WHANGARIPO

QUARRY MANAGEMENT PLAN

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1. INTRODUCTION

1.1 Location and Legal Description

The RAS rock extraction activity is located on land at Whangaripo Quarry. The legal description is CT 128C/289 being part of Lot 10-13 DP 151 842 containing 39.8860 ha; CT 90C/14 being part of Lot 14, DP 151842 containing 56.6390 ha; CT 104D/938 being part of Lot 1 DP 171690 containing 173.4150 ha; and CT 104D/939 being part of Lot 2, DP 171690 containing 103.6850 ha.

1.2 The Rock Resource

The geology of the area consists of greywacke (hard siltstones and sandstones, overlain by a thick sequence of soft sedimentary rocks belonging to the Waitemata group. The Greywacke forms an isolated outcrop protruding through the Waitemata sediments. South west of the quarry, alluvium overlies both the greywacke and Waitemata Group forming the flats along the Kotekote Stream.

2. PURPOSE OF THE MANAGEMENT PLAN

This Management Plan has been prepared to:

- develop a systematic programme for the extraction of greywacke.
- ensure compliance with the conditions of Auckland Regional Council and Rodney District Council.
- detail a traffic safety plan for the site and how conditions of consent relating to traffic management will be complied with.
- discuss effects of dust and noise generated by quarry operations and how these will be managed to comply with conditions of consent
- show how hazardous substance storage, use and transport relevant to the operation will be carried out and managed.

- discuss visual/landscape impacts of quarry operation for neighbouring residential properties and how these effects will be managed in order to comply with conditions of consent.

3. RESOURCE CONSENT REQUIREMENTS

3.1 Requirement to prepare a Quarry Management Plan

Condition 43 – Rodney District Council Consent Order (RDC Consent):

"Prior to the commencement of any works on the site, the consent holder shall have submitted a Quarry Management Plan to the Council 10 working days prior to the commencement of works for review for consistency with conditions of this consent. The plan shall include:

A. Copies of this consent and any other Consent issued in respect of the operations by this Council and/or the Auckland Regional Council.

B. A plan of the property detailing legal boundaries.

C. The supervision and operation of the site.

D. The proposed sequence of operations, including the areas to be excavated/areas to be used for overburden disposal; existing and proposed contours, the extent of the excavation and overburden disposal, the entry/exit to the site, including traffic control measures and safety provisions and on-site access provisions.

E. The Landscape Rehabilitation Plan required by condition 36, which will include an overview of the overburden disposal regrassing and planting (addressing conditions 31-35 above).

F. An appraisal of the stability of operational areas, including pit faces, overburden slopes, and earth structures prior to, during, and after the completion of, the works, by a Chartered Professional Engineer experienced in geotechnical matters (including further site investigation if

required). The appraisal shall include recommendations for the operation of the site to ensure short and long term stability.

G. *The Noise Management Plan required by Condition 21.*

H. *The Hazardous Substances Management Plan required by Conditions 25-30.*

I. *Dust management measures required by Condition 23.*

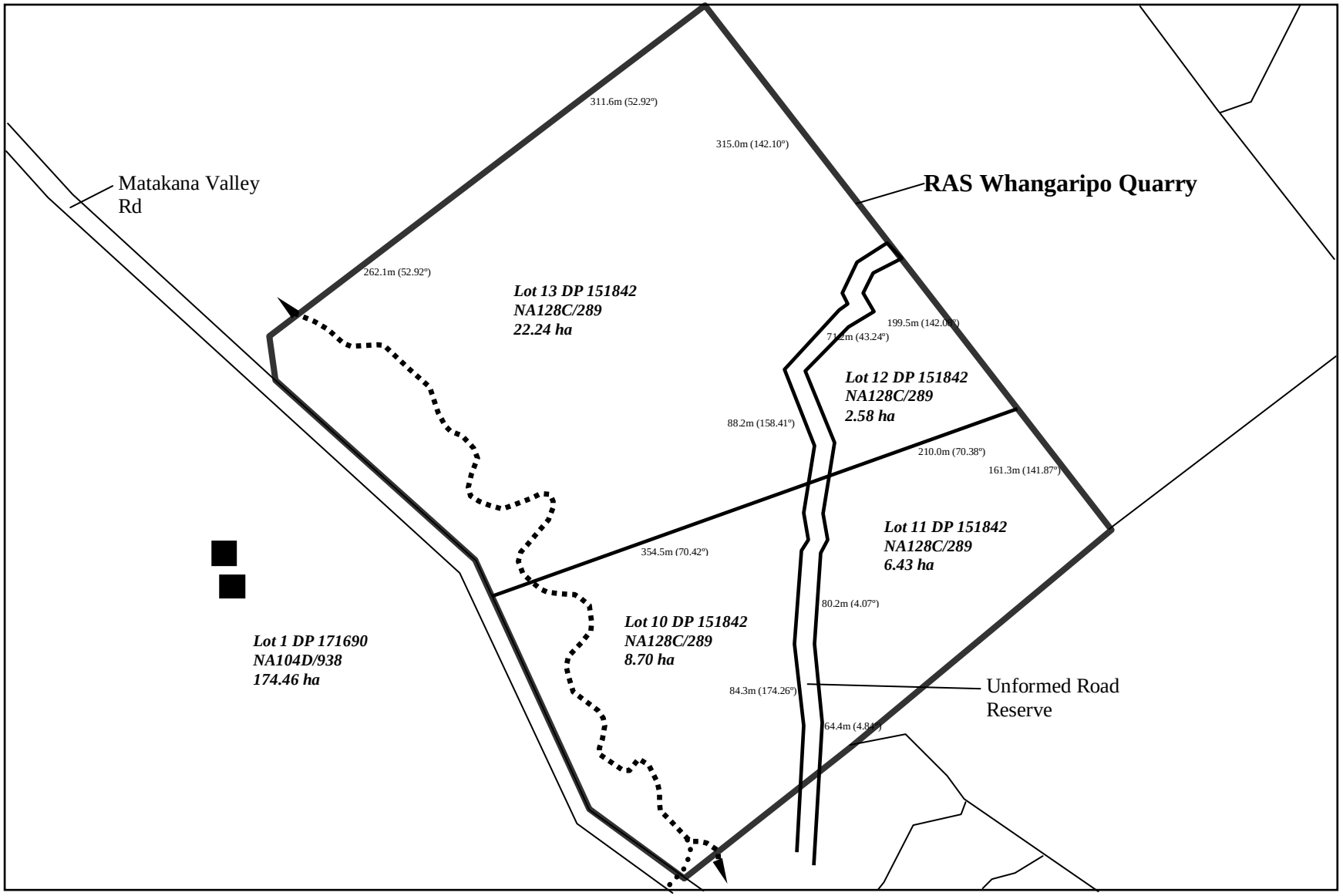
J. *The Traffic Safety Plan/Drivers Code of Conduct required by Condition 7.*

K. *The various components of the Quarry Management Plan shall be forwarded to the Community Liaison Committee for comment prior to it being submitted to the Council for review. The Community Liaison Committee shall be allowed 20 working days to comment on the various components of the Quarry Management Plan.*

L. *A copy of the Quarry Management Plan shall be held on the site. Activities at the quarry shall be carried out generally in accordance with the Quarry Management Plan.*

M. *The Quarry Management Plan shall be subject to review annually from the date of consent."*

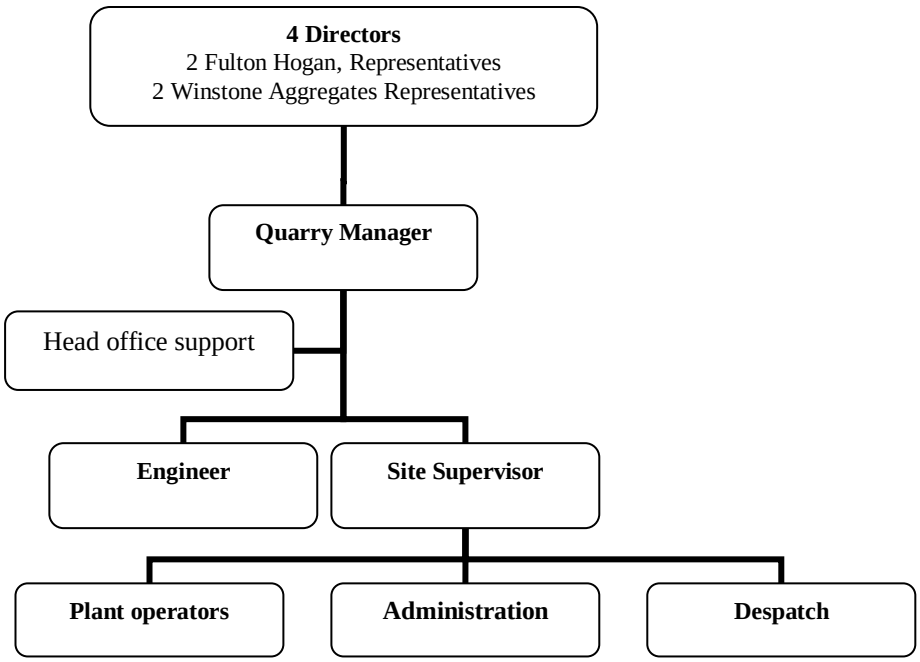
4. PLAN OF PROPERTY DETAILING LEGAL BOUNDARIES



5. SUPERVISION & OPERATION OF THE SITE

The Whangaripo Quarry operation will be managed by Rodney Aggregate Supplies (RAS) under the following organisational structure:

Rodney Aggregate Supplies



The Whangaripo Quarry Manager will be responsible for the day to day running of the quarry and will be based on site during the working week

The Site supervisor will have delegated responsibility for overseeing day to day operation of the site and site staff, reporting to the quarry manager. The Engineer will be delegated responsibility to ensure efficiency of the operation including some of the monitoring and reporting requirements of the site resource consents. Plant operators, administrators and despatch workers will operate under the supervision of the site supervisor in accordance with site procedures developed to ensure compliance with conditions of consent.

