

Appendix 5: Existing Resource Consents

30 September 2022

Boffa Miskell
PO Box 91250
Victoria Street West
Auckland 1142

Digitally Delivered

Dear Dan,

Decision on application for resource consent under the Resource Management Act 1991

Application number: LU/0140/22
Applicant: Winstone Aggregates Ltd
Address: 249 Whitehall Road Cambridge 3496
Legal Description: Part Lot 1 Section 13 Block X Cambridge Survey District, and Part Hinuera No 2 Fishing Reserve Section 122 Land Act 1908
Lot 1 DP 76874, Lots 1 - 3 DP 22660 and Lot 1 DP 86845
Section 1-2 Survey Office 59143
Part Lot 1 Section 13 Block X Cambridge Survey District
Lot 1 DP 335798, Lot 1 DPS 76874, Lots 1-3 DPS 22660 and Block X Cambridge SD
Proposed activity(s): Concurrent applications (RC/3770.02 & LU/0143/15.02) to change conditions of two resource consents to expand the aggregate extraction area, and an associated land use consent to establish new overburden disposal area (OBDA)

I wish to advise you of Waipa District Council's decision to **grant** your application for resource consent under the Resource Management Act 1991 (RMA). Please see below for the details of the decision and conditions of consent.

The following information provides you with some guidance on your rights and what to do next. It is recommended that you seek independent advice if you are in any doubt as to the processes to be followed.

Objections

If you disagree with any part of this decision or any conditions of this consent, you may lodge an objection in writing to Council within **15 working days** of the receipt of this letter. Your objection must be in accordance with section 357 of the RMA and must include the reasons for your objection.

Compliance with conditions

Your resource consent permits the land use to be established at the site long as the activity complies with the stated conditions on an ongoing basis. It is important that you fully understand and comply with all the conditions of your consent.

Please notify Council's monitoring department prior to the commencement of activities associated with this consent. The role of Council's monitoring department is to monitor compliance with the conditions of consent and may involve site visits.

Council's monitoring department can be contacted on consentmonitoring@waipadc.govt.nz or 07 8233800. Please reference the consent number and address of the property when emailing or calling.

Lapsing of Consent/s

This resource consent lapses five (5) years after the commencement of the consent, unless the consent is given effect to by the end of that period.

The commencement date of a resource consent is determined by section 116 of the Resource Management Act 1991.

Yours Sincerely



Quentin Budd

CONSENTS TEAM LEADER

DECISION ON APPLICATION: LU/0140/22, RC/3770.02 & LU/0143/15.02

Pursuant to Sections 34A(1), 104, 104B and 108 and 127 of the Resource Management Act 1991, the Waipa District Council, under delegated authority, grants Land Use Consent for a Discretionary Activity, and approves the request to amend conditions of Land Use consent RC/3770.01 and LU/0143/15.02 to:

Activity: Concurrent applications (RC/3770.02 & LU/0143/15.02) to change conditions of two resource consents to expand the aggregate extraction area, and an associated land use consent to establish new overburden disposal area (OBDA)

Consent Holder: Winstone Aggregates Ltd

Location Address: 249 Whitehall Road Cambridge 3496

Legal Description: Part Lot 1 Section 13 Block X Cambridge Survey District, and Part Hinuera No 2 Fishing Reserve Section 122 Land Act 1908
Lot 1 DP 76874, Lots 1 - 3 DP 22660 and Lot 1 DP 86845
Section 1-2 Survey Office 59143
Part Lot 1 Section 13 Block X Cambridge Survey District
Lot 1 DP 335798, Lot 1 DPS 76874, Lots 1-3 DPS 22660 and Block X Cambridge SD

This consent is subject to the conditions attached in Schedules 1, 2 and 3.

Advisory notes for this consent are attached in Schedule 4.

The reasons for this decision are attached in Schedules 5, 6 and 7.

Dated at Cambridge this 30th day of September 2022.

For and on behalf of Waipa District Council.



Quentin Budd
CONSENTS TEAM LEADER

Schedule 1

Conditions of Consent

Resource Consent No: LU/0140/22

General

- 1 The proposal must proceed in general accordance with the information submitted with the application 17 June 2022, except where another condition of this consent must be complied with. This information is entered into council records as LU/0140/22. A copy of the approved plan/s is attached.

Monitoring

- 2 The consent holder must notify the Waipa District Council enforcement team in writing two weeks prior to the commencement of activities associated with this consent.

Note: This advice should be emailed to:- consentmonitoring@waipadc.govt.nz.

