

Discharge of Contaminants to Air

- 1) The discharge of contaminants to air shall only be from quarrying activities located on the land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which is attached to these conditions.
- 2) The contaminants authorised by this discharge to air consent shall only be generated onsite from the following quarrying activities:
 - a) Site preparation and overburden removal and storage;
 - b) Construction and maintenance of bunds and stockpiles;
 - c) Extraction, loading and transportation of material;
 - d) Processing of aggregates (including crushing and screening of aggregates)
 - e) Forming stockpiles of raw and processed aggregates;
 - f) Deposition of cleanfill;
 - g) Site rehabilitation; and
 - h) Movement of vehicles associated with the above activities.
- 3) The discharge of dust beyond the consent holder's site shall not be offensive or objectionable.

Prior to Works

- 4) At least 48 hours prior to the commencement of activities authorised under this resource consent, the consent holder shall inform the Canterbury Regional Council, Attention RMA Monitoring and Compliance Manager (the Manager), in writing of the start date of the works.

Monitoring

- 5) Prior to the commencement of activities listed in Condition 2) of this resource consent, a meteorological monitoring station, which measures and records wind direction and wind speed is to be installed on the site at a representative location free from interference from nearby structures, trees etc. The station must:
 - a) Be installed at a height of at least four metres above pre-quarrying ground level and in accordance with AS 2923 – 1987 Ambient Air Guide for Measurement of Horizontal Wind for Air Quality Applications.
 - b) Wind speed resolution of measurement shall be not more than 0.1 metres per second and wind speed accuracy of measurement shall be at least within +1-0.2 metres per second.
 - c) Wind speed and direction shall be continuously recorded with an averaging time for each parameter of one minute.
 - d) Record daily rainfall.

- f) Provide an alarm to site staff (for example via mobile phone) if the hourly rolling average wind speed trigger level is exceeded.
- g) This data shall be:
 - i. recorded using an electronic data logging system and retained for the duration of this consent; and
 - ii. provided to the Canterbury Regional Council upon request.
- 6) The instruments specified in condition 5) shall be installed and maintained in accordance with the manufacturer's specifications.

Dust Management Plan

- 7) The consent holder shall prepare and implement a Dust Management Plan (DMP).
- 8) The DMP shall be
 - Reviewed every two years, or more frequently if required, by the consent holder in consultation with the Community Liaison Group as required under condition X of Selwyn District Council resource consent RMAXXXXX.
 - Retained on the site at all times; and
 - Forwarded within one month prior to the exercise of this consent to the Canterbury Regional Council Attention: RMA Monitoring and Compliance Manager. Any updated versions of the DMP shall be forwarded to this Manager within 30 days of completing a review.
- 9) The DMP and any revisions shall include all measures necessary to achieve compliance with the conditions of this consent.
- 10) The DMP shall include, but not be limited to:
 - i. A description of the dust sources on site;
 - ii. The methods to be used for controlling dust at each source during site construction, operation of the quarry, aggregate crushing and screening, cleanfill deposition and rehabilitation including dust reduction through design methodologies;
 - iii. A description of the site rehabilitation;
 - iv. A description of the monitoring requirements;
 - v. A system of training for employees and contractors to make them aware of the requirements of the DMP;
 - vi. Identifying staff responsible for implementing and reviewing the DMP;
 - vii. Procedures, processes and methods for managing dust when staff are not on site;
 - viii. Methods for determining the weather conditions that will trigger a restriction of potentially dusty activities;
 - ix. A method for recording and responding to complaints from the public; and
 - x. A maintenance schedule for meteorological monitoring instruments and PM₁₀ monitoring.

- 11) This consent shall not be exercised until the DMP has been certified by a Suitably Qualified and Experienced Practitioner (SQEP) on air quality at the Canterbury Regional Council. If the Canterbury Regional Council confirms receipt but then fails to provide any further response to the consent holder within a period of one month then the DMP shall be deemed to be certified.
- 12) The Quarry Manager, or nominated person, shall be available at all times (including outside quarry operation hours) to respond to dust emission issues.