6. PROPOSED SEQUENCE OF OPERATIONS

The following stages provide an indication of the various activities that will take place on site as the quarry expands. Time frames are merely indicative:

6.1 Stage 1

An outline of quarry development at Stage 1 is shown on Figure 6.1. It is anticipated that during this stage the quarry operation will gradually increase to a peak production level of approximately 280, 000 m^3 per annum.

6.1.1 Site Infrastructure Development

- Removal of vegetation
- Fencing
- Installation of drains
- Construction of settlement ponds & water storage ponds
- Set up of any required environmental monitoring equipment
- Construction of internal quarry roads
- Design and construction of site access and entrance

Figure 6.1

6.1.2 Site Access, buildings and other structures

The site access into Whangaripo Quarry will be located to the north of the site as shown on Figure 6.1. The main office and parking area will be developed near the stockpiling are adjacent to Matakana Valley Road as shown. A weighbridge will be installed adjacent to the stockpile area (Figure 6.1).

6.1.3 Stripping transport and stockpiling of topsoil and subsoil

- Undertaken using excavators and trucks and/or motorscrapers and bulldozers
- Topsoil reused as final cover on newly created landforms

6.1.4 Overburden removal and disposal

Overburden will be removed leaving final cut slopes at geotechnically designed angles to avoid slope failure, typically between 20 and 35 degrees but may be in the form of benches.

Overburden removal will be carried out on a campaign basis at approximately 2-5 yearly intervals, typically between the months of October through to April when the weather is dry. This period may be extended with Auckland Regional Council (ARC) approval.

During Stage 1 overburden will be placed in Overburden Disposal Areas (OBDA) 1 and 2 shown with contour information on Figure 6.1.

OBDA 1 is in an area mostly between the Kotekote Stream and Matakana Valley Road and will be completed in the first construction season to allow for future aggregate stockpiling.

OBDA 2 will commence during the first construction season to create a large sight and sound screen at the southern quarry boundary.

6.1.5 Drilling and blasting

Blasting at Whangaripo Quarry will be designed and managed by trained and qualified personnel. Blasting operations will involve the storage and use of explosive materials on site. These materials will be stored and used in compliance with HSNO regulations and this is covered in more detail in Section 10 of this management plan.

6.1.6 Rock Extraction

Rock extraction shall take place throughout the area shown as completed pit complete with contour information on Figure 6.1. The progressive development of the pit will depend on market demand for different types of aggregate and the quality of the rock encountered as the pit develops.

6.1.7 Mobile plant and equipment

Mobile plant used at the site will include heavy machines such as excavators, quarry trucks, wheel loaders, hydraulic drill rigs, motor scrapers, bulldozers, rock breakers and graders as required.

All equipment will be maintained to a high standard.

6.1.8 Rock processing

Processing of rock involves crushing, screening, washing, conveying, mixing and treatment of aggregate which is then transported to the appropriate stockpile area for sale and despatch.

During Stage 1 all processing will take place in the designated processing area shown on Figure 6.1. The processing plant will consist of Primary, Secondary and Tertiary processing machinery as a full range of products will be manufactured from the outset.

6.1.9 Product stockpiling

The main area for stockpiling will be located adjacent to Matakana Valley Road south of the quarry entrance. Other smaller stockpile areas around the processing plant, within the extraction area and generally around the site will also be utilised as required.

Typical activities in the stockpile area include:

- Transfer of manufactured product from the processing plant to its designated location by wheel loader or an off road truck (bin truck).
- Mixing and heaping up of stockpiles
- Aggregate compliance testing
- Arrival, loading and despatch of customer vehicles – truck and trailer units and smaller trucks and load carrying vehicles.

6.2 Stage 2

During this stage, processing will continue to take place in the designated processing area as for Stage 1. The extraction pit will gradually expand to the west. This development and associated proposed contours are shown on Figure 6.2.

Overburden disposal will continue to completion of ODBA 2 and commence in OBDA 3 as shown with contour information on Figure 6.2. Removal and deposition of topsoil and overburden will continue on a campaign basis at intervals of 2 to 5 years.

The commencement of activity in OBDA 3 will require crossing of Matakana Valley Road by off road dump trucks. A full traffic management plan that will allow for installation of temporary traffic control signals will be implemented during these operations.

Figure 6.2

6.3 Stage 3

During Stage 3 it is expected that the pit will extend to the north west beyond the area which has been the subject of detailed resource investigation to date. This extension and associated contours of both the pit and overburden disposal areas is shown on Figure 6.3. Further investigations of rock and other associated environmental conditions will be undertaken at the time.

Disposal of overburden will be into OBDA 3 as shown in Figure 6.3 with the resulting landform revegetated as set out in the Landscape Revegetation Management Plan. The traffic management plan developed for this activity will still apply during Stage 3.

6.4 Stage 4

Stage 4, contours of extraction and overburden areas shown on Figure 6.4, will extend the pit from Stage 3 to the north and north east, working the pit perimeter up to a line that has been determined by effects on the landscape. This will limit the height of the proposed extraction faces to about the same elevation that currently exists at the site.

As with Stage 3, a review of slope stability, rock resource and associated environmental conditions will be undertaken prior to commencement of Stage 4.

Overburden from Stage 4 will be deposited in OBDA 4 under the same guidelines as Stages 2 and 3.

Stockpiling of processed material will remain in OBDA 1.

Figure 6.3

Figure 6.4

6.5 Traffic control measures, safety provisions and on-site access provisions

Traffic flow within the site is to be controlled by way of one way systems, construction of wide roading with good visibility and ensuring that movement of customer vehicles and quarry machinery within the site are kept separate.

One way systems will be utilised in the stockpile areas with widened roads connecting separate stockpile areas to allow customer traffic to pass unimpeded. Haul roads will be constructed to a width and slope angle that allows for quarry machinery to pass where practicable. In areas where visibility is not good, or where particular site characteristics, do not allow, specific procedures shall be put in place to ensure the safety of all machine operators using those haul roads.

Access to the site will only be possible during business hours for customer traffic. Outside this time and any other time the gate will be locked.

The health and safety of staff will be managed in accordance with Health and Safety legislation requirements. All visitors to the site are required to wear standard safety gear which is advised by signage at the site entrance and office. Signage on site also directs visitors to report to the site office on arrival where they must sign in. Visitors must then either be accompanied by a staff member or fully inducted into the health and safety and environmental requirements of the site before going about activities without site staff supervision.

7. LANDSCAPE REHABILITATION PLAN

8. STABILITY OF OPERATIONAL AREAS

8.1 Requirement to prepare a safety appraisal

Condition 43 (F):

> *An appraisal of the stability of operational areas, including pit faces, overburden slopes and earth structures prior to, during and after the completion of the works, by a Chartered Professional Engineer experienced in geotechnical matters (including further site investigation if required). The appraisal shall include recommendations for operation of the site to ensure long term stability.*

8.2 Stability of Pit Faces, Overburden Slopes and Earth Structures

Whangaripo Quarry contains a number of existing quarry pit faces, overburden slopes and earth structures resulting from past quarry operations undertaken at the site over a number of years. The proposed further development of the site will encompass these former works with the expansion of the quarry pit, aggregate processing and stocking areas, and overburden disposal areas.

In order to provide the Rodney District Council with the appropriate stability appraisal information relevant to the quarry operation as requested in Condition 43 (F) above, it is necessary to wait until the planning and development phase is complete. This will ensure the Chartered Professional Engineer has appropriate information to adequately assess the stability of pit faces and overburden disposal areas, as proposed, prior to operations commencing.

During site development, stability appraisals will be regularly updated as required using information from existing working pit faces, overburden disposal areas and earth structures and plans for their further development. These ongoing stability

appraisals will include recommendations for the operation to ensure short and long term stability. The appraisals will become regular additions to the Quarry Management Plan as they are prepared.

Final stability appraisals will be undertaken as overburden disposal areas and other earth structures are completed. It is not expected that a final appraisal of extraction faces would be undertaken until such time as the quarry pit has been fully worked out and pit faces were ready for restoration to final contour.

9. NOISE MANAGEMENT PLAN

9.1 Conditions of Consent

9.1.1 Limit Conditions

"Quarry Noise

9. The sound level from activities within the site shall not exceed the following limits when assessed within the notional boundary of any dwelling on land zoned Rural, existing at the date of issue of consent, other than:

A. those owned or used by the consent holder, and

*B. those subject to a s104(3)(b) waiver as at the conclusion of the consent hearing with the exception of the dwelling located at Matakana Valley Road more particularly described as Lots 9 & 10 DP 200753 (CT NA129B/204) (as set out in **Schedule 4**):*

Monday to Saturday 6.00 am to 6.30 pm L_{10} 50dBA (L_{eq}47 dBA)

The notional boundary is defined as a line 20 metres from the façade of any rural dwelling or the legal boundary where this is closer to the dwelling.

10. Subject to the express provisions of this condition, sound levels shall be measured in accordance with the provisions of NZS 6801:1999 "Acoustics - Measurement of Environmental Sound" and assessed in accordance with NZS 6802:1999 "Acoustics — Assessment of Environmental Noise", including the provisions of Clause 4.3.3, using a measurement sample time of 15 minutes.