Construction Management Plan

- 3 Prior to construction activities commencing on site, the consent holder shall provide a finalised Construction Management Plan to Council's Team Leader – Development Engineering for certification. The plan shall include, but is not limited to:
 - a) Details of the site or project manager, including their contact details (phone, facsimile[if any], postal address and email address);
 - b) Outline of the earthworks programme and hours of site activities;
 - c) Procedures of controlling noise, erosion, sediment runoff, dust and removal of debris from public roads;
 - d) Details of perimeter fencing (if necessary);
 - e) Methods and measures to ensure all construction activities comply with the New Zealand Code of Practice for Electrical Safe Distances 2001 (NZECP 34:2001), if necessary;
 - f) Procedures for the management of construction traffic to and from the site, parking provisions and maintenance accesses;
 - g) A Lizard Management Plan that addresses the nine principles for lizard salvage in the Publication entitled 'key principles for lizard salvage and transfer in New Zealand', Department of Conservation, Lizard Technology Advisory Group, November 2019; and
 - h) A Bat Management Plan that ensures that any vegetation clearance is preceded by a pre-felling survey to avoid impacts on roosting bats.

A copy of the latest Construction Management Plan must be kept on site at all times and all key personnel shall be made aware of the contents of the Construction Management Plan.

Any changes to the approved Construction Management Plan must be signed off by Council's Team Leader – Development Engineering prior to the Management Plan being updated.

Subject to any other conditions of this consent, all construction activities must be undertaken in accordance with the latest version of the Construction Management Plan.

Sediment and Erosion Control

- 4 The consent holder shall ensure that appropriate erosion and sediment control measures are adopted to minimise any sediment leaving the site and entering any stormwater drains or waterway. The measures shall be implemented and maintained for the full duration of construction works.

As Built Plans

- 5 The consent holder must submit as built plans showing final contours and fill/cut depths of the earthworks within 3 months after completion of earthworks. All work must be to the satisfaction of Council's Team Leader – Development Engineering and be at the cost of the consent holder.

Quality Assurance

- 6 The consent holder must submit, from a suitably qualified and experienced Engineer, a Statement of Professional Opinion as to Suitability of Completed Earthworks.

Ecological Restoration

- 7 The consent holder shall implement the bat habitat enhancement outlined in the memorandum titled '*Whitehall Quarry – s92 Response – Effects of Pine Removal on Bats*' (Ref # 10896900) prepared by Ecology New Zealand and dated 9 September 2022.

Advice Note: *the bat habitat enhancement set out in the memorandum forms part of a wider betterment proposal managed through the associated resource consents issued by the Waikato Regional Council.*

Site Rehabilitation

- 8 The overburden disposal area shall be rehabilitated in accordance with the Quarry Management Plan submitted with application, and in accordance with the Rehabilitation Plan required by Conditions 13 and 14 of RC/3770.02. Any rehabilitation in the overburden disposal area shall be reported on in the annual report to Waipa District Council required by Condition 16 of RC/3770.02.

Accidental Discovery Protocols

- 9 If taonga (treasured or prized possessions, including Maori artefacts) or archaeological sites are discovered in any area being earth-worked, the consent holder must cease work within a 5m radius of the discovery immediately and contact local iwi, Heritage New Zealand Pouhere Taonga (HNZ) and Council's Consents Team Leader.
- 10 If during construction activities, any Koiwi (skeletal remains) or similar material are uncovered, works are to cease within a 5m radius of the discovery immediately, and the consent holder must notify the New Zealand Police, local iwi, Heritage New Zealand Pouhere Taonga (HNZ) and Council's Consents Team Leader.

Schedule 2

Conditions of Consent

Resource Consent No: RC/3770.02

This condition has been changed as part of RC/3770.02:

- 1 That the operation and development proceed in general accordance with the application and plans (including Figure 1B submitted at the hearing), Winstone Aggregates Waikato, Whitehall Quarry: Applications for Quarry Activities (dated September 2002, further information accompanying the application (WDC reference: RC/3770), and the application and plans entitled 'Application to change conditions – Land Use Consent RC/3770 and LU/0143/15, Prepared by Winstone Aggregates and submitted on 21 June 2021, and the application and plans entitled 'Application for s.127 Change and Resource Consent and Assessment of Environment Effects for Pit expansion and Overburden Disposal Area Waipa District Council dated 16 June 2022, and the application and plans unless otherwise altered by consent conditions.

Review of Consent Conditions

- 2 Pursuant to section 128 of the Resource Management Act 1991 the Waipa District Council may review the conditions of this consent at the end of the first and third year following the date of commencement of this consent and at five early intervals thereafter. Such a review may be undertaken after consultation between Council and the consent holder and shall include but not be limited to any of the following issues:
 - i. To deal with any adverse effects on the environment that may arise from the exercise of this consent, specifically land rehabilitation, noise, dust and amenity issues.
 - ii. End use of the quarry site and final rehabilitation.

Noise Generated By On-Site Activity

- 3 That the noise level from all extraction and processing operations on the site (except for blasting operations) shall not exceed the following levels when measured at or within the notional boundary (meaning a line 20 metres from the external walls of any rural dwelling outside the application site boundary or legal boundary of the rural dwelling whichever is the closer to the rural dwelling), other than those on Certificates of Title 61A/508, 50B/848 and 21C/1171 from land owners and residents of which written approval has been obtained.