Excavation and Rehabilitation

- 13) The consent holder shall establish at least 3 m high vegetated earth bunds around the site perimeter, with the exception of site accessways, which shall be constructed with a 1 m wide flat top around the site. The bunds shall have a slope of at least 1:3 (one vertical to three horizontal) on the outer side and shall have a minimum width of 16 m to remain in place for the duration of extraction and rehabilitation activities.
- 14) As soon as practicable following construction, the bunds are to be sown with grass or hydro-seeded to achieve swift grass cover and watered regularly to ensure grass cover is established.
- 15) To assist in achieving swift grass cover, construction of the bunds shall take place between the months of February to May or August to November to enable grassing of the bunds to occur in autumn or spring.
- 16) The grassed bunds shall be watered, when required to suppress potential dust, until a grass cover has been established.
- 17) Each sub-stage, with the exception of any active haul roads, shall be rehabilitated within six months of the completion of cleanfilling. Rehabilitation shall include but not be limited to:
 - a) Reshaping the relevant areas;
 - b) Spreading of topsoil;
 - c) Re-vegetating; and
 - d) Undertaking all reasonably practicable measures to prevent a dust nuisance from the rehabilitated area, including but not limited to watering of exposed soil to prevent production of dust.

If this work is required outside of spring or autumn, the area can be suitably mulched or covered with another form of material to suppress dust from the area until it is appropriate to re sow grass.

Dust Mitigation

- 18) The consent holder shall take all reasonably practicable measures to minimise the discharge of dust from stockpiles. These shall include but not be limited to:
 - a) After the initial site preparation and establishment, locating stockpiles of processed aggregate below natural ground level;
 - b) During initial site preparation, limiting the height of stockpiles to no more than three metres above natural ground level at any one time;
 - c) Vegetating any long term over burden or soil stockpiles; and
 - d) Spraying stockpiles with water as required.

- 19) The consent holder shall take all reasonably practicable measures to minimise the discharge of dust from the site. These measures shall include but not be limited to:
- a) Maintaining haul roads so that they are comprised of an aggregate base, with surfaces that are generally graded and free of pot holes;
 - b) Using field conveyors as the primary form of material transport within the site;
 - c) Minimising drop heights when loading trucks and conveyor hoppers;
 - d) Pre-dampening soil prior to removing overburden and carrying out land stripping and land rehabilitation during favourable weather conditions and at times of least vulnerability to neighbouring properties;
 - e) Locating the fixed plant in the centre of the site and below ground level;
 - f) Only using portable processing plant with the use of water dust suppression (either sprays or high pressure fogging system) fixed to the plant or located beside the plant;
 - g) All mobile processing plant and stockpiled processed aggregates will be located within the quarry floor and set back 250 m from site boundaries;
 - h) Maintaining, establishing and enhancing shelter belt plants around the site boundaries;
 - i) Measures will be taken to ensure trucks leaving the site are appropriately loaded, such as covering sands and fine material and any such load content, to reduce the potential for material to be windblown from vehicles when leaving the site;
 - j) Overburden stockpiles and bunds are to be re-vegetated or planted;
 - k) The site will be rehabilitated as soon as reasonably practicable to limit potential for dust generation by minimising exposed surfaces;
 - l) The use of pea gravel and dust suppressants as appropriate on exposed surfaces;
 - m) Taking wind conditions into account in planning and carrying out work to minimise dust dispersion;
 - n) Using water and/or dust suppressants on all disturbed surfaces including extraction areas, roads and stockpiles when required;
 - o) Regularly maintaining unsealed internal roads and yard areas by grading and laying fresh gravel;
 - p) Maintaining an adequate supply of water and equipment on the Roydon Quarry site for the purposes of dust suppression at all times;
 - q) Applying a speed restriction on all internal roads of 15 kilometres per hour at all times;
 - r) Keeping paved roads and yard areas free of dust by either washing or use of sweepers;
 - s) Sections of the internal site access road will be sealed and used in conjunction with a rumble strip to assist in removing muddy material from vehicle wheels before entering and exiting the site;
 - t) Extraction, cleanfilling and rehabilitation activities within 250 m of any nearby dwelling will cease when (i) to (iii) below occur simultaneously:

- i. the wind is greater than 7 metres per second (m/s) (rolling hourly average); and
- ii. during dry weather conditions; and
- iii. the wind is blowing from the following directions:
 - 1) when site activities are occurring within 250 m from receptor locations along the southeastern boundary and when winds are from the northwest to northeast (310°N to 50°N); or
 - 2) when site activities are occurring within 250 m from receptor locations along the northwestern boundary and when winds are from the south to southwest (170°N to 230°N); and

Wind speed and direction will be monitored continuously on site by equipment fitted with an alarm system to advise site personnel when the above triggers are exceeded.