Construction noise

11. Noise from construction activities shall not exceed the limits recommended in, and shall be measured and assessed in accordance with NZS 6803:1999 "Acoustics — Construction Noise".

Table 1: Noise limits for construction noise

Time of week	*Time period*	*Duration of Work*					
		Typical duration dBA		*Short-term duration dBA*		*Long-term duration dBA*	
		Leq	*Lmax*	*Leq*	*Lmax*	*Leq*	*Lmax*
Weekdays	*0630-0730*	*60*	*75*	*65*	*75*	*55*	*75*
	0730-1800	*75*	*90*	*80*	*95*	*70*	*85*
	1800-2000	*70*	*85*	*75*	*90*	*65*	*80*
	2000-0630	*45*	*75*	*45*	*75*	*45*	*75*
Saturdays	*0630-0730*	*45*	*75*	*45*	*75*	*45*	*75*
	0730-1800	*75*	*90*	*80*	*95*	*70*	*85*
	1800-2000	*45*	*75*	*45*	*75*	*45*	*75*
	2000-0630	*45*	*75*	*45*	*75*	*45*	*75*
Sundays and public holidays	*0630-0730*	*45*	*75*	*45*	*75*	*45*	*75*
	0730-1800	*55*	*85*	*55*	*85*	*55*	*85*
	1800-2000	*45*	*75*	*45*	*75*	*45*	*75*

	2000-0630	*45*	*75*	*45*	*75*	*45*	*75*

A. ***"construction activities"*** *means: earthworks associated with site establishment carried out in construction seasons 1 and 2 after grant and exercise of consent (including the sight and sound bund component of OBDA2; OBDA1 stockpile area; haul roads and processing plant platform; and initial sediment control structures); erection of processing plant and equipment; erection of the weighbridge, workshop and office and staff facilities; erection of the Kotekote stream bridge and erection of structures and telemetry associated with any monitoring required by conditions of ARC consents.*

B. ***"short-term"*** *means construction work days at any one location for up to 14 calendar days;*

C. ***"typical duration"*** *means construction work at any one location for more than 14 calendar days but less than 20 weeks;*

D. ***"long-term"*** *means construction work at any one location with a duration exceeding 20 weeks; and*

E. *provided that the provisions of the Standard related to the duration of construction events and the more or less stringent noise limits in Table 1 which are applicable in such circumstances shall apply.*

Blast Noise and Vibration

12. *The use of explosives shall not exceed a peak overall sound pressure of 123 dB linear as assessed within the notional boundary of any dwelling existing at the date of issue of consent, other*

    A. *than those owned or used by the consent holder; and*

    B. *those subject to a s104(3)(b) waiver as at the conclusion of the consent hearing other than the dwelling located at Matakana Valley Road,*

*more particularly described as Lots 9 & 10 DP 200753 (CT NA129B/204) (as set out in **Schedule 4**);*

provided that this level may be exceeded for up to 10% of the total number of blasts over any 12 month period but not to exceed at any time 128 dB linear (Peak).

13. *Blasting shall only be carried out between the hours of 10.00 am to 4.00 pm Monday to Saturday, except where necessary for safety reasons.*

14. *Blasting shall not take place on more than two occasions per day except where necessary for safety reasons.*

15. *Site laws[1] shall be developed to ensure that blasting practices minimise air and ground borne vibration, and fly rock shall be confined within the site.*

16. *That except as provided elsewhere in this consent, all use of explosives on site shall be in accordance with Australian Standard AS 2137.2 -1993 "Explosives -Storage, Transport and Use, Part 2 Use of Explosives". Measurement of airblast shall be in accordance with AS 2187.2 and NZS 6801:1999.*

Night-time, Sundays and Public Holidays

18. *No quarry activities shall be undertaken between the hours of 6.30 pm and 6.00 am or on Sundays or public holidays.*

[1] Site Law in relation to condition 15 and 19 (D) means the known relationship between the noise levels at two or more locations, established as a result of measurement of the noise levels at these locations from noise generated under the same circumstances and by the same noise sources.

9.1.2 Monitoring Requirements

Noise Monitoring

Operation Noise

19. The consent holder shall undertake monitoring of sound levels from on-site quarry activity as assessed at off-site dwellings, in order to determine compliance with the specified noise limits, as follows:

A. Within six months of commencement of operations authorised by this consent;

B. Annually thereafter;

C. Within one month of the initial use of any new overburden dumping area;

D. Noise monitoring positions may be located other than on the properties of off-site dwellings. Such locations may be determined by site law development and shall accurately represent, by means of scaling if necessary, quarry activity and air blast noise levels at such dwellings. Use of explosives solely for site law development purposes to determine scaling shall not be subject to any of these conditions, but shall not utilise un-stemmed firings.

Such monitoring shall be carried out by a suitably qualified and experienced person and the results reported to the Council within three weeks of completion.

Blast Noise

20. The noise generated by representative blast events shall be monitored at relevant locations described in condition 19 above, and the results recorded and forwarded to the Council when requested.

9.1.3 Requirement to Prepare a Noise Management Plan:

21. The consent holder shall produce a Noise Management Plan prior to quarry operations commencing, specifying:

A. how the activities carried out on the site, including quarry traffic, will be managed so as to ensure noise emission levels comply with the above specified limits; and

B. the adoption of best practicable options which will ensure noise emissions will not exceed a reasonable level.

22. The Noise Management Plan shall be forwarded to the Council, and shall address the following issues:

A. Noise sources.

B. Methods to be used for noise control, including management of any noise sources having special audible characteristics.

C. Training of operators and contractors.

D. Contingency plans (in the event that noise limits are exceeded).

E. Location of monitoring sites and equipment to be used and/or installed.

F. Monitoring procedures and identification of staff responsibilities.

G. Procedures for reporting results and dealing with complaints.

The noise management plan shall be forwarded to the Community Liaison Committee for comment prior to it being submitted to the Council for review. The Community Liaison Committee shall be allowed 20 working days to comment on the various components of the quarry management plan.

This Noise Management Plan may be reviewed at any time as and when required by the consent holder and a copy of the amended plan shall be provided to Council after comment from the Community Liaison Committee."

9.2 Noise Sources

9.2.1 Mobile Plant and Equipment

The following is a list of mobile plant and equipment types that could be utilised to transfer rock from the quarry benches to the Primary Processing Plant.

Table 9.1: Noise Sources – Mobile Plant

Plant	Approx Weight (t)	Activity
Excavator	50	Quarrying
Quarry Trucks	30	Quarrying
Wheel Loaders	23	Quarrying
Hydraulic Drill Rig	15	Quarrying
Bulldozer	25	Quarrying
Bin Truck	12	Quarrying
Rock Breaker	-	Quarrying
Excavator	50	Stripping
Overburden Trucks	30	Stripping
Bulldozer	25	Stripping
Watercart	-	Site Works
Wheel Loader	23	Stockpiling

9.2.2 Processing Plant and Equipment – Normal Operation

The following is a list of primary processing plant and equipment types that could be used to process rock from the quarry benches.

Table 9.2: Noise Sources – Processing Equipment

Possible Plant	Approx Engine (kW)
Primary Jaw Crusher	120
Secondary Cone Crusher	150
Tertiary Cone Crusher	150
Quaternary Impact Crusher	250
Double Deck Screens	20
Conveyor	20

9.2.3 Additional Mobile Processing Plant – Maximum Operation

Table 9.3: Noise Sources – Additional Mobile Processing Plant

Possible Plant	Approx Engine (kW)
Primary Jaw Crusher	120
Secondary Cone Crusher	150
Twin Screens	20
Stacking Conveyor	20
Generator	250

9.3 Methods to be used for noise control

- Construction of a sight sound screen on the south boundary of the site to screen noise of quarry operation, including overburden disposal, from residential dwellings to the south.
- Use of quieter machinery in sensitive areas around the site.
- Maintenance of machinery running gear and exhaust systems.
- Drilling undertaken to best practise and drill rig running gear maintained
- Blasting according to current best practise including efficient use of Maximum Instantaneous Charge weights, time delay sequences etc.
- Use of rock breakers in specific areas of the pit where the activity is out of direct line of sight of neighbouring residential dwellings where practicable.
- Minimising drop height of product from conveyors onto stock and surge piles.
- Use of rubber fittings in crushing plant feeders and conveyor drops.
- Operation of quarry machinery away from site boundaries whenever possible.

9.4 Training of operators and contractors

All RAS staff will be made aware of the sensitive nature of the operation with regard to noise management. New staff are inducted into the site with presentation of environmental and health and safety videos as well as follow up awareness instruction and tasks. The videos are designed to alert new staff of the health and safety issues associated with in a noisy environment as well as to the nuisance effects of their activity on neighbouring residential dwellings. Follow up instruction to ensure ongoing and continually increasing awareness of all environmental issues will be carried out on a regular basis.

Contractors are informed of environmental issues through a similar induction process before they are allowed to work unsupervised on the site. During the induction process contractors are introduced to the sensitive areas of

environmental management, including noise, and are required to complete a simple written assessment to ensure all issues are understood.

9.5 Contingency plans when noise levels exceeded.

Regular noise monitoring required under Condition 19 of the RDC consent provides adequate provision for ensuring site activities are compliant with the limit conditions 9-16.

In the event that operational, construction or blast noise limits are found to be non compliant, the particular activity in question will cease as soon as the quarry operation has been made aware of the situation. The activity will not recommence until appropriate mitigation measures have been put in place. And these have been tested to ensure compliance can be achieved.