Daytime (6.00am to 8.00pm)	55dBA(L10)
At all other times (including all day Sunday and public holidays)	40dBA(L10)
Everyday (8.00pm to 6.00am)	65dBA(L10)

The noise level shall be measured and assessed in accordance with the requirements of New Zealand Standard NZS 6801:1991 "Measurement of Sound" and New Zealand Standard NZS 6802:1991 "Assessment of Environmental Sound".

Noise levels shall be measured in accordance with the requirements of the New Zealand Standard NZS 6801:1991 "Measurement of Sound" and the duration of any measurement period shall not be less than 15 minutes.

- 4 Before operations are undertaken on Sundays, Public Holidays and during the night time, the Grantee shall undertake testing measurements and assessments of tipping, loading, crushing, processing and truck noise on the access road to determine what, if any activities can take place and comply with the noise limits specified in condition 3, in accordance with NZS 6802:1991 "Assessment of Environmental Sound". Locations for test monitoring shall be selected by Waipa District Council in consultation with the consent holder before measurements commence and shall include the notional boundary of houses on Lot 1 DPS 70007, Lots 1 and 2 DPS 72602 and Lot 3 DPS 77613.

The results are to be reported to the Council to demonstrate noise level compliance before any such use can commence on Sundays, Public Holidays or during the night time. On site activities are then not to exceed the levels specified in condition 3. Level of activities can be reassessed at any time in order to allow for a change in circumstance.

- 5 That the noise level from construction activities (e.g. stripping topsoil and construction of any internal access roads) shall comply with and be assessed in accordance with the provisions of New Zealand Standard NZ 6803:1999 "Acoustics – Construction Noise" at occupied dwellings other than those Certificates of Title 61A/508, 50B/848 and 21C/1171 from land owners and residents of which written approval has been obtained.
- 6 The consent holder shall undertake annual noise monitoring by an independent noise expert and provide a report to the Waipa District Council. The monitoring report shall contain:
 - a. Location of plant
 - b. Type of equipment operating
 - c. Direction of operation (moving towards or away from the dwelling)
 - d. Degree of screening
 - e. Weather conditions
 - f. Any reason noise standards were exceeded (if this is the case)

The consent holder shall monitor noise levels annually during extraction and processing activities, both during the day and under night time operations unless the Waipa District Council requests more frequent monitoring as a result of complaints or significant modifications being made to site layout, plant and/or machinery.

Noise monitoring shall be undertaken at the consent holder's expense by a suitably qualified and experienced person, in accordance with condition 3 and to the satisfaction of the Waipa

District Council. Monitoring results shall be provided to the Council within three weeks of the measurements being taken.

- 7 Blasting shall be designed, supervised by a suitably qualified and experienced person, and will be designed and managed to minimize vibration and airblast. Blasting will be restricted to a maximum of twice per day between 9.00am and 4.00pm Monday to Friday, except where necessary for emergency or safety reasons. Distinctive warning signals will be given at predetermined times prior to a blast. A complete record of each blast shall be maintained.
- 8 Noise generated by the use of explosives shall not exceed a peak overall sound pressure of 120 dBC (L_{peak}) at the notional boundary (meaning a line 20 metres from the external walls of any rural dwelling outside the application site boundary or legal boundary of the rural dwelling whichever is the closer to the rural dwelling), other than those on Certificates of Title 61A/508, 50B/848, and 21C/1171 from landowners and residents of which written approval has been obtained.

Hazardous Substances

- 9 That all machinery shall be operated in a manner that ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body such that any spillage can be contained so that it does not enter any stream/tributary/wetland.
- 10 The storage and dispensing facilities for fuel, oil and similar contaminants shall be designed and operated in such a way that contamination of soil or water is avoided.

Lighting and Glare

- 11 That outdoor lighting on the site shall be so selected, located, aimed, adjusted and screened as to ensure that glare resulting from the lighting does not cause any level of discomfort to any occupants of properties beyond the application site boundary.

Rehabilitation and Landscaping Operations

- 12 Within 12 months of approval of the resource consent, the consent holder shall submit a Landscape and Site Rehabilitation Plan to the Waipa District Council for review and certification.
- 13 This plan shall be based on (but not limited to) the following objectives:
 - a. The consent holder shall stage the establishment of the final bund surface around the overburden disposal areas with appropriate permanent screening vegetation to mitigate the long-term visual impact of the quarry operation on the surrounding area.