- 20) Continuous dust monitoring of PM₁₀ shall take place when operating close to sensitive locations including within 250 m of residences along the southeastern or northwestern site boundaries. When operating within 250 m of either Receptors 3 or 11, an additional monitor should be situated at the site boundary nearest to each receptor. The continuous dust monitoring equipment should be fitted with an alarm system that, when PM₁₀ concentrations exceed the specified trigger levels, sends a warning to the Quarry Manager or other nominated person.
- 21) Water carts as a back-up will be used, as required, for dust suppression during dry weather so that working areas, haul roads and stockpiles are kept damp. Water will be available for dust suppression from an existing bore on the site.

Reporting and Review

- 22) The consent holder shall keep a record of any complaints relating to dust, and shall include:
 - a) the location where the dust was detected by the complainant;
 - b) the date and time when the dust was detected;
 - c) a description of the wind speed and wind direction when the dust was detected by the complainant;
 - d) the most likely cause of the dust detected;
 - e) any corrective action undertaken by the consent holder to avoid, remedy or mitigate the dust detected by the complainant; and
 - f) This record shall be provided to the Canterbury Regional Council upon request.
- 23) A notice is to be erected at the entrance advising the public how quarry management can be contacted.
- 24) The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.
- 25) The Canterbury Regional Council may, once per year, on any of the last five working days of April or October, serve notice of its intention to review the conditions of this consent for the purposes of:
 - a) Dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or

- b) Dealing with dust suppression requirements;
- c) Altering the suspended particulate monitoring requirements of the relevant condition;
- d) Ensuring compliance with any relevant National Environmental Standards.

Use of Land for Mineral Extraction and Cleanfill Deposition

Description

- 1) The use of land for the construction works associated with development of the quarry, extraction of overburden and aggregate material, stockpiling of extracted aggregate, the deposition of cleanfill, and remediation of completed quarrying areas shall be at located on the land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the Site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which forms part of this consent.
- 2) Prior to commencing works, the consent holder shall provide a copy of this resource consent to all persons undertaking activities authorised by this consent.
- 3) Prior to works commencing, warning notices that can be read from a distance of 5m shall be erected and maintained at all entrances to the quarry excavation site. These notices shall state:
 - a) The name of the site;
 - b) The name of the quarry operator;
 - c) No unauthorised material sourced from offsite shall be placed in the quarry excavation areas;
 - d) Access to the quarry excavation areas shall be secured by fencing and lockable gates.

Extraction Depth

- 4) During at least the first five years after commencement of consent and until a different depth is certified in writing by the Canterbury Regional Council, the depth of quarrying shall not exceed a depth of between 8.1 and 9.9 metres below natural ground level, across the site, in accordance with the contour plan included as Figure CRCXXXXXX.
- 5) The consent holder shall monitor water levels for the first five years after commencement of consent in the four bores specified below:

Upgradient

- BX23/0833 (Bore ID DRBH1). Located at or about map reference: NZTM X and Y 1554612 – 5177022
- BX23/0836 (Bore ID DRBH2). Located at or about map reference: NZTM X and Y 1554914 – 5177686

Downgradient

- BX23/0835 (Bore ID DRBH4). Located at or about map reference: NZTM X and Y 1556077 – 5177047

- BX23/0834 (Bore ID DRBH3). Located at or about map reference: NZTM X and Y 1555397 – 5176416

Based on this information the consent holder may submit a report to the Canterbury Regional Council by an independently qualified person with expertise in groundwater monitoring that, having regard to the water level monitoring information, recommends a revised maximum depth of quarrying. Provided that the Canterbury Regional Council certifies in writing that the findings of the independent report are accepted, the depth of quarrying may be amended in accordance with the report recommendations. Notwithstanding the aforementioned certification process, at all times and in all circumstances the consent holder shall limit quarrying to 1 metre above the seasonal high water table referenced to the datum point in Condition 7).

- 6) No excavation shall occur below 1 m above the seasonal high water table at the site.
- 7) The consent holder shall establish a surveyed datum point at local ground level in an area that will not be excavated. This point shall be used to certify the depth of excavation and cleanfill at any point within the consent holder's site.
- 8) Once aggregate extraction has commenced the consent holder shall provide, at three-monthly intervals, and on request from the Canterbury Regional Council Manager Monitoring and Compliance (The Manager), a laser level survey of all depths of excavated and filled areas on the site. Such a survey shall not be required if there has been no excavation in the preceding three-month period. Alternative methods for achieving this condition, such as GPS depth technology on excavation machinery may be used subject to approval in writing from the Manager.
- 9) The Consent Holder shall survey all excavated and filled areas of the site annually to determine the elevations of the site relative to datum established under condition (7)), including the depth of excavation. The survey shall be undertaken by a registered surveyor. The survey result shall be to an accuracy of +/- 50 millimetres vertically. The results of such survey shall be provided to the Manager, annually and otherwise on request.