9.6 Location of monitoring sites and equipment to be used

Monitoring locations are described as follows (shown on Figure 9.1).

Position A: Eastern road edge, Wellsford Leigh Road, adjacent to dwelling driveway 100 metres east of intersection with Matakana Valley Road.

Position B: At road edge adjacent to western notional boundary of No. 998 Matakana Valley Road.

Position C: Western notional boundary of 967 Matakana Valley Road (common boundary with Petrie property), 100 metres south of Matakana Valley Road adjacent to power pole.

Position D: Govan Wilson Road 900 metres west from the intersection with Matakana Valley Road 7 metres from road edge adjacent to power pole No.34677

These monitoring positions have been selected on the basis that they are at the nearest or most exposed representative locations potentially affected by quarry noise, or their equivalent, and where compliance is required.

Figure 9.1 monitoring locations

9.7 Monitoring procedures & identification of staff responsibilities

9.7.1 Monitoring procedures

As per condition 10 of the RDC consent order, sound levels from quarry operational noise shall be measured in accordance with the provisions of NZS 6801:1999 "Acoustics – Measurement of Environmental Sound" and assessed in accordance with NZS 6802:1999 "Acoustics – Assessment of Environmental Noise", including the provisions of Clause 4.3.3, using a measurement sample time of 15 minutes.

As per condition 11 of the RDC consent order, noise from construction activities shall be measured in accordance with NZS 6803:1999 "Acoustics – Construction Noise".

As per condition 16 of the RDC consent order, airblast from blasting activities shall be measured in accordance with AS 2187.2 and NZS 6801:1999.

9.7.2 Staff responsibilities

The quarry manager is responsible for delegating or ensuring that monitoring of noise levels during quarry activity is undertaken as required by the conditions of consent. This includes the following:

- identification of monitoring time frames;
- contacting an appropriately qualified noise expert to undertake the work;
- ensuring that activities undertaken during monitoring are those normally undertaken on a day to day basis;
- acting on recommendations of the subsequent noise monitoring report, including the shut down of any activities that were found to be non compliant;
- ensuring follow up mitigation measures are implemented and monitored before resuming the previously non compliant activity;

- ensuring Council receives a copy of noise monitoring reports.

9.8 Procedures for reporting results and dealing with complaints.

The quarry manager is responsible for ensuring that monitoring reports are sent in to Council within three weeks of completion as per consent condition 19 of the RDC consent.

A complaints register shall be kept on site at all times. This register shall be in the form of a log that shall include:

- The date, time and duration of the event/incident that has resulted in a complaint
- The location of the complainant when the event/incident allegedly occurred (if possible specify the nature of the incident eg. noise) was detected.
- The name, phone number and address of the complainant, unless the complainant refuses to supply these details.
- The possible cause of the event/incident,
- The weather conditions and wind direction at the site when the event/incident allegedly occurred.
- Any remedial actions taken.
- Any other relevant information.

The complaint register shall be made available to the Rodney District Council and the Community Liaison Group at all reasonable times, during operating hours, and shall be kept for the duration of quarry activity at the site.

10.HAZARDOUS SUBSTANCES MANAGEMENT PLAN

10.1Conditions of Consent

10.1.1 Requirement to prepare a management plan

30. *"The consent holder shall prepare a hazardous substances management plan that may be reviewed from time to time as necessary, a copy of which is to be provided to Council prior to the commencement of work authorised by this consent."*

10.1.2 Other requirements of the consent

25. *"All diesel tanks are to be compounded to provide secondary containment.*
26. *Kerosene is to be stored in a compounded Dangerous Goods Depot.*
27. *Ammonium Nitrate is to be stored in a building used only for that purpose.*
28. *A separate magazine for explosives shall be provided.*
29. *The site is to be available for inspection at any reasonable time by the Council."*

10.2Purpose of Management Plan

The purpose of this hazardous substance management plan is to describe procedures and management of the storage and use of hazardous substances at Whangaripo Quarry. This will include an inventory of the most common substances to be stored on site, procedures to minimise risk, and response plans that will be followed in case of any emergency that relates to the spillage of hazardous substances liable to pollute the environment or cause harm to people.

10.3Inventory of most commonly used hazardous substances on site

This inventory is currently in draft form, proposed to be an indication only of the types of substances that may be stored and used at Whangaripo Quarry. This

inventory has been based on what is stored and used at other Fulton Hogan and Winstone Aggregates sites. It is proposed that once the Whangaripo site is fully operational, this inventory will be updated to include all substances stored and used at the quarry.

Product	Use / Description	Max amount stored	Storage, Transport & Use
Diesel	Light and heavy machinery	Up to approx 24,000 litres	Storage Diesel stored in 3 above ground tanks as follows 1 x 20,000 L above ground diesel storage tank • Tank shall have built in steel bund capable of holding 110% of tanks volume. • Tank located on top of aggregate bed. Clean water collected from bund to be visually checked for contamination. If clean, pumped to storm water system. If contaminated, removed off site by supplier for refining) 2 x 2000 L above ground mobile diesel storage tank Tanks to be labelled as per requirements of HSNO Regulations including a "No Smoking" sign located near dispensing pumps. Initial location of 20 000 litre tank will be in vicinity of site workshop within processing plant area. Location of mobile trailer tanks dependant on location of quarry activity
Engine oils	Engine lubrication, 4 stroke oils, heavy and light vehicle	Up to approx 2100 litres	Barrel contained in a bunded area in the workshop.

	engine oils		
Transmission lubricants	Heavy duty & light vehicle Automatic & manual transmission lubricants	Up to approx 600 litres	Barrel contained in a bunded area in the workshop.
Grease	Industrial and light engine greases	Up to approx 100kg	Container, locked cupboard, workshop.
Antifreeze / antiboil	Radiator coolants	Up to approx 200 litres.	Barrel, contained in a bunded area in the workshop.
Brake Fluid	Automotive heavy & light vehicle brake fluids	Up to approx 20 litres	Containers, locked cupboard, workshop
Degreasers & engine cleaners	Engine, transmission, gear box cleansers	Up to approx 40 litres	Containers, locked cupboard, workshop.
Kerosene	Cleaning engine parts etc	Up to approx 20 litres	Custom containers provided by supplier, locked cupboard, workshop.
LPG		Up to approx 66kg or 150 litres	3 cylinders approx 1200 high by 400 diameter chained to the workshop wall
Petrol		Up to approx 50 litres	In approved containers, locked cupboard, workshop.
Flocculent	Assists with settlement of sediment from sediment retention ponds.	Up to approx 400 litres	Stored in locked shed close to main settlement ponds

Material Safety Data Sheets for all substances are kept in a folder in the workshop and in the site office.

10.4 Description of site and sensitive environments

A site location plan (Figure 6.1) shows the site and the operational areas at Whangaripo for Stage 1. It also shows the extent of the crushing and screening plant, possible office and amenity facilities where hazardous substances might be stored.

The existing quarry is located in a north west to south east oriented valley which contains the Kotekote Stream. The land surrounding the site is a mixture of regenerating native bush/shrub land and pasture. The elevated pastoral areas are actively farmed along with the more productive flat areas on the valley floor. The elevated areas of the catchment are generally unpopulated. The exception to this is the area to the south of the quarry site where a number of houses are located on Govan Wilson Road.

The Kotekote stream collects water runoff from the head of the valley to the south of the site before running through the quarry site into the Whangaripo Stream. The Whangaripo Stream then joins the Hoteo River which flows in to the Kaipara Harbour.

The stream is considered a reasonably sensitive receiving environment when considering effects of hazardous substances, both because of the freshwater life that inhabits it and the potential water take points down stream, through the Whangaripo and Hoteo Rivers.

10.5 Safety

The safety of people overrides all other considerations.

In the event of a spill of flammable or explosive hydrocarbons, all sources of ignition must be shut down and the area checked for flammable vapours before deploying machinery in the area. Operations in conditions that endanger personnel will be suspended until conditions improve.

NO CLEAN UP OF ANY SPILL IS TO COMMENCE UNTIL IT HAS BEEN DETERMINED SAFE TO DO SO.

This means that each person must make a judgement based on their training and experience in coping with the situation at hand.

Personnel involved in a clean up must be appropriately trained and issued with the correct protective clothing and safety equipment.

All actions taken by personnel with regard to procedures within this plan shall be in accordance with the company's Health and Safety Policy.

10.6 Potential Spill Sources and Risks

This section identifies scenarios that have the potential to result in a spill of hazardous substances that could have an effect on the environment. Due to the location of the site, the nature of operations and the hazardous substances stored on site there is potential for spills to enter the storm water system and possibly also the Kotekote Stream although this is very unlikely.

10.6.1 Hazardous substance storage including mobile plant:

The Hazardous Substances storage facilities are considered to have a low potential risk of environmental impact due to spills as there is opportunity to prevent the spill from getting into any waterways. There is still potential for any spill to enter waterways and the Stream however, and these potential situations are outlined as follows:

- Re-filling, Servicing
- Rupture
- Vandalism
- Inundation by flooding
- Equipment malfunction
- Transport of Hazardous Substances around the site

- Preparation of Hazardous Substances for use in operations

10.6.2 Preventative Measures in Place

10.6.2.1 On land diesel storage

- The fuel supplier has a procedure for re-filling of the on-land diesel tank. The supplier also has a spill kit on the re-fuelling vehicle and staff are trained to deal with minor spills.
- There are emergency telephone numbers on the diesel fuel tank to obtain advice from the supplier if required.
- The diesel fuel tank is bunded and the bund regularly cleaned out to ensure there is capacity to cope with a spill from the tank.
- The diesel fuel tank is positioned so that mobile plant working around the site is unlikely to collide with it.
- The diesel fuel tank is located above the one in 100 year flood event level.
- The diesel fuel tank has appropriate HSNO signage on it.
- The diesel fuel tank is locked when not in use so that fuel cannot be dispensed.
- There is a procedure for re-fuelling operations from the bulk storage tank attached as Figure 10.1.
- When re-fuelling from the bulk storage tank, the operator is required to remain in attendance.
- There is an automatic cut-off on the tank dispenser that prevents over filling.
- There is an automatic cut-off on the pump that restricts the volume that can be dispensed at one time to no more than 950 litres. The pump has to be manually restarted once this limit is reached.