- b. The consent holder shall provide appropriate visual and noise mitigation measures around the site of the relocated processing plan prior to processing operations commencing.
 - c. The area of bare soil/earthen surfaces is kept to a minimum at all times; measures to include revegetation all disturbed area which are not being worked in a current construction season.
 - d. Indigenous vegetation removed as part of quarry extensions shall be replaced by an equal area of indigenous vegetation elsewhere on the quarry site.
 - e. Contouring of overburden areas and visual and any noise mitigation bunds will be undertaken so as to create a natural looking landform.
- 14 This plan shall detail the operational procedures which will be implemented to achieve the objectives identified, and the overall staging, sequencing and timing of rehabilitation works.
- 15 This plan shall include a planting plan and maintenance plan (including replacement planting) for the overburden disposal area around the relocated processing plan and the realigned portion of the Karapiro Stream.
- 16 The consent holder shall provide Waipa District Council with an annual report for the period ending 30th August each year, which outlines the rehabilitation activities undertaken during the previous year. The report shall be forwarded to Waipa District Council by 1st October each year.
- 17 Prior to the end of the life of the quarry, the consent holder shall prepare and submit an End-Use and Rehabilitation Plan to Waipa District Council, which addresses the permanent use, and rehabilitation of the site. The scope and requirements of this plan shall be determined by the last review of conditions (required under condition 2) carried out prior to the cessation of quarrying. The plan shall incorporate amongst other things details on the nature and timing of the proposed rehabilitation work including the landscape rehabilitation measures proposed.

Traffic

- 18 That the consent holder shall widen the seal of Whitehall Road opposite the entrance to the quarry to the Waipa District Council standards as set out in Figure 3 “Seal widening on Rural Arterial Roads for Low Volume Driveways Frequently Used by Heavy Vehicles” of RTS 6 Guidelines for Visibility at Driveways. All work shall be designed constructed and completed to the satisfaction of the Waipa District Council Asset Manager – Roading , and shall be at the consent holder’s expense. An application, construction drawings and specifications shall be submitted for review and certification prior to any work being carried out. As-built plans and information of all infrastructural assets to be vested in Waipa District Council shall be provided prior to the final inspection.

Note: Review and certificate as described in Conditions 12 and 18 shall not be unreasonably withheld and shall relate solely to the issue of technical certification.

- 19 The entrance and access road shall be sealed from the edge of seal on Whitehall Road to the stockpile area next to the current office site within 6 months of granting the consent. The sealing to be undertaken must be two-coat grade 3/5 chip. In addition the existing cattle stop on the access road shall be replaced as appropriate in order to reduce noise nuisance to adjoining landowners.
- 20 The consent holder shall be solely responsible for maintaining the seal of the entranceway, the existing sealed area and the extended seal to the stockpile area. All sealing shall be to the satisfaction of the Waipa District Council Asset Manager – Roothing, and shall be at the consent holder's expense.
- 21 That any material spillage onto public roads originating from the site shall be removed immediately to the satisfaction of the Waipa District Council Asset Manager – Roothing at the consent holder's expense.

Dust

- 22 That a water cart or water sprays be available on site for dust suppression purposes from the crushing and screening plant, haul roads and stockpile areas at all times.
- 23 That all internal access and haul roads be maintained so as not to cause a dust nuisance to neighbouring properties.
- 24 A maximum vehicle speed limit of 20kph will be maintained on the internal unsealed roads at all times, except the section of internal unsealed road between the pit expansion and the southern overburden disposal area (described in the application and plans entitled 'Application to change conditions – Land Use Consent RC/3770 and LU/0143/15' referred to in Condition 1, where a maximum vehicle speed limit of 40kph will be maintained.

The consent holder shall erect and maintain signs advising of these vehicle speed limits at the beginning of any unsealed roads.

- 25 The area of bare soil/earthen surfaces is kept to a minimum at all times. The consent holder shall, as far as practicable, vegetate all disturbed areas which are not currently being worked.

Archaeological

- 26 That in the event that an archaeological site and/or any artefacts or remains are found during any development undertaken as part of this proposal, the consent holder will cease work in that area immediately and consult Nga Iwi Toopu O Waipa, Raukawa Trust Board, NZ Police (where kōiwi are involved) and the New Zealand Historic Places Trust. If further disturbance is unavoidable an authority from the Historic Places Trust. Any removals or reburials are to be in

accordance with Iwi protocols and are to be done prior to work recommencing in the location of the discovered site.

- 27 That the consent holder shall give a bond in respect of the performance of Conditions 18 and 19 above and;
- i. Shall give that bond and perform the obligations hereunder prior to the exercise of this consent ;
 - ii. The bond shall –
 - a. Secure an amount of \$25,000.00 for the performance of the conditions 18 and 19;
 - b. Provide a guarantor bank or other financial institution acceptable to Waipa District Council to bind itself to pay for the carrying out and completion of the condition in the event of any default of the consent holder.
 - iii. The bond may be varied or cancelled or renewed at any time by agreement between the consent holder and Waipa District Council.

Administration and Monitoring Charges

- 28 That charges set out in accordance with Section 36 of the Resource Management Act 1991 shall be paid to the Waipa District Council for carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent.

Schedule 3

Conditions of Consent

Resource Consent No: LU/0143/15.02

General

This condition has been changed as part of LU/0143/15.02:

- 1 The development shall proceed in accordance with the information submitted with the application on 21 May 2015 including the further information and plans provided on 23 June 2015, and the application and plans entitled 'Application to change conditions – Land Use Consent RC/3770 and LU/0143/15, Prepared by Winstone Aggregates and submitted on 21 June 2021, Application for s.127 Change and Resource Consent and Assessment of Environment Effects for Pit expansion and Overburden Disposal Area Waipa District Council dated 16 June 2022, except where another condition of this consent must be complied with. This information is entered into Council records as LU/0143/15. A copy of the approved plan is attached.

