structure.

16 All bare areas of overburden shall be either covered with aggregate, or topsoiled and established with a suitable grass/legume mixture to achieve an 80% groundcover within three months following the completion of each seasonal overburden stripping activity. Temporary mulching or other suitable groundcover material shall be applied to achieve total groundcover of any areas unable to achieve the above groundcover requirements.

17 All stormwater diversions, drains and channels shall be:

(a) Capable of conveying storm water during not less than the estimated 1 in 20 year rainfall event; and

(b) Adequately protected to prevent destabilising slopes and areas of overburden.

18 The discharge of stormwater from the quarrying and overburden activities shall not cause any of the following effects on the downstream water bodies, as measured at the downstream property boundaries, when compared to sites upstream of quarry related activities, during the same sampling event:

(a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;

(b) The concentration of suspended solids to exceed 100 grams per cubic metre greater than the sample taken at the upstream control site.

19 The exercise of these consents shall not give rise to any discharge of dust at or beyond the property boundary which is deemed by a monitoring officer of the council to be noxious, dangerous, offensive or objectionable.

General Conditions

20 The Consent Holder shall, on becoming aware of any discharge associated with the Consent Holder's operations that is not authorised by these consents:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain the discharge; and

(b) Immediately notify the council by telephone of the discharge; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the discharge; and

(d) Report to the council's Compliance Manager in writing within one week on the cause of the discharge and the steps taken, or being taken, to effectively control or prevent the discharge.

For telephone notification during the council's opening hours, the council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the council's opening hours, then the Environmental Hotline shall be contacted.

Advice Note: *The Environmental Hotline is a 24 hour, seven day a week, service that is free to call on 0800 504 639.*

21 The council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of August for any one or more of the following purposes:

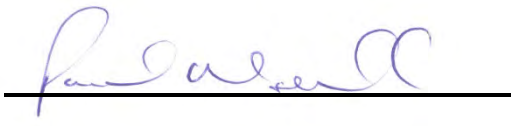
(a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: **30 APRIL 2041**

This change to consent Condition 1 is granted this Nineteenth day of August 2020 under delegated authority from the council by:



Paul Maxwell
Coastal & Works Consents Manager

Note: *The plans attached to this consent are reduced copies and therefore may not be to scale and may be difficult to read. In the event that compliance and/or enforcement action is to be based on compliance with the attached plans, it is important that the original plans, are sighted and used. Originals of the plans referred to are available for viewing at the council's Whangārei office.*

LARMER ROAD QUARRY

MANAGEMENT PLAN

BELLLINGHAM QUARRIES LTD

0

Plan dated: 18.4.13

Revised: 23.6.15

Revised: 22.9.17.

Revised: 10.1.20

Table of contents:

1. INTRODUCTION

1.1 Location and Access

Lamers Road Quarry is situated at the end of Larmer Road Kaitaia, 7km by road from the Kaitaia Post Office in a southeast direction. The quarry is approximately 200 meters above sea level and north facing it is visible from Kaitaia and the surrounding areas. Access is from State Highway one Traveling 3.77 km's to the end of Larmer Road.

1.2 Legal Description

The legal description for the land requiring Resource Consent is Part Lot 1 DP 172915, Part Section 57, Block X, Takahue SD. 29.0100 hectares and Part Section 57, Block X, Takahue Survey District 3.1870 hectares.

1.3 Land Ownership

The whole property and mineral permit for the Tangihua Basalt resource is owned by Bellingham Quarries Ltd.

Figure 1. Aerial photo indicating location of quarry – shown with white arrow (Google 2010)

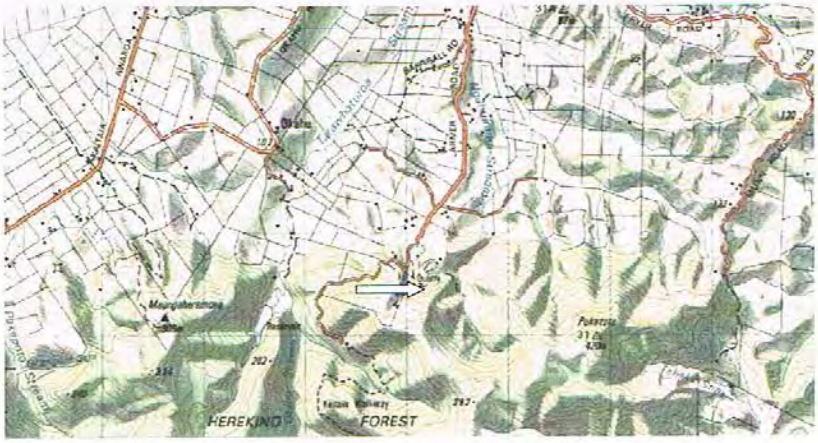


Figure 2. Topographical map indicating location of quarry – shown with white arrow

Far North District Council
FAR NORTH MAPS
RED LINE INDICATES QUARRY LAND BOUNDARY

1.4 Controlling Authorities

The territorial local authority is the Far North District Council (FNDC), which administers the environmental aspects of the land use as defined by the condition of the minerals permit.
The regional authority is the Northland Regional Council (NRC) that administers water and air issues.

The crown owns the minerals. The right to mine the Tangihua Basalt is provided under mining permit # 41 683. The permit is valid for forty years. (Expires April 25, 2041).

1.5 The Quarry History

Larmer Road quarry was purchased by Eric Bellingham (Kaitaia Limeworks) in 1949, the first mining license was issued 21st July 1958. The Bellingham Family have continued to operate the site since its purchase, it has an annual average extraction rate of 83,500m^3.

1.6 Resource Consents, licenses

Northland Regional Council Consents (Appendix A)

	Consent	Reference	Expiry
01	Water Permit	AUT. 003015.01.03	31/5/2020
02	Land Use	AUT. 003015.02.06	31/5/2020
03	Discharge Permit	AUT. 003015.03.03	31/5/2020

Far North District Council (Appendix B)

Consent	Reference	Expiry
Land Use	212 0073- RMALUC	No Expiry

Ministry of Economic Development (Appendix C)

Consent	Expiry
Mining Permit #41683	25/4/2041

2. QUARRY ACTIVITIES

2.1 Stripping

See Appendix D for stripping Areas and dump site locations.

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry. The overburden height ranges from 15 to 30 meters depending on the area being stripped.

Overburden removal can only be carried out in the summer/autumn months and is loaded and carted to areas where it is placed and compacted.
The material is stripped using excavators, articulated tucks and bulldozers.

Area 1 is at full capacity, the outer edges of the site has been stabilized using large spalls and some underground drainage has been carried out to support any underground water which may be present. A written Engineers report on the overburden stockpiling process was designed by PC Warner, Bubb & Associates in 1997 to ensure the stability of the site.

Area 2 is in a gully across the Ngahuirangi stream on the south eastern property boundary, consisting of long Kikuyu grass and scrub. The grass is used to recover the dump site once the annual stripping program is finished, settling ponds are in place to ensure any runoff from the dumpsite is captured and settled prior to it entering the Ngahuirangi stream. Large rock spalls to be utilized for stabilization where necessary.

Area 3 is located on the western ridge above and to the west of the quarry faces. It is sloping grassland (kikuyu) adjacent to a stand of pine trees. The capacity of this site is 4,000m³ and has been utilized to facilitate the stockpiling of earth extracted from the top of a slip that's developed above the western side of the quarry face. The grass and top soil was removed and stockpiled and distributed over the overburden when the stripping operation was completed. A settling pond was established at the pine tree end of the stockpile to ensure any runoff is captured and settled prior to it dispersing over the western ridge.

Area 4 is a new dumpsite which will relieve the pressure of existing overburden dump sites which have reached maximum limits.

The new dumpsite is outside of the quarry boundary situated on neighbouring Maori land administered by Ngakahu – Ngakohu Whanau Ahuwhenua Trust. The legal descriptions being Okahu 3A Blk IX Takahue SD and Okahu 4A Blk IX Takahue SD.

The owners have agreed to utilise the fill to raise some of its low lying unproductive farmland. It has been agreed to raise the level by three metres to produce drier workable productive paddocks. The areas to be built up are relatively level and covered with grass and rushes.

The grass and topsoil will be removed and stockpiled to be re-distributed over the site once the stripping operation is completed. Only enough top soil is removed to ensure that bare land is not exposed when not required reducing the environmental impact from storm water runoff.

A settling pond/ponds established at the paddocks northern end to ensure any runoff from the stockpile is captured and settled prior to it dispersing into the drains.

The overburden is removed from the quarry rock using an excavator, six-wheel drive articulated dump trucks convey the material to the dumpsite and a bulldozer distributes the earth, compacting and contouring the site. The contouring will take into account the water runoff direction and the finished natural look.

A license between Bellingham Quarries Ltd and the Ngakahu – Ngakohu Whanau Ahuwhenua Trust describes the conditions and obligations to enter the property to be met by Bellingham Quarries Ltd.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that the areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

The quantity of overburden shall not exceed 40 000m^3 per year (condition 2a, FNDC consent). All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 30th June each year.

2.2 Extraction

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Staff that are holders of Explosive Approved Handlers Certificates a per HASNO regulations.

Rock is loaded directly from the blasted muck pile via wheel loader onto dump trucks that transport it to the crushing plant.

The natural progression of the development of the quarry is back into the hill (southerly direction) where the rock resource is evident. The direction of extraction will be as described in Appendix D & D1 'Future Quarry Development Area'.

2.3 Processing and Stockpiling

The rock is processed through both fixed and mobile crushing plant.

The fixed plant consists of a primary jaw crusher, secondary jaw crusher, tertiary cone crusher, and impact shaping crusher and various screens that sort and clean the processed aggregate. The finished products are carted to sales stockpiles by 6 wheel trucks.

The mobile plants are track mounted and operate on the quarry floor, the finished products carted to sales stockpiles by wheel loaders.

Daily production figures are kept to assess stock volumes.

2.4 Sales

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are processed through the quarry data base by the quarry dispatcher located in the site office. Sales data is transferred into Acumen at the end of the month.

3 SITE FACILITIES

3.2 On site are the following facilities:

- Office's and parking area
- Workshop and lunchroom
- Tyre and oil sheds
- Fuel tank and bowser
- Wash down facilities
- Fixed crushing plant site
- Working benches
- Overburden disposed site
- Sales stockpiles

See Appendix E

3.3 Rubbish

Inorganic waste is collected and transferred off site for disposal. This includes waste oils and other hazardous substances.

3.4 Pest Plants

Spraying of pest plants occurs annually and is undertaken by contractors.

4 HEALTH AND SAFETY:

Larmer Road Quarry has a health and safety manual that incorporates the Bellingham Quarries Health and Safety System. The site's Health and Safety Manual is kept on site and is located in the sites office.

4.2 The Health and Safety System includes:

- Bellingham Quarries Health and Safety Policy
- Drug and Alcohol policy
- Workplace Audit and Inspection procedures
- Return to work policy
- New employee introduction procedures
- Staff recruitment policy and procedures
- Employee training, roles and procedures
- Protective clothing and safety equipment instructions
- Accident and engineering instructions
- Accident and emergency procedures
- Accident and incident reporting procedures
- Register of hazards
- Material safety data sheets location
- Register of hazards

4.3 Visitors

All visitors to the site must first report to the office and sign the visitors register. A contractors, customers and visitor's health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details

- Emergency assembly point
- Accidents, Injuries and Incidents requirements
- Vehicle movement rules
- Signage
- Loading procedures
- Child restrictions
- Identified hazards
- Metal docket rules

See Appendix F

All visitors to the site must wear the appropriate Personal Protective equipment (PPE). This includes a hard hat, safety footwear and a high Vis Vest.

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant.

4.4 Blasting Safety

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Blasting Procedure'.
The blasting contractors that are engaged have their own health and safety systems in place which meet their requirements under the health and safety in Employments Act.

4.5 Training Records

All employees are inducted when they start on the site. Subjects discussed during introduction include:

- Health and Safety information and Site rules
- Hazard identification
- Emergency procedures
- P.P.E
- Orientation
- Authority to operate machinery
- Competency forms
- Reporting Requirements (Paper Work)

See Appendix H

These induction meetings are recorded in the ring binder titled 'Health and Safety Meeting and Completed Forms' and kept in the site office.

4.6 Competency Assessments

Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the site office.

5 DUST CONTROL

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.
Dust nuisance to neighbouring properties is dependent on the wind direction. When the wind is blowing from the south or southeast control measure have to be implemented to control the dust emissions. If the wind is prevailing from any other direction neighbouring properties are unaffected. All of Bellingham Quarries personal on site are required to monitor dust levels at all time during operational hours, and senior personal including the production manager and quarry manager are responsible for ensuring that dust emissions are controlled at their source.

5.2 Processing Plant

The mobile and fixed crushing and screening plants have dust management systems in the form of water mists and sprays. The systems are utilized when necessary on dry days to dampen material as it is processed and screened ensuring there are no excessive discharges to air immediately surrounding the operating plant. Staff operating the processing plant are required to undertake regular visual checks of dust levels while the plant is in operation, adjusting dust suppression requirement when necessary. The impact crusher and dust screen that tend to generate the most dust are wrapped in containment sheeting and canvas to help contain dust.

5.3 Roads

All visitors to the quarry are requested, via a sign at the entrance to not exceed 30kph for safety and to avoid dust emissions. Quarry staff and management ensure that vehicle speed restrictions are complied with.

In very dry conditions the haul roads are watered. The primary source of water for dust suppression at Larmer Road Quarry is the Ngahuirangi Stream as per condition 8 of the Resource Consent AUT.003015.01.03.

5.4 Overburden Disposal

Area 4 is located on neighbouring property, and the haul road leading to it is near a neighbouring house. Dust control will be implemented when necessary by using a truck fitted with a water tank to wet down the haul roads.

5.5 Other Remedial Actions

If prevailing environmental conditions are such that during operation of the quarry all dust control measures are ineffective, those activities generating excessive dust are to cease until such time as environmental conditions improve.

6 NOISE MANAGEMENT

Larmer Road Quarry is in a designated minerals zone in the Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB (A) L10.

6.2 Blasting and Drilling

Blasting is carried out in accordance with OSH mines department regulations. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is now carried out using a rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast to the neighbours.

6.3 Processing

The crushing plant is run using electric motors, and its position behind a ridge minimises the noise levels to neighbours. All diesel mobile plants are fitted with muffler systems. Working hours are usually restricted to daylight hours. The crushing plant is not equipped with lighting.

7 WATER

Bellingham Quarries Ltd is currently operating under a water permit to take 91 cubic meters of water per day from the Ngahuirangi Stream (AUT.003015.01.03). This water is used for dust suppression, workshop, wash down, domestic and some aggregate washing purposes. Some neighbouring residents use some of this water allocation for their household requirements. Water for crushing operations is supplied and recirculated from a dam constructed for this purpose. When the water leaves the crushing and screening operation it travels through pipes to a double weir system which helps to retain heavy particles before it re-enters the dam.

7.2 Discharge

Due to the size of the catchment there exists a potential for sediment and gravel from the quarry to be washed downstream or onto adjacent properties during severe storm events. However, these potential adverse effects have been minimized by the various sediment detention ponds that have been put in place at the quarry and on a downstream property. The tributary of the Tarawhataroa Stream below the quarry has a continuous but low flow throughout the year being largely fed by small springs that emanate from the quarry rock face and other areas downstream. However this flows through farmland before reaching the main stream with minimal ecological values.
A discharge permit (AUT.003015.03.03) allows the discharge of storm water and crusher wash water via silt retention ponds to an unnamed tributary of the Tarawhataroa Stream.

See Appendix I for water directional flow and settling ponds.

A smaller second dam immediately above the main recirculating dam is also used for washing specialized quarry sand product used by ready-mix concrete plants. Both dams are also used to contain surface runoff from some of the stripping and work areas. The overflow from these dams is diverted under the main haul road down onto the first bench, flows along a drain, which helps to settle heavier particles, then over a rock face to a final settling pond, before flowing out of the

quarry area (as shown in Appendix I). There is also a sediment trap to contain runoff from the main haul road and workshop areas. Due to the large catchment area and steepness of the land immediately around the quarry, another settling pond has been constructed in a neighbouring paddock. Efforts have been made to divert runoff from the working areas away from the Tarawhataroa Stream. A water table also helps divert runoff high above the quarry away from the overburden stockpiles.

8 DEVELOPMENT AREA AND VISUAL IMPACT

8.2 Zoning

The quarries identified development area is recognized in the Ministry of Economic Development, Crown Minerals Mining Permit # 41683. The area is outside the minerals zone as described in the Far North District Plan and is zoned as rural production. The area is also identified in the FNDC Plan as 'Outstanding Landscape' and subject to the rules pertaining to that designation. A Resource Consent (Land Use) #2120073 – RMALUC from the Far North District Council (Appendix B) 7th February 2012 was issued to allow the progression of the quarry into that area.

8.3 Visual Impact

The development area adjoining the quarry that has been in operation since 1949. Due to this it is considered that the existing quarry has already adduced the amenity values of the site and surrounding area. It is also considered that the area would only result in a small increase in the overall size of the existing quarry and therefore would only result in a minor change to the existing landscape.

8.4 Native Vegetation

The land affected by the quarry extension was previously cleared farmland which is no longer stocked, hence some weed growth and regeneration of indigenous vegetation has occurred. Currently the area contains a mixture of grassed areas, weed species such as tobacco weed, gorse and pampas grass and some indigenous species such as Kanuka and Ponga. Clearance of this area is required for the extended quarrying operation to proceed. See Appendix J. The vegetation will be maintained for as long as possible until extraction is required to help minimize adverse environmental effects.

8.5 Monitoring and Inspections

Prior to commencement of vegetation removal in an area, the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarry manager will confirm on a daily basis that the controls and methodologies determined are being followed.

9 FUEL AND OIL SPILLAGE/ HAZARDOUS SUBSTANCES

9.2 Potential Adverse Environmental Effects

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.3 Storage (diesel oil)

The quarry currently has the following storage capacity:

- Above ground tank 10,000 Litres diesel fuel oil
- Above ground tank 10,000 Litres diesel fuel oil

The tanks remain the property of Allied Petroleum, and are located across the yard from the workshop at the foot of the concrete paved hill. And on working area "level 3' See Appendix E

Various grades of oils are stored in two locked sheds separate from the workshop in containers and drums including four 600 litre purpose built steel containers.

9.4 Explosives

There is a minimum potential impact on the environment with modern explosive products.

Larmer Road has three explosives magazines on site, one owned by Prime Explosives and two others owned by Bellingham Quarries with a location test certificate FRCO114 allowing the storage of 10,000kgs of blasting explosives and a maximum of 3000 detonators.
See Appendix K. A record of all explosives and detonators is maintained by the quarry manager.

The location of the magazines is described in Appendix M

9.5 Potential Spill Sources and Risks

The hazardous substances storage facilities (diesel storage) are considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system and the unnamed tributary of the Tarawhataroa Stream. It is considered there is the opportunity to prevent the spill from entering the water ways and the potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.6 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc. is being undertaken to minimize the potential for a spill. All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the sight
- Take action to stop source of spill if practical and safe to do so
- Take action to contain spill if practical and safe to do so, and if it is not, stand by in a safe location until instructed otherwise

9.7 Spill Response Equipment available on site

A spill kit is located in the production manager's site office. The kit contains

- Absorbent sock
- Absorbent matting
- Leak sealant (Silicon tubes): kept in workshop
- Dried pumice/material for absorbing spills: kept in workshop

9.8 Equipment and Operators Available Elsewhere

- The northland regional council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Larmer Road Quarry can cope with itself. Phone 408 6600 or 0800 504 639.

9.9 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.10 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why the spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence

10 HAZARDOUS SUBTANCES INVENTORY

See Appendix N

10.2 Material Safety Data Sheets

A full complement of material safety data sheets are kept in the filing cabinet (3rd draw) in the workshop office.

11 LITTER CONTROL

Larmer Road Quarry has a $2m^3$ rubbish skip on site that is removed/replaced weekly by a waste contractor. All organic and inorganic waste is taken off site.

11.2 Waste Oils

Waste oil is collected in a purpose designed storage facility and removed off site by contractors as necessary when the storage facility reaches capacity. It is located outside the workshop at the rear of the wash down area.

12 ARCHEOLOGICAL AND HISTORICAL SITES

There is a pa site located at the western end of the quarry. The pa is registered with the NZ Historic Places Trust #N10/205, NZAA site #004/575.
See Appendix O

12.2 Archeological Report

An Archaeological Assessment was undertaken by Charlotte Judge of Clough and Associates Ltd, 321 Forest Hill Rd, Waiatarua, Auckland 0612. The assessment/report was at the request of the Far North District Council in relation to the resource consent application for the quarry extension development area. It was reported/assessed 23/10/2011, site visit on 7/10/2011 and the recommendations of the report as follows.

12.3 Recommendations

It is recommended:

- That there should be no constraints on the proposed quarry extension on archaeological grounds, as no archeological sites are known to be present and it is considered unlikely that any will be exposed during quarrying.
- That if sub-surface archeological evidence should be unearthed during construction (e.g. intact shell midden, hangi, storage pits relating to Maori occupation), work should cease in the immediate vicinity of the remains and the project archeologist and/or NZHPT should be notified.
- That if modification of an archeological site does become necessary an Authority must be applied for under Section 11 of the Historic Places Act 1993 and granted prior to any further work being carried out that will effect the site. *(Note that this is a legal requirement).*
- That in the event of koiwi tangata (human remains) being uncovered, work should cease immediately in the vicinity of the remains and the tangata whenua, NZHPT and NZ Police should be contacted so that appropriate arrangements can be made.
- That since archeological survey cannot always detect sites of traditional significance to Maori, such as wahi tapu, the tangata

whenua should be consulted regarding the effects of the proposal on Maori cultural values.

12.4 Action

The following procedures will be followed when an archeological site has been identified or suspected on site.

- All earthworks in the immediate vicinity of the site shall immediately cease.
- The operator is to contact the quarry manager.
- The quarry manager will contact the relevant parties.
- No activity will continue until the proper protocols have been followed.

Examples of items that require the ceasing of activities:

- Human remains
- Storage pits, shell midden (a mixture of shell, ash, burnt stone, charcoal etc.)
- Other items of Maori origin including stone, bones, wood or shell artifacts
- Signs of early European settlement

There is to be no further works in the immediate area of the Pa site.

13 TANGATA WHENUA

Te Runanga O Te Rarawa is the Iwi authority that has interests in the activities of Larmer Road Quarry.
See Appendix P

14 REHABILITATION

Larmer Road quarry is a busy, active, working quarry, it is expected that the resource will continue to be extracted well into the future.
Quarry rehabilitation will be ongoing as the resource is extracted to find levels. Therefore a detailed rehabilitation plan has not been compiled as it is unknown what the expectations on rehabilitation will be at that time.

The main emphasis on rehabilitation at present is to keep regrassing overburden dumpsites with pastured species and to continue to spray annually any pest plants.

Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt point will be filled in.

The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

Re-counting of faces of weak material will minimize the chance for rock falls and slips. Overburden dumps will also be contoured and planted.

A qualified geotechnical engineer will inspect the site to confirm that the final faces will be in a safe condition.

15. EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia (24hrs) Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180
Top Health care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
Worksafe	Worksafe New Zealand, Wellington	0800 030 040
Northland Regional Council	Kaitaia Whangarei	408 6600 09 438 4639
Far North District Council		0800 920 029
Bellingham Quarries LTD Brian Bellingham David Bellingham	Office Mobile Home Mobile Home	408 1340 021 848 098 406 7479 021 848 099 406 0156

SPILL RESPONSE

Assess the Situation

Is it safe? Identify:

1. The type of material spilled (e.g., from the label, your supervisor or MSDS);
2. The size of the spill and whether the leak has stopped;
3. Whether two chemicals are involved in the leak and could react with each other; and
4. Any unusual features such as foaming, odour, fire, etc.

Put on Protective Gear

Put on appropriate personal protective equipment. This can include respirators, gloves, goggles, etc., as needed.

Turn off Source

Stop the source of the spill or leak. This can include:

- Turning off the valve,
- Patching a leaky hose,
- Draining a tank, or
- Righting a knocked over drum container.

Block Off Drains

Stop the spill from spreading. This can include use of appropriate absorbent/ containment materials such as sand, crushed rock fines or aggregate (land) and booms (water).

Clean Up

Clean up the spill using appropriate materials and equipment from spill kits or other materials at hand.

Notify

Notify the quarry manager and/or ASQTE Manager.

In the event of a spill into a waterway we have a legal obligation to notify the Regional Council. The NRC operates a 24hr, 7 day-a-week pollution control hotline on 0800 504 639.