Excavation of Aggregate

- 10) Excavation of aggregates shall commence with extraction in the centre of the site, followed by Stage 1 nearest to the southern boundary of the site, and shall proceed generally in accordance with the indicative staging plan included as Figure 7 in the AEE and attached to this consent as CRCXXXXXX. Excavation of aggregates shall occur from the quarry floor, once the pit is established.
- 11) Active areas of excavation and rehabilitation shall be limited to a maximum of 5 hectare 'sub stages' (a total of 10 ha) at any one time.
- 12) No excavation of aggregates shall occur within 20 metres of the boundaries of the Site. This condition does not apply to earthworks involved in the rehabilitation of the Site.

Cleanfilling

- 13) Where additional fill is required to be brought to the site for rehabilitation purposes, the consent holder shall ensure that all material deposited in the excavated area is:
 - a) Only material defined as 'Cleanfill' as set out in the advice note attached to this condition;
 - b) The material is not deposited into groundwater; and is at least one metre above the seasonal high water table recorded at the site, subject to Condition 6);

- c) Material is deposited in accordance with a Cleanfill Management Plan (CMP) which has been prepared in accordance with Section 8.1 and Appendix B of "A Guide to the Management of Cleanfills", Ministry for the Environment, January 2002;
- d) Checked by the site manager or nominated person prior to deposition in the pit. If the material is not classified as Cleanfill, the consent holder shall immediately remove the material and arrange for the disposal of it at an appropriate location;
- e) And recorded by an electronic weighing system. The record shall include a detailed record of all materials deposited into the Cleanfill site and shall be provided to the Canterbury Regional Council upon request. This record shall include the following information:
 - i. The name of the company delivering the material;
 - ii. The date of deposition;
 - iii. The physical address of the land the material was sourced from;
 - iv. A description of the material;
 - v. Any laboratory reports;
 - vi. Any authorisation under which the material was removed from the source site (e.g., resource consent); and
 - vii. The weight or volume of the material deposited.
- f) Copies of this documentation shall be made available to the Council on request.

Advice note: 'Cleanfill' is defined as:

Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- *combustible, putrescible, degradable or leachable components*
- *hazardous substances*
- *products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices*
- *materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances and liquid waste.*

- 14) No cleanfill material shall be deposited at the site which has been sourced from a site defined as 'potentially contaminated'.

For the purpose of this consent, 'potentially contaminated' means a part of a site where an activity or industry described in the list in Schedule 3 of the Canterbury Land and Water Regional Plan, which is attached as Attachment 1 and forms part of this resource consent, has or is being undertaken on it or where it is more likely than not an activity or industry described in the list in Schedule 3, is being or has been undertaken on it, but excludes any site where a detailed site investigation has been completed and reported and which demonstrates that any contaminants in or on the site are at, or below, background concentrations.

- 15) Any contractor depositing material at the site shall have a written contract with the consent holder and shall be provided with a copy of this consent prior to entering the site. Site inductions will be held on a quarterly basis for contractors using the site, and records of these inductions shall be kept and made available to Council on request.
- 16) At least one month prior to the commencement of any cleanfilling activity authorised by this consent the consent holder shall submit a CMP to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager. The CMP shall include but not be limited to the following:
- a) Describing the content and purpose of the CMP;
 - b) Detailing the operation of the site including details of staging of works, area, depth and proposed start and finish date of deposition of cleanfill material;
 - c) Discussing the actions to be undertaken to ensure compliance with the conditions of this resource consent and actions to be undertaken in response to any incident that may adversely affect the environment;
 - d) identifying and providing contact details of the staff member responsible for each action;
 - e) Discussing the steps to be undertaken to correct incidences of non-compliance;
 - f) Identifying timeframes for site rehabilitation;
 - g) The specific location of the cleanfill placement area;
 - h) A description of operational procedures and monitoring that will be implemented to prevent unauthorised material from entering the site;
 - i) How rejected material will be stored pending disposal to an authorised landfill;
 - j) Where rejected material will be disposed of;
 - k) The maximum length of time that rejected material will be stored on site pending removal;
 - l) Construction procedures to ensure the long-term stability of cleanfill areas;
 - m) Timetable of works and re-vegetation measures;
 - n) Procedures for improving and/or reviewing the CMP;
 - o) A list of all material accepted in the cleanfill; and
 - p) Procedure for responding to complaints.