Monitoring and Charges

- 2 The consent holder shall notify the Waipa District Council enforcement team in writing two weeks prior to the commencement of activities associated with this consent.

Note: this advice should be emailed to: consentmonitoring@waipadc.govt.nz

- 3 Pursuant to Section 36 of the Resource Management Act 1991 the consent holder must pay the actual and reasonable costs incurred by the Waipa District Council when monitoring the conditions of this consent.

Construction Management Plan

- 4 Prior to the undertaking of any physical works on the site, the applicant shall submit a Construction Management Plan that details the methods and procedures to be implemented to control the effects of the works undertaken on the site must be submitted and approved by Council's Manager Development Engineering. The Construction Management Plan shall include but not be limited to the following:
 - a) Details of the site or project manager, including their contact details (phone, facsimile[if any], postal address and email address);
 - b) Outline of the earthworks programme and hours of site activities;
 - c) Procedures of controlling noise, erosion, sediment runoff, dust and removal of debris from public roads;

- d) Details of perimeter fencing (if necessary);
 - e) Methods and measures to ensure all construction activities comply with the New Zealand Code of Practice for Electrical Safe Distances 2001 (NZECP 34:2001), if necessary;
 - f) Procedures for the management of construction traffic to and from the site, parking provisions and maintenance accesses;
 - g) A Lizard Management Plan that addresses the nine principles for lizard salvage in the Publication entitled 'key principles for lizard salvage and transfer in New Zealand', Department of Conservation, Lizard Technology Advisory Group, November 2019; and
 - h) A Bat Management Plan that ensures that any vegetation clearance is preceded by a pre-felling survey to avoid impacts on roosting bats.
- 5 A copy of the latest Construction Management Plan must be kept on site at all times and all key personnel shall be made aware of the contents of the Construction Management Plan.
- 6 Any changes to the approved Construction Management Plan must be approved by Council's Manager Development Engineering prior to the Management Plan being updated.
- 7 Subject to any other conditions of this consent, all construction activities must be undertaken in accordance with the latest version of the Construction Management Plan required by Condition 4.
- 8 Prior to commencement of any work the consent holder must provide a copy of the resource consent granted by the Waikato Regional Council to Waipa District Council's Senior Enforcement Officer and must submit evidence that an Erosion and Sediment Control Plan has been approved by the Waikato Regional Council.

This condition has been changed as part of LU/0143/15.02:

- 9 That the removal of topsoil, storage of that material, and reinstatement and rehabilitation of excavated and filled areas shall be completed in accordance with the Site Water Management Report; dated: November 2014 (Appendix C) and the Whitehall Quarry Management Plan and the Erosion and Sediment Control Plan submitted on 21 June 2021 as part of the application and plans entitled 'Application to change conditions – Land Use Consent RC/3770 and LU/0143/15, Prepared by Winstone Aggregates, Application for s.127 Change and Resource Consent and Assessment of Environment Effects for Pit expansion and Overburden Disposal Area Waipa District Council dated 16 June 2022, as submitted with the application subject to the following methods:-
- a) All earthmoving operations involved in soil stockpiling and rehabilitation shall be undertaken by a suitably qualified or experienced person approved by the Waipa District Council;

- b) Removal of topsoil materials shall be done with as light machinery as practicable. Excavators are to be used for both soil lifting and replacement. Bulldozers or equivalent machinery may be used for spreading topsoil;
- c) Storage of topsoil and subsoil shall be in separate stockpiles whose height does not exceed three metres;
- d) No topsoil is to be removed from the site;
- e) For reinstatement purposes, topsoil and subsoil shall be placed in accordance with the Soil Characterisation and Land Rehabilitation Report; Dated: March 2013 (Appendix F, submitted with the application);
- f) The replaced subsoil must be ripped at least 400mm;
- g) The topsoil must be cultivated and immediately re-sown.

As Built Plans

- 10 The consent holder must submit as built plans showing final contours and fill/cut depths of the earthworks within 3 months after completion of earthworks. All work must be to the satisfaction of Council's Manager – Development Engineering and be at the cost of the consent holder.

Quality Assurance

- 11 The consent holder must submit, from a suitably qualified and experienced Engineer, a Statement of Professional Opinion as to Suitability of Completed Earthworks.

Site Rehabilitation

- 12 Any activities in the overburden disposal area, either undertaken in a previous year or planned for a subsequent year, shall be included in the annual report to Waipa District Council required by Condition 16 of RC/3770.

Accidental Discovery Protocols

- 13 If taonga (treasured or prized possessions, including Maori artefacts) or archaeological sites are discovered in any area being earth-worked, the consent holder shall cease work within a 100m radius of the discovery immediately and contact local iwi, Heritage New Zealand (HNZ) and Council's Manager Planning and Regulatory. Works shall not recommence in that area until a site inspection is carried out by iwi representatives, relevant Council staff and staff of the HNZ (if they consider it necessary); the appropriate action has been carried out to remove the Taonga and record the site, or alternative action has been taken; and approval to continue work is given by Council's Manager Planning and Regulatory. The site inspection shall occur within 3 working days of the discovery being made.