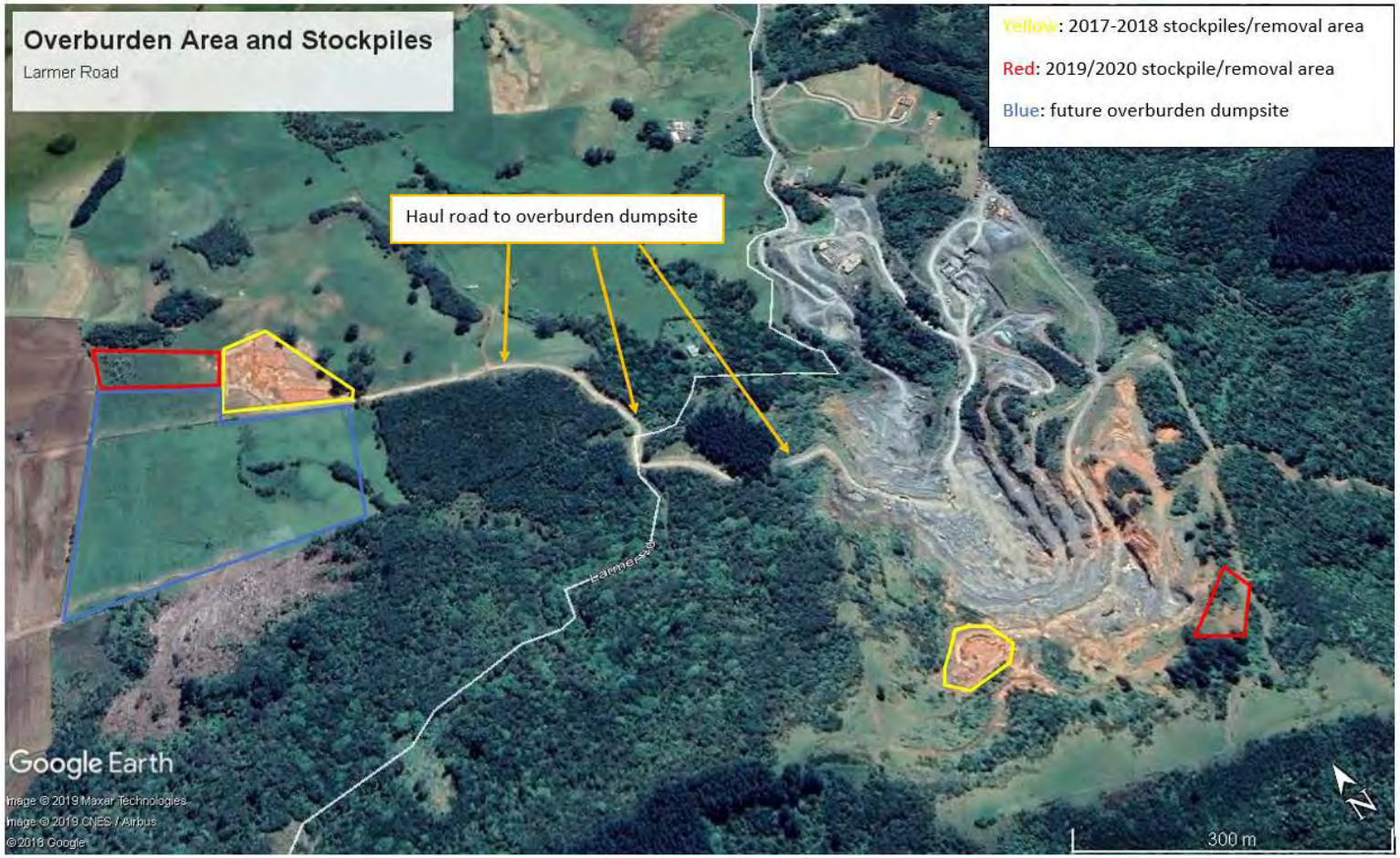
Dispose to an Authorised Site
Dispose of contaminated materials properly. Contaminated spill control materials and disposable personal protective clothing may have to be disposed of as hazardous waste. Contaminated tools and non-disposable personal protective equipment should be decontaminated.

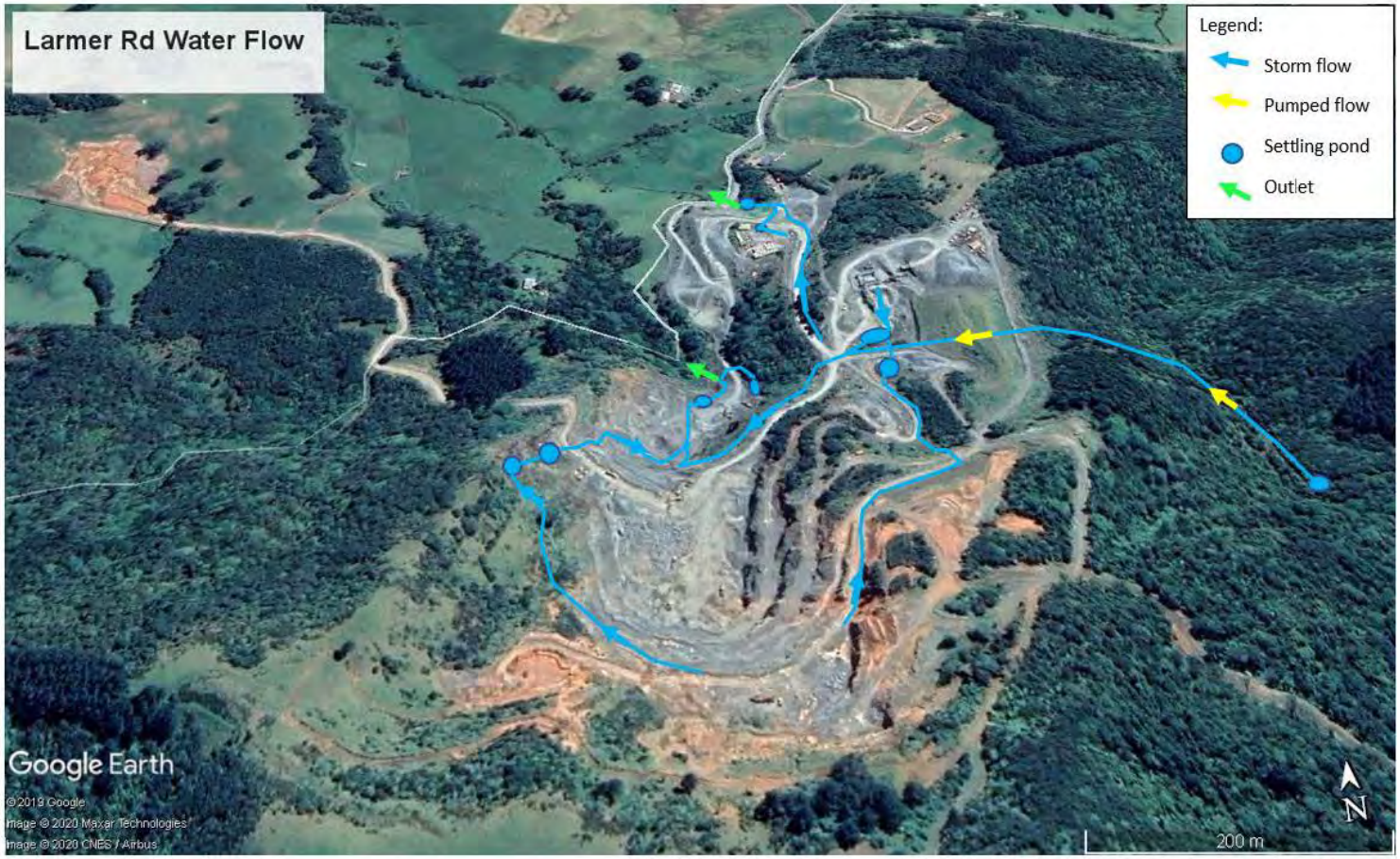
Review Incident

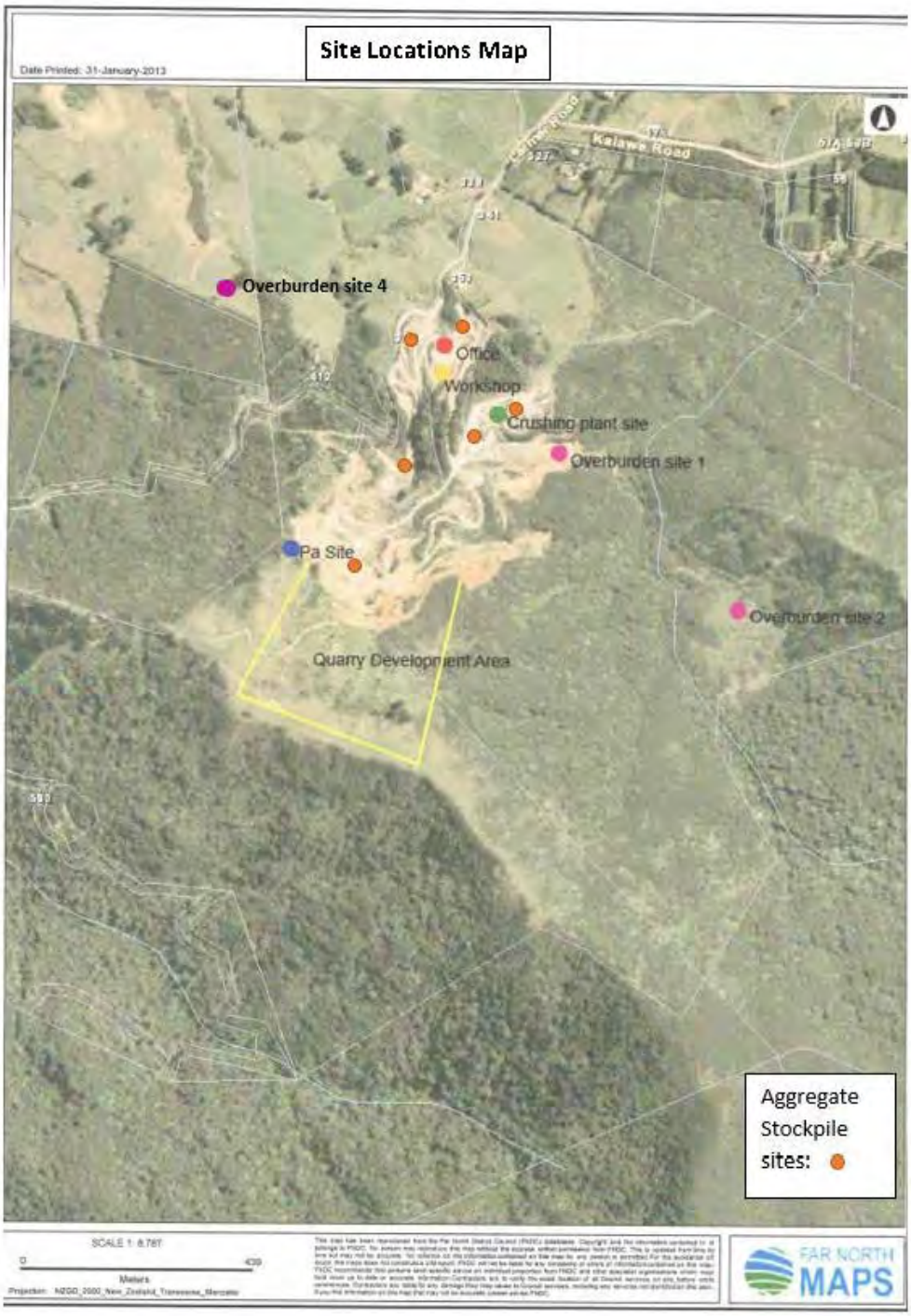
An incident form (OFI) should be filled in for every spill, including non-emergency (incidental) spills.
Review the cause of the spill and put in place any corrective actions identified.

Restock Spill Kit

Ensure that the products used to clean up the spill are replenished.


Overburden Area and Stockpiles
Larmer Road
Yellow: 2017-2018 stockpiles/removal area
Red: 2019/2020 stockpile/removal area
Blue: future overburden dumpsite
Haul road to overburden dumpsite
Larmer Rd
Google Earth
Image © 2019 Maxar Technologies
Image © 2019 CNES / Airbus
©2019 Google
300 m
N


Larmer Rd Water Flow
Legend:
Storm flow
Pumped flow
Settling pond
Outlet
Google Earth
©2019 Google
Image © 2020 Maxar Technologies
Image © 2020 CNES / Airbus
200 m
N


Site Locations Map
Date Printed: 31-January-2013
Kelawa Road
Overburden site 4
Office
Workshop
Crushing plant site
Overburden site 1
Pa Site
Overburden site 2
Quarry Development Area
Aggregate Stockpile sites:
SCALE 1: 8,787
Metres
FAR NORTH MAPS

Resource Consent

FILE: 6756
(01-03)
Replacement

Document Date: 19.10.2017

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the Council") does hereby grant a Resource Consent to:

BELLINGHAM QUARRIES LIMITED, PO BOX 144, KAITAIA 0441

To undertake the following activities associated with the operation of a quarry at Te Hapua on Pt Allot 13 Psh of Muriwhenua Blk XVI Parengarenga SD, at or about location co-ordinates 1587909E 6181990N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.006756.01.04	**Land disturbance activities to extract rock, and remove and place overburden.**
AUT.006756.02.03	**Discharge stormwater to land from land disturbance activities.**
AUT.006756.03.02	**Divert stormwater associated with land disturbance activities.**

Subject to the following conditions:

1 The Consent Holder shall undertake the activities generally in accordance with the following **attached** Bellingham Quarries Ltd documents entitled:

(a) *"Te Hapua Quarry Management Plan";* Updated August 2017;

(b) *"Appendix G – Water Directional Flow";* and

(c) *"Appendix L – Rehabilitation Plan".*

2 The Consent Holder shall notify the council's assigned monitoring officer in writing of the date that each season's overburden removal operations are intended to commence, at least one week beforehand.

3 No overburden removal shall be carried out between 1 May and 30 September in any year without the prior written approval of the council's Compliance Manager.

4 All discharges of stormwater from areas of bare land associated with the operation of the quarry shall be via suitably designed and constructed sediment detention structures. As a minimum, the working storage volume for a sediment detention structure shall be calculated using no less than 300 cubic metres of storage per hectare of contributing catchment.

5 Accumulated sediment shall be removed from each sediment detention structure before the sediment level reaches one third of its working storage volume. All sediment removed from the sediment detention structures shall be placed in a stable position where it will not enter any water body nor re-enter any sediment detention structure.

6 Soil, overburden and debris shall not be placed in a position where it may enter any watercourse.

7 All bare areas of overburden shall be established with suitable vegetation to achieve not less than an 80% ground cover within six months following each seasonal overburden removal operation.

8 The discharge from the final outlet of a sediment detention structure(s) servicing an area of the quarry operation shall not result in any of the following:

(a) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials; nor

(b) The level of suspended solids to exceed 100 grams per cubic metre.

9 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga and consult with Ngati Kuri Trust Board. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

Advice Note: *The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga.*

10 The council may, in accordance with section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of June for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 31 JULY 2027

These consents are granted this Nineteenth day of October 2017 under delegated authority from the Council by:

Stuart Savill
Consents Manager

TE HAPUA QUARRY

MANAGEMENT PLAN

BELLINGHAM QUARRIES LTD
P.O.BOX 144 KAITAIA ph: 09 4081340
Email: bellingham.quarry@xtra .co.nz

Updated August 2017.

Table of Contents

Appendix Register

1. INTRODUCTION

1.1 Location and Access.

Te Hapua Quarry is situated approximately 95 km from Kaitaia travelling on State Highway 1F. The quarry is approximately 95 meters above sea level and facing south, it is not visible from Te Hapua Road.

Access is by turning onto Te Hapua Road at Waitiki Landing and traveling 5km in an easterly direction. Te Hapua Road is a loose metal FNDC Road

Google Earth co-ordinates 35°, 30', 14.34"S, 172°, 52', 05.86"E

1.2 Legal Description.

The legal description for the quarry land requiring Resource Consent is Part Muriwhenua Block, SO56704, Blk XV1 Parengarenga SD at or about location co-ordinates 1587909E 618199ON.
Co-ordinates stated are from NRC Geodetic Datum 2000).

Area of Land approximately 12 hectares.

A mining extension area was approved by NZ Petroleum and Minerals (NZPM) in 2013 with the extension area being 13.5085 ha bringing the total quarry area to 25.38 ha.
Although the land extension area has been approved by NZPM, written approval needs to be gained from DOC prior to any work being done outside the current mining zone.

Iwi representatives, Graeme Neho and Harry Burkhardt have signaled their support for the land extension (email dated 13/5/2013).

1.3 Land Ownership

The quarry land is leased from the Department of Conservation in the form of an access agreement.

Royalties are paid to NZ Petroleum and Minerals.

1.4 Controlling Authorities

The Territorial Local Authority is the Far North District Council (FNDC), which administers the environment aspects of the land use as defined by the condition of the minerals permit. The Regional Authority is the Northland Regional Council (NRC) that administers water and air issues.

The Crown owns the minerals. The right to mine the Tangihua/Wangakea Basalt is provided under mining permit #41693. The permit is valid for forty years (expires 20th October 2042)

1.5 The Quarry History.

Te Hapua Quarry was opened by Bellingham Quarries Ltd under the Land Act 1948, at a time when the land was controlled by the Lands and Survey Department. A mining license was applied for in November 1971 then renewed by the current mining permit granted on 25th October 2002.

1.6 Resource Consents.

1st Resource consent 2002 expired 2007. Current Resource Consent issue 2008 and expires 3rd January 2018.

Northland Regional Council Consent (Appendix A)

	Consent	Reference	Expiry
01	Remove and Place Overburden to extract rock	CON 20070675601	30.4.2018
02	Discharge Storm water	CON 20090688101	30.4.2018
03	Divert Storm water	CON 20090688101	30.4.2018

1.7 Zoning.

Far North District Council Zoning maps for the area identifies the site as being zoned – Minerals with the surrounding lands (green) being Department of Conservation Lands.

1.8 Geology.

The geological mapping of the area is contained with the North Cape – Houhora Rock Types (Geology) Map NZMS 290 – N02/03 which was published as a 1st edition in 1982 at 1:100,000 scale. The mapping identifies the sites geology to contain Extrusive Rock deposits described as *Basalt and Dolerite; flows (commonly pillow form) of fine and medium grained crystalline basalt and dolerite with minor mudstone, intruded by numerous medium grained dikes, closely to moderately fractured;: hard to very hard. Altered and weathered to soft brown clay to depths of 30 meters.* The geological mapping and description appears to be consistent with our visual inspection of the site.

1.9 Lease Agreement.

The current lease between Bellingham Quarries Ltd and the land owners DOC. The land on which the quarry is situated is Crown owned administered by the Department of Conservation. The Department issued an access arrangement in 2002 and again on the 3rd January 2008 which expires on the 3rd January 2018. A renewed access arrangement was issued 31st July 2017 for a period of ten years expiring July 2027.

See appendix B Lease Agreement

1. QUARRY ACTIVITIES

2.1 Stripping.

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry. The overburden height ranges from 2 to 4 meters depending on the area being stripped.

Overburden removal can only be carried out in the summer/autumn months as per condition 2 of the Resource Consent CON 20070675601, no overburden stripping shall be carried out between 1st May and 30 September any year without the prior written approval of the council.

There are no limits on the amount of overburden that can be removed each year.

The material is stripped using excavators, articulated trucks and bulldozers.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 31st May each year.

Future overburden removal will be from a ridge in the western edge of the quarry boundary. The overburden will be then trucked to the stock pile site where it will be placed and regrassed when completed.

NB: DOC recommend the "Direct Transfer Method" of removing and stockpiling the top layer of slash, roots and sods of the underlying soil in clumps of vegetation which improves the success rate of regeneration without the need for planting seedlings.

See Appendix C for overburden disposal sites.

2.2 Extraction.

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Ltd staff that are holders of Explosive Approved Handlers Certificates as per HASNO regulations.

Rock is loaded directly from the blasted muck pile via wheel loader that transports it to the crushing plant.

The current extraction area on the western side of the quarry boundary.

See Appendix D for quarry extraction direction.

2.3 Processing and Stockpiling.

The rock is processed through Mobile Crushing Plant. Normally a Primary Jaw Crusher, Secondary Cone Crusher and mobile Screening plant.

The finished product is carted to the stockpiles via loaders and/or 6 wheeled trucks.

Daily production figures are kept to assess stock volumes.

2.4 Sales.

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are processed through the quarry data base by the quarry dispatcher located in the site office. Sales data is transferred into acumen at the end of the month.

2. SITE FACILITIES.

3.1 On Site Facilities.

There are no facilities maintained on the site due to the utilisation of the mobile crushing fleet. When crushing activity is taking place the following facilities will be brought onto the site.

- Lunch Room
- Fuel tanks
- Portaloo

3.2 Rubbish.

Inorganic waste is collected and transferred offsite for disposal. This includes waste oils and other hazardous substances.

3.3 Pest Plants

Spot spraying of pest plants occurs annually and is undertaken by contractors, is a requirement of the Northland Regional Council and the Department of Conservation Access agreement.

3.4 Services

There are no services (power, telephone, water) on site.

3.5 Entrance

The entrance way is secured by way of a heavy pipe gate to prevent theft as well as preventing people entering a hazardous area.

3. HEALTH & SAFETY.

3.1. Health and Safety System.

Te Hapua Road Quarry is operated under Bellingham Quarries Ltd Health & Safety system. The companies Health and Safety Management System is kept at Larmer Road, Kaitaia unless activity is occurring on site and then it will be located in the Lunch Room or the Managers Vehicle.

The Health and Safety Management System includes:

- Bellingham Quarries Health and Safety Policy
- Drug and Alcohol policy
- Workplace Audit and Inspection procedures
- Return to work policy

- New employee introduction procedures
- Staff recruitment policy and procedures
- Employee training, roles and procedures
- Protective clothing and safety equipment instructions
- Accident and engineering instructions
- Accident and emergency procedures
- Accident and incident reporting procedures
- Register of hazards
- Material safety data sheets location

4.2 Visitors.

All Visitors to the site must first report to the Quarry Manager and sign the visitors register. A contractors, customers and visitors health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details:

- Emergency assembly point
- Accidents, Injuries and Incidents requirements.
- Traffic Management
- Signage
- Loading procedures
- Child restrictions
- Identified hazards
- Metal/lime docket rules

All visitors to the site must wear the appropriate Personal Protective equipment (PPE). This includes a hard hat, safety footwear, safety glasses and a high Vis Vest.

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant.

(See APPENDIX E Training Assessment form/ Competency)

4.3 Blasting Safety.

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Bellingham Quarries Blasting Procedure'.

The blasting contractors that are engaged have their own health and safety system in place, which meet their requirements under the health and Safety in Employments Act.

4.4 Training Records.

All employees are inducted when they start on the site. Subjects discussed during introduction include:

- Health and Safety information and Site rules
- Hazard identification
- Emergency procedures
- P.P.E
- Orientation
- Authority to operate machinery
- Competency forms
- Safety Induction Form

See Appendix F

These induction meetings are recorded in the ring binder titled 'Health and Safety Meeting and Completed Forms' and kept in the Larmers Road Quarry Office.

4.5 Competency Assessments and Equipment Operators Appointment

Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the main Bellingham Quarries office at Larmer Road. (See Appendix E)

4. DUST CONTROL.

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.

Due to the isolation of the Te Hapua Quarry there are no dust issues to consider.

5.1 Processing Plant.

The dust generated from the crushing plant has no effect on neighbouring properties.

5.2 Roads.

The quarry is located at the foot of a hill, the roads are reasonably steep so quarry vehicle movements are generally slow which reduces the potential for a dust nuisance.

5.3 Loading of Trucks.

Dust produced from loading aggregate is not normally an issue.

5.4 Overburden Disposal

Generally the overburden extraction and disposal sites are occurring in areas far enough from quarry boundaries not to have a dust effect on neighboring properties.

5. NOISE MANAGEMENT

Te Hapua Quarry is within a designated minerals zone in the Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB(A)L_{10}.

6.1 Blasting and Drilling

Blasting is carried out in accordance with Mining and Quarrying Regulations 2013. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible, and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler, and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is now carried out using a rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast to the neighbours.

6.2 Processing

The crushing plant is not an issue due to the quarries isolation. All diesel mobile plants are fitted with muffler systems, newer machines operated comply with some European standards.

7 WATER

There is no water on site apart from water trapped in the silt detention ponds.

7.1 Flooding

The Far North District council Flooding Map for the area does not identify the site as being flood prone

7.2 Discharge

The activity at the quarry has the potential to result in the erosion and subsequent discharge of sediment into the unnamed tributary of the Waitiki Channel. The quarry bench and floor are level areas and do not represent significant potential sediment run off.

Sediment detention ponds are in place to minimise potential adverse effects. The pond catching the sediment from the quarries roads / benches / floor is positioned at the face where previous extraction took place with other ponds immediately prior to the quarry floor outlet drain.

A discharge permit CON 20070675601 (02) allows the discharge of storm water.

See Appendix G for water directional flow and settling ponds.

7.3 Monitoring and Inspection

The quarry manager will inspect the sediment detention ponds weekly or as required after a storm event and remove accumulated sediment before its level reaches one third of its volume (holding capacity).

8 DEVELOPMENT AREA AND VISUAL IMPACT

The ten meter high bench above the quarry floor will continue to be excavated.

8.1 Development Area

Development will proceed at the western edge of the quarry as photos describe in Appendix D.

The plant site and access is located in the current quarry floor/ work area.

8.2 Visual Impact

The quarry and development area are not visible from any public roadways except at a distance from SH1F. There is no visual impact in regard to the western side development area.

8.3 Monitoring and Inspections

Prior to commencement of vegetarian removal in an area, the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarry man will confirm on a daily basis that the controls and methodologies determined are being followed.