Figure 10.1: Refuelling Procedure: Mobile Plant

1. All refuelling is to be directly supervised by at least one person at all times. Refuelling is not to be left unattended.

2. Record meter number on the pump bowser prior to dispensing fuel.

3. Turn on the fuel pump switch in the pump shed.

4. Remove fuel cap from vehicle, insert dispenser securely into tank and begin refuelling. Check that no spillage is occurring from the dispenser hose or from the tank opening.

5. When refuelling is completed, transfer dispenser back to pump bowser avoiding any dripping onto ground. The dispensing hose must be re-hung on the boom to avoid damage. Replace cap on fuel tank.

6. **Note the meter number on the pump at the completion of refuelling.**

7. **Record the following information in the reconciliation sheet located in the pump shed:**

- The start and finish numbers from the pump meter;
- The vehicle number that was re-fuelled; and
- The signature of the person who carried out the refuelling.

8. Switch off the fuel pump switch in the pump shed.

ADDITIONAL NOTES:

SPILLS: Any spillage should be dealt with in accordance with the site's Hazardous Substances Spill Procedure. A copy of the procedure is located on the wall in the pump shed.

Any malfunction or leakage from dispenser must be reported to site Manager or to his appointed Supervisor as soon as possible.

SECURITY: It is the Site Supervisor's responsibility to secure the main fuel pump switch and the dispenser with locks at the end of each day.

- All volumes dispensed are logged in fuel declaration forms located at the pump site.
- Manual stock takes of the bulk diesel tank are made monthly using a dip gauge.
- Fuel volumes used are reconciled monthly against stock take and delivery dockets.
- The fuel supplier carries out an annual check of the diesel tank and the dispenser.

10.6.2.2 Mobile plant

- Re-filling of mobile plant occurs at the bulk diesel storage tank.
- Valves on oil separators are required to be shut off.
- When re-filling the plant operator is required to remain in attendance in accordance with the re-fuelling procedure.
- Fuel volumes dispensed are logged against individual vehicles.
- All mobile plant is locked overnight and stored at the workshop when not in use.
- Regular preventative maintenance is carried out on all mobile plant to ensure plant failure is minimised.
- There are weekly checks of all mobile plant which are signed off by the site manager or his appointee.
- Plant operators are required to inspect their vehicles daily for any obvious signs of wear and tear.
- Any major equipment failures are reported to the site manager as soon as possible.

10.6.2.3 Explosives Handling

- Site practises and procedures are designed to ensure minimal storage of explosives on site. Surplus explosives are returned to the manufacturer with no storage on site.
- The blasting designer shall work in accordance with the on site procedure for transport, preparation and use of Hazardous Substances for blasting which has been written to comply with Australian Standard AS 2137.2 – 1993 "Explosives – Storage Transport and Use, Part 2, Use of Explosives". Emergency procedures are in place to deal with miss-fires and spills and these procedures and the onsite storage, transport and use procedures are kept at the site office and are available for viewing on request.
- Bulk and detonation explosives shall be stored in separate, locked, anti static compartments of the explosives magazine displaying the correct HSNO signage.
- Magazines will always be located above the 100 year flood level.
- Magazines are locked when not in use and have appropriate HSNO signage on them.

10.6.2.4 Other hazardous substance storage

- All hazardous substances are stored and handled in accordance with HSNO regulations and also in accordance with the MSD sheets for each substance.
- The lubricant supplier supplies engine and hydraulic oil in 210 litre drums. These drums are stored bunded container in the workshop. Refilling is carried out manually by hand pump from individual drums.
- Gas cylinders are securely stored in the workshop.
- All hazardous substance storage facilities are locked overnight.
- All hazardous substances on site are stored above the one in 100 year flood level.

- Waste oil is piped to a waste oil tank beside the workshop, which is emptied by a waste oil contractor who pumps the waste oil into a vehicle holding tank.

10.7 Responsibilities

The following positions with Rodney Aggregate Supplies have the responsibilities for putting this plan into action as and when is required, as noted:

10.7.1 All personnel

All personnel have a duty to:

- respond initially to a spill by raising the alarm;
- warn other personnel on site;
- 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.

10.7.2 Site Manager

The site manager, or his assignee, has a duty to:

- implement all measures and procedures contained within this plan including but not limited to:
    - taking all practical steps to minimise the risk of any spill occurring on site;
    - taking all appropriate actions in response to spills that occur;
    - ensuring all personnel are appropriately trained in the use and handling of hazardous substances;
    - ensuring all personnel are appropriately trained to respond to spills in accordance with this plan;

- communicating to company management, regulatory authorities and other potentially affected parties if a significant spill does take place.

10.8 Spill Response Equipment Available On Site

A spill kit is located in the workshop. The kit contains:

- Absorbent mats and wool;
- Leak sealant;
- Dried pumice and sand for absorbing and containing spills;
- Rubber manhole cover;
- Absorbent sock.

10.9 Equipment and Operators Available Elsewhere

- The Auckland Regional Council has equipment and resources to deal with spills that are considered more significant than RAS can cope with itself.
- Fuel suppliers have spill kits on their vehicles and are trained to use them.
- Blasting contractors are trained to deal with Explosive substances and the course of action in case of a spill.

10.10 Spill Procedures

10.10.1 Immediate Response (all spills)

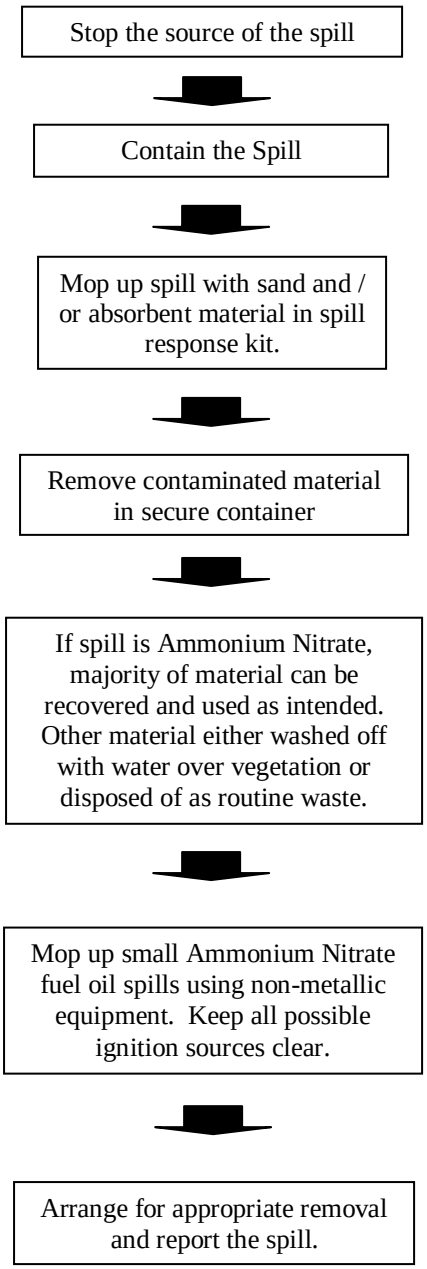
Note: Action is only to be taken if it is considered safe to do so.

The person who discovers the spill will:

1. 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 or the Stream
- likely source of the spill and
- whether the spill is still occurring