- 14 If during construction activities, any Koiwi (skeletal remains) or similar material are uncovered, works are to cease within a 100m radius of the discovery immediately, and the consent holder shall notify the New Zealand Police, local iwi, Heritage New Zealand (HNZ) and Council's Manager Planning and Regulatory. Works shall not recommence in the area until a site inspection is carried out by iwi representatives, relevant Council staff and staff from the HNZ and the New Zealand Police (if they consider it necessary); the appropriate ceremony has been conducted by iwi (if necessary); the materials discovered have been removed by the iwi responsible for tikanga appropriate to their removal and preservation or re-interment, or alternative action (e.g. works are relocated) has been taken; and approval to continue work is given by Council's Manager Planning and Regulatory.
- 15 That all activities relating to the deposition of overburden on the site must comply with Rule – Noise 4A.4.4.2 of the Waipa Proposed District Plan Appeals Version (14 July 2014) which specifies:

Activities must not exceed the following sound levels at a notional boundary of 20m from any dwelling that existed at 1 January 1997 and is not owned or controlled by the quarry owner or operator. The noise levels shall be measured and assessed in accordance with the requirements of NZS 6801:2008 – Acoustics – Environmental Sound, and assessed in accordance with NZS 6802:2008 – Acoustics – Environmental Noise. The following provisions shall apply:

Time	Noise Limits	
	LAeq (15 mins)	Lmax
0700 -2200 Monday – Saturday	55dBA	-
All other times and on public holidays	45 dBA	75 dBA

Schedule 4

Advisory Notes

Resource Consent No: LU/0140/22, RC/3770.02 and LU/0143/15.02

- 1 RC/3770.01 and LU/0143/15.01 have been granted consent pursuant to Section 127 of the Resource Management Act 1991 to change a condition. For completeness, all the conditions of the original consent are included in the decision. To obtain a copy of the original consents please contact Council planning staff.
- 2 The entrance standards are set out in the Regional Infrastructure and Technical Specification (RITS).
- 3 All entrance work within the road corridor should only be carried out by a Waipā District Council approved contractor. A vehicle crossing application will need to be completed. There is no additional application fee associated with this application.
- 4 All contractors or persons undertaking work in the road corridor, for which reinstatement work will be necessary, are required to make a Corridor Access Request (CAR) via the Submitica website (www.submitica.com). A Traffic Management Plan for the works should be submitted with the CAR.
- 5 This consent is granted by the Council subject to the Council's officers and/or agents being permitted access to the property at all reasonable times for the purposes of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
- 6 Waikato Regional Council's "Erosion & Sediment Control, Guidelines for Soil Disturbing Activities" which can be found at <http://www.waikatoregion.govt.nz>. This guideline is relevant to all construction sites. The design guideline covers cutting tracks, culverts, sediment control measures, such as silt fences, detention ponds, earth bunds, guidelines for re-vegetation.
- 7 Pursuant to Section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Waipa District Council when monitoring the conditions of this consent.

Schedule 5

Reasons for Decision

Resource Consent No: RC/3770.02

- 1 The application is considered by Waipā District Council to satisfy section 105(1)(b) of the Resource Management Act 1991.
- 2 The application is in accordance with the relevant objectives and policies of the Waipā District Plan.
- 3 The effects of the activity are minor or can be adequately mitigated as required in conditions of consent.
- 4 The review condition (condition 2) will ensure that any adverse effects that may arise from the exercise of this consent can be addressed by reviewing the adequacy of the conditions.
- 5 The potential adverse noise effects of the activity will be able to be avoided, remedied or mitigated by the imposition of conditions 3, 4, 5, 6, 7 and 8. These conditions will ensure that the quarry operations do not create unreasonable levels of noise within the rural environment.
- 6 The potential adverse effects of spillages of hazardous substances, particularly to soil or water, will be avoided by the imposition of conditions 9 and 10 which require the appropriate containment measures and procedures be implemented for machinery operations or refuelling.
- 7 Condition 11 will ensure that light spill from the site will not cause any level of discomfort to neighbours.
- 8 Conditions 12 to 17 have been imposed to ensure that the rehabilitation of the site will occur progressively, that the high quality soils will be reinstated, and that the adverse visual effects of the activity in the short and long term are mitigated.
- 9 An assessment of traffic issues associated with this application has confirmed that the adverse effects of the activity will be minor on the local road network. Conditions 18 to 21 have been imposed to ensure that the local roading network is maintained in such a state.
- 10 Conditions 22 to 25 will ensure that dust from the site will not cause any level of discomfort to neighbours.
- 11 The proposal is not contrary to Section 5, 6 or 7 of the Act. There is nothing in the proposal that would conflict with the principles of the Treaty of Waitangi (Section 8 of the Act). Overall, the application would not offend any of the matters contained within Part 2 of the Act.