9 FUEL AND OIL SPILLAGE/ HAZARDOUS SUBSTANCES

9.1 Potential Adverse Environmental Effects

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.2 Storage (diesel oil)

The quarry currently has the following storage capacity:

Diesel fuel trailer tanks with a holding capacity of 1200 litres are taken on and off site daily. Alternatively Mini tankers are used to deliver and refuel machinery each day or when required.

Various grades of oils are stored in a locked Steel container in 20 litre containers.

9.3 Potential Spill Sources and Risks

The hazardous substances storage facility (diesel storage) is considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system and the unnamed tributary of the Waitiki River. It is considered there is the opportunity to prevent a spill from entering the water ways, some potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment Malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.4 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc. is being undertaken to minimize the potential for a spill.
All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the sight
- Take action to stop source of spill if practical and safe to do so
- Take action to contain spill if practical and safe to do so, and if it is not, stand by in a safe location until instructed otherwise.

9.5 Spill Response Equipment available on site

A 100 litre spill kit is located in the sites steel container or Quarry Managers vehicle.

9.6 Equipment and Operators Available Elsewhere

The Northland Regional Council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Te Hapua Quarry can cope with itself. Phone 408 6600 or 0800 504 639.

9.7 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.8 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence

See Appendix H.

10 HAZARDOUS SUBSTANCES INVENTORY

See Appendix J

10.1 Material Safety Data Sheets

A full complement of material safety data sheets are kept in the sites lunchroom/Managers vehicle.

11 LITTER CONTROL

All organic and inorganic waste is taken off site to Lamer Road Quarry rubbish skip where it is removed by waste contractors.

11.1 Waste Oils

Waste oil is collected in used oil drums and transported to Larmer Road Quarry waste oil facility where it is removed off site by contractors.

12 ARCHAEOLOGICAL AND HISTORICAL SITES

There are 3 known pa sites near and outside the quarry surveyed area. The approximate "Google Earth" coordinates are

1. 34°, 30', 06.05"S, 172°, 52'00.91"E elevation 134 meters
2. 34°, 30', 31.37"S, 172°, 52'03.95"E elevation 45 meters
3. 34°, 30', 35.33"S, 172°, 52'18.80"E elevation 60 meters

See Appendix I "Archaeological sites"

13. TANGATA WHENUA

Ngati Kuri Trust Board is the Iwi Authority that has interests in the activities of Te Hapua Quarry.

14. REHABILITATION

See Appendix L "Rehabilitation Plan".

Te Hapua Quarry is an active, working quarry, it is expected that the resource will continue to be extracted well into the future.
Quarry rehabilitation will be ongoing as the resource is extracted to find levels.

The rehabilitation has been planned in three stages, with Stage two the largest area being planted with 5400 native seedlings which will grow to blend into the natural landscape. The other two sites have been rehabilitated by laying down slash to provide natural a regeneration of Manuka and Kanuka. Spot Spraying is carried out annually to rid the area of pest plants.

Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt ponds will be filled in.

The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

Re-contouring of faces of weak material will minimize the chance for rock falls and slips. Overburden dumps will also be contoured and planted.

A qualified geotechnical engineer will inspect the site to confirm that the final faces will be in a safe condition.

15. EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180
Top Health Care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
Worksafe NZ (HHU)	Wellington	0800 030 040
Northland Regional Council	Kaitaia Whangarei	408 6600 09 438 4639
Far North District Council		0800 920 029
Bellingham Quarries Ltd Brian Bellingham David Bellingham	Office Mobile Home Mobile Home	408 1340 021 848 098 406 7479 021 848 099 406 0156

SPILL RESPONSE

Is it safe? Identify:

1. The type of material spilled (e.g., from the label, your supervisor or MSDS);
2. The size of the spill and whether the leak has stopped;
3. Whether two chemicals are involved in the leak and could react with each other; and
4. Any unusual features such as foaming, odour, fire, etc.

Put on Protective Gear
Put on appropriate personal protective equipment. This can include respirators, gloves, goggles, etc., as needed.

Turn off Source

Stop the source of the spill or leak. This can include:

- Turning off the valve,
- Patching a leaky hose,
- Draining a tank, or
- Righting a knocked over drum container.

Block Off Drains

Stop the spill from spreading. This can include use of appropriate absorbent/ containment materials such as sand, crushed rock fines or aggregate (land) and booms (water).

Clean Up

Clean up the spill using appropriate materials and equipment from spill kits or other materials at hand.

Notify
Notify the quarry manager and/or ASQTE Manager.

In the event of a spill into a waterway we have a legal obligation to notify the Regional Council. The NRC operates a 24hr, 7 day-a-week pollution control hotline on 0800 504 639.

SPILL RESPONSE contd.

Dispose to an Authorised Site

Dispose of contaminated materials properly. Contaminated spill control materials and disposable personal protective clothing may have to be disposed of as hazardous waste. Contaminated tools and non-disposable personal protective equipment should be decontaminated.

Review Incident

An incident form (OFI) should be filled in for every spill, including non-emergency (incidental) spills.
Review the cause of the spill and put in place any corrective actions identified.

Restock Spill Kit

Ensure that the products used to clean up the spill are replenished.

EARTHQUAKE

When the shaking starts take cover

- Keep calm
- Get under a desk, table, brace yourself in a doorway, hold onto the door to prevent it from slamming or crouch behind a solid structure (wall etc.)
- Keep away from glass doors, windows or equipment likely to fall over
- If you are outside, take cover in doorways, keep clear of loose items, glass and electric wires.
- If you're in the quarry area move away from the quarry face if safe to do so.

When the shaking stops

If safe to do so:

- Remove anyone from danger if safe to do so. Isolate hazards (e.g. Check for electrical and glass hazards, turn off electricity).
- Announce the alarm
- Notify the Quarry Manager as soon as possible
- Attend to any injured persons. You may need to stay inside in the event of a major earthquake (outside hazards may be greater than inside hazards)
- If fire has started put it out if possible.
- Protect yourself from further aftershocks

If you need to evacuate

- Follow evacuation procedures

EARTHQUAKE contd.

- Follow the wardens/managers instructions
- Meet at the assembly point

RETURN TO THE SITE OR BUILDINGS ONLY WHEN THE EMERGENCY SERVICES OR WARDENS INDICATE THAT IT IS SAFE

Following an earthquake and if drainage has occurred, the following will be carried out

- Stop operations in the vicinity of damage.
- Contact the quarry Manager
- Assess damage and repair as necessary

FIRE

If you discover a fire:

- Activate Alarm and call 111
- Alert people in your area and the warden/manager
- Do not extinguish the fire unless it can be done without danger to you
- If time permits and there is no danger, close all doors and windows
- After evacuation meet at the assembly point

If the fire alarm sounds:

- Do not stop to take personal items with you
- Follow the evacuation procedure
- Meet at the assembly area

The warden/manager is to account for all staff and ensure that emergency services have been called.

RETURN TO THE SITE OR BUILDING ONLY WHEN THE FIRE SERVICE OR WARDEN(S) INDICATE THAT IT IS SAFE

EVACUTAION PROCEDURE

TE HAPUA QUARRY EMERGENCY PROCEDURE

	NAME
WARDEN/MANAGER	Quarry Manager
FIRST AID PERSON	All Quarry Personnel

Remove anyone from danger **if safe to do so.** Keep up wind of fire.
Announce the alarm; activate office burglar alarm and alert other via mobile phone or RT
Contact emergency services Dial 111
Provide name, address, details of the fire or any casualties incurred and the nature of injury, and relevant information to guide Emergency Services to the exact location:

- **Your name**
- **Te Hapua Quarry**
- **Te Hapua Road**
- **Te Hapua**
- **Grid Coordinates:** 35°, 30', 14.34"S, 172°, 52', 05.86"E (Google Earth Co-ordinates)
- **Contact phone number** 09 4081340 (office)

Alert the Warden/Manager
Contain the danger.

- Do not risk contact
- Close doors behind you and the fire
- If it is safe to do so, turn off the mains power to the workshop, crusher, and office and shift any plant that may be threatened by the fire.
- You are not to put yourself in danger for recover of plant or equipment

Evacuate the immediate area

- Prevent re-entry.
- Ensure no staff or customers are at risk or exposed to smoke from the fire.
- Move immediately to the assembly point (TBC) and report to the warden.

RETURN TO THE SITE OR BUILDINGS ONLY WHEN THE EMERGENCY SERVICES

SERIOUS INJURY

OR WARDEN(S) INDICATE THAT IT IS SAFE

If you are first on the scene of an accident ensure you do not place yourself in danger when providing assistance.

If the injury is the result of electrocution, shut off the power before proceeding to rescue the victim.

If the injury is the result of crushing and it is safe to do so shut off any plant and assess whether the person needs to be removed or left until the emergency services arrive.

Proceed with caution and secure the area to ensure no further injury can occur. Call for assistance if there is anyone close by and ask for First Aiders to Assist.

If Required: Contact emergency services **Dial 111** Request Ambulance assistance

Provide name, address, details of the injury(s) incurred and the nature of injury, and relevant information to guide emergency services to the exact location:

- **Your name**
- **Te Hapua Quarry**
- **Te Hapua Road**
- **Te Hapua**
- **Grid Coordinates**: 35°, 30', 14.34"S, 172°, 52', 05.86"E (Google Earth Co-ordinates)
- **Contact phone number**: 09 4081340 office

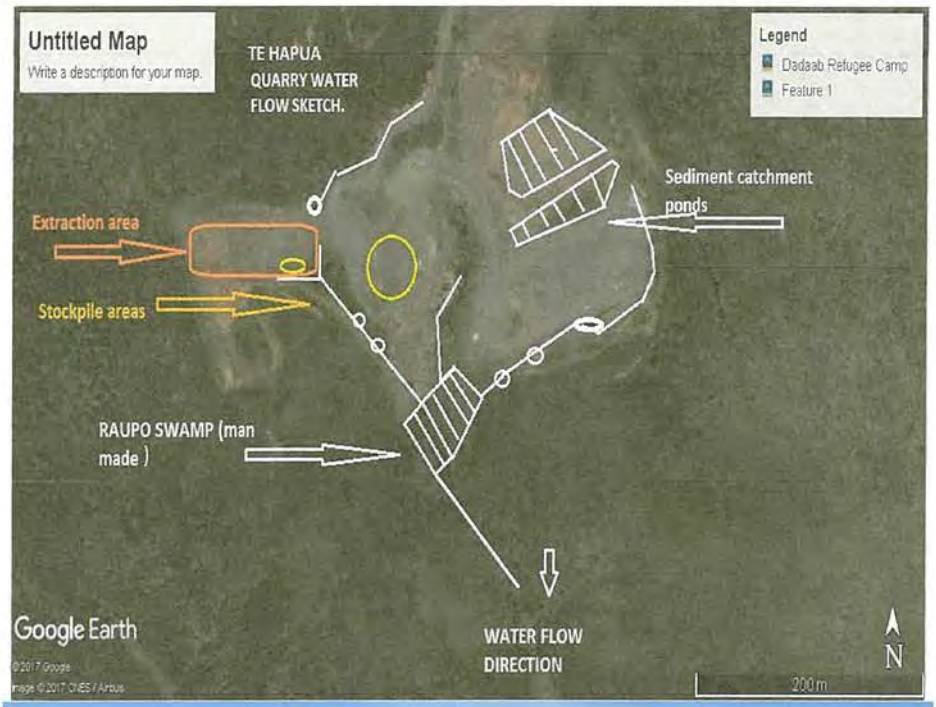
Using mobile phone, radio transmitter or bystander to: contact the Warden/Manager to get assistance and instigate general evacuation if necessary. Also direct and direct any bystander to go to the entrance to guide the ambulance to the site.

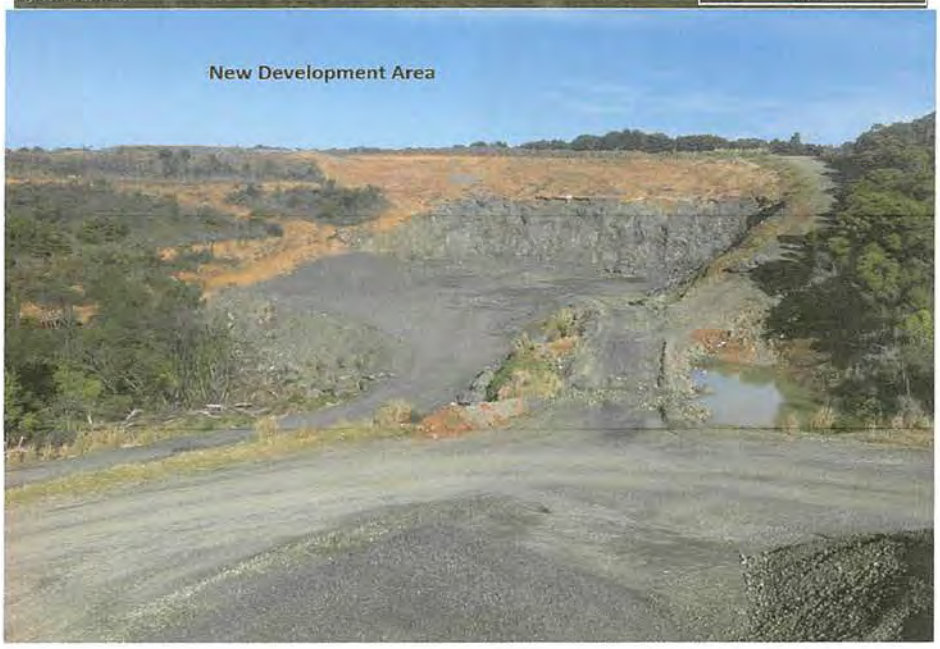
- Provide First Aid
- Do not move the victim, unless they are in danger of further injury
- If unconscious but breathing, place the victim in the recovery position
- Commence CPR if necessary and if you know how to

- Follow the instructions of the emergency services
- Shut down plant where necessary
- Leave all property and plant secure and safe
- Stop or contain leakage or spills
- Do not alter the site of the accident until given the all clear by Management of OSH.

APPENDIX G

Water Directional Flow


Untitled Map
Write a description for your map.
TE HAPUA QUARRY WATER FLOW SKETCH.
Legend
Dadaab Refugee Camp
Feature 1
Sediment catchment ponds
Extraction area
Stockpile areas
RAUPO SWAMP (man made)
WATER FLOW DIRECTION
Google Earth
N
200 m


New Development Area


Appendix G - Water flow and outlet


Appendix G - Waterflow & outlet

APPENDIX L

REHABILITATION PLAN

Te Hapua Quarry Rehabilitation Report.

Te Hapua quarry is an active work site producing various roading aggregates for local projects, roading and construction, crushing plant usually on site for two months of any one year depending upon demands. Intermittent loading out of aggregates from stockpiles continue throughout the year.
The old quarry workings as shown in photograph (I) now provide an overburden disposal site and an area to stockpile various grades of aggregate.

Attached are photographs of the quarry areas described in this report along with a proposal to rehabilitate a disused stockpile area (stage 2 in yellow) above the old quarry workings.

Below is a development plan of Te Hapua quarry showing four areas being marked with the old quarry working area to the right hand side of the photograph and the new development area to the left side.

Photograph (I)

Stage 1 rehabilitation area.

The rehabilitation plan began with stage 1 in the spring of 2011 on a site immediately above the northern edge of the rock face. Biodegradable environmental cloth "Biomac C300" was laid down over exposed clay an area of 1560 square meters.

Manuka seed heads were collected from the surrounding area and laid on top of the cloth. Since that time small plants have germinated from the seed while the cloth has gradually rotted enabling the plants to grow through.

Ongoing release spraying is undertaken as necessary to control weeds amongst the young plants.

Photograph (ii) Environmental cloth laid down

Photograph (iii) Seed heads on environmental cloth

Photograph (IV) Trees growing through cloth.

Stage 2 rehabilitation area.

The old stockpile site "stage 2" near the Te Hapua road entrance to the quarry is no longer required so is the next area to be reinstated. We consulted with local company Community Business and Environment Centre (CBEC) on the preferred method of replanting when considering the following factors during a site visit.

1. The soil type being heavy clay.
2. The degree of aggregate/soil compaction on the stockpile site.
3. The outcomes of laying slash at the previous site close by.

4. The availability of local seed at the quarry.
5. A visual inspection of the juvenile Manuka that has naturally seeded around and over the old stockpile area.
6. Consideration of possible drought conditions after future planting.

The stage 2 site sub base is yellow clay compacted with a layer of crushed roading aggregate. Local grasses and juvenile Manuka self-seeded are growing around the outside edges of the site, however close inspection revealed the root system of some of the plants had not managed to break through the compacted top course layer of metal to the subsoil.

The area is approximately 6000 square meters.

Photograph (v) Old stockpile site, stage 2.

Stage two Rehabilitation site.
5400 Manuka seedlings planted and fertilised in 2012, lines were ripped using a bulldozer to loosen ground prior to planting.

Plant Species.

The vegetation in the quarry area consists of 90% Manuka (Leptospermum scoparium), 5% Kanuka (Kunzea ericoides) and another 5% mix of Karamu (Coprosma robusta, Cordyline australis (cabbage tree) and Harakeke (Phormium tenax) (flax).
The same species and volumes would be reinstated on the rehabilitated sites as has been described.

Photograph (VI) Typical vegetation around quarry. Rehabilitation sites 1 and 2 are in the background to the right of the photograph.

CBEC recommendations are to gather local seed from existing stock, transport it to their growing facility where the seeds can be propagated and grown to seedlings in hot house conditions.
Prior to planting, the area would be ripped using a bulldozer at one meter spacing's to a depth of 300mm to enable the juvenile plants to take root successfully. The trees would be planted at a spacing of 1 meter by 1 meter intervals, total trees required would be 6000.
Planting would be done in late May or early June 2015 to ensure a high success rate and reduce the effects of a possible summer time drought if the trees were planted earlier.

A slow release fertiliser tablet will be inserted into the base of the planting hole of each plant. This tablet shall be 50mm beyond contact with the rootball and will be at the rate as per manufacturers guidelines and shall last a minimum of 18 months and a maximum of 24 months.
A provisional requirement for four maintenance visits and release sprays per year has been allowed for over five years.
The presence of an adjacent indigenous seed bank and the pest plant control program will allow natural regeneration processes to occur within this area over time.

Alternative methods.

It was decided that the "direct transfer method" would have a negative impact on the surrounding landscape; the adjacent bush is tall and mature. The excavation of such to achieve a ten tree every ten meters clump would leave large holes throughout the surrounding landscape. Also, there is minimal top soil on the ground and the excavations would be exposing bare clay wherever a tree was removed.

The "layering of slash" (Manuka seed heads) has proven to be a successful process at the first rehabilitation site (stage one) and deserves consideration as an option to reinstate area two. It may not have the instant result as planting young trees would, but over time, in conjunction with pest plant management, the layering of seed head slash can produce a resilient shrub land in keeping with the surrounding vegetation.

CBEC were involved with the rehabilitation and tree planting at the Cape Reinga light house DOC project, are locally operated and are familiar with the plant species successfully rehabilitated for the Far North Area.

Stage 3 rehabilitation area.

Rehabilitation area 3 is the original quarry extraction site now exhausted and used as an overburden disposal site (cut and fill method) and aggregate stockpile site. The quarry floor has been bunded to contain the overburden and runoff. The disused area of the pit is being filled from the western end to a level of the access haul road to the quarry floor.
As the overburden program progresses it has been benched to reduce the overall height and assist with stability. The old extraction site is of a size that future overburden volumes will not fill the entire extraction area to the level described. Therefore the overburden disposal site will be benched and contoured to the floor level upon completion.

Photograph (VI). Stage 3 overburden stockpile site benched and "slash" laid out on top level. As the overburden disposal site is filled to the finished levels slash will be applied to promote growth.

Stage 4 and 5 rehabilitation areas.

Stage 3 Rehabilitation site

Potential Pest Plants:

The dominate pest plants identified on site include Cortaderia selloana, jubata (pampas) and gorse which are managed through spraying as previously mentioned.
Following is a list of pest plant species common in the Far North District.

The following invasive species have been identified as potential plant pest within the area. Many of these plants are banned from planting, but others could arrive opportunistically at the property. Surveillance needs to be ongoing and offending plants removed.

Agapanthus praecox	Agapanthus
Alternathera philoxeroides	Alligator weed
Andredera cordifolia	Mignonette vine
Archontophoenix alexandrae	Bungalow palm
Asparagus asparagoides	Smilax
Asparagus scandens	Climbing asparagus
Banksia spp.	Banksia
Buddleja davidii	Buddleia
Callistemon spp.	Bottlebrush
Calluna vulgaris	Heather
Canna sp.	Canna lily
Chrysanthemoides monilifera	Boneseed
Cortaderia selloana, jubata	Pampas
Cotoneaster spp.	Cotoneaster
Echeveria sp.	Stonecrop
Elaeagnus x reflexa	Elaeagnus
Erica spp.	Spanish heath
Erigeron karvinskianus	Mexican daisy
Erythrina x sykesii	Flame tree
Gladiolus undulatus	Gladiolus
Hedychium spp.	Ginger
Ipomoea indica	Morning glory
Jasminum polyanthum	Jasmine
Kniphofia sp.	Red-hot poker
Lantana camara	Lantana
Leycesteria Formosa	Himalayan honeysuckle
Ligustrum spp.	Privet
Lonicera japonica	Japanese honeysuckle
Melianthus major	Cape honey flower
Nephrolepis cordifolia	Tuber ladder fern
Nymphoides spp.	Water lilies
Passiflora caerulea	Blue passionflower
P. mixta, P. mollissima	Banana passionfruit
Pennisetum spp.	Pennisetum, feather grass
Phoenix canariensis	Phoenix palm
Plectranthus spp.	Plectranthus, spur flower
Polygala myrtifolia	Sweat pea shrub
Rhamnus alaternus	Evergreen buckthorn
Rubus fruiticosus	Blackberry
Selaginella kraussiana	African clubmoss
Senecio spp.	Ivies, ragwort
Solanum mauritanium	Woolly nightshade
Tradescantia fluminensis	Tradescantia
Vinca major	Periwinkle

The Te Hapua quarry new development area and current stockpile site (stage 4 and 5) is self-explanatory and will be the main working areas of the quarry into the future.
The rehabilitation strategies are not yet formulated for these areas.
At its early stage we consider the stockpile site when completed will be contoured and planted as described above. The new development area will require the importing of soils to provide adequate cover to create a contoured plantable area.

Nominated annual photographic monitoring points.

The nominated annual photographic points have been marked with painted pegs where a good overview of the individual rehabilitation areas ongoing plantings progress can be monitored.

Resource Consent

FILE: 6881
(01 to 03)
Replacement

Document Date 06.06.2019

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the council") does hereby grant a Resource Consent to:

BELLINGHAM QUARRIES LIMITED, PO BOX 144, KAITAIA 0441

To undertake the following activities associated with an existing quarrying operation on Lot 1 DP 208032 and Lot 1 DP 191921 (61 Hobbs Road, Totara North), at or about location co-ordinates 1658430E 6121110N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.006881.01.05	**Extract rock and remove and place overburden.**
AUT.006881.02.04	**Discharge stormwater to land from land disturbance activities.**
AUT.006881.03.03	**Divert stormwater associated with land disturbance activities.**

Subject to the following conditions:

1 The Consent Holder shall undertake all works generally in accordance with the **attached** Bellingham Quarries Ltd document entitled:

(a) *"Hobbs Road Quarry Management Plan"*;

and the **attached** aerial photograph entitled:

(b) *"Hobbs Road Quarry".*

2 No quarrying excavations shall occur within 20 metres of an adjacent property boundary that is not owned by the Consent Holder

3 The Consent Holder may, in consultation with the council's assigned monitoring officer, amend the plans and document referred to in Condition 1 at any time during the term of the consent. A copy of the updated plan and/or document shall be provided to the council. For compliance purposes, the works shall be undertaken generally in accordance with the most recent plan and/or document that has been received by council.

4 No overburden removal and placement operations shall be carried out between 1 May and 30 September in any year unless the prior written agreement of the council's Compliance Manager has been obtained.

5 Soil, overburden and debris shall not be placed in a position where it may enter any watercourse.

6 All earthworks operations shall be carried out in a manner that minimises the potential for slope instability and soil erosion. Effective mitigation measures shall be installed as required to mitigate and/or remedy any slope failures.

Northland REGIONAL COUNCIL

7 Surface water from surrounding areas shall be diverted away from the operational quarry and overburden disposal areas.

8 All stormwater diversions, drains and channels shall be:

(a) Capable of conveying storm water during not less than the estimated 1 in 20 year rainfall event; and

(b) Adequately protected to prevent destabilising slopes and areas of overburden.

9 All bare areas of overburden shall be either covered with aggregate, or topsoiled and established with a suitable grass/legume mixture to achieve an 80% groundcover within three months of the completion of overburden removal in each earthworks season.

10 All discharges of stormwater from areas of bare land associated with the operation of the quarry shall be via suitably designed and constructed sediment detention structures. As a minimum, the working storage volume for each sediment detention structure shall be calculated at no less than 300 cubic metres of storage per hectare of contributing catchment.

11 Accumulated sediment shall be removed from each sediment detention structure before the sediment level reaches one third of its working storage volume. All sediment removed from the sediment detention structures shall be placed in a stable position where it will not enter any water body nor re-enter any sediment detention structure.

12 The exercise of these consents shall not give rise to any discharge of dust at or beyond the property boundary which is deemed by a monitoring officer of the council to be noxious, dangerous, offensive or objectionable.