The consent holder shall ensure that a copy of the CMP is held at the site and all personnel working on the site are made aware of and have access to this consent document and the CMP.

- 17) The CMP shall be:
- a) Reviewed and updated at least once every two years for the duration of the consent; and
 - b) Retained on the site at all times.

Any updated versions of the CMP shall be forwarded to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager, within 30 days of completing a review.

Groundwater quality monitoring

- 18) The following groundwater sampling regime is proposed:
- a) Representative samples of groundwater shall be taken at six-monthly intervals, for a period of two years after quarrying activities commence, and thereafter at a 12-monthly interval, from the two upgradient and two downgradient bores;
 - b) Samples shall be taken after adequate purging to remove all stagnant water from the bores or by using an alternative method, such as low-flow sampling technique, to ensure that fresh groundwater is drawn through the bore screens; and
 - c) All samples shall be taken by a suitably qualified practitioner and analysed by an accredited laboratory. Groundwater samples shall be analysed for the contaminants shown in Table 1.
 - d) The water quality monitoring results shall be supplied annually to the Canterbury Regional Council, RMA Compliance and Monitoring Manager.

Responses to Monitoring

- 19) The results of analysis of groundwater samples tested shall be compared with the contaminant trigger values in Table 1. Any contaminant concentration in the downgradient bores shall be deemed an exceedance if:
- a) The tested result is in excess of the trigger values for a contaminant given in Table 1 if the same contaminant upgradient concentration is less than the Table 1 trigger levels; or
 - b) Any contaminant concentration in the upgradient bore exceeds the Table 1 trigger values for that contaminant and if the downgradient bore exceeds the upgradient bore contaminant concentration by more than 10 percent of the respective Table 1 contaminant trigger value.
- 20) If there is an exceedance in a downgradient bore as determined by Condition 19), the consent holder shall:
- a) Obtain a second sample of groundwater from the bore sampled in accordance with Condition 19); and
 - b) Obtain a sample of groundwater from the upgradient bore specified in Condition 19); and
 - c) Analyse these samples in accordance with Condition 19).
- 21) If the results of analysis of groundwater samples carried out in accordance with Condition 20) show that none of the concentrations of contaminants analysed exceed the trigger concentrations given in Table 1, the consent holder shall continue to sample groundwater in accordance with Condition 18).
- 22) If the results of analysis of groundwater in down-gradient bores sampled in accordance with Condition (19), for any contaminant analysed show an exceedance, as determined by Conditions (19) above, the consent holder shall :
- a. Notify the Manager; and
 - b. Notify the residential occupiers with water supply bores of all adjoining properties to the south and south-east of the cleanfill site; and
 - c. Implement necessary measures to reduce the concentration of the contaminant in groundwater. Such measures may include:

- i. cessation of activities that may have caused the excessive concentrations;
 - ii. removal of the contaminant source(s),
 - iii. stabilisation or capping of the contaminant source(s); and
 - iv. revision of cleanfill management procedures.
- d) Any material removed in accordance with Condition (22a) shall be disposed of at an appropriate facility, and the consent holder shall provide the Manager, with written confirmation of such disposal within ten working days of the disposal taking place.

Rehabilitation

- 23) Rehabilitation of the site shall be undertaken in accordance with the Quarry Rehabilitation Plan (QRP), as certified by Selwyn District Council under RMAXXXXXX.
- 24) Following completion of quarrying and cleanfilling in a sub-stage, a minimum 300 mm topsoil layer shall be applied over the finished surface level and sown with a suitable grass species or planted with another suitable vegetation.
- 25) Each sub-stage, with the exception of any active haul roads, shall be rehabilitated within six months of the completion of cleanfilling. Rehabilitation shall include but not be limited to:
- a) Reshaping the relevant areas;
 - b) Spreading of topsoil;
 - c) Re-vegetating; and
 - d) Undertaking all practicable measures to prevent a dust nuisance from the rehabilitated area, including but not limited to watering of exposed soil to prevent production of dust.