10.10.2 Category 1 Spill: small spill, no noticeable effect on the environment

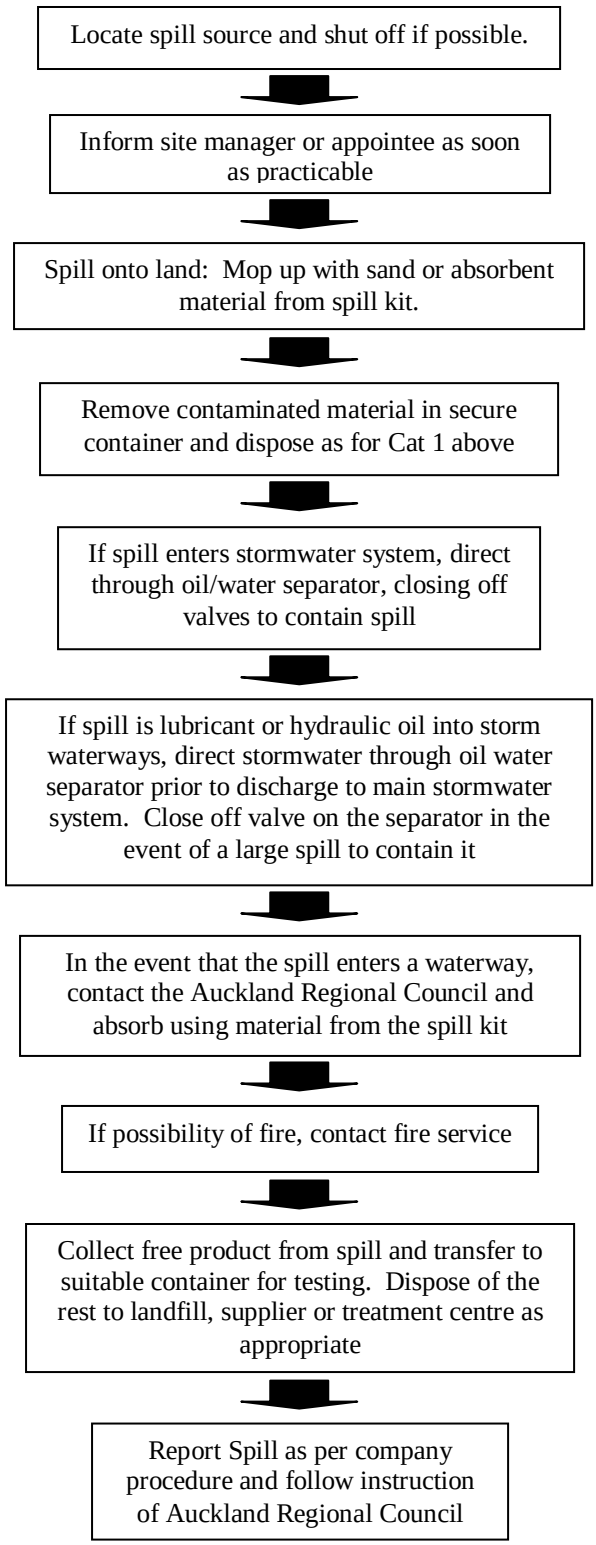


10.10.3 Procedure for Spill Categories:

Category 2: ***possible effect on the environment, spill contained on site***

Category 3: ***effect on the environment, majority of spill contained on site, possible effects off site***

Category 4 – effect on the environment, effects offsite



10.11 Reporting

If the Quarry Manager is unsure of the potential for adverse environmental effects then RAS company directors and the Auckland Regional Council shall be informed of the incident as soon as possible as if the spill were a Category 3 or 4.

For all spills with the potential for offsite effects the Site Manager or appointee shall inform parties as follows:

- Don and Marie Petrie: 09 423 7126
- MOKO (Jacob Tahitahi): 09 422 6548
- Ngati Whatua (Amelia Rudolph) 193 Lower Dent St, Whangarei
- Auckland Regional Council: 09 377 3107 (Water Pollution)
- Rodney District Council: 0800 426 5169
- Fulton Hogan (Head Office): 03 357 1400
- Winstone Aggregates (Head Office): 09 525 9004
- REPOLE: Russell Hoffman: 142 Govan Wilson Rd
  Carola Corkill: 186 Govan Wilson Rd
- Wayby & Whangaripo Valley Society Inc:
  David Frith: 21 Upland Rd, Remuera, Auck
  Jonathan Sowden: RD 2 Wellsford
- Matakana Structure Plan Committee:
  Neville Johnson: RD5 Warkworth

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

- why the spill occurred
- the extent of the spill
- the
- effects on the environment
- the measures taken to control and clean up the incident and
- actions taken to avoid re-occurrence.

10.12 Training

It is the site manager's responsibility to ensure that all staff are trained in the areas identified below and that records of training undertaken are kept.

10.12.1 Site Manager:

- All site refuelling procedures;
- All spill procedures;
- Company reporting procedures;
- Relevant provisions of the Resource Management Act and the HSNO Act;
- Knowledge of all Material Data Sheets for substances stored on site;
- Knowledge of the local natural environment.

10.12.2 Site Supervisor:

- All site refuelling procedures;
- All spill procedures;
- Company reporting procedures;
- Relevant provisions of the HSNO Act;
- Knowledge of all Material Data Sheets for substances stored on site.

10.12.3 Plant operators, drivers and workshop staff:

- All site refuelling procedures;
- All spill procedures;
- Reporting responsibilities identified within this plan;
- Knowledge of Material Data Sheets for all substances dealt with on site.

10.13 Document Review

The Hazardous Substances Management Plan shall be reviewed as required by RAS to account for changes in hazardous substances inventory, procedures, advancements in technology and best practise. In the unlikely event of a spill with potential for off site adverse effects, this plan shall be reviewed to ensure all procedures were up to date and adequate for containment and clean up of such a spill.

11. DUST MANAGEMENT PLAN

11.1 Conditions of Consent – Dust Management

11.1.1 Rodney District Council

23. *"All necessary actions shall be taken to prevent a dust nuisance to neighbouring properties and public roads, including but not limited to:*

    A. *The staging of areas of the works.*

    B. *The retention of any existing shelter belts and vegetation.*

    C. *The installation and maintenance of wind fences and vegetated strips.*

    D. *Watering of all haul roads and manoeuvring areas during dry periods.*

    E. *Spraying of load dumping operations.*

    F. *Suspension of all operations if necessitated by the prevailing conditions."*

11.1.2 Auckland Regional Council

11.1.2.1 Limit Conditions:

4. *"The Consent Holder shall, at all times, operate, maintain, supervise, monitor and control all processes on site so that emissions authorised by this consent are maintained at the minimum practicable level.*

5. *That beyond the boundary of the site there shall be no odour, dust or fume caused by discharges from the site which, in the opinion of an enforcement officer, is noxious, offensive or objectionable.*

6. *That no discharge from any activity on site shall give rise to visible emissions, other than water vapour and steam, to an extent which, in the opinion of an enforcement officer, is noxious, offensive or objectionable.*

7. *That beyond the boundary of the site there shall be no hazardous air pollutant, caused by discharges from the site, which is present at a*

concentration that is likely to be detrimental to human health or the environment."

11.1.2.2 Process Conditions:

8. *"That the Consent Holder shall ensure techniques are used for excavating rock, blasting and drilling which minimise dust emissions. Dust emissions from all crushing, screening and transfer operations shall be kept to a practicable minimum. Dust suppression equipment shall be maintained in good condition and no part of the processing plant shall be operated without dust suppression equipment being fully operational and functioning correctly.*
9. *That the processing plant be enclosed and the enclosure maintained in good order if dust causes non-compliance with Conditions 5 and 6. This consent condition shall not be initiated without prior consultation with the Consent Holder and notification in writing by the Manager.*
10. *That the Consent Holder shall use a watercart to suppress dust arising from roadways and yards or other means of dust control which have the prior written approval of the Manager, such that dust emissions are minimised.*
11. *That the Consent Holder shall limit vehicle speed in dry weather to a speed such that, in conjunction with other controls, dust emissions are minimised.*
12. *That ponds shall be maintained at such capacity that application of water as a dust control measure is not limited. A log shall be kept of pond maintenance and of weekly checks on sediment and water levels in ponds.*
13. *That contouring and re-vegetation of overburden dumps shall take place as soon as practicable to reduce windblown dust.*
14. *That all stockpiles shall be constructed and positioned to minimise the potential for dust emissions, and these emissions shall be suppressed to the satisfaction of the Manager.*

15. *That a wheel wash facility shall be provided and used at the exit of the site if dust causes non-compliance with Condition 5. This consent condition shall not be initiated without prior consultation with the Consent Holder and notification in writing by the Manager.*

16. *That the Consent Holder shall ensure that no material shall be disposed of by open burning on site."*

11.1.2.3 Monitoring Conditions:

17. *"That dust monitoring shall be undertaken if dust causes non-compliance with Conditions 5 and 6. This consent condition shall not be initiated without prior consultation with the Consent Holder and notification in writing by the Manager. The proposed monitoring programme shall be documented and submitted to the Group Manager, who shall review the programme prior to commencement. Dust monitoring shall be carried out to the satisfaction of the Manager and reported to the Manager within 20 working days of completion."*

11.1.2.4 Management Plan, Logging and Reporting Conditions:

18. *"That the Quarry Management Plan, which includes an Air Quality Management Plan section, shall be maintained to accurately record all management and operational procedures, methodologies and contingency plans necessary to comply with the conditions of this consent. The Management Plan shall be submitted to the Manager for review within 6 months of the date of the commencement of consent. All subsequent changes shall be submitted to the Manager for review prior to becoming operational. The Manager will advise the consent holder in writing if any aspects of the Management Plan are considered to be inconsistent with achieving the provisions of this consent.*

19. *That by no later than 10 working days after 31 May in the first year of quarrying and every year thereafter, the Consent Holder shall provide an updated Quarry Management Plan to the Manager which in addition to*

those matters detailed in the Land Use Consent: Sediment Control shall contain:

a. *Weekly water usage for dust suppression detailing pond maintenance, water cart usage and crushing plant operating hours;*

b. *Air quality complaints received.*

20. *That all records, monitoring and test results that are required by the conditions of this consent shall be made available on request, during operating hours, to an enforcement officer and shall be kept for a minimum period of 12 months from the date of each entry.*

    a. *That the Consent Holder shall record the following in a daily log:*

    b. *any dust control equipment malfunction and any remedial action taken;*

    c. *any visible emission of dust and the source;*

    d. *any use of a watercart, the frequency of use and the volume of water used;*

    e. *the volume of water used for dust suppression other that watercart usage; and*

    f. *the date and signature of the person entering the information.*

A summary of the information recorded shall be submitted to the Manager at the end of each quarter.

21. *That the Consent Holder shall log all air quality complaints received. The complaint details shall include:*

    a. *the date, time, position and nature of the complaint;*

    b. *the name, phone number and address of the complainant unless the complainant refuses to supply these details;*

    c. *any remedial actions taken.*

    Details of any complaints received shall be provided to the Manager within 7 days of receipt of the complaint/s."