13 The Consent Holder shall, for the purposes of adequately monitoring these consents as required under Section 35 of the Act, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with these consents:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and

(b) Immediately notify the council by telephone of an escape of contaminant; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(d) Report to the council's Compliance Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

For telephone notification during the council's opening hours, the council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the council's opening hours, then the Environmental Hotline shall be contacted.

Advice Note: *The Environmental Hotline is a 24 hour, seven day a week, service that is free to call on 0800 504 639.*

14 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

15 The council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of June for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of these consents and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 31 OCTOBER 2039

These consents are granted this Sixth day of June 2019 under delegated authority from the council by:

Stuart Savill
Consents Manager

HOBBS ROAD QUARRY

MANAGEMENT PLAN

BELLINGHAM QUARRIES LTD
P.O.BOX 144 KAITAIA ph:09 4081340
Email: bellingham.quarry@xtra .co.nz

Table of Contents

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A. Resource Consent
B. Lease Agreement
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D. Quarry Extraction Direction
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F. Training Facilities
G. Water Flow and Outlet
H. Diesel Tank Locations
I. Hazardous Substances Inventory
J. Environmental Spill Report Form

1. INTRODUCTION

1.1 Location and Access.

Hobbs Road Quarry is situated at the end of Hobbs Road approximately 20km south east of Mangonui Township. The quarry is approximately 160 meters above sea level and facing west, it is not visible from State Highway 10 or Taratara Road.

Access is by turning onto Taratara Road 17km south of Mangonui, travelling 2km up Taratara and veering onto Hobbs Road for 1km.

Both Taratara Road and Hobbs Road are loose metal council Roads.

Google Earth co-ordinates 35°, 03', 03.89"S, 173°, 38', 25.55"E

1.2 Legal Description.

The legal description for the quarry land requiring Resource Consent is Totara North, Lot 1, DP208032 Blk X1 Mangonui SD at or about location co-ordinates 1658430E, 6121110N. Area of land approximately 10 hectares.

1.3 Land Ownership

The whole property is owned by Colin Robert Jay and Daryl Judith Smedley of Hobbs Access R.D.2 Kaeo.


Hobbs Rd
Quarry
Hobbs Road

1.4 Controlling Authorities

The Regional Authority is the Northland Regional Council (NRC) that administers water and air issues.

The Territorial Local Authority is the Far North District Council.

1.5 The Quarry History.

Hobbs Road Quarry's first NRC consent was issued in 1993 to United Carriers, Whangarei. Bellingham Quarries Ltd entered into a lease agreement with the landowners in 2002 after having worked at the site for 2 years under authority from United Carriers.

1.6 Resource Consents.

Northland Regional Council Consent (Appendix A)

	Consent	Reference	Expiry
01	Remove and Place Overburden	CON 20090688101	31.10.2019
02	Discharge Storm water	CON 20090688101	31.10.2019
03	Divert Storm water	CON 20090688101	31.10.2019

1.7 Zoning.

Far North District Council Zoning maps for the area identifies the site as being zoned – Minerals with the surrounding lands (light green) being Rural Production Lands.

1.8 Geology.

The geological mapping of the area is contained with the Kaitaia –Rawene Rock Types (Geology) Map NZMS 290 – Sheet 004/05 which was published as a 1st edition in 1982 at 1:100,000 scale. The mapping identifies the sites geology to contain Extrusive Rock deposits described as *Basalt and dolerite; very fine to medium grained altered, crystalline basalt and dolerite with some breccias, (volcanic breccias) with rare blocks of sandstone (S52), mudstone and muddy limestone: closely to moderately fractured with some curved jointing: hard to very hard. Weathered to soft brown clay to depths of 20 meters.* The geological mapping description appears to be consistent with our visual inspection of the site. The geological map shows the deposits in pink.

1.9 Lease Agreement.

The current lease between Bellingham Quarries Ltd and the land owners Colin Jay and Daryl Smedley expires 22nd November 2027. (see Appendix B)

2. QUARRY ACTIVITIES

2.1 Stripping.

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry area. The overburden height ranges from 5 to 15 meters depending on the area being stripped.

Overburden removal can only be carried out in the summer/autumn months as per condition 5 of the Resource Consent CON 20090688101, no overburden stripping shall be carried out between 1st May and 30 September any year without the prior written approval of the council.

There are no limits on the amount of overburden that can be removed each year.

The material is stripped using excavators, articulated trucks and bulldozers.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 31st May each year.

As per condition 16 of the lease agreement Bellingham Quarries and the landowners shall mutually agree from time to time as to the locations upon the farmland where the overburden material can be deposited.

See Appendix C for overburden disposal sites.

2.2 Extraction.

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Ltd staff that are holders of Explosive Approved Handlers Certificates as per HASNO regulations.

Rock is loaded directly from the blasted muck pile using excavators directly into the Mobile crushing plants, wheel loaders can also be used to load rock directly into the crushing plant in some situations.

The rock is currently being extracted from the quarry bench above the quarry floor. Future extraction will be into the quarry floor as the edges of the highwalls have been developed to their potential this also reduces the need for any major overburden removal.

Into the future the floor will be lowered again with a drain established to dewater the quarry.

See Appendix D for quarry extraction direction.

2.3 Processing and Stockpiling.

The rock is processed through Mobile Crushing Plant. Normally a Primary Jaw Crusher, Secondary Cone Crusher and an Impact crusher to take the sharp edges off the stone.

Note: Hobbs road crushed rock is very hard and sharp and must be processed through an impact crusher for an aggregate to be used for pavement layers.

The finished product is carted to the stockpiles via loaders and/or 6 wheeled trucks.

Daily production figures are kept to assess stock volumes.

2.4 Sales.

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are processed through the quarry data base by the quarry dispatcher located in the site office. Sales data is transferred into acumen at the end of the month.

3. SITE FACILITIES.

3.1 On Site Facilities.

There are no facilities maintained on the site due to the utilisation of the mobile crushing fleet. When crushing activity is taking place the following facilities will be brought onto the site.

- Smoko Room
- Fuel tanks (normally 1200 litre mobile trailer tanks).
- Toilet

3.2 Rubbish.

Inorganic waste is collected and transferred offsite for disposal. This includes waste oils and other hazardous substances.

3.3 Pest Plants

Spraying of pest plants occurs annually and is undertaken by contractors.

3.4 Services

There are no services (power, telephone, water) on site.

3.5 Entrance

The entrance way is secured to prevent theft as well as preventing people entering a hazardous area.

4. HEALTH & SAFETY.

4.1. Health and Safety System.

Hobbs Road Quarry is operated under Bellingham Quarries Ltd Health & Safety system. The sites H&S Manuel is kept at Larmer Road, Kaitaia unless activity is occurring on site and then it will be located in the Smoko Room or the Managers Vehicle.

The Health and Safety System includes:

- Bellingham Quarries Health and Safety Policy
- Drug and Alcohol policy
- Workplace Audit and Inspection procedures
- Return to work policy
- New employee introduction procedures
- Staff recruitment policy and procedures
- Employee training, roles and procedures
- Protective clothing and safety equipment instructions
- Accident and engineering instructions
- Accident and emergency procedures
- Accident and incident reporting procedures
- Register of hazards
- Material safety data sheets location
- Register of hazards

4.2 Visitors.

All Visitors to the site must first report to the lunchroom and sign the visitors register. A contractor, customers and visitor's health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details:

- Emergency assembly point
- Accidents, Injuries and Incidents requirements.
- Vehicle movement rules
- Signage
- Loading procedures
- Child restrictions
- Identified hazards
- Metal/lime docket rules

All visitors to the site must wear the appropriate Personal Protective equipment (PPE). This includes a hard hat, safety footwear and a high Vis Vest.

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant. (see APPENDIX E Induction Form & Assessment Form)

4.3 Blasting Safety.

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Bellingham Quarries Blasting Procedure'.

The blasting contractors that are engaged have their own Health and Safety System in place, which meet their requirements under the Health and Safety at Work Act 2015.

4.4 Training Records.

All employees are inducted when they start on the site. Subjects discussed during introduction include:

- Health and Safety information and Site rules
- Hazard identification
- Emergency procedures
- P.P.E
- Orientation
- Authority to operate machinery
- Competency forms
- Reporting Requirements (Paper Work)
  See Appendix F

These induction meetings are recorded in the ring binder titled 'Health and Safety Meeting and Completed Forms' and kept in the Larmers Road Office.

4.5 Competency Assessments and Equipment Operator Appointments

Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the main Bellingham Quarries Ltd office at Larmer Road. (See APPENDIX E)

5. DUST CONTROL.

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.

Dust nuisance to neighbouring properties is dependent on the wind direction. When the wind is blowing from the northwest control measures have to be implemented to control the dust emissions. If the wind is prevailing from any other direction neighbouring properties are unaffected. All of Bellingham Quarries Ltd personnel on site are required to monitor dust levels at all time during operational hours, and senior personal including the production manager and quarry manager are responsible for ensuring that dust emissions are controlled at their source.

5.1 Processing Plant.

The dust generated from the crushing plant has no effect on neighbouring properties unless the wind is in the North West. There is no water on site to suppress the airborne dust but the plant is situated as far from the effected neighbours house as possible.

With the wind in the North West the product being fed into the crushing plant should be if possible dampened by natural clays and or water from the silt detention pond located in the quarry.

If prevailing environmental conditions are such that during the crushing operation all dust control measures are ineffective, crushing shall cease until such time as environmental conditions improve.

5.2 Roads.

Bellingham Quarries Ltd has placed a 30km speed limit on Taratara and Hobbs Road for all heavy traffic accessing the quarry purely to reduce the dust generated by the heavy traffic. Neighbouring residence monitor the truck speeds and inform the Larmers Road Office if there is a vehicle breaching the 30km limit. The quarry manager at Hobbs Road Quarry can be contacted via radio communications and can address the offending truck driver.

5.3 Loading of Trucks.

Dust produced from loading aggregate is not normally an issue unless the wind direction is in the north west and the aggregate is particularly dry. As the font-end loader tips dry aggregate into the truck trays dust can become airborne and blown away. The bucket of the loader is to be kept as low as possible to the deck of the truck when loading dry aggregate.
It may be necessary to dampen the offending stockpile using a water cart with a large volume discharge hose.

5.4 Overburden Disposal

Generally the overburden extraction and disposal sites are occurring in areas far enough from quarry boundaries not to have a dust effect on neighboring properties.

5.5 Other Remedial Actions

If prevailing environmental conditions are such that during operation of the quarry all dust control measures are ineffective, those activities generating excessive dust (crushing, processing, loading) are to cease until such time as environmental conditions improve.

6. NOISE MANAGEMENT

Hobbs Road Quarries is within a designated minerals zone in the Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB(A)L_{10}.

6.1 Blasting and Drilling

Blasting is carried out in accordance with Health and Safety in Employment(Mining and Quarrying Operations) Regulations 2013. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible, and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler, and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is now carried out using a rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast to the neighbours.

6.2 Processing

The crushing plant is situated as far from the neighbouring property as possible. Crushing, processing or rock drilling is not permitted before 7.00 a.m, all diesel mobile plants are fitted with muffler systems.

7 WATER

There is no water on site apart from water trapped in the silt detention ponds.

7.1 Flooding

The Far North District Council Flooding Map for the area does not identify the site as being flood prone.

7.2 Discharge

The activity at the quarry has the potential to result in the erosion and subsequent discharge of sediment into the unnamed tributary of the Oruaiti River. The quarry bench and floor are level areas and do not represent significant potential sediment run off.

Sediment detention ponds are in place to minimize potential adverse effects. The pond catching the sediment from the quarries roads / benches / floor is positioned immediately prior to the quarry floor outlet drain.

Sediment from the crushing plant level is retained in a pond on the outside edge of the plant site. Another detention pond is positioned below an overburden disposal site.

A discharge permit CON 20090688101 (02) allows the discharge of storm water.

See Appendix G for water directional flow and settling ponds.

7.3 Monitoring and Inspection

The quarry manager will inspect the sediment detention ponds weekly or as required after a storm event and remove accumulated sediment before its level reaches one third of its volume (holding capacity).

8 DEVELOPMENT AREA AND VISUAL IMPACT

The ten-meter-high bench above the quarry floor will remain with future development progressing into the quarry floor.

8.1 Development Area

Development will proceed below the floor level at the western edge of the quarry pit as photos describe in APPENDIX G. An existing water outlet will drain runoff from the quarry.

The plant site and access are through a cutting developed at the eastern side of the quarry below the upper stockpile site to the main working area.

8.2 Visual Impact

The quarry and development area are not visible from any public roadways or residential houses apart from the land owners. There should be no visual impact in regard to the new development area.

8.3 Monitoring and Inspections

Prior to commencement of vegetarian removal in an area, the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarry man will confirm on a daily basis that the controls and methodologies determined are being followed.

9 FUEL AND OIL SPILLAGE/ HAZARDOUS SUBSTANCES

9.1 Potential Adverse Environmental Effects

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.2 Storage (diesel oil)

The quarry operations use "Mini Tankers" to deliver diesel fuel as and when required and is pumped directly into the machines which reduces the need to store large quantities of diesel fuel on site.
The maximum amount of fuel stored is by use of a mobile trailer tank with a holding capacity of 1200 litres.
Engine and Hydraulic oils are taken to site as required in 20 litre containers.

9.3 Potential Spill Sources and Risks

The hazardous substances storage facility (diesel storage) is considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system and the unnamed tributary of the Oruaiti River. It is considered there is the opportunity to prevent the spill from entering the water ways and the potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment Malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.4 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc. is being undertaken to minimize the potential for a spill.
All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the sight
- Take action to stop source of spill if practical and safe to do so
- Take action to contain spill if practical and safe to do so, and if it is not, stand by in a safe location until instructed otherwise.

9.5 Spill Response Equipment available on site

A 100 litre spill kit is located in the site's lunchroom.

9.6 Equipment and Operators Available Elsewhere

The northland regional council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Hobbs Road Quarry can cope with itself. Phone 408 6600 or 0800 504 639.

9.7 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.8 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence

See APPENDIX J.

10 HAZARDOUS SUBSTANCES INVENTORY

See Appendix I

10.1 Material Safety Data Sheets

A full complement of material safety data sheets are kept in the sites lunchroom/Managers vehicle.

11 LITTER CONTROL

All organic and inorganic waste is taken off site to Lamer Road Quarry rubbish skip where it is removed by waste contractors.

11.1 Waste Oils

Waste oil is collected in used oil drums and transported to Larmer Road Quarry waste oil facility where it is removed off site by contractors.

12 ARCHAEOLOGICAL AND HISTORICAL SITES

There are no known archaeological sites within the quarry area.

13. TANGATA WHENUA

Te Runga O Whaingaroa is the Iwi Authority that has interests in the activities of Hobbs Road Quarry.

14. REHABILITATION

Quarry rehabilitation will be ongoing as the resource is extracted. A detailed rehabilitation plan has not been compiled as it is unknown what the expectations on rehabilitation will be at that time.

The main emphasis on rehabilitation at present is to keep contouring/ regrassing overburden dumpsites with pastured species and to continue to spray annually any pest plants.

Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt point will be filled in.

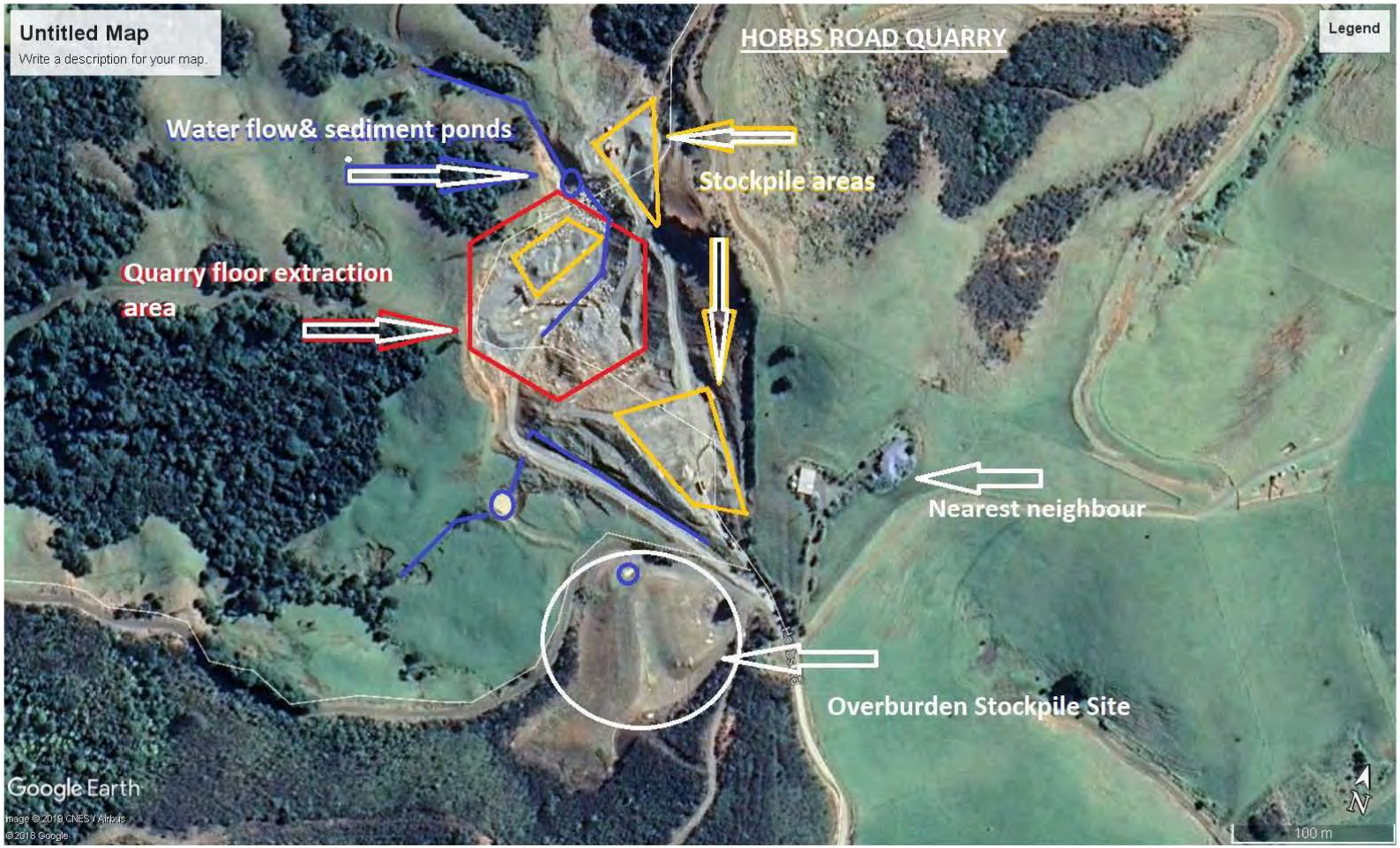
The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

Re-contouring of faces of weak material will minimize the chance for rock falls and slips. Overburden dumps will also be contoured and planted.

EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180

Top Health care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
Worksafe NZ HHU	North Island	0800 030 040
Northland Regional Council	Kaitaia Whangarei	408 6600 09 438 4639
Far North District Council		0800 920 029
Bellingham Quarries Ltd Brian Bellingham David Bellingham	Office Mobile Home Mobile Home	408 1340 021 848 098 406 7479 021 848 099 406 0156


Untitled Map
Write a description for your map.
HOBBS ROAD QUARRY
Legend
Water flow& sediment ponds
Stockpile areas
Quarry floor extraction area
Nearest neighbour
Overburden Stockpile Site
Google Earth
Image © 2018 CNES / Airbus
©2018 Google
N
100 m

Resource Consent

FILE: 7288
(01 to 03)
Renewal

Document Date: 18.07.2019

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the council") does hereby grant a Resource Consent to:

BELLINGHAM QUARRIES LIMITED, PO BOX 144, KAITAIA 0441

To undertake the following activities associated with quarrying activities on Pt Parengarenga 5B2 and B3C Blk XI Muriwhenua SD (Te Ahu Road, Tangoake) at or about location co-ordinates 1595674E 6168020N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.007288.01.04 Extract rock, and remove and place overburden.

AUT.007288.02.02 Discharge stormwater to land from land disturbance activities.

AUT.007288.03.02 Divert stormwater from land disturbance activities.

Subject to the following conditions:

1 The Consent Holder shall ensure that the works are carried out generally in accordance with the **attached** Bellingham Quarries Ltd document entitled:

(a) *"Tangoake Quarry Management Plan"*, dated 20 June 2019;

and the aerial photograph plans entitled:

(b) *"Appendix D – Overburden Disposal Areas"* and *"Appendix I – Water Directional Flow".*

Where any conflict arises between this document and plan and the conditions of consent, then the conditions of consent shall take precedence.

2 The Consent Holder may, in consultation with the council's assigned monitoring officer, amend the Management Plan referred to in Condition 1 at any time during the term of the consent. A copy of the updated plan shall be provided to the council's Compliance Manager. For compliance purposes, the works shall be undertaken generally in accordance with the most recent Management Plan that has been received by council.

3 The Consent Holder shall notify the council's assigned monitoring officer in writing of the date that overburden removal operations are intended to commence each year, at least one week beforehand.

4 No overburden removal shall be carried out between 1 May and 30 September in any year without the prior written approval of the council's Compliance Manager.

Northland REGIONAL COUNCIL

5 Surface water from surrounding areas shall be diverted away from areas where overburden removal is being undertaken and overburden disposal areas.

6 All areas of overburden retained on site shall be either covered with aggregate, or top soiled and established with suitable vegetation to achieve not less than an 80% ground cover by 31 May each year.

7 All discharges of stormwater from areas of bare land associated with the operation of the quarry shall be via suitably designed and constructed sediment detention structures, prior to discharge into the adjacent unnamed tributary. As a minimum, the working storage volume for each sediment detention structure shall be calculated at no less than 300 cubic metres of storage per hectare of contributing catchment.

Advice Note: *To reduce the required capacity of the sediment ponds to satisfy the above standard, the diversion of offsite stormwater away from areas of land disturbance is recommended.*

8 Accumulated sediment shall be removed from each sediment detention structure before the sediment level reaches one third of its working storage volume. All sediment removed from the sediment detention structures shall be placed in a stable position where it will not enter any water body nor re-enter any sediment detention structure.

9 All stormwater diversions, drains and channels shall be:

(a) Capable of conveying storm water during not less than the estimated 1 in 20 year rainfall event; and

(b) Adequately protected to prevent destabilising slopes and areas of overburden and fill material.

10 Soil, overburden and debris shall not be placed in a position where it may enter any watercourse.

11 The exercise of these consents shall not cause any of the following effects on the water quality of the unnamed tributary of the Ngakarapu Stream, as measured approximately 10 metres downstream from any discharge point into the unnamed tributary:

(a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials.

12 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

Advice Note: *The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga.*

13 The Consent Holder shall, on becoming aware of any discharge associated with the Consent Holder's operations that is not authorised by these consents:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain the discharge; and

(b) Immediately notify the council by telephone of the discharge; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the discharge; and

(d) Report to the council's Compliance Manager in writing within one week on the cause of the discharge and the steps taken, or being taken, to effectively control or prevent the discharge.

For telephone notification during the council's opening hours, the council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the council's opening hours, then the Environmental Hotline shall be contacted.

Advice Note: *The Environmental Hotline is a 24 hour, seven day a week, service that is free to call on 0800 504 639.*

12 The council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of May for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of these consents and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 30 NOVEMBER 2044

This consent is granted this Eighteenth day of July 2019 under delegated authority from the council by:

..... Stuart Savill
Consents Manager

Tangoake Quarry
MANAGEMENT PLAN
20 June 2019

BELLLINGHAM QUARRIES LTD
P.O.BOX 144 KAITAIA ph:09 4081340
email: bellingham.quarry@xtra.co.nz

Table of Contents

1. INTRODUCTION

1.1 Location and Access.

Tangoake Quarry is situated approximately 4km north of the Te Kao township, it is approximately 15 meters above sea level and north facing. The quarry is not visible from State Highway One.

Access is via Te Ahu Road 800 meters south of the Te Kao store, traveling 5 kilometers to the end of Te Ahu Road and then 3 kilometers through a locked gate and pinus radiator forest.

Te Ahu Road is a loose metal Council owned road.

Google Earth co-ordinates 34°, 37', 46.32" S, 172°, 57', 09.72"E

1.2 Legal Description.

The legal description for the quarry land requiring Resource Consent is Pt Parengarenga 5B2, B4C parts A, B, C. Blk X1 Muriwhenua SD at location co-ordinates 1595674E 6168020N. The area of land is approximate 8.1291 hectares.

1.3 Land Ownership

The whole property is owned by the Parengarenga A Incorporation.


Property Map
Date Printed: 15-August-2012
Horowhi Point
Te Karaka Point
Tangoake
TANGOAKE QUARRY
Te Kao
Ngatiwhetu
SCALE 1: 35,147
0
1,757
Meters
Projection: NZGD_2000_New_Zealand_Transverse_Mercator
FAR NORTH MAPS

1.4 Controlling Authorities

The Regional Authority is the Northland Regional Council (NRC) that administers water and air issues.

The Territorial Local Authority is the Far North District Council.