This reason has been added as part of RC/3770.02:

- 12 The consent has been granted pursuant to Section 127 of the Resource Management Act 1991 to change a condition. The proposal to expand the extraction area of RC/3770 is in response to the natural growth of the Whitehall Quarry, and will not result in any effects above and beyond those considered under the original consent RC/3770.

Schedule 6

Reasons for Decision

Resource Consent No: LU/0143/15.02

- 1 The proposal is considered to be a Discretionary Activity under the Proposed Waipa District Plan.
- 2 The proposal will have no more than minor effects on the environment and is consistent with the relevant objectives and policies of the Significant Mineral Extraction Zone in the Proposed Waipa District Plan.
- 3 No parties were considered adversely affected by the proposal. The application was processed on a non-notified basis and was approved under delegated authority without the need for a Council hearing.
- 4 Compliance with the monitoring conditions will avoid unnecessary site inspections being made (and inspection fees charged) by Council's Monitoring and Enforcement Team.
- 5 The Construction Management Plan and earthworks conditions will ensure that temporary construction effects of the activity and rehabilitation of the site is undertaken in a manner which ensures that any adverse effects are adequately mitigated and that the overburden disposal area is structurally sound and has been finished to the ground levels specified in the application.
- 6 The accidental discovery protocol conditions are required to ensure the consent holder is aware of their obligations in regards to the discovery of taonga (treasured or prized possessions, including Maori artefacts), archaeological sites, or skeletal remains.
- 7 A condition regarding noise is required to ensure that compliance is achieved with the Proposed Waipa District Plan and that any adverse effects on adjoining properties remain within the permitted standards.
- 8 Reporting of activities undertaken and planned in the Overburden Disposal Area will ensure that rehabilitation of the site is undertaken in an integrated manner.

This reason has been added as part of LU/0143/15.02:

- 13 The consent has been granted pursuant to Section 127 of the Resource Management Act 1991 to change a condition. The proposal to expand the extraction area is in response to the natural growth of the Whitehall Quarry, and will not result in any effects above and beyond those considered under the original consent LU/0143/15.

Schedule 7

Reasons for Decision

Resource Consent No: LU/0140/22

- 1 The proposal is a Discretionary Activity under the Waipa District Plan. The proposal will have less than minor adverse effects on the environment and is not contrary to the relevant objectives and policies of the Waipa District Plan.
- 2 Any adverse environmental effects resulting from the proposal are deemed to be less than minor, or can be mitigated by the imposition of appropriate consent conditions.
- 3 The application was processed on a non-notified basis and was approved under delegated authority without the need for a Council hearing.
- 4 Compliance with conditions relating to monitoring will avoid unnecessary site inspections being made (and inspection fees charged) by Council's Monitoring and Enforcement team.
- 5 The accidental discovery protocol conditions are required to ensure the consent holder is aware of their obligations in regards to the discovery of taonga (treasured or prized possessions, including Maori artefacts), archaeological sites, or skeletal remains.





5 December 2023

WDC ref: LU/0171/23

Winstone Aggregates
C/- Boffa Miskell
140 Anglesea Street
Hamilton 3204
Attn: Catherine Clarke

Digitally Delivered

Dear Catherine,

RESOURCE CONSENT – DECISION

Application number: LU/0171/23
Applicant: Winstone Aggregates
Address: 249 & 253 Whitehall Road, Cambridge 3496
Proposed activity(s): Approval of a Quarry Management Plan for the Whitehall Quarry as a Controlled Activity under Rule 4A.4.1.2(a) of the Waipā District Plan

I wish to advise you of Waipā District Council's decision to **grant** your application for resource consent under the Resource Management Act 1991 (RMA). Please see below for the details of the decision and conditions of consent.

The following information provides you with some guidance on your rights and what to do next. It is recommended that you seek independent advice if you are in any doubt as to the processes to be followed.

Objections

If you disagree with any part of this decision or any conditions of this consent, you may lodge an objection in writing to Council within **15 working days** of the receipt of this letter. Your objection must be in accordance with section 357 of the RMA and must include the reasons for your objection.

Compliance with conditions

Your resource consent permits the land use to be established at the site long as the activity complies with the stated conditions on an ongoing basis. It is important that you fully understand and comply with all the conditions of your consent.

Please notify Council's monitoring department prior to the commencement of activities associated with this consent. The role of Council's monitoring department is to monitor compliance with the conditions of consent and may involve site visits.

Council's monitoring department can be contacted on consentmonitoring@waipadc.govt.nz or 07 823 3800. Please reference the consent number and address of the property when emailing or calling.

Lapsing of Consent/s

This resource consent lapses five (5) years after the commencement of the consent unless the consent is given effect to by the end of that period.

The commencement date of a resource consent is determined by section 116 of the Resource Management Act 1991.

Yours Sincerely

A handwritten signature in blue ink that reads "H Thomas".