11.2 Staging of Works and Dust Control Infrastructure

Staging of the operation is discussed in detail in Section 6 of the Whangaripo Quarry Management Plan and will not be discussed again as part of the Dust Management Plan.

Existing shelterbelts located on the south boundary of the site and alongside Matakana Valley Road will be retained and infilled with further planting where required. No wind fences are proposed to be installed unless these are shown to be the most practicable method of reducing dust emissions.

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.

11.3 Dust Management in Operations

All RAS personnel are required to monitor dust levels at all times during operational hours, and senior personnel, including the quarry supervisor and quarry manager are responsible for ensuring that dust emissions are controlled at their source.

Dust control is undertaken at Whangaripo Quarry by implementation of one, or a combination, of a number of measures outlined below. The combination of measures used will depend on factors such as location of dust source, wind strength and direction and will be determined in practice by senior quarry personnel.

11.3.1 Drilling and Blasting

A licensed contractor carries out drilling and blasting at Whangaripo. The contactors are required to use techniques which minimise dust emissions and use minimum blast force. Common techniques include:

- Bag filter system incorporated in equipment and emptied regularly during drilling
- Use of water sprays in drilling equipment to minimise fine dust
- Minimise blasting where practicable in dry conditions particularly when dry wind is directed towards nearby residential dwellings.

11.3.2 Excavation

Common techniques utilised to minimise dust during excavation in the quarry pit include:

- Rock should be loaded on to trucks from the excavator with as low a drop height as practicable
- Use of portable watering system to dampen material where practicable prior to excavation

11.3.3 Processing Plant

The mobile and fixed crushing and screening plant will have an operating dust management system in the form of water mists and sprays. This system is utilised 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 fixed processing plant are required to undertake regular visual checks of dust levels while the plant, adjusting dust suppression equipment when necessary. Other common dust control techniques in the plant include the restriction of aggregate drop height from conveyors onto stock and surge piles

If it becomes apparent that dust from the processing plant cannot be contained within the boundary, or that it is giving rise to visible emissions that are noxious, offensive or objectionable in the opinion of an enforcement officer then particularly dusty parts of the plant shall be enclosed.

11.3.4 Water Cart Management Procedure

In dry conditions RAS operates a water cart to dampen working areas of the site, including main haul roads, the stockpile area, and the access way. The water cart is operated by RAS personnel, as required in response to weather conditions and observed dust emissions.

Dust control measures to be used on haul roads include:

- Watering of haul roads using the water cart
- Installation of temporary or fixed water sprinkler systems where practicable

The primary source of water for dust suppression at Whangaripo Quarry is the pit sump. It is anticipated that the pit sump will supply sufficient water for all dust management operations at Whangaripo. Back up water can be provided from the site dam (once built) and the Kotekote Stream.

The dam and the pit sump is regularly checked and maintained as necessary.

Chemical dust suppressants will only be used after consultation with Iwi, Landowners and the Auckland Regional Council.

Water cart use, including amount of water used and water supply maintenance, is recorded in a daily Discharge to Air Consent Log.

11.3.5 Vehicle Movement and Speed Limit

All visitors to the quarry are requested, via a sign at the entrance, to reduce speed to 25 kmph in dry conditions to avoid dust emissions. Whangaripo Quarry staff and management shall ensure that all vehicle speed restrictions are complied with at all times.

11.3.6 Overburden Removal and Disposal Operations

11.3.6.1 Overburden Removal

Overburden will be removed from above the quarry pit face in the direction of pit development. Potential dust nuisance from stripping operations will be visual because the distance from areas to be stripped to existing properties that are either not controlled by RAS, or whose owners have agreed to a waiver of effects, is greater than 500 metres for all stages of development.

11.3.6.1.1 Dust Management Measures for Stripping

The following measures are to ensure that there is no dust nuisance created by stripping operations at Whangaripo.

- Maintaining a large separation distance of more than 500m between operations and the closest residential dwellings.
- During stripping activity in dry windy conditions and prior to dust becoming a nuisance, a water cart is used on site to dampen haul roads and stripped areas as required.
- Exposed surfaces will be grassed or hydroseeded as soon as practicable following each stripping season.

11.3.6.2 Overburden Disposal

Overburden is transported on a truck to sites designated for overburden disposal, or removed, if sold, off site. During Stage 1 overburden will be placed in OBDA 1 and 2 (Figure 6.1). OBDA 1, located in an area between the Kotekote Stream and Matakana Valley Road, will be completed in the first construction season.

11.3.6.2.1 Dust Management Measures for Disposal

The following measures will ensure that there is no dust nuisance created by overburden disposal operations at Whangaripo.

- A separation distance of over 500m between operations and residential dwellings for OBDA 1.
- Construction of a visual/noise barrier on the south boundary of the site that will eventually act as a shield for dust nuisance when grassed and planted.
- A water cart will be used on site to dampen haul roads and overburden disposal areas in dry conditions to avoid dust nuisance.
- The duration of stripping operations will be minimised.
- Overburden disposal areas will be grassed or hydroseeded as soon as practicable following construction activity.
- Overburden disposal areas will be constructed in a sequence of staged developments and areas of disturbed land not currently being worked shall be grassed or hydroseeded.

11.3.7 Stockpiles

A full range of aggregates will be produced at Whangaripo Quarry but the majority will be high quality concrete and roading products. These products are generally washed during processing so there is less potential for dust to originate from stockpiles.

Stockpiles are located in the main stockpile area next to Matakana Valley road, (Figure 6.1 – 6.4) and also in satellite stockpile areas close to the processing plant and pit area. The main stockpile area has shelter from the south and west in the form of a roadside bund and vegetation so effects of wind from this direction on stockpiles will be reduced.

RAS will minimise the amount of aggregate stored in stockpiles as much as practicable not only for environmental reasons but also for site efficiency reasons. Some large stockpiles may however still exist on site.

If stockpiles are identified as a significant source of dust emissions then they will be dampened using a watercart.

11.3.8 Wheel Wash

A wheel wash will be installed at Whangaripo if it becomes apparent that dust from the site is becoming a problem beyond the gate due to vehicles tracking material out onto the road.

11.4 Monitoring and Reporting

11.4.1 Review of Management Plan

As per condition 19 of the Auckland Regional Council (ARC) Discharge to Air Consent the Dust Management Plan is required to be updated annually from May 31, 2006.

The updated plan shall include details or records of the following:

- Weekly water usage for dust suppression
- Watercart usage
- Water collection pond maintenance
- Crushing plant operating hours
- Air quality complaints received

11.4.2 Daily Log

As per condition 20 of the ARC Discharge to Air Consent a daily log shall be kept on site that records the following:

- Dust control equipment malfunction and remedial actions taken
- Visible emission of dust and source
- Use of the watercart, frequency and volume
- Volume of water used for dust suppression other than the watercart

There is a requirement for the staff member collecting this information to sign the data sheet on filling in the data.

11.4.3 Complaints Log

As per condition 21 of the ARC Discharge to Air Consent a complaints log shall be kept on site that records the following:

- Date, time, position and nature of the complaint
- Name, telephone number and address of the complainant, unless they refuse to supply these details
- Remedial actions taken

There is a requirement to forward records of complaints received on to the ARC Manager within 7 days of receipt of complaint.

The complaints log shall also be made available to the Community Liaison Group on request and during Community Liaison Group meetings.

12. TRAFFIC SAFETY PLAN/ DRIVERS CODE OF CONDUCT

12.1 Requirement to Prepare a Traffic Safety Plan / Drivers Code of Conduct

Condition 7, RDC Consent Order:

7. *"For the purposes of ensuring the safety of all road users and that effects of quarry traffic on the community is minimized, the consent holder shall develop and implement a Traffic Safety Plan/Drivers Code of Conduct (TSP/DCC) which shall address the following matters:*
    A. *Safe travelling speed for local roads taking into account specific factors such as location of known farm crossings and the movements of school buses as well as general factors such as road and weather conditions, road geometry, visibility and density of traffic on the road.*
    B. *Consideration for other road users, non-vehicular traffic and residential activities close to the road (e.g. use of engine brakes).*
    C. *Approach to vehicle maintenance and general driver safety matters.*

    The TSP/DCC shall be submitted to the Community Liaison Group for comment prior to implementation. The Community Liaison Group shall be given 20 working days to comment on the TSP/DCC.

    The TSP/DCC shall be brought to the attention of all heavy commercial vehicle users of the site. The consent holder shall implement a communication system for all drivers and local residents to report on safety incidents or breaches of the TSP/DCC."

12.2 Purpose of the Traffic Safety Plan / Drivers Code of Conduct

This plan and code has been prepared to provide a guideline for drivers accessing Whangaripo Quarry including customers, contractors and RAS staff. The guidelines are to ensure safety of all drivers and other road users as well as to

minimise any nuisance effects on the local community from traffic movements while ensuring compliance with traffic related conditions of consent.

The increase in vehicle traffic associated with the expansion of Whangaripo Quarry has been assessed to have a no more than minor effect. However all drivers of vehicles associated with the operation of the quarry are required to drive in a safe manner with respect for other road users.

This plan shall be distributed as follows:

- All drivers servicing contracted supply agreements shall receive this plan as part of the arrangement between RAS and the contract customer.
- This plan will form a compulsory component of site induction for staff and maintenance and supply contractors to the site.
- This plan will be supplied and explained to new customers as they pass through the weighbridge.
- Customers unfamiliar with the Matakana Valley Road route limitation arriving at the weighbridge will be provided with a copy of this Plan and associated explanation.