1.5 The Quarry History.

Tangoake Quarry was originally opened by the New Zealand Government under the public works act, (date unknown) but was transferred to the Parengarenga A Incorporation on 27.8.1991.

Bellingham Quarries Ltd entered into negotiations to re-open the quarry in 1992, secured a NRC Resource Consent in November 1994 and subsequently entered into an agreement with Parengarenga A Incorporation in 1995.

1.6 Resource Consents.

Northland Regional Council Consent (Appendix A)

	Consent	Reference	Expiry
01	Extract Rock and Remove Overburden	CON 20040728801	30/11/2019
02	Discharge Storm water	CON 20040728801	30/11/2019
03	Divert Storm water	CON 20040728801	30/11/2019

1.7 Zoning.

Far North District Council Zoning maps for the area identifies the site as being zoned – Minerals

1.8 Geology.

The geological mapping of the area is contained with the North Cape – Houhora Rock Types (Geology) Map NZMS 290 – N02/03 which was published as a 1st edition in 1982 at 1:100,000 scale. The mapping identifies the sites geology to contain Extrusive Rock deposits described as *Basalt and Dolerite; flows (commonly pillow form) of fine and medium grained crystalline basalt and dolerite with minor mudstone, intruded by numerous medium grained dikes, closely to moderately fractured;: hard to very hard. Altered and weathered to soft brown clay to depths of 30 meters.*

1.9 Lease Agreement.

The current lease between Bellingham Quarries Ltd and the land owners Parengarenga A Incorporation expires 29th June 2020. (See Appendix B)

2. QUARRY ACTIVITIES

2.1 Stripping.

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry. The overburden height ranges from 0 to 15 meters depending on the area being stripped.

Overburden removal is allowed at any time during the year, the Resource Consent has no timing restrictions with regard to overburden removal and placement.

As per Condition 2 of the Resource Consent "The consent holder shall" notify the Council in writing not less than two weeks prior to the commencement of any overburden stripping operation.

The material is stripped using excavators, articulated trucks and bulldozers.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 31st May each year.

The overburden disposal sites are identified on a surveyed map showing the "orange" marked areas and in relevant photographs attached (See Appendix D).

2.2 Extraction.

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Ltd staff that are holders of Explosive Approved Handlers Certificates as per HASNO regulations.

Rock is loaded directly from the blasted muck pile via an excavator that feeds it to the crushing plant.

The extraction is and will be in a south/westerly direction excavating the high face as the photographs describe

See relevant surveyed map and photographs for extraction direction. (See Appendix C)

2.3 Processing and Stockpiling.

The rock is processed through Mobile Crushing Plant. Normally a Primary Jaw Crusher, Secondary Cone Crusher or secondary impact crusher.

The finished product is carted to the stockpiles via loaders and/or 6 wheeled trucks.

Daily production figures are kept to assess stock volumes.

2.4 Sales.

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are processed through the quarry data base by the quarry dispatcher located in the Larmers Road office. Sales data is transferred into acumen at the end of the month.

3. SITE FACILITIES.

3.1 On Site Facilities.

There are no facilities maintained on the site due to the utilisation of the mobile crushing fleet. When crushing activity is taking place the following facilities will be brought onto the site.

- Smoko Room
- Toilet

3.2 Rubbish.

Inorganic waste is collected and transferred offsite for disposal. This includes waste oils and other hazardous substances.

3.3 Pest Plants

Spraying of pest plants occurs annually and is undertaken by contractors.

3.4 Services

There are no services (power, telephone, water usage) on site.

3.5 Entrance

The entrance way off Te Ahu Road is secured to prevent theft as well as preventing people entering a hazardous area.

4. HEALTH & SAFETY.

4.1. Health and Safety System.

Tangoake Quarry is operated under Bellingham Quarries Ltd Health & Safety system. The sites H&S Manual is kept at Larmer Road, Kaitaia unless activity is occurring on site and then it will be located in the Smoko Room or the Managers Vehicle.

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- Hazard management/Risk assessment
- Material safety data sheets location

4.2 Visitors.

All Visitors to the site must first report to the lunchroom and sign the visitors register. A contractors, customers and visitor's health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details:

- Emergency assembly point
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All visitors to the site must wear the appropriate Personal Protective equipment (PPE). This includes a hard hat, safety footwear and a high Vis Vest.

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant.
(See Appendix F – Site Rules)

4.3 Blasting Safety.

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Bellingham Quarries Blasting Procedure'.

The blasting contractors that are engaged have their own health and safety system in place, which meet their requirements under the Health and Safety in Employment Act.

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All employees are inducted when they start on the site. Subjects discussed during introduction include:

- Health and Safety information and Site rules
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- Authority to operate machinery
- Competency forms
- Reporting Requirements (Paper Work)

(See Appendix G)

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Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the main Bellingham Quarries office at Larmer Road. (See Appendix H)

5. DUST CONTROL.

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.

Dust nuisance to neighbouring properties is not normally an issue in any wind direction. All of Bellingham Quarries Ltd personnel on site are required to monitor dust levels at all time during operational hours, and senior personal including the production manager and quarry manager are responsible for ensuring that dust emissions are controlled at their source.

5.1 Processing Plant.

The dust generated from the crushing plant has no effect on neighbouring properties. There is water on site to suppress the airborne dust but the plant is situated as far from the effected neighbours houses and dust emissions do not cause effects.

If prevailing environmental conditions are such that during the crushing operation all dust control measures are ineffective, crushing shall cease until such time as environmental conditions improve.

5.2 Roads.

Bellingham Quarries Ltd in conjuction with Hancock Forest Management have placed a speed limit on Te Ahu Road for all heavy traffic accessing the quarry to reduce the dust generated by the heavy traffic. Neighbouring residences monitor the truck speeds and can inform the Larmers Road Office if there is a vehicle breaching the limits.

5.3 Loading of Trucks.

Dust produced from loading aggregate is not an issue due to distance from neighbouring properties.

5.4 Overburden Disposal

Generally the overburden extraction and disposal sites are occurring in areas far enough from the quarry boundaries not to have a dust effect on neighbouring properties.

5.5 Other Remedial Actions

If prevailing environmental conditions are such that during operation of the quarry all dust control measures are ineffective, those activities generating excessive dust are to cease until such time as environmental conditions improve.

6. NOISE MANAGEMENT

Tangoake Quarry is in a designated minerals zone in the Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB (A)L_{10}.

6.1 Blasting and Drilling

Blasting is carried out in accordance with HSWA 2015 legislation. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible, and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler, and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is now carried out using a rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast to the neighbours. The nearest neighbours (Heka's) are to be notified 5-10 minutes prior to any blasting (09 4097841)

6.2 Processing

The crushing plants are situated far enough from neighbouring properties to have no impact on noise quality.

7. WATER

An unnamed tributary of the Ngakarapu Stream carried water from the upper catchment, through the quarry, over the rock face onto the quarry floor before discharging into the adjacent swamp area. Water flow through the quarry in the summer months is minimal. The rock above the quarry face will be extracted from each side of the water course to reduce effects on the water.

The quarry manager shall attempt to create a clear water diversion for the water running across the quarry floor and avoid machine activity within that flow as much as is possible.

7.1. Sediment Ponds

There are two sediment ponds in place to control water flow off the quarry floor and then discharged into a large swamp area.

Other sediment ponds are located near the overburden stockpile sites and haul roads where runoff has the potential to cause effects.

7.2. Discharge

A discharge permit CON 20040728801-02 allows for the discharge of stormwater.

The stormwater discharge flows from the settling ponds through a 1 kilometer swamp area from the quarry to State Highway 1. (See Appendix 1 for water directional flow and settling ponds.)

7.3. Monitoring and Inspection

The quarry manager will inspect the sediment detention ponds weekly or as required after a storm event and remove accumulated sediment before its level reaches one third of its volume (holding capacity).

8. DEVELOPMENT AREA AND VISUAL IMPACT

8.1. Development Area

As described in section 2.2 (extraction) the quarry development will be in a south/westerly direction using benches to reduce the overall working height. The quarry floor area will gradually increase in size as the quarry is developed. (See Appendix C)

8.2. Visual Impact

The working quarry is not visible to the general public and is screened by the quarry hillside. The quarry was surrounded in Pine trees which have recently been logged with the area to be replanted within the next twelve months. This includes two areas inside the quarry boundaries. (Refer "schedule of areas" part D and E) (See Appendix J.)

8.3 Monitoring and Inspection

Prior to commencement of vegetation removal in an area, the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarryman will confirm on a daily basis that the controls and methodologies determined are being followed.

9.0 FUEL AND OIL SPILLAGE / HAZARDOUS SUBSTANCES.

9.1 Potential Adverse Environmental Effects.

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.2 Storage (diesel oil)

Due to security, diesel fuel is transported onto site each day and removed from the quarry at the end of each shift.

9.3 Potential Spill Sources and Risks

The hazardous substances storage facility (diesel storage) is considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system and the unnamed tributary of the Ngakarapu River. It is considered there is the opportunity to prevent the spill from entering the water ways and the potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment Malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.4 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc is being undertaken to minimize the potential for a spill.
All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the site
- Take action to stop source of spill if practical and safe to do so

9.5 Spill Response Equipment available on site.

A 100 litre spill kit is located on site.

9.6 Equipment and Operators Available elsewhere

The Northland Regional Council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Tangoake Quarry can cope with itself. Phone 4086600 or 0800 504 639

9.7 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.8 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence.

(See Appendix K for spill reporting form.)

10. LITTER CONTROL

All organic and inorganic waste is taken off site to Lamer Road Quarry rubbish skip where it is removed by waste contractors.

10.1 Waste Oils

Waste oil is collected in used oil drums and transported to Larmer Road Quarry waste oil facility where it is removed off site by contractors.

11. REHABILITATION

Tangoake Quarry is a busy, active, working quarry, it is expected that the resource will continue to be extracted well into the future.

Quarry rehabilitation will be ongoing as the resource is extracted to find levels. Therefore a detailed rehabilitation plan has not been compiled as it is unknown what the expectations on rehabilitation will be at that time.

The main emphasis on rehabilitation at present is to keep contouring/ regrassing overburden dumpsites with pastured species and to continue to spray annually any pest plants.
Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt point will be filled in.

The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

12. HAZARDOUS SUBSTANCES INVENTORY.

There is no diesel and oil stored on site due to security reasons. Only enough fuel and oil is transported to the site that is required to top up the machinery each day.

12.1 Material Safety Data Sheets

A full compliment of Material Safety Data Sheets are kept in the sites lunchroom or Managers Vehicle.

13. ARCHAEOLIGICAL AND HISTORICAL SITES.

There are no known archaeological sites within the quarry area.

13.1 Action

The following procedures will be followed when an archeological site has been identified or suspected on site.

- All earthworks in the immediate vicinity of the site shall immediately cease.
- The operator is to contact the quarry manager.
- The quarry manager will contact the relevant parties.
- No activity will continue until the proper protocols have been followed.
- Examples of items that require the ceasing of activities:
- Human remains
- Storage pits, shell midden (a mixture of shell, ash, burnt stone, charcoal etc.)
- Other items of Maori origin including stone, bones, wood or shell artifacts
- Signs of early European settlement

14. TANGATA WHENUA

Te Runanga O Te Aupouri is the Iwi Authority that has interests in the activities of Tangoake Quarry.

15. EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180
Top Health care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
Worksafe	National Office Wellington	04 897 7699
Northland Regional Council	Kaitaia Whangarei	408 6600 09 438 4639
Far North District Council		0800 920 029
Bellingham Quarries Ltd Brian Bellingham David Bellingham	Office Mobile Home Mobile Home	408 1340 021 848 098 406 7479 021 848 099 408 2929

SPILL RESPONSE

Assess the Situation

Is it safe? Identify:

1. The type of material spilled (e.g., from the label, your supervisor or MSDS);
2. The size of the spill and whether the leak has stopped;
3. Whether two chemicals are involved in the leak and could react with each other; and
4. Any unusual features such as foaming, odour, fire, etc.

Put on Protective Gear
Put on appropriate personal protective equipment. This can include respirators, gloves, goggles, etc., as needed.

Turn off Source

Stop the source of the spill or leak. This can include:

- Turning off the valve,
- Patching a leaky hose,
- Draining a tank, or
- Righting a knocked over drum container.

Block Off Drains

Stop the spill from spreading. This can include use of appropriate absorbent/ containment materials such as sand, crushed rock fines or aggregate (land) and booms (water).

Clean Up

Clean up the spill using appropriate materials and equipment from spill kits or other materials at hand.

Notify
Notify the quarry manager and/or ASQTE Manager.

SPILL RESPONSE

In the event of a spill into a waterway we have a legal obligation to notify the Regional Council. The NRC operates a 24hr, 7 day-a-week pollution control hotline on 0800 504 639.

Dispose to an Authorised Site

Dispose of contaminated materials properly. Contaminated spill control materials and disposable personal protective clothing may have to be disposed of as hazardous waste. Contaminated tools and non-disposable personal protective equipment should be decontaminated.

Review Incident

An incident form (OFI) should be filled in for every spill, including non-emergency (incidental) spills.
Review the cause of the spill and put in place any corrective actions identified.

Restock Spill Kit

Ensure that the products used to clean up the spill are replenished.

EARTHQUAKE

When the shaking starts take cover

- Keep calm
- Get under a desk, table, brace yourself in a doorway, hold onto the door to prevent it from slamming or crouch behind a solid structure (wall etc.)
- Keep away from glass doors, windows or equipment likely to fall over
- If you are outside, take cover in doorways, keep clear of loose items, glass and electric wires.
- If you re in the quarry area move away from the quarry face if safe to do so.

When the shaking stops

If safe to do so:

- Remove anyone from danger if safe to do so. Isolate hazards (e.g. Check for electrical and glass hazards, turn off electricity).
- Announce the alarm
- Notify the Quarry Manager as soon as possible
- Attend to any injured persons. You may need to stay inside in the even of a major earthquake (outside hazards may be greater than inside hazards)
- If fire has started put it out if possible.
- Protect yourself from further aftershocks

If you need to evacuate

- Follow evacuation procedures
- Follow the wardens/managers instructions

EARTHQUAKE

- Meet at the assembly point

RETURN TO THE SITE OR BUILDINGS ONLY WHEN THE EMERGENCY SERVICES OR WARDENS INDICATE THAT IT IS SAFE

Following an earthquake and if drainage has occurred, the following will be carried out

- Stop operations in the vicinity of damage.
- Contact the quarry Manager
- Assess damage and repair as necessary

FIRE

If you discover a fire:

- Activate Alarm and call 111
- Alert people in your area and the warden/manager
- Do not extinguish the fire unless it can e done without danger to you
- If time permits and there is no danger, close all doors and windows
- After evacuation meet at the assembly point

If the fire alarm sounds:

- Do not stop to take personal items with you
- Follow the evacuation procedure
- Meet at the assembly area

The warden/manager is to account for all staff and ensure that emergency services have been called.

RETURN TO THE SITE OR BUILDING ONLY WHEN THE FIRE SERVICE OR WARDEN(S) INDICATE THAT IT IS SAFE

EVACUTAION PROCEDURE

LARMER ROAD QUARRY EMERGENCY PROCEDURE

	NAME
WARDEN/MANAGER	Quarry Manager
FIRST AID PERSON	All Quarry Personnel

Remove anyone from danger **if safe to do so**. Keep up wind of fire.
Announce the alarm; activate office burglar alarm and alert other via mobile phone or RT
Contact emergency services Dial 111
Provide name, address, details of the fire or any casualties incurred and the nature of injury, and relevant information to guide Emergency Services to the exact location:

- **Your name**
- **Tangoake Quarry**
- **Te Ahu Road**
- **Te Kao**
- **Grid Coordinates**: 34°, 37', 46.32" S, 172°, 57', 09.72"E (Google Earth)
- **Contact phone number** 09 4081340 (office)

Alert the Warden/Manager
Contain the danger.

- Do not risk contact
- Close doors behind you and the fire
- If it is safe to do so, turn off the mains power to the workshop, crusher, and office and shift any plant that may be threatened by the fire.
- You are not to put yourself in danger for recover of plant or equipment

Evacuate the immediate area

- Prevent re-entry.
- Ensure no staff or customers are at risk or exposed to smoke from the fire.
- Move immediately to the assembly point (TBC) and report to the warden.

RETURN TO THE SITE OR BUILDINGS ONLY WHEN THE EMERGENCY SERVICES OR WARDEN(S) INDICATE THAT IT IS SAFE

SERIOUS INJURY

If you are first on the scene of an accident ensure you do not place yourself in danger when providing assistance.

If the injury is the result of electrocution, shut off the power before proceeding to rescue the victim.

If the injury is the result of crushing and it is safe to do so shut off any plant and assess whether the person needs to be removed or left until the emergency services arrive.

Proceed with caution and secure the area to ensure no further injury can occur. Call for assistance if there is anyone close by and ask for First Aiders to Assist.

If Required: Contact emergency services **Dial 111** Request Ambulance assistance

Provide name, address, details of the injury(s) incurred and the nature of injury, and relevant information to guide emergency services to the exact location:

- **Your name**
- **Tangoake Quarry**
- **Te Ahu Road**
- **Te Kao**
- **Grid Coordinates**: 34°, 37', 46.32" S, 172°, 57', 09.72"E (Google Earth)
- **Contact phone number**: 09 4081340 office

Using mobile phone, radio transmitter or bystander to: contact the Warden/Manager to get assistance and instigate general evacuation if necessary. Also direct and direct any bystander to go to the entrance to guide the ambulance to the site.

- Provide First Aid
- Do not move the victim, unless they are in danger of further injury
- If unconscious but breathing, place the victim in the recovery position
- Commence CPR if necessary and if you know how to
- Follow the instructions of the emergency services
- Shut down plant where necessary
- Leave all property and plant secure and safe
- Stop or contain leakage or spills

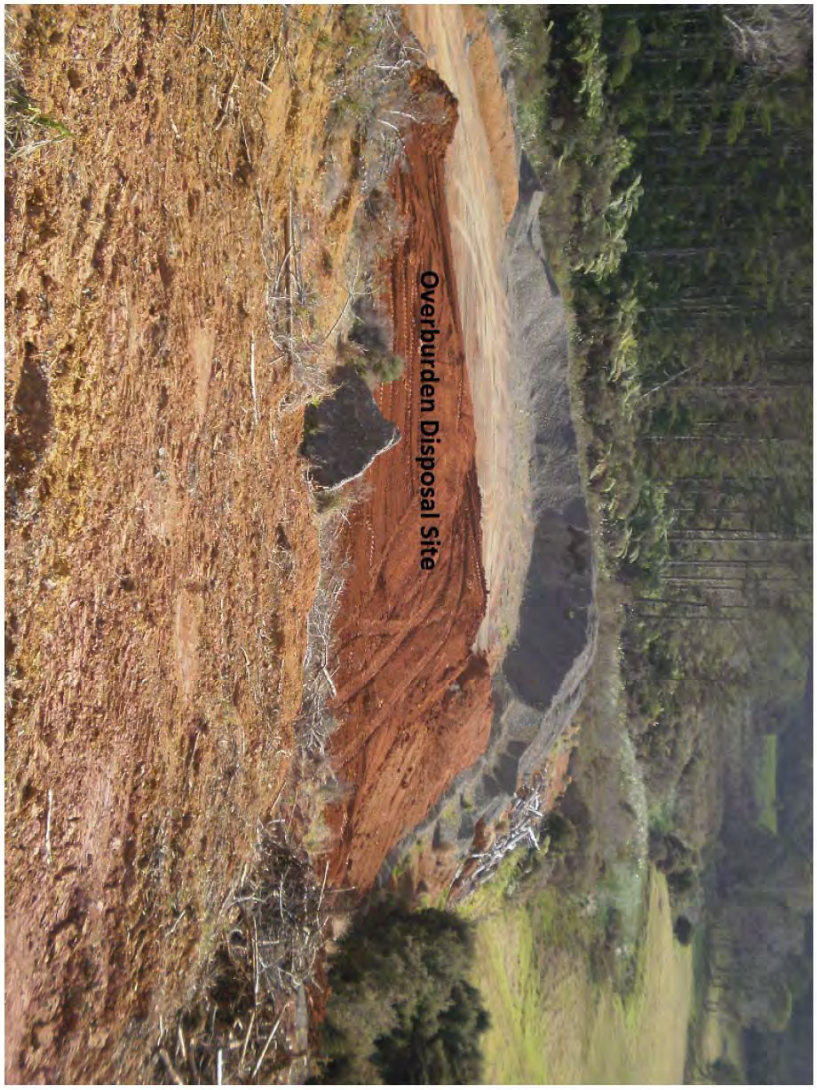
APPENDIX D

Overburden Disposal Areas


Tangaoke
2019
Google Earth
Direction of rock extraction
Overburden stockpile
Stockpiles
Working quarry area
Overburden stockpile
Legend
N

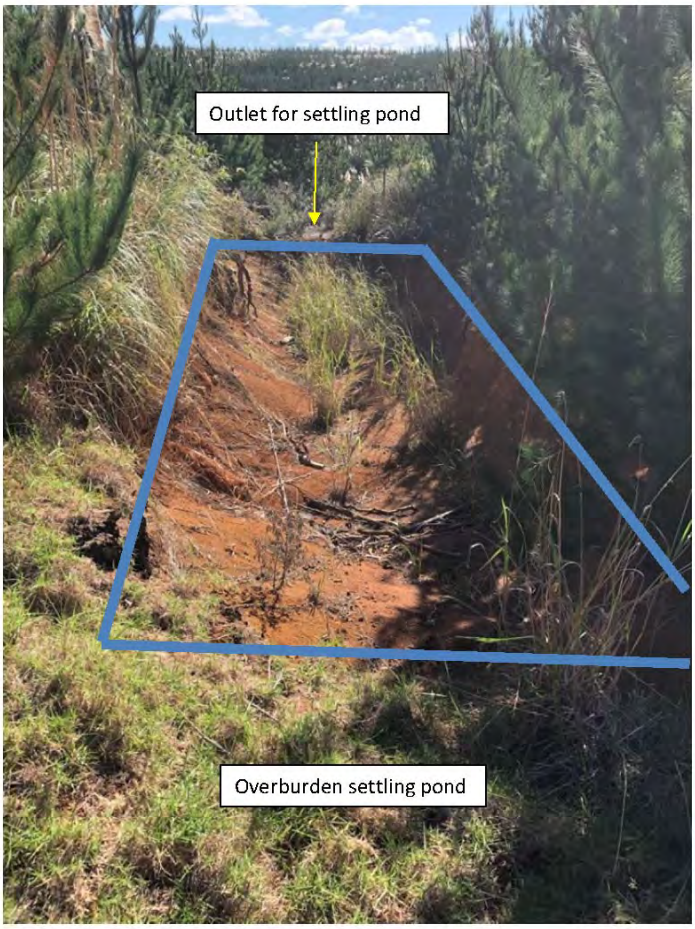
APPENDIX I

Water Directional Flow



42


Google Earth
Tangaoke
2019
Water flow and setting ponds
Legend
100 m
N


Outlet for settling pond
Overburden settling pond

FILE: 007962
01, 02 and 13
Replacements

Document Date: 05.06.2015

Resource Consent

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the Council") does hereby grant a Resource Consent to:

CARRINGTON FARMS JADE LP, MATAI BAY ROAD, RD 3, KAITAIA 0483

To undertake the following activities associated with the operation of a quarry, at Matai Bay Road, Merita, Karikari Peninsula in the catchment of an unnamed tributary of Karikari Bay, on Lot 1 DP 80560 Blks IV & V Karikari SD at or about location co-ordinates 1635767E 6142825N:

Note: All locations referred to in this document are expressed as Geodetic Datum 2000, New Zealand Transverse Mercator Projection:

AUT.007962.01.03	**Land Use Consent:** To extract rock from a quarry and remove and place overburden.
AUT.007962.02.03	**Discharge Permit:** To discharge stormwater to land from land disturbance activities.
AUT.007962.13.02	**Water Permit:** To divert stormwater from land disturbance activities.

Subject to the following conditions:

1 The Consent Holder shall ensure that the works are carried out generally in accordance with the **attached** aerial photograph plan showing existing and proposed quarry areas and sediment retention pond, submitted with the application.

2 The total volume of material (overburden and rock) extracted from the quarry shall not exceed 10,000 cubic metres during any twelve month period.

3 No overburden removal operations shall be carried out between 1 May and 30 September in any year without the prior written approval of the Council.

4 All earthworks related to the activities authorised by these consents, and associated sediment control measures, shall be constructed and carried out in accordance with the principles contained within the document entitled "Erosion and Sediment Control – Guidelines for Land Disturbing Activities", Auckland Regional Council Technical Publication No. 90, dated March 1999.

5 The Consent Holder shall ensure that all stormwater runoff from the quarry site is diverted via sediment detention ponds, prior to discharge from the site.

6 The discharge of water from the quarry site shall not, as a result of the exercise of these consents, cause the following effects in the receiving water at the downstream quarry boundary with Matai Bay Road:

(a) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials, nor emissions of objectionable odour;

(b) Any conspicuous change in colour, or reduction in visual clarity by more than 40%; and

(c) Any significant adverse effects on aquatic life.

7 The Consent Holder shall minimise contamination of surface water by ensuring that soil, vegetation, debris and detritus is not placed in a position where it may enter the adjacent watercourse.