If this work is required outside of spring or autumn, the area can be suitably mulched or covered with another form of material to suppress dust from the area until it is appropriate to re sow grass.

- 26) All finished surfaces to be designed and constructed to be free draining.

Spills

- 27) All reasonably practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery.
- 28) A spill kit, that is capable of absorbing the quantity of oil and petroleum products that may leak or be spilt shall be kept on site at all times.
- 29) The consent holder shall inform the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within 24 hours of any leak or spill greater than 4 litres and shall provide the following information:
- a) The date, time, location and estimated volume of the spill;
 - b) The cause of the spill;
 - c) The type of contaminant(s) spilled;
 - d) Clean up procedures undertaken;

- e) Details of the steps taken to control and remediate the effects of the spill on the receiving environment;
- f) An assessment of any potential effects of the spill; and
- g) Measures to be undertaken to prevent a recurrence.

Accidental Discovery

- 30) Immediately following the discovery of material suspected to be a taonga, kōiwi or Māori archaeological site, the following steps shall be taken:
- a) All work in the vicinity of the discovery will cease;
 - b) Immediate steps will be taken to secure the site to ensure the archaeological material is not further disturbed:
 - i. Notify the Kaitiaki Rūnanga and the Area Archaeologist of the New Zealand Historic Places Trust (NZHPT). In the case of kōiwi (human remains), the New Zealand Police must be notified. The Kaitiaki Rūnanga and NZHPT will jointly appoint / advise a qualified archaeologist who will confirm the nature of the accidentally discovered material;
 - ii. If the material is confirmed as being archaeological, the consent holder will ensure that an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from NZHPT before work resumes (as per the Historic Places Act 1993);
 - iii. The consent holder will also consult the Kaitiaki Rūnanga on any matters of tikanga (protocol) that are required in relation to the discovery and prior to the commencement of any investigation;
 - iv. If kōiwi (human remains) are uncovered, in addition to the steps above, the area must be treated with utmost discretion and respect, and the kōiwi dealt with according to both law and tikanga, as guided by the Kaitiaki Rūnanga;
 - v. Works in the site area shall not recommence until authorised by the Kaitiaki Rūnanga, the NZHPT (and the NZ Police in the case of kōiwi) and any other authority with statutory responsibility, to ensure that all statutory and cultural requirements have been met;
 - vi. All parties will work towards work recommencing in the shortest possible time frame while ensuring that any archaeological sites discovered are protected until as much information as practicable is gained and a decision regarding their appropriate management is made, including obtaining an archaeological authority under the Historic Places Act 1993 if necessary. Appropriate management may include recording or removal of archaeological material;
 - vii. Although bound to uphold the requirements of the Protected Objects Act 1975, the contractor/works supervisor/owner recognises the relationship between Ngāi Tahu whānui, including its Kaitiaki Rūnanga, and any taonga (Māori artefacts) that may be discovered.

Reporting and Review

- 31) The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to officers of the Canterbury Regional Council on request.
- 32) The Canterbury Regional Council may, once per year, on any of the last five working days of May or September serve notice of its intention to review the conditions of this consent for the purposes of:
 - a) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- 33) The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.

Table 1: Contaminants and trigger concentrations.

Contaminant	Property or trigger value
Acidity	12 g/m ³ as CaCO ₃
Alkalinity	50 g/m ³ as CaCO ₃
Ammoniacal Nitrogen	1.2 g/m ³ as N
Chloride	125 g/m ³
Electrical Conductivity	50 mS/m at 25 °C
E.coli bacteria	1 MPN/100 ml
Hardness (Calcium + Magnesium)	100 g/m ³ as CaCO ₃
Dissolved Iron	0.1 mg/L
pH	<6.5 or >8.5
Dissolved Zinc	1.5 mg/L
Total Petroleum Hydrocarbons	Any detection >0.1 g/m ³
Dissolved Aluminium	0.1 g/m ³
Dissolved Arsenic	0.01 g/m ³
Dissolved Boron	0.5 g/m ³
Dissolved Cadmium	0.003 g/m ³
Dissolved Chromium	0.05 g/m ³
Dissolved Copper	1 g/m ³
Dissolved Lead	0.01 g/m ³
Dissolved Manganese	0.04 g/m ³
Dissolved Nickel	0.08 g/m ³
Nitrate-Nitrogen	11.3 g/m ³ as NO ₃
Dissolved Sodium	200 g/m ³
Sulphate	250 g/m ³