12.3 Operational Issues

12.3.1 Hours of Operation for Truck Traffic

Truck traffic involving the transportation of aggregate from the Whangaripo Quarry have been defined by condition 2 of the RDC Consent Order as follows:

2. *"No off site truck movements (including truck and trailer movements) involving the transportation of aggregate from the quarry ("truck movements") shall be undertaken outside the hours of:*

    A. *North of the quarry along Matakana Valley Road - 6 am to 6:30 pm Monday to Saturday inclusive.*

    B. *South of the quarry along Matakana Valley Road - 8.00am -*

6.00pm Monday to Saturday inclusive.

C. *No truck movements shall be undertaken on Sundays or Public Holidays."*

12.3.2 Number of Traffic Movements

The permitted number of trucks involving the transportation of aggregate from the site has been defined by conditions 3, 4 and 5 of the RDC Consent Order as follows:

3. *"Subject to conditions 4 and 5, the average number of truck movements to and from the quarry shall be 120 per day (excluding Sundays, Christmas Day, Boxing Day, New Years Day, the day after New Years Day, Auckland Anniversary Day, Good Friday, Easter Monday, Anzac Day, Labour Day, the Sovereign's birthday, and Waitangi Day) as averaged over a two month-period. The maximum number of truck movements to and from the quarry shall be 240 per day. The consent holder shall maintain on site a register of each truck entering or leaving the site and such register shall be open for inspection by the Council's officers during the hours of operation and made available to meetings of the Community Liaison Group required to be established under Condition 51. The register shall record the number of aggregate truck loads by day, date and nominal load and route. A separate general register comprising the registration plate numbers and corresponding company/fleet identification numbers of trucks transporting aggregate from the quarry shall be maintained by the consent holder and made available to meetings of the Community Liaison Group required under Condition 51.*

4. *The number of truck movements to or from the quarry over Matakana Valley Road south of the quarry to serve the local market only being all that area south of the quarry and east of Warkworth including the settlements and localities of Leigh, Omaha, Point Wells, Takatu,*

Matakana, Sandspit and Snell's Beach is not to exceed a maximum of 20 truck movements per day .

5. *The maximum number of truck movements shall be:*

   A. *40 per day on the section of Matakana Valley Road north of the quarry, in either direction, ie to or from the quarry (or such other greater number as is considered by Rodney District Council to be safe) until the following works are in place and fully operational and available for use:*

      The upgrading of the bend on Matakana Valley Road approximately 200m from the intersection with Whangaripo Valley road.

      The installation of road markings and chevrons at certain bends and intersections listed in Section 3.2 of the GHD report December 2003.

      The installation of sight rails at the De Luens Bridge.

   B. *40 per day through the intersection of Wayby Valley Road and State Highway 1 (or such other greater number as is considered by Transit New Zealand to be safe to use that intersection) until the following works at that intersection are in place and fully operational and available for use:*

      Right turn bays on State Highway 1 for access to Wayby Valley Road and Wayby Station Road as generally shown on plan number 6884A14B - sheet 2 (Traffic Design Group 3/8/05) which is attached to these conditions as ***Schedule 1****.*

      Solid median islands, approach chevron markings and pavement widening as generally shown on plan number 6884A14B - sheet 2 (Traffic Design Group 3/8/05) which is attached to these conditions as ***Schedule 1****.*

      Route lighting through the intersection and modified approaches.

      Localised pavement widening for the south bound lane of State Highway 1 to facilitate access into and out of Wayby Valley road in the form of a widened shoulder, approximately 90m long and with a suitable inside edge radius, as generally shown in plan number 6884A1B - sheet 2 (Traffic Design Group 3/8/05) which is attached to these conditions as ***Schedule 1****."*

The Whangaripo Quarry weighbridge is to monitor truck movements throughout each working day and is to provide guidance to drivers on all traffic related conditions and access rules.

12.4 Compliance with Operational Limits

- RAS sales and marketing material will publicise that local area sales expecting to use the Matakana Valley Road route will be by prior arrangement only.
- For unannounced arrivals that access the site over Matakana Valley Road, the driver or drivers company will be made aware of limitations and the driver only loaded if the limit has not been exceeded for that day.
- In the event that monitoring of loads despatched from the site indicates the maximum or average daily limit thresholds may be reached on a given day, unannounced customers will be advised that no further loading will take place.
- Until the intersection is upgraded, unannounced arrivals that access the site through the Wayby Valley Road / SH 1 intersection, the driver or driver's company will be made aware of the limitations. In the event that the intersection limit is predicted by the daily weighbridge records, unannounced arrivals will be advised that prearranged customers will be preferentially loaded.

12.5 Drivers Code of Conduct

12.5.1 Speed

12.5.1.1 Factors for Consideration

At all times the speed of vehicles are to be limited to the sign posted speed for the area. Truck and trailer units are limited by law to 80kmph in the open road speed zone. All drivers have the responsibility of determining a safe travelling speed for the environment. Factors include:

- Proximity of known farm crossings, particularly on Wellsford – Leigh Road, these can be signposted when commonly used.

- Awareness that rural roads in the vicinity of the quarry may have stock, farm machinery and equipment travelling on them anywhere and at any time.
- The movement of school buses during early morning and mid afternoon and the associated pedestrian traffic at this time.
- Effects of prevailing weather conditions on sealed and unsealed roads.
- Condition of the road surface.
- Density of traffic on the road.
- Visibility.
- Road geometry.
- Presence of concealed exits.

12.5.1.2 Guidelines for drivers

1. During early morning and late afternoon hours slow down on approaching stock crossings, particularly on the Wellsford – Leigh Road.
2. Keep speed down at all times during early morning and mid afternoon when school buses are travelling the Matakana Valley Road, Wellsford – Leigh Road and Wayby Valley Roads.
3. Watch for pedestrian traffic related to school/school bus during early morning and mid afternoon hours.
4. On unsealed roads slow to 40kmph on dry windy days to prevent excessive dust from lifting off the road surface. Failure to do so will require traffic movements along unsealed roads to cease until such time as the environmental conditions improve.
5. If the road surface is rough or pot holed, slow down in order to reduce the effects of noise and to maintain control of the vehicle.
6. Slow down where visibility is limited, and where signage indicates concealed exits.
7. Slow down and take extra care on approaches to all one lane bridges, specifically those on Wayby Valley Road – Wellsford to Leigh Road to ensure personal safety and the safety of other road users.

12.5.2 Respect for Other Road Users – Guidelines for Drivers

1. Obey the Road Rules at all times.
2. Give way to faster moving vehicles where practicable and safe to do so.
3. Ensure vehicles are not overloaded.
4. Ensure all loads are secure and tail gates securely closed when travelling to or from the quarry.
5. Ensure vehicles are acceptably maintained as per 12.5.3 below, with particular attention given to maintaining engine exhaust systems, body work and suspension mechanisms to efficient and current standards.
6. Limit the use of engine breaking when passing in the vicinity of residential dwellings.
7. Watch for pedestrians, cyclists, horse riders and any other road users and adjust speed and passing distance accordingly.
8. Always be prepared to come across pedestrians, cyclists, horse riders and any other road users, such as farmers moving stock, on all roads between Whangaripo Quarry and the State Highway 1.

12.5.3 Vehicle Maintenance

In order to minimise the possibility of accidents all vehicles should be maintained to a high standard through regular servicing. A vehicle log is to be kept for all RAS vehicles, and regular customers of the quarry requested to do so. The log is to include:

- Records of regular servicing
- Records of all distances travelled
- Reporting of wear and tear or any difficulty with the vehicle handling.
- Documentation of actions taken to repair such wear and tear.
- Documentation of likely hazards encountered on the road between Whangaripo Quarry and the State Highway 1.

12.5.4 General Safety

RAS drivers are to, and other drivers should:

- Carry a current heavy vehicle licence applicable to the vehicle being driven.
- Check logbooks on a regular basis to ensure adequate rest breaks.
- Limit hours of work to those legally allowed to prevent the possibility of driver impairment through fatigue.

12.5.5 Disciplinary Procedures

Where any driver ignores a protocol or rule which does or may lead to a breach of this Traffic Safety Plan / Drivers Code of Conduct or a traffic related condition of consent, RAS may impose procedures to sanction the offending driver.

Procedures will include:

- Delay loading of any offending driver
- Refusal to load any offending driver
- Prohibit repeat offenders from entering the site.

12.5.6 Monitoring and Reporting

Quarry staff, truck drivers, contractors and the general public are encouraged to advise RAS management of safety concerns, possible breaches in code of conduct and general comments regarding traffic issues. Issues that might be reported could include:

- Dangerous road conditions
- Absence of safety barriers where it is felt these are needed
- Presence of pot holes or bad road drainage
- Unmarked pedestrian or livestock crossings
- Excessive speed or dangerous driving by a vehicle related to the quarry

All reporting should be undertaken through the RAS Whangaripo Quarry in the first instance.

Contact: Quarry Manager: Ph: 09 423 7529

Mob: 027 687 9821

e-mail: simonmo@winaggs.co.nz

Reporting of information at the time issues are noticed allows quarry management to act on any safety concerns related to the operation as soon as practicable and to assist with influencing appropriate road upgrades where required.

Complaints may be directed to the Rodney District Council, although feedback direct to the RAS Whangaripo Quarry is more likely to ensure a swift and direct response to any alleged issue or incident.

Every six months weighbridge traffic data, including feedback from quarry staff, drivers and the general public, will be collated and presented to Council and the Community Liaison Group.