8 To minimise sediment loss, all areas of overburden shall be established with suitable vegetation to achieve not less than an 80% ground cover by 31 May immediately following the earthworks season, or otherwise covered with aggregate to prevent erosion.

9 Prior to the stripping of overburden or disturbance of Nationally Vulnerable Pygmy Sundew plants, the Consent Holder shall provide the Council's Monitoring Manager with a management plan detailing the measures to be taken to mitigate and remedy the effects on this plant species so that it is re-established upon the cessation of all quarrying activities. The Consent Holder shall undertake all works at the quarry site in a manner that minimises adverse effects on Pygmy Sundew plants.

10 Refuelling and servicing of machinery shall not be carried out in such a way that soil or water at the site is contaminated. Where an accidental spillage to land occurs, all contaminated soil shall be collected and removed to a suitable disposal site.

11 The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of May for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

Advice Note: *The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions any time for the following purposes:*

(i) *To provide for compliance with rules relating to minimum standards of water quality or air quality in any regional plan that has been made operative since the commencement of the consent; or*

(ii) *To provide for compliance with any relevant national environmental standards that have been made; or*

(iii) *Where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of consent are such that it is necessary to apply more appropriate conditions.*

12 These consents do not commence until 1 December 2016 unless resource consents AUT.007962.01.02, AUT.007962.02.02, and AUT.007962.13.01 have first been surrendered in writing, in which case these consents commence from the date the Consent Holder receives the Council's notice of acceptance of the surrender.

Advice Note: *These are new consents for the same activities authorised by consents AUT.007962.01.02, AUT.007962.02.02, and AUT.007962.13.01, which expire on 30 November 2016, so it is in effect replacement consents. This condition prevents both consents being exercised at the same time between the date of issue of the new consent and the expiry of the existing consent. The new consent may be exercised before the date specified but only after the existing consent has been surrendered.*

EXPIRY DATE: 30 NOVEMBER 2025

These consents are granted this Fifth day of June 2015 under delegated authority from the Council by:

Allan Richards
Consents Programme Manager – Coastal and Works

Northland Regional Council
APPROVED
- 4 JUN 2015
Plan / Document
Consent # AUT.007692

FILE: 16797
01 – 03
Transfer

Document Date: 21.11.2016

Resource Consent

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the Council") does hereby grant a Resource Consent to:

Johnathan William LEE and Eleanor Cecilia HAMILL LEE, 211 AUGUSTUS STREET SOUTH, THAMES 3500

To undertake the following activities associated with an existing quarry at 286 Runaruna Road, Panguru, within the catchment of Kawaka Stream on Lot 1 DP 433392 Blk V Whangapae SD, at or about location co-ordinates 1631900E 6090000N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.016797.01.02 Extract rock and remove and place overburden.

AUT.016797.02.02 Discharge stormwater to land from land disturbance activities.

AUT.016797.03.02 Divert stormwater associated with land disturbance activities.

Subject to the following conditions:

1 The Consent Holder shall carry out activities at the quarry site generally in accordance with the **attached** Bellingham Quarries Ltd plan entitled: *"Hollands Quarry Management Plan 2015"* and Appendix's C, D and G.

2 The Consent Holder shall notify the Council assigned monitoring officer in writing of any proposed significant changes to the attached management plan, including the locations of additional overburden disposal sites, at least one month prior to making the changes.

3 All operations shall be carried out in a manner that minimises the potential for slope instability and soil erosion. Effective mitigation measures shall be installed as required to mitigate and/or remedy any slope failures.

4 No overburden removal operations shall be carried out between 1 May and 30 September in any year without the prior written approval of the Council's Compliance Manager.

5. The Consent Holder shall ensure that all stormwater runoff from the quarry site is diverted into sediment detention ponds that are maintained with a working storage volume of not less than 300 cubic metres per hectare of contributing catchment prior to discharge from the site.

6 Soil, vegetation, debris and detritus shall not be placed in a position where it may enter the any waterbody.

7 All overburden disposal sites shall be topsoiled and established with suitable vegetation to achieve not less than an 80% ground cover by 31 May immediately following the earthworks season in each year, or in accordance with any concession granted in relation to Condition 3.

8 The exercise of these consents shall not result in any of the following effects on the water quality of the Kawaka Stream, as measured 10 metres downstream from any discharge point from the quarry into the stream:

(a) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials, or emissions of objectionable odour;

(b) Any conspicuous change in the colour or visual clarity.

9 Refuelling and servicing of machinery shall not be carried out in such a way that soil or water at the site is contaminated. Where an accidental spillage to land occurs all contaminated soil shall be collected and removed to a disposal site that is authorised to accept such material. Where an accidental spillage to water occurs, the Consent Holder shall:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and

(b) Immediately notify the Council by telephone of an escape of contaminant; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(d) Report to the Council in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

In regard to telephone notification during the Council's opening hours, the Council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the Council's opening hours, then the Environmental Hotline shall be contacted.

10 The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of June for the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of the consents and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

11 These consents shall not commence until 1 September 2016, being the day following the expiry of the existing consents.

EXPIRY DATE: 31 AUGUST 2036

This consent is granted this Twelfth day of February 2016 under delegated authority from the Council by: Stuart Savill – Water and Wastes Consents Manager

HOLLANDS QUARRY

MANAGEMENT PLAN 2015

BELLINGHAM QUARRIES LTD
P.O.BOX 144 KAITAIA ph. 09 4081340
Email: bellingham.quarry@xtra.co.nz

Table of Contents

Appendix Register

A. Resource Consent
B. Lease Agreement
C. Overburden Disposal Site
D. Quarry Extraction Direction
E. Induction Form and Training Assessment / Competency Form /Equipment Operators Appointments.
F. Staff Safety Induction Form
G. Water Flow and Outlet

I. Hazardous Substances Inventory
J. Environmental Spill Report Form

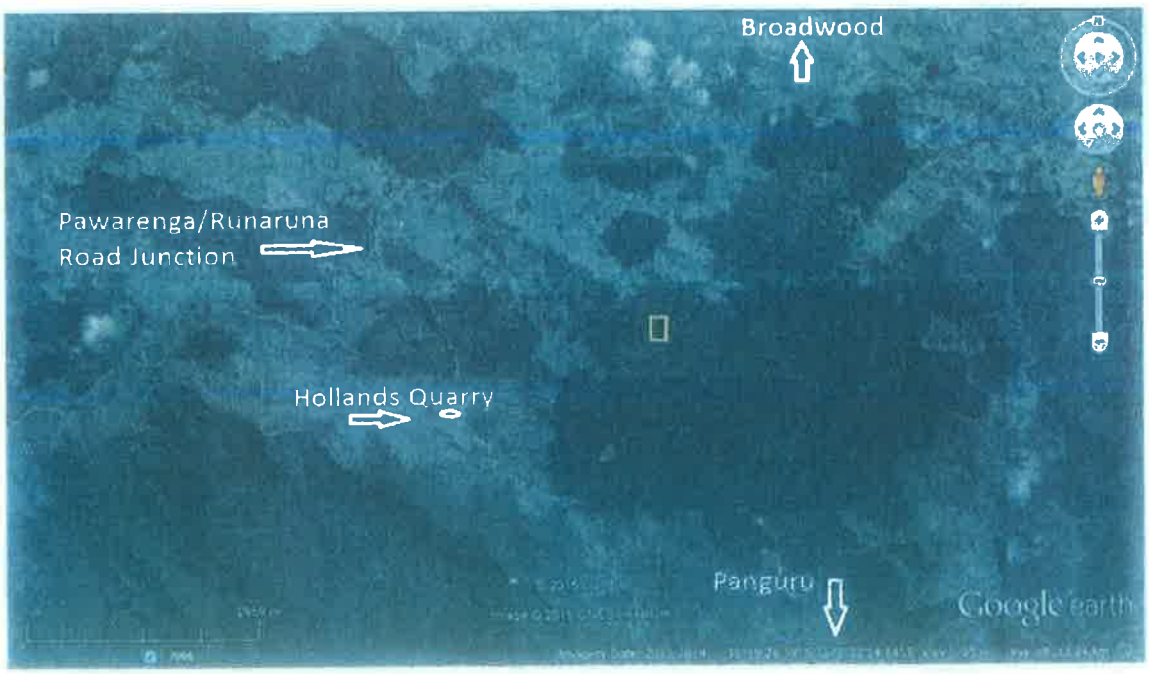
1. INTRODUCTION

1.1 Location and Access

Holland's Quarry is situated 14 kilometers southwest of Broadwood township and 3.1 kilometers from the Runaruna, Pawarenga road intersection. The quarry is approximately 200 meters above sea level and facing north, and is visible from a small section of Runaruna road.

Access to the quarry is by turning off Runaruna road onto farm land owned by Oponga Farms Ltd.

Google Earth co-ordinates 35°, 20', 11.32"S, 173°, 21', 16.77"E




Property Map
Date Printed: 14 January 2015
Rotomanu Road
FAR NORTH MAPS

1.2 Legal Description

The legal description for the quarry land requiring Resource Consent is 22.2710 hectares being Lot 1 DP433392 & Section 18 Block V Whangapae Survey District.

1.3 Land Ownership

The whole property is owned by Michael and Kerry Holland
Contact Details, Phone: 09 409 5778
Email: freerein62@slingshot.co.nz

1.4 Controlling Authorities

The Regional Authority is the Northland Regional Council (NRC) that administers water and air issues.

The Territorial Local Authority is the Far North District Council.

1.5 The Quarry History

A NRC Resource Consent was originally granted to Oponga Farms Ltd in 2006 the quarry being managed by Hamish Owen operating as Montana Logging who required brown rock for logging roads and skid sites. In 2009, Bellingham Quarries were invited by Montana Logging to crush the hard rock as a subcontractor as and when required. As the quarry developed the demand for good quality crushed aggregate had increased resulting in large amounts of stripping required whereby Montana Logging withdrew the management of the quarry passing it onto Bellingham Quarries Ltd in 2014.

1.6 Resource Consents

Northland Regional Council Consent (Appendix A)

	Consent	Reference	Expiry
01	Remove and Place Overburden	CON 20061679701	31.08.2016
02	Discharge Storm water	CON 20061679702	31.08.2016
03	Divert Storm water	CON 20061679703	31.08.2016

Far North District Council Land Use Consent details: Consent number 2070399 issued on 24/1/2007.

1.7 Zoning

The FNDC District Plan Zoning maps show the quarry area as (light green) being Rural Production Lands. This is of no concern as the necessary paper work is in place to operate the quarry legally by way of a FNDC Land Use Consent.

1.8 Geology

The geological mapping of the area is contained with the Kaitaia –Rawene Rock Types (Geology) Map NZMS 290 – Sheet 004/05 which was published as a 1st edition in 1982 at 1:100,000 scale. The mapping identifies the sites geology to contain Extrusive Rock deposits described as Basalt and Dolerite; very fine to medium grained altered, crystalline basalt and dolerite with some breccia (volcanic breccia) with rare blocks of sandstone (S52), mudstone and muddy limestone; closely to moderately fractured with some curved jointing; hard to very hard. Weathered to soft brown clay to depths of 30 meters.

1.9 Lease Agreement

The current lease between Bellingham Quarries Ltd and the land owners Oponga Farms Ltd expires 1st March 2022. (see Appendix B clause 1 and 2.)

2. QUARRY ACTIVITIES

2.1 Stripping

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry area. The overburden height ranges from 5 to 15 meters depending on the area being stripped.

Overburden removal can only be carried out in the summer/autumn months as per condition 2 of the Resource Consent CON 20061679701; no overburden stripping shall be carried out between 1st May and 30 September any year without the prior written approval of the council.

There are no limits on the amount of overburden that can be removed each year.

The material is stripped using excavators, articulated trucks and bulldozers.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 31st May each year.

As per condition 13 of the lease agreement Bellingham Quarries and the landowners shall mutually agree from time to time as to the locations upon the farmland where the overburden material can be deposited.

See Appendix C for overburden disposal sites.

2.2 Extraction

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Ltd staff that are holders of Explosive Approved Handlers Certificates as per HASNO regulations.

Rock is loaded directly from the blasted muck pile via wheel loader or excavator that transports it to the crushing plant.

The rock is currently being extracted from the benches above the quarry floor.

Future extraction will be by stripping back the south eastern face.

See Appendix D for quarry extraction direction.

2.3 Processing and Stockpiling

The rock is processed through Mobile Crushing Plant. Normally a Primary Jaw Crusher, Secondary Cone Crusher and screen to size the products.

The finished product is carted to the stockpiles via loaders and/or 6 wheeled trucks.

Daily production figures are kept to assess stock volumes.

2.4 Sales

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are processed through the quarry docket books then processed into production, sales quantities and amounts at the company's main office.

3. SITE FACILITIES

3.1 On Site Facilities

There are no facilities maintained on the site due to the utilisation of the mobile crushing fleet. When crushing activity is taking place the following facilities will be brought onto the site.

- Lunch Room
- Fuel tanks
- Toilet

3.2 Rubbish

Inorganic waste is collected and transferred offsite for disposal. This includes waste oils and other hazardous substances.

3.3 Pest Plants

Spraying of pest plants occurs annually and is undertaken by contractors.

3.4 Services

There are no services (power, telephone, water) on site.

3.5 Entrance

The entrance way is secured via a locked gate to prevent theft as well as preventing people entering a hazardous area.

4. HEALTH & SAFETY

4.1. Health and Safety System

Holland's Quarry is operated under Bellingham Quarries Ltd Health & Safety system. The sites H&S Manual is kept at Larmer Road, Kaitaia unless activity is occurring on site and then it will be located in the Lunch Room or the Managers Vehicle.

The Health and Safety System includes:

- Bellingham Quarries Health and Safety Policy
- Drug and Alcohol policy
- Workplace Audit and Inspection procedures
- Return to work policy
- New employee introduction procedures
- Staff recruitment policy and procedures
- Employee training, roles and procedures
- Protective clothing and safety equipment instructions
- Accident and engineering instructions
- Accident and emergency procedures
- Accident and incident reporting procedures
- Register of hazards
- Material safety data sheets location
- Register of hazards

4.2 Visitors

All Visitors to the site must first report to the lunchroom and sign the visitors register. A contractor, customers and visitor's health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details:

- Emergency assembly point
- Accidents, Injuries and Incidents requirements.
- Vehicle movement rules
- Signage
- Loading procedures
- Child restrictions
- Identified hazards
- Metal/lime docket rules

All visitors to the site must wear the appropriate Personal Protective equipment (PPE). **This includes a Hard Hat, Safety Footwear and a High Vis Vest.**

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant. (See APPENDIX E Induction Form & Assessment Form)

4.3 Blasting Safety

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Bellingham Quarries Blasting Procedure'.

The blasting contractors that are engaged have their own health and safety system in place, which meet their requirements under the health and Safety in Employments Act.

4.4 Training Records

All employees are inducted when they start on the site. The company's staff induction pack includes:

- Health and Safety information and Site rules
- Hazard identification
- Emergency procedures
- P.P.E
- Orientation
- Authority to operate machinery
- Competency forms
- Reporting Requirements (Paper Work)

See Appendix F

These induction meetings are recorded in the ring binder titled 'Health and Safety Meeting and Completed Forms' and kept in the Larmers Road Office.

4.5 Competency Assessments and Equipment Operator Appointments

Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the main Bellingham Quarries office at Larmer Road. (See APPENDIX E)

5. DUST CONTROL

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.

Due to the isolation of the Hollands's Quarry there are no dust issues to consider.

5.1 Processing Plant

The dust generated from the crushing plant has no effect on neighbouring properties.

5.2 Roads

The quarry access road is 200 meters long which has a slow speed which reduces the potential for generating a dust nuisance.

5.3 Loading of Trucks

Dust produced from loading aggregate is not normally an issue.

5.4 Overburden Disposal

Generally the overburden extraction and disposal site is in an area that does not have a dust effect on neighbouring properties.

6. NOISE MANAGEMENT

Holland's Quarry operates under the rules of the Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB (A)L_{10}.

6.1 Blasting and Drilling

Blasting is carried out in accordance with WorksafeNZ, H&S in Employment (Mining Operations and Quarrying Operations) Regulations 2013 and Company written procedures for Blasting and Drilling.
. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible, and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler, and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is carried out using a hydraulic rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast.

6.2 Processing

The crushing plant is situated in the working area of the quarry and has no effect on neighbouring properties. Modern crushing plant systems have been manufactured to meet international noise level requirements.

7 WATER

There is no water on site apart from water trapped in the silt detention ponds.

7.1 Flooding

The Far North District council Flooding Map for the area does not identify the site as being flood prone

7.2 Discharge

The activity at the quarry has the potential to result in the erosion and subsequent discharge of sediment into the upper reaches of a tributary of the Kawaka stream. The quarry bench and floor are level areas and do not represent significant potential sediment run off.

Sediment detention ponds are in place to minimize potential adverse effects. The pond catching the sediment from the quarries roads / benches / floor is positioned on the edge of the road which then flows into the pond location in the paddocks below the quarry.

Another detention pond is positioned behind the quarry working area at the base of the overburden stockpile site.

A discharge permit CON 200616797 (02) allows the discharge of storm water.

See [illegible] for water directional flow and settling ponds.

7.3 Monitoring and Inspection

The quarry manager will inspect the sediment detention ponds weekly or as required after a storm event and remove accumulated sediment before its level reaches one third of its volume (holding capacity).

8 DEVELOPMENT AREA AND VISUAL IMPACT

The high bench above the quarry floor will be stripped and developed into benches in accordance with safe practices described in "Health and Safety at Opencast Mines, Alluvial Mines and Quarries Best practice Guidelines 2014".

8.1 Development Area

Development will proceed at the south eastern side of the quarry pit as photos describe in APPENDIX D.

8.2 Visual Impact

The quarry and development area is visible from a short section of Runaruna road and the land owners dwelling. The long term plan is to develop the quarry into a well-organized safe operation with benches and minmal impact on the surrounding area. This is a requirement set out in the NRC consents and Worksafe NZ.

8.3 Monitoring and Inspections

Prior to commencement of vegetarian removal in an area, the area will be inspected and the appropriate controls and methodologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarry man will confirm on a daily basis that the controls and methodologies determined are being followed.

9 FUEL AND OIL SPILLAGE/ HAZARDOUS SUBSTANCES

9.1 Potential Adverse Environmental Effects

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.2 Storage (diesel / oil)

The quarry fuel is currently brought in daily using a 1200 litre trailer tank however there is the option of bulk storage of fuel on site if required.

- Above ground tank 5000 Litres diesel fuel oil.
- Trailer tank 1200 litres diesel fuel

The tanks remain the property of Allied Petroleum and are located across the yard from the Crushing plant.

9.3 Potential Spill Sources and Risks

The hazardous substances storage facility (diesel storage) is considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system and the tributary of the Kawaka Stream. It is considered there is the opportunity to prevent the spill from entering the water ways and the potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment Malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.4 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc. is being undertaken to minimize the potential for a spill.
All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the sight
- Take action to stop source of spill if practical and safe to do so
- Take action to contain spill if practical and safe to do so, and if it is not, stand by in a safe location until instructed otherwise.

9.5 Spill Response Equipment available on site

A 100 litre spill kit is located in the sites lunchroom.

9.6 Equipment and Operators Available Elsewhere

The northland regional council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Holland's Quarry can cope with itself. Phone 408 6600 or 0800 504 639.

9.7 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.8 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence

See APPENDIX 1

10 HAZARDOUS SUBSTANCES INVENTORY

See Appendix I

10.1 Material Safety Data Sheets

A full complement of material safety data sheets are kept in the sites lunchroom/Managers vehicle.

11 LITTER CONTROL

All organic and inorganic waste is taken off site to Lamer Road Quarry rubbish skip where it is removed by waste contractors.

11.1 Waste Oils

Waste oil is collected in used oil drums and transported to Larmer Road Quarry waste oil facility where it is removed off site by contractors.

12 ARCHAEOLOGICAL AND HISTORICAL SITES

There are no known archaeological sites within the quarry area.

13. TANGATA WHENUA

The local iwi authority contacts are determined by the Northland Regional Council for Holland's Quarry.

14. REHABILITATION

The quarry reinstatement will be coordinated with the requirements of Worksafe NZ, Northland Regional Council and the landowner in an effort to complement their farming business.
The final rehabilitation is likely to include battered faces on the southern side of the quarry. The eastern high face will possibly remain as it is while the quarry is operational however will more than likely be benched and battered when the quarry operations eventually cease.

Quarry rehabilitation will be ongoing as the resource is extracted to find levels. Therefore a detailed rehabilitation plan has not been compiled as it is unknown what the expectations on rehabilitation will be at that time.

The main emphasis on rehabilitation at present is to keep contouring/ re-grassing overburden dumpsites with pastured species and to continue to spray annually any pest plants.

Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt point will be filled in.

The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

Re-contouring of faces of weak material will minimize the chance for rock falls and slips. Overburden dumps will also be contoured and re-grassed.

EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180
Top Health care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
Worksafe NZ	High Hazardous Unit	0800 030 040
Northland Regional Council	Kaitaia Whangarei Opua	408 6600 09 438 4639 09 402 7516
Far North District Council		0800 920 029
Bellingham Quarries Ltd Brian Bellingham David Bellingham	Office Mobile Home Mobile	408 1340 021 848 098 4060156 021 848 099

SPILL RESPONSE

Assess the Situation

Is it safe? Identify:

1. The type of material spilled (e.g., from the label, your supervisor or MSDS);
2. The size of the spill and whether the leak has stopped;
3. Whether two chemicals are involved in the leak and could react with each other; and
4. Any unusual features such as foaming, odour, fire, etc.

Put on Protective Gear

Put on appropriate personal protective equipment. This can include respirators, gloves, goggles, etc., as needed.

Turn off Source

Stop the source of the spill or leak. This can include:

- Turning off the valve,
- Patching a leaky hose,
- Draining a tank, or
- Righting a knocked over drum container.

Block Off Drains

Stop the spill from spreading. This can include use of appropriate absorbent/ containment materials such as sand, crushed rock fines or aggregate (land) and booms (water).

Clean Up

Clean up the spill using appropriate materials and equipment from spill kits or other materials at hand.

Notify

Notify the quarry manager and/or ASQTE Manager

In the event of a spill into a waterway we have a legal obligation to notify the Regional Council. The NRC operates a 24hr, 7 day-a-week pollution control hotline on 0800 504 639.

Dispose to an Authorised Site

Dispose of contaminated materials properly. Contaminated spill control materials and disposable personal protective clothing may have to be disposed of as hazardous waste. Contaminated tools and non-disposable personal protective equipment should be decontaminated.

Review Incident

An incident form (OFI) should be filled in for every spill, including non-emergency (incidental) spills.
Review the cause of the spill and put in place any corrective actions identified.

Restock Spill Kit

Ensure that the products used to clean up the spill are replenished.