Hayley Thomas
PROJECT PLANNER

Resource Consent

(Resource Management Act 1991)

DECISION ON APPLICATION: LU/0171/23

Pursuant to Sections 34A(1), 104, 104A and 108 of the Resource Management Act 1991, the Waipā District Council, under delegated authority, grants Land Use Consent for the:

Activity: Approval of a Quarry Management Plan for the Whitehall Quarry as a Controlled Activity under Rule 4A.4.1.2(a) of the Waipā District Plan

Consent Holder: Winstone Aggregates – a division of Fletcher Concrete and Infrastructure (Winstone)

Location Address: 249 & 253 Whitehall Road, Karāpiro

Legal Description: Part Lot 1 Section 13 Block X Cambridge Survey District, and Part Hinuera No 2 Fishing Reserve Section 122 Land Act 1908 [RT SA21C/1171]
Lot 1 DPS 76874, Lots 1 - 3 DP 22660 and Lot 1 DP 86845 [RT SA61A/508]
Section 1-2 Survey Office 59143 [RT SA50B/848]

This consent is subject to the conditions attached in Schedule 1. Advisory notes for this consent are attached in Schedule 2. The reasons for this decision are attached in Schedule 3.

Dated at Cambridge this 5th day of December 2023.

For and on behalf of Waipā District Council.



Quentin Budd
CONSENTS TEAM LEADER

Schedule 1

Conditions of Consent

Resource Consent No: LU/0171/23

General

- 1 The proposal must proceed in general accordance with the information submitted with the application 11 September 2023, and the further information request response dated 24 November 2023, except where another condition of this consent must be complied with. This information is entered into council records as LU/0171/23.

Note: Information submitted with the application included the following:

- a) *Erosion and Sediment Control Plan, prepared by Winstone Aggregates (Appendix 7);*
- b) *Assessment of Aquatic Ecological Effects, prepared by Boffa Miskell (Appendix 9);*
- c) *Assessment of Terrestrial Ecological Effects, prepared by Boffa Miskell (Appendix 9);*
- d) *Noise and Vibration Impact Assessment, prepared by Marshall Day Acoustics (Appendix 10);*
- e) *Landscape Effects Assessment, prepared by Boffa Miskell (Appendix 11);*
- f) *Proposed Expansion Air Quality Assessment, prepared by Pattle Delamore Partners Ltd (Appendix 12); and*
- g) *Kaitiaki a Kaupapa Report, prepared by Norman Hill.*

Quarry Management Plan

- 2 The consent holder must ensure that quarrying activities on the site are undertaken in general accordance with the certified Quarry Management Plan ('QMP'), prepared by Winstone Aggregates, dated November 2023. The overall objective of the QMP must be to set out the practices and procedures to be adopted to ensure compliance with consent conditions and must include:
 - a) Details about the operation of the quarry site as outlined in Section 21.2.4A.1 of the Waipā District Plan and summarised below:
 - i) Site Plan;
 - ii) Description of current and future operations;
 - iii) Methods to manage effects (i.e. including but not limited to dust, noise, glare and vibration, traffic including parking and heavy vehicle movements, ecological and archaeological); and

- iv) Monitoring and reporting on the above matters.
- b) Accidental Discovery Protocols;
- c) Complaint Process; and
- d) Review Process.

Any subsequent review of the QMP must also be submitted to Council for certification. The consent holder must meet the costs of the production, certification, monitoring and review of the QMP.

Note: Pursuant to Rule 4A.4.2.1 of the Waipā District Plan, the operators shall confirm in writing to Waipā District Council enforcement team every five years from the date of approval (i.e. 5 December 2023) that the Quarry Management Plan encompasses the operations for the successive five-year period. Where it does not, the operator must submit a new or revised Quarry Management Plan to Council for approval as a controlled activity. This advice should be emailed to: consentmonitoring@waipadc.govt.nz.

Cultural Covenant

- 3 Within six months of the issue of this resource consent, the Consent Holder shall invite representatives of Ngāti Hauā Iwi Trust, Raukawa Charitable Trust and Ngāti Korokii Kahukura Iwi Trust to engage in the development and implementation of a cultural covenant or some other legally binding agreement regarding the protection of NZAA sites T15/374, T15/344 and T15/341 as requested in the Kaitiaki a Kaupapa Report prepared by Norm Hill, dated 6 September 2023.

The objective of this agreement shall be to ensure:

- a) No quarrying activities shall disturb, alter, remove, damage or destroy NZAA sites T15/374, T15/344 and T15/341.
- b) No quarrying activities shall occur within 20m of the edge of the NZAA sites T15/374, T15/344 and T15/341.

Schedule 2

Advisory Notes

Resource Consent No: LU/0171/23

- 1 This consent is granted by the Council subject to the Council's officers and/or agents being permitted access to the property at all reasonable times for the purposes of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
- 2 Pursuant to Section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Waipā District Council when monitoring the conditions of this consent.
- 3 Certification of the Quarry Management Plan by the council relates only to those aspects of the management plan that are relevant under the Resource Management Act 1991. The certification does not amount to an