APPENDIX

C

OVERBURDEN DISPOSAL

SITES


Sediment pond
Overburden stockpile site


Overburden disposal site
Stormwater diversion drain

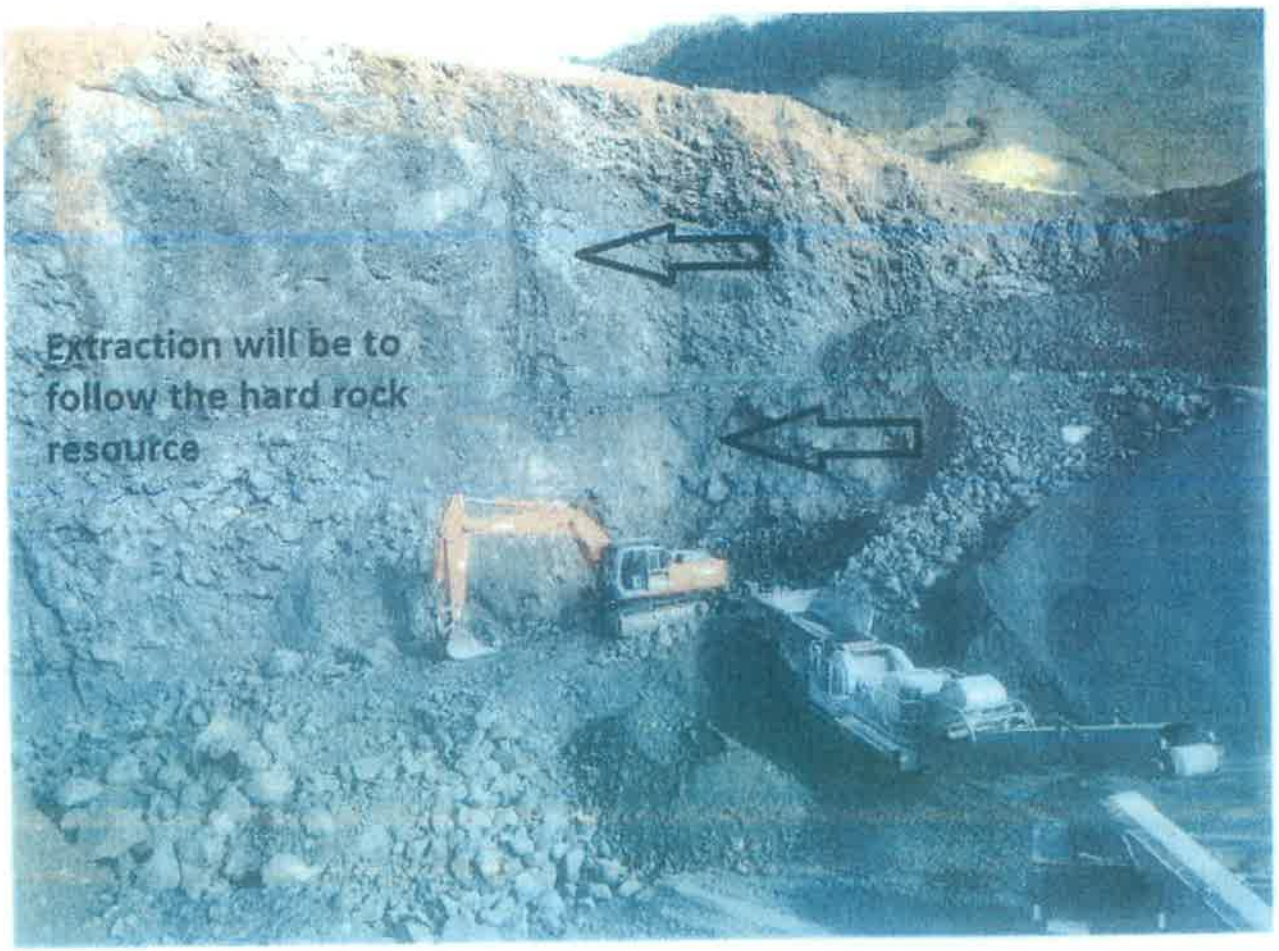

Overburden Disposal Site

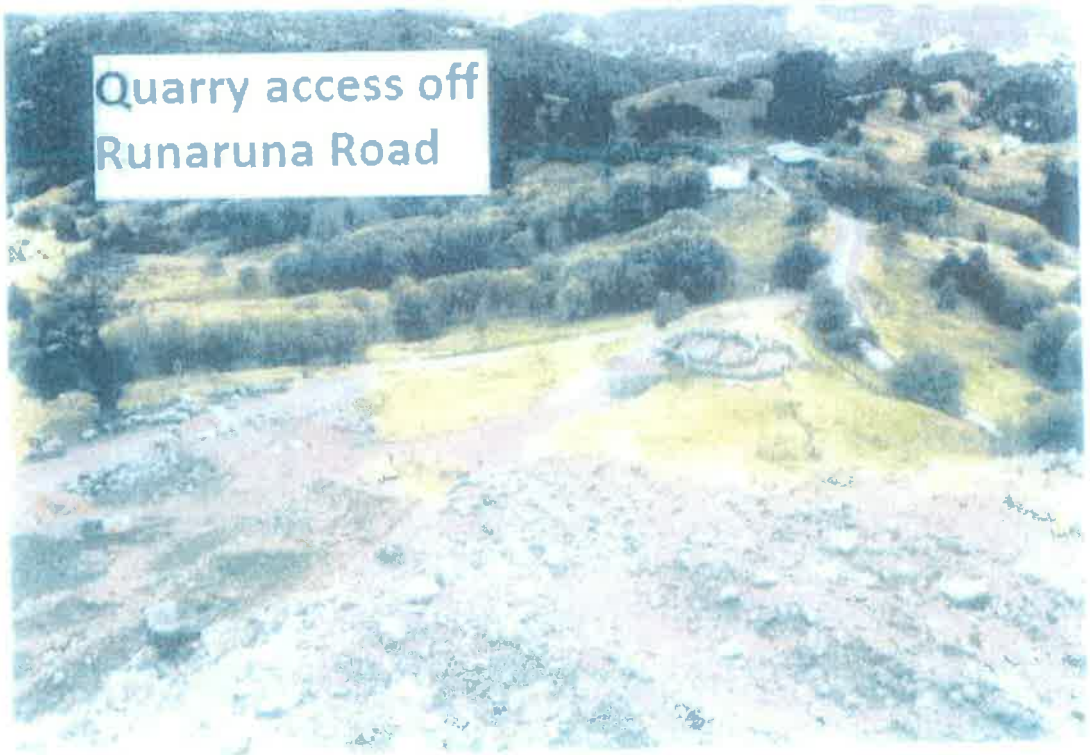

Overburden Disposal
Site Lower End


Overburden Dosposal Site
Silt Retention Pond 6x6x2

APPENDIX D QUARRY EXTRACTION

DIRECTION



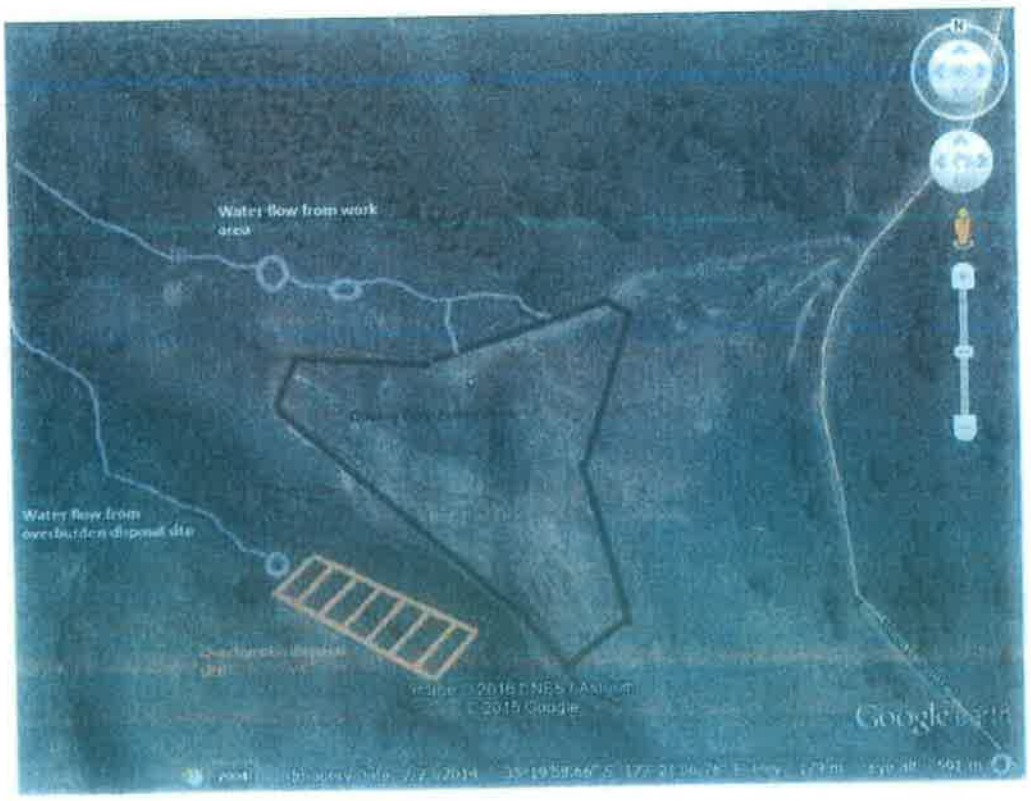

Quarry access off
Runaruna Road

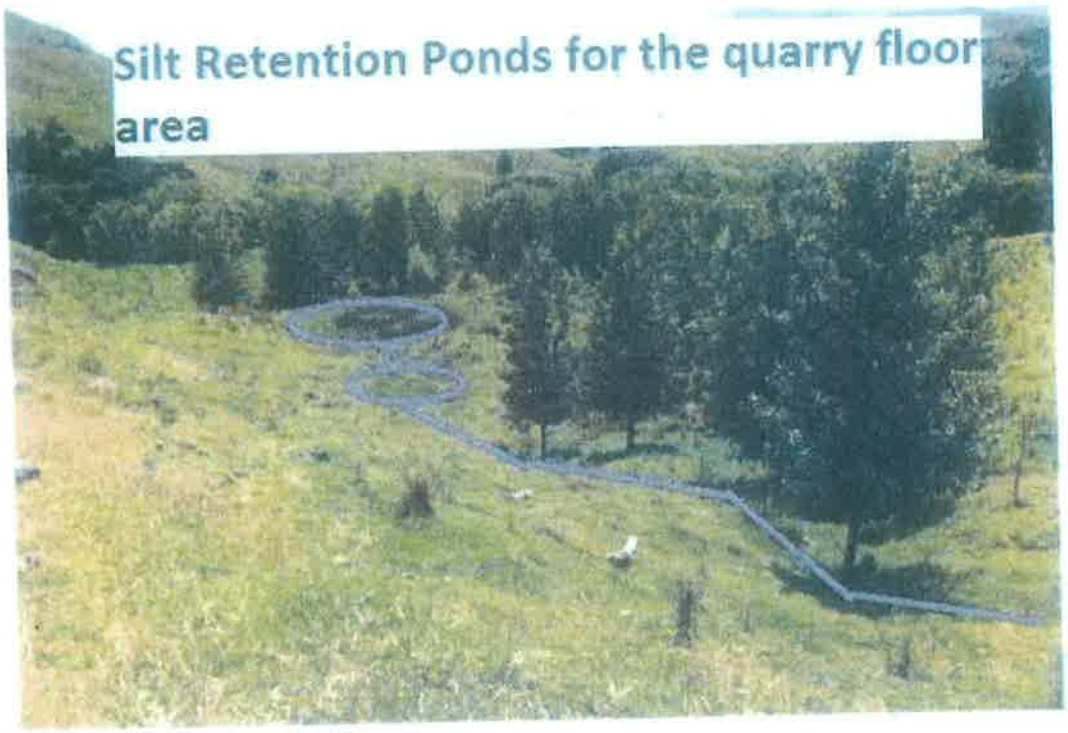

Quarry Floor and
Stockpile area

G

WATER FLOW

and OUTLET




Silt Retention Ponds for the quarry floor area


Overburden Dosposal Site
Silt Retention Pond 6x6x2

Resource Consent

FILE: 23774
(01 to 03)
Replacement

Document Date: 24.05.2019

Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the council") does hereby grant a Resource Consent to:

BELLINGHAM QUARRIES LIMITED, PO BOX 144, KAITAIA 0441

To undertake the following activities associated with quarrying activities at the Paranui Limeworks on Lot 1 DP 466938 (169 Taylor Road, Oruru), at or about location co-ordinates 1643636E 6119045N:

Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.

AUT.023774.01.02	**Extract limestone rock and remove and place overburden.**
AUT.023774.02.02	**Discharge stormwater to land from land disturbance activities.**
AUT.023774.03.02	**Divert stormwater associated with land disturbance activities.**

Subject to the following conditions:

1 The Consent Holder shall undertake all works generally in accordance with the **attached** Bellingham Quarries Ltd document entitled:

(a) *"Paranui Quarry Management Plan – Paranui Limeworks"*;

and the **attached** aerial photograph entitled:

(b) "Property Map".

2 The Consent Holder may, in consultation with the council's assigned monitoring officer, amend the Quarry Management Plan referred to in Condition 1 at any time during the term of the consent. A copy of the updated plan shall be provided to the council's Compliance Manager for certification. For compliance purposes, the works shall be undertaken generally in accordance with the most recent Quarry Management Plan that has been received and certified by council.

3 The Consent Holder shall notify the council's assigned monitoring officer in writing of the date that overburden removal operations are intended to commence each year, at least one week beforehand.

4 No overburden removal shall be carried out between 1 May and 30 September in any year without the prior written approval of the council's Compliance Manager.

5 No soil, overburden, slash and debris shall be placed in a position where it may enter the tributary of the Paranui Stream.

6 All earthworks operations shall be carried out in a manner that minimises the potential for slope instability and soil erosion. Effective mitigation measures shall be installed as required to mitigate and/or remedy any slope failures.

Northland REGIONAL COUNCIL

7 Drains and cut-offs shall be constructed to divert stormwater and minimise erosion of land/fill slopes and shall be capable of conveying stormwater during not less than the estimated 1 in 20 year rainfall event. All channels on grades greater than 5% shall be protected to avoid creating erosion features.

8 All offsite stormwater shall be directed away from earthworks areas and no drainage pathways shall be constructed or permitted to flow over fill areas in a manner that creates erosion of the fill material.

9 The Consent Holder's operations shall not give rise to any discharge of contaminants (e.g. dust), at or beyond the property boundary, which is noxious, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, an adverse effect on the environment.

10 All bare areas of overburden shall be covered with aggregate, or topsoiled and established with a suitable grass/legume mixture to achieve an 80% groundcover within three months following the completion of earthworks. Temporary mulching or other suitable groundcover material shall be applied to achieve total groundcover of any areas unable to achieve the above requirements.

11 All discharges of sediment laden stormwater from areas of land disturbance shall be via suitably designed and constructed sediment detention structures with a combined capacity of not less than 300 cubic metres per hectare of contributing catchment.

12 Accumulated sediment shall be removed from each sediment detention structure before the sediment level reaches one third of its working storage volume (holding capacity). All sediment removed from the sediment detention structures shall be placed in a stable position where it will not enter any water body nor re-enter any sediment detention structure.

13 Discharges from the overburden disposal areas and quarry shall not cause any of the following effects on the water quality of Paranui Stream at the downstream property boundary, compared to a site upstream of all land disturbance activities during the same sampling event:

(a) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials, or emissions of objectionable odour;

(b) An increase in suspended solids concentration greater than 100 grams per cubic metre; and

(c) pH outside the range 6.5 to 9.0 units.

14 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

15 The Consent Holder shall, for the purposes of adequately monitoring these consents as required under Section 35 of the Act, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with these consents:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and

(b) Immediately notify the council by telephone of an escape of contaminant; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(d) Report to the council's Compliance Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

For telephone notification during the council's opening hours the council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the council's opening hours, then the Environmental Emergency Hotline shall be contacted.

Advice Note: *The Environmental Emergency Hotline is a 24 hour, seven day a week, service that is free to call on 0800 504 639.*

16 The council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of June for any one or more of the following purposes:

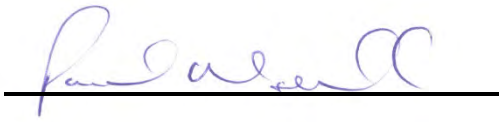
(a) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 31 OCTOBER 2039

These consents are granted this Twenty Fourth day of May 2019 under delegated authority from the council by:



Paul Maxwell
Coastal & Works Consents Manager

PARANUI LIMEWORKS

A4_L Print

Page 1 of 2

http://nrc134/XPLview/Mapping/print/quickprinttemplates/A4_L.aspx?map=http://nrc134/output/nrc9_master_ims_nrc134446081260.P... 29/08/2011

BELLINGHAM QUARRIES LTD
P.O.BOX 144 KAITAIA ph: 09 4081340
Email: bellingham.quarry@xtra.co.nz

Appendix Register

A. Resource Consent
B. Site Plan
C. Title and Boundaries
D. Visitors
E. Induction and Training& Equipment Operator Appointment
F. Storm Water Flow
G. Environmental Spill/Release Report
H. Hazardous Substances

INTRODUCTION

1.1 Location and Access

Paranui Limeworks in situated 10km south of Taipa along Oruru Road then onto Paranui Road then onto Taylor Road. Rapid number 169 Taylor Road.

Google Earth GPS coordinates 35°, 04', 14.15" S. 173°, 28', 42.29" E.

1.2 Legal Description

Lot 7 72870 & PT Allot N35 Parish of Oruru . The land area is 9.8902 ha.

1.3 Land Ownership

The property is owned as a freehold title to Bellingham Quarries Ltd.

1.4 Controlling Activities

The Northland Regional Council administers water and air issues. The FNDC, effects on neighbours noise, traffic movements.

1.5 The Quarry History.

Paranui Limeworks was operated by Jim and Alma Collings in the 1950's, on their retirement it was passed onto their son Ian who then sold it to Bellingham Quarries Ltd in 2013.

1.6 Controlling Authorities.

Northland Regional Council Consent see Appendix A

	Consent	Reference	Expiry
01	Remove and place overburden	CON200923774011	31 October 2019
02	Discharge Storm water	CON20092377402	31 October 2019
03	Divert Storm water	CON20092377402	31 October 2019

1.7 Zoning.

The Far North District council zoning map 20 for the area identifies the site as being zoned rural production (light green).

1.8 Geology

The geological mapping of the area is contained within the Kaitaia – Rawene Rock types (Geology) Map NZMS 290 – Sheet O04/05 which was published as a 1st Edition in 1982 at 1:100,000 scale. The mapping identifies the sites geology to contain Limestone deposits described as *Muddy Limestone. Light blue-grey, 50-75% calcium carbonate, closely fractured, in places interbedded with minor greensand and mudstone; moderately hard to hard. Weathered to yellow white and brown very soft slightly calcareous clay to depths of 2 metres.* The geological mapping and description appears to be consistent with material on site.

2. QUARRY ACTIVITIES

2.1 Stripping

Access to saleable rock is obtained by stripping the overburden and depositing it in overburden dump sites within the quarry. The overburden height ranges from 0 to 4 meters depending on the area being stripped.

Overburden removal can only be carried out in the summer/autumn months and is loaded and carted to areas where it is placed and compacted. Condition 4 of the resource consent state; no overburden stripping shall be carried out between first of May and the 30th of September in any year without the prior written approval of the council.

The stripping volume per year will vary and is driven primarily to ensure the continued supply of aggregate. This ensures that the areas of land are not exposed when not required reducing the environmental impact due to storm water runoff.

There is no specified limit to the amount of overburden extracted per annum. All overburden is adequately compacted to prevent slumping and planted with suitable pasture species to achieve an 80% ground cover by 30th May each year.

See Appendix B for stripping Area.

2.2 Extraction

All rock extracted for processing is initially loosened through the use of explosives. Only the more weathered rock is extracted purely by mechanical means.

Drill and blast activities are performed by both external contractors and Bellingham Quarries Staff that are holders of Explosive Approved Handlers Certificates as per HASNO regulations.

Rock is loaded directly from the blasted muck pile via wheel loader in a load and carry operation to the crushing plant.

The rock is currently being extracted within the quarry confines from the quarry face. The face is benched and being developed in a westerly direction following the existing floor. Rock is also being extracted in a north easterly direction following the high ridge.
See Appendix B for extraction direction.

2.3 Processing and Stockpiling

The rock is processed through both fixed and mobile crushing plant.

The fixed plant is primarily for the production of agricultural lime. It consists of a primary jaw crusher, and a pulverizer. The finished product is conveyed into a lime storage shed.

The mobile plants are track mounted or wheeled trailers and operate on the quarry floor, for the production of aggregates, the finished products carted to sales stockpiles by wheel loaders. Daily product figures are kept to assess stock volumes of the crushed aggregates.

2.4 Sales

Agricultural lime is loaded via wheel loaders from the lime storage shed and is sold by weight using certified weigh scales on the front end loader. (Loadrite)

Aggregate is loaded onto customer trucks via wheel loaders from the sales stockpiles. The products are loaded out by weight but are sold by volume. All sales are docketed using the company sales dockets, collected and entered into the company data base for processing.

3. SITE FACILITIES

3.1 On site are the following facilities:

- Lunchroom
- Lime storage shed
- Workshop
- Fuel tank and bowser
- Quarry floor and bench
- Overburden disposed sites
- Sales stockpiles
- Weigh scales

See Appendix B

3.2 Rubbish

Inorganic waste is collected and transferred off site to Larmer Road quarry for disposal. This includes waste oils and other hazardous substances.

3.3 Pest Plants

Spraying of pest plants occurs annually and is undertaken by contractors. Annual monitoring by Northland Regional Council Staff

3.4 Services

Electricity and water to the plant, workshop, and cottage are supplied via a diesel generator on site.

4. HEALTH AND SAFETY:

Paranui Lime works has a health and safety manual that incorporates the Bellingham Quarries Heath and Safety System. The site's Heath and Safety Manual is kept on site and is located in the sites lunchroom.

4.1 The Health and Safety System includes:

- Bellingham Quarries Health and Safety Policy
- Drug and Alcohol policy
- Workplace Audit and Inspection procedures
- Return to work policy
- New employee introduction procedures
- Staff recruitment policy and procedures
- Employee training, roles and procedures
- Protective clothing and safety equipment instructions
- Accident and engineering instructions
- Accident and emergency procedures
- Accident and incident reporting procedures
- Register of hazards
- Material safety data sheets location
- Register of hazards

4.2 Visitors

All visitors to the site must first report to the lunchroom and sign the visitors register. A contractors, customers and visitor's health and safety information and site rules sheet is distributed to all new visitors to the site. The sheet details

- Emergency assembly point
- Accidents, Injuries and Incidents requirements
- Vehicle movement rules
- Signage
- Loading procedures
- Child restrictions
- Identified hazards
- Metal/lime docket rules

See Appendix D

All visitors to the site must wear the appropriate Personal Protective equipment (PPE). This includes a hard hat, safety footwear and a high Vis Vest.

Written authorization from the quarry manager is required before any person can operate any items of plant including loaders, excavators or crushing plant.

See Appendix E

4.3 Blasting Safety

Blasting activities are overseen by the Quarry Manager who has an approved Handler Test Certificate for Explosives. The safe blasting procedure is as described in the 'Bellingham Quarries Blasting Procedure'.
The blasting contractors that are engaged have their own health and safety systems in place which meet their requirements under the Health and Safety in Employment Act.

4.4 Training Records

All employees are inducted when they start on the site. Subjects discussed during introduction include:

- Health and Safety information and Site rules
- Hazard identification
- Emergency procedures
- P.P.E
- Orientation
- Authority to operate machinery
- Competency forms
- Reporting Requirements (Paper Work)

See Appendix E

These induction meetings are recorded in the ring binder titled 'Health and Safety Meeting and Completed Forms' and kept in the site office/ lunchroom.

4.5 Competency Assessments & Equipment Operator Appointment

Competency assessments are performed on all employees covering all activities on site. Assessments are undertaken continually by the experienced quarry manager. Completed competency assessment forms are kept in the site office/ lunchroom, or in the main Bellingham Quarries office at Larmer Road. (see Appendix E)

5. DUST CONTROL

Dust is primarily generated through the production process or by the movement of vehicles within the quarry.
Dust nuisance to neighbouring properties is dependent on the wind direction. Any Bellingham Quarries personnel on site are required to monitor dust levels at all time during operational hours, and senior personnel including the production manager and quarry manager are responsible for ensuring that dust emissions are controlled at their source.

5.1 Processing Plant

The mobile tracked aggregate crushing plant does not generate dust issues when crushing on site due to its location on the quarry floor.

The agricultural lime plant is based on pulverizing lime rock into dust so is described as a dust generating activity. The plant has been designed to reduce wind dust blown using conveyor covers to prevent wind from dispersing the lime and to keep the product dry.

5.2 Loading of Trucks

Dust produced when loading lime is the most difficult to control and is an issue when loading trucks from the storage shed. As the front-end loader tips lime into the truck trays, lime dust can become air borne and blown away. The bucket of the loader is to be kept as low as possible to the deck of the truck when loading lime to reduce the effect of wind blown dust.

5.3 Overburden Disposal

Generally the overburden extraction and disposal sites are occurring in areas far enough from the quarry boundaries not to have a dust effect on neighbouring properties.

5.4 Other Remedial Actions

If prevailing environmental conditions are such that during operation of the quarry all dust control measures are ineffective, those activities generating excessive dust are to cease until such time as environmental conditions improve.

6. NOISE MANAGEMENT

The Far North District Plan which states that the following noise level must not be exceeded at the quarry's boundaries: 60 dB(A)L_{10}.

6.1 Blasting and Drilling

Blasting is carried out in accordance with Health and Safety in Employment (Mining Operations and Quarrying Operations) regulations. Non-electric prima detonators are bottom initiated and the use of cortex is kept to a minimum when possible, and top initiated detonators (TLD's) are covered to help reduce noise. Noise created by rock drilling has been kept to a minimum by the use of a muffler, and ground vibration by use of modern drilling and blasting techniques. Secondary rock breaking is now carried out using a rock breaker. This has eliminated the need to use explosive, which resulted in excessive noise and air blast to the neighbours. Neighbours are notified by telephone prior to blasting, immediately preceding a blast a siren is activated to give warning of the impending blast.

6.2 Processing

The crushing plant is run using electric motors powered by a diesel powered genset. All diesel mobile plants are fitted with muffler systems. Working hours are usually, but not always, restricted to daylight hours. The crushing plant is not equipped with lighting.

7. WATER

Water for damping down the dry lime on the truck and trailers is drawn from a plastic water tank located on site. The water tank is filled from rain water collected from the building roofs on site. The water pump is housed inside the workshop building for security reasons.
The water take, is a permitted activity under Northland Regional Council section 24.1.1. "Rules for Taking, Use, Damming and Diverting of Surface Water".

7.1 Flooding

The Far North District council Flooding Map for the area does not identify the site as being flood prone.

7.2 Discharge

The activity at the quarry has the potential to result in the erosion and subsequent discharge of sediment into the Paranui Stream. Although the quarry bench and floor are expansive level areas and do not represent significant potential sediment runoff, the lime processing plant areas hold lime dust product that has the ability to discharge. Various sediment detention ponds are in place to minimize potential adverse effects.

See Appendix F for water directional flow and settling ponds.

7.3 Monitoring and Inspection

The quarry manager will inspect the sediment detention ponds weekly or as required after a storm event and remove accumulated sediment before its level reaches one third of its volume (holding capacity). NRC monitoring officers inspect detention ponds annually.

8. QUARRY DEVELOPMENT AREA AND VISUAL IMPACT

The ongoing development of the quarry may include removal of small amounts of overburden to expose the limestone on the highest face as the quarry is developed further back into the deposit.

8.1 Visual Impact

The quarry is south facing and surrounded by farmland with a large swampland stream on one boundary. There are a number of dwellings opposite the quarry, however, most of the houses are obscured by trees. It is believed the future development of the quarry will have little visual effect on the area.

8.2 Monitoring and Inspections

Prior to commencement of vegetation removal in an area, the area will be inspected and the appropriate controls and meth odologies determined. These controls and methodologies will include:

- Perimeter definition
- Methods of crossing watercourse
- Felling and removal methods adjacent to and on steep slopes
- Stockpile areas
- Stabilization methods for exposed surfaces
- Sediment control required

During vegetation removal the site quarry manager will confirm on a daily basis that the controls and methodologies determined are being followed.

9. FUEL AND OIL SPILLAGE/ HAZARDOUS SUBSTANCES

9.1 Potential Adverse Environmental Effects

Fuels and oils can become a significant pollutant if discharged to the environment. This discharge can occur by a variety of means including accidental spillage when refueling, spillage during maintenance, accident damage, vandalism and careless disposal of fuel and oil containers. The costs of cleaning up fuel and oil spills can also be significant as even a minor spill can contaminate a large area.

9.2 Storage (diesel oil)

The quarry currently has the following storage capacity:

- Above ground tank 5000 Litre diesel fuel oil within a steel containment bund.

The tank remains the property of Allied Petroleum and is located adjacent at a designated site above the container housing the generator,

Various grades of oils are stored in the workshop.

9.3 Potential Spill Sources and Risks

The hazardous substances storage facility (diesel storage) is considered to have a medium risk of environmental impact, there is a potential for any spill to enter water management system of the Paranui Stream. It is considered there is the opportunity to prevent the spill from entering the water ways and the potential situations are outlined as follows:

- Refilling, servicing
- Rupture
- Vandalism
- Equipment Malfunction
- Transport of hazardous substances around the site
- Preparation of hazardous substances for use in operations

9.4 Responsibilities

All personnel will adopt work practices to ensure that the refueling, greasing etc. is being undertaken to minimize the potential for a spill All personnel have a duty to:

- Respond initially to a spill by raising the alarm
- Warn other personnel on the sight
- Take action to stop source of spill if practical and safe to do so
- Take action to contain spill if practical and safe to do so, and if it is not, stand by in a safe location until instructed otherwise

9.5 Spill Response Equipment available on site

A 100 litre spill kit is located at the sites workshop

9.6 Equipment and Operators Available Elsewhere

The Northland Regional Council Kaitaia Office has equipment and resources to deal with spills that are considered more significant than Otangaroa Lime works could cope with.
Phone 408 6600 or 0800 504 639.

9.7 Spill Procedures

Immediate response for all spills:
Action is only to be taken if it is considered safe to do so. The person who discovers the spill will make an initial assessment of the spill including:

- What has been spilled
- Approximate volume or size of the spill
- Whether spill has entered a water way
- Likely source of the spill
- Whether the spill is still occurring
- Take appropriate action

9.8 Recording

All spill incidents should be recorded in the site environmental records and should include the following information

- Why spill occurred
- Extent of the spill
- The effects on the environment
- The measures taken to control and clean up the incident
- Actions taken to avoid re-occurrence

See Appendix G

10. HAZARDOUS SUBSTANCES INVENTORY

See Appendix H

10.1 Material Safety Data Sheets

A full complement of material safety data sheets are kept in the sites lunchroom.

LITTER CONTROL

All organic and inorganic waste is taken off site to Larner Road Quarry rubbish skip where it is removed by waste contractors.

10.2 Waste Oils

Waste oil is collected in used oil drums and transported to Larmer Road Quarry waste oil facility where it is removed off site by contractors.

11. ARCHAEOLOGICAL AND HISTORICAL SITES

There are no known archeological sites within Paranui Limeworks.

11.1 Action

The following procedures will be followed if an archeological site has been identified or suspected on site.

- All earthworks in the immediate vicinity of the site shall immediately cease.
- The operator is to contact the quarry manager.
- The quarry manager will contact the relevant parties.
- No activity will continue until the proper protocols have been followed.

Examples of items that require the ceasing of activities:

- Human remains
- Storage pits, shell midden (a mixture of shell, ash, burnt stone, charcoal etc.)
- Other items of Maori origin including stone, bones, wood or shell artifacts
- Signs of early European settlement

12. TANGATA WHENUA

The Northland Regional Council forwarded a copy of the Resource Consent application to all local Iwi groups for their comments with no concerns being received.

13. REHABILITATION

Paranui Lime works is an active, working quarry, it is expected that the resource will continue to be extracted well into the future.
Quarry rehabilitation will be ongoing as the resource is extracted to find levels. Therefore a detailed rehabilitation plan has not been compiled as it is unknown what the expectations on rehabilitation will be at that time.

The main emphasis on rehabilitation at present is to keep contouring/ re-grassing overburden dumpsites with pastured species and to continue to spray annually any pest plants.

Silt traps will be left in place until the surfaces have been re-vegetated. Once growth has reached a sustainable point then the silt point will be filled in.

The extent of monitoring and maintenance required after the quarry is closed will depend on how quarrying proceeds over the forthcoming years and how it is progressively reinstated over time.

Re-contouring of faces of weak material will minimize the chance for rock falls and slips. Overburden dumps will also be contoured and planted.

A qualified geotechnical engineer will inspect the site to confirm that the final faces will be in a safe condition.

15. EMERGENCY CONTACTS

Local Emergency	Location/Address	Phone #
Emergency services		111
Local Police Station	Kaitaia Houhora Mangonui Kerikeri Whangarei(24hrs)	408 6500 409 8822 406 2060 09 407 9211 09 430 4500
National Poisons Centre	24Hrs	0800 764 766
Medic Alert		04 528 8219
After Hours Duty Doctor		408 9180
Top Health care		408 9182
Kaitaia Medical Centre		408 1300
Civil Defence		0800 222 200
Electricity Company -Top Energy	Head office Kerikeri Kaitaia	0800 867 363 408 9200
Telecom		0800 800 123
OSH, Dept of Labour	Whangarei Regional Office	0800 209 020
Northland Regional Council	Kaitaia Whangarei	408 6600 09 438 4639
Far North District Council		0800 920 029
Bellingham Quarries Ltd Brian Bellingham David Bellingham	Office Mobile Home Mobile Home	408 1340 021 848 098 406 7479 021 848 099 408 2929

Property Map

Date Printed: 11-September-2013

SCALE 1: 2,949

0 147

Meters

Projection: NZGD_2000_New_Zealand_Transverse_Mercator

FAR NORTH MAPS

Far North District Council

RCPAD

FAR NORTH DISTRICT COUNCIL

FAR NORTH OPERATIVE DISTRICT PLAN
DECISION ON RESOURCE CONSENT APPLICATION (LANDUSE)

Resource Consent Number: 2170236-RMALUC

Pursuant to section 104B of the Resource Management Act 1991 (the Act), the Far North District Council hereby grants resource consent to:

Bellingham Quarries Ltd

The activity to which this decision relates: To expand the existing quarry operation into a 32.197h ha area outside the Minerals Zone

Subject Site Details

Address:	377 Larmer Road, Kaitaia 0481
Legal Description:	Pt Sec 57 Block V Takahue SD & Pt Lot 1 DP 172915
Certificate of Title reference:	NA-1826/47, NA-17D/411, NA-1B/1477, MX-3304460

Pursuant to Section 108 of the Act, this consent is issued subject to the following conditions:

1. The activity shall be carried out in accordance with the approved plans prepared by Von Sturmers, referenced Pt Sec 57 Block V Takahue SD & Pt Lot 1 DP 172915, dated Nov 10 and attachments A & B, not dated, and attached to this consent with the Council's "Approved Stamp" affixed to them.

2. The development of this area shall be undertaken in accordance with the Development Plan submitted with this application, in particular:

   a) The quantity of over burden shall not exceed 40,000m^3 per year.
   b) Dust nuisances shall be controlled to ensure there is no dust discharge which is offensive or objectionable beyond the boundary of the site.
   c) All mobile equipment shall have a muffler system installed and the crushing plant shall be run by an electric motor to reduce noise levels.
   d) Prior to any blasting being undertaken adjoining landowners shall be notified at least 24hrs in advance.
   e) Blasting and drilling shall be undertaken in a manner to keep vibrations to a minimum as is physically practicable.

Advice Notes

1. Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This should be made available to all person(s) working on site.

Reasons for the Decision

1. RC2120073 was granted in 2012 and authorised the applicant to quarry land outside of the Minerals Zone. The consent issued refers to a 3.1870 ha site, rather than the 32.197 ha site applied for. Through discussions with Council it was found that this was a minor technical error which is usually able to be corrected though s133 of the RMA. However it was decided that the time since the granting of RC2120073 was too great to extend the standard 15 day timeframe for making changes under s133 and therefore the current application seeks to formalise the change.

2. The existing environment includes the activities authorised RC2120073. No physical changes are proposed and therefore the effects of the changes are considered to be administrative in nature and less than minor.

3. The original consent covered all relevant Policies, Plans and RMA matters. Given the minor effects anticipated, it is my opinion that there are no matters that require reconsideration for the current proposal.

4. Part 2 Matters
The Council has taken into account the purpose & principles outlined in sections 5, 6, 7 & 8 of the Act. It is considered that granting this resource consent application achieves the purpose of the Act.

Approval
This resource consent has been prepared by Brendon Hewett Senior Resource Planner and is granted under delegated authority (pursuant to section 34A of the Resource Management Act 1991) from the Far North District Council by:

P.J Killalea
Pat Killalea, Principal Planner

2nd December 2016.
Date

Right of Objection
If you are dissatisfied with the decision or any part of it, you have the right (pursuant to section 357A of the Resource Management Act 1991) to object to the decision. The objection must be in writing, stating reasons for the objection and must be received by Council within 15 working days of the receipt of this decision.

Lapsing Of Consent
Pursuant to section 125 of the Resource Management Act 1991, this resource consent will lapse 5 years after the date of commencement of consent unless, before the consent lapses;

The consent is given effect to; or

An application is made to the Council to extend the period of consent, and the council decides to grant an extension after taking into account the statutory considerations, set out in section 125(1)(b) of the Resource Management Act 1991.

Pt Sec 49
Block X
Takahue SD

Okahu 4B
Block

(Existing Mining Licence)

APPROVED PLAN
PLANNER .....
RC 2170236 Date 28/11/16

Pt Sec 57
Block X Takahue SD
SO 31651
CFR NA17D/411
Bellingham Quarries Limited

Pt Lot 1
DP 172915
CFR NA102D/189
CFR NA102D/190
Bellingham Quarries Limited

Sec 1
29.0100ha

Sec 2
3.1870ha

Schedule of Areas		
Description	Shown	Area
Pt Lot 1 DP 172915	Sec 1	29.0100ha
Pt Sec 57 Block X Takahue SD	Sec 2	3.1870ha
	Total Area :	32.1970ha

229°51'00" 85.00
282°53'30" 102.52
283°14'00" 320.68
259°40' 85.13
225°58' 75.31
262°40'20" 65.50
314°19'00" 326.68
305.78
354°12'35" (567.05)
261.27
162°27'40" 505.01
586.89
94°42'10"

Road
Legal Road

Sec 56
Block X Takahue SD
State Forest NZGZ

COPYRIGHT

Local Authority: Far North District Council
Prepared for: Bellingham Quarries Limited

Total Area: 32.1970ha
Comprised in: CFR NA17D/411 CFR NA102D/189
CFR NA 102D/190

AREAS AND MEASUREMENTS SUBJECT TO FINAL SURVEY

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.

VON STURMERS
Registered Land Surveyors, Planners & Land Development Consultants
Ph: (09) 408 6000
Fax: (09) 408 6002
Email: kaitaia@surveyandplanning.co.nz
117 Commerce St
P.O. Box 128
Kaitaia

Pt Sec 57 Block V Takahue SD & Pt Lot 1 DP 172915
(Application for Mining Priviledge)

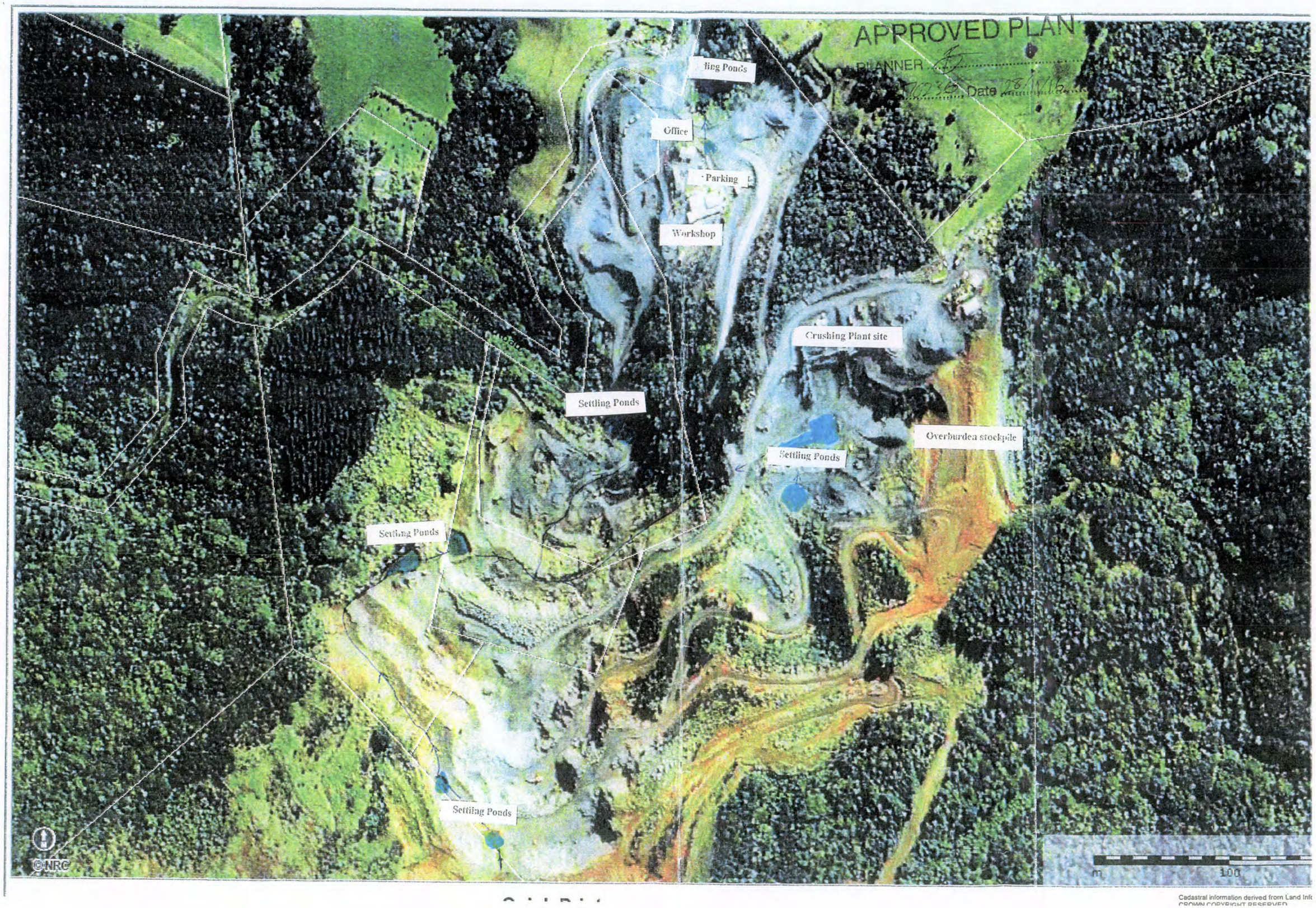
	Name	Date
Survey		
Design		
Drawn	TV	Nov 16
Approved		
Rev		

ORIGINAL SCALE 1:4000 SHEET SIZE A3

Surveyors Ref. No: 12256
Series
Sheet of

25

(A)


APPROVED PLAN
PLANNER
Date
ling Ponds
Office
Parking
Workshop
Crushing Plant site
Settling Ponds
Overburden stockpile
Settling Ponds
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Settling Ponds
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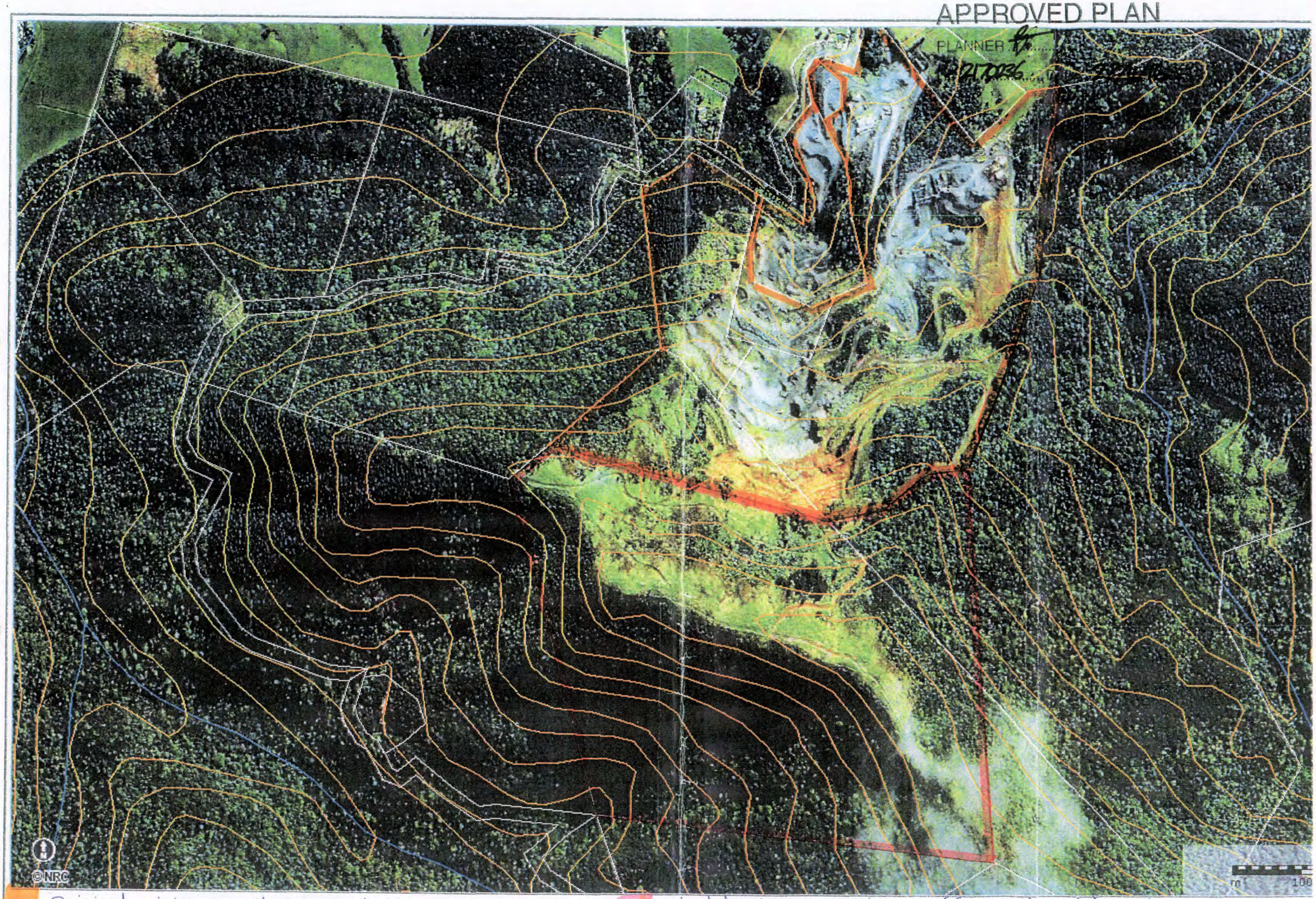
Cadastral information derived from Land Inf
CROWN COPYRIGHT RESERVED

B

APPROVED PLAN

PLANNER



Original mining permit area and current FNDC minerals zone in FNDC Plan.

Extended mining permit area (Crown Minerals) and area Bellingham Quarries Ltd wish to develop.

Cadastral information derived from Land Inf
CROWN COPYRIGHT RESERVED

COPY Pid 3304460

Far North District Council

Private Bag 752, Memorial Ave
Kaitaia 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask@fndc.govt.nz
Website: www.fndc.govt.nz

Te Kaunihera o Tai Tokerau Ki Te Raki

Application No: 2170236-RMALUC

5 December 2016

Bellingham Quarries Limited
C/- Northland Planning & Development
1421 Church Road
RD 2
Kaitaia 0482

Dear Sir / Madam,

Re: RESOURCE CONSENT APPLICATION BY Bellingham Quarries Ltd

I am pleased to inform you that your application for resource consent has been approved. The decision is enclosed for your information. The application was considered and determined under authority delegated to the Team Leader Resource Consents of the Far North District Council, pursuant to Section 34A of the Resource Management Act 1991.

It is very important that you understand and comply with any conditions of consent. If you have any questions or concerns about any aspect of your consent or its conditions, please contact the planner who prepared the decision.

Please note, that you will be sent either an invoice or credit note depending on the actual cost of processing your application. Any additional costs shown on an invoice need to be paid by the 20th of the month following the date of the invoice. If you receive a credit note, you have the option of requesting a refund by bank transfer, or transferring the amount to any other Council account. Please advise and supply a printed bank deposit slip and allow 10 working days for the refund to be processed.

If you have any further queries regarding this matter, please contact the reporting Planner.

Yours faithfully

Sharon Tipene
Planning Support
Resource Consents Department

Accidental Discovery Protocol (ADP)

From Heritage New Zealand Pouhere Taonga

Prior to the commencement of any works, a copy of this ADP should be made available to all contractors working on site.

Under the *Heritage New Zealand Pouhere Taonga Act 2014* an archaeological site is defined as a place associated with pre-1900 human activity, where there may be evidence relating to the history of New Zealand. Over 12,000 archaeological sites have been recorded in Northland, and more are identified on a regular basis.

For Maori sites (the most common site types in Northland), the largest and most obvious site types are pa, pits and terraces. However, evidence may be of a smaller nature, in the form of bones, shells, charcoal, burnt stone etc; a midden is an archaeological rubbish tip, in which many of these items can be found consolidated together. Evidence of disturbance of a midden can be a scattering of shell across a wide area; this can be confusing if it is near a beach. Pieces of obsidian or chert, together with stone tools, may also be recovered.

In later sites of European origin artefacts such as bottle glass, iron/metal, crockery etc. may be found, or evidence of old foundations, wells, drains or similar structures.

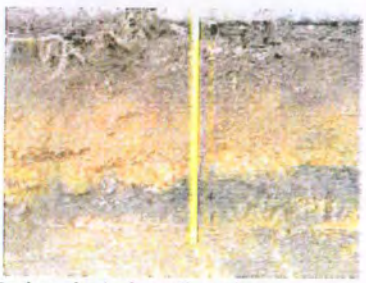
Burials/koiwi tangata may be found from any period.

Some examples:

Shell midden

Historic bottle

Animal bone



Archaeological stratigraphy

A flight of pits in forest

Shell midden uncovered in road scraping

In the event of an "accidental discovery" of archaeological material the following steps must be taken:

1. All work on the site will cease immediately. The contractor/works supervisor will shut down all equipment and activity.
2. The contractor/works supervisor/owner will take immediate steps to secure the site (tape it off) to ensure the archaeological remains are undisturbed and the site is safe in terms of health and safety requirements. Work may continue outside of the site area.
3. The contractor/works supervisor/owner will notify the Area Archaeologist of Heritage New Zealand – Pouhere Taonga (Northland Office), tangata whenua and any required statutory agencies[1] if this has not already occurred.
4. Heritage New Zealand – Pouhere Taonga advise the use of a qualified archaeologist who will confirm the nature of the accidentally discovered material.
5. If the material is confirmed as being archaeological, under the terms of the *Heritage New Zealand Pouhere Taonga Act* 2014, the landowner will ensure that an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from Heritage New Zealand – Pouhere Taonga before work resumes.
6. If burials, human remains/koiwi tangata are uncovered, steps 1 to 3 above must be taken and the Area Archaeologist of Heritage New Zealand – Pouhere Taonga, the New Zealand Police and the Iwi representative for the area must be contacted immediately. The area must be treated with discretion and respect and the koiwi tangata/human remains dealt with according to law and tikanga.
7. Works at the site area shall not recommence until an archaeological assessment has been made, all archaeological material has been dealt with appropriately, and statutory requirements met. All parties will work towards work recommencement in the shortest possible timeframe while ensuring that archaeological and cultural requirements are complied with.

ADVICE TO ALL CONTRACTORS/SITE WORKERS/OWNERS:-

IF IN DOUBT, STOP AND ASK; TAKE A PHOTO AND SEND IT TO THE AREA ARCHAEOLOGIST

Contact details for the Area Archaeologist in Northland is:

Dr James Robinson, Northland Area Archaeologist
Heritage New Zealand – Pouhere Taonga
PO Box 836, Kerikeri 0245
PH: (64 9) 407 0470 - DDI. (64 9) 407 0473 - MOBILE 027 249 0864
jrobinson@heritage.org.nz

[1] For example, the New Zealand Police in the event that human remains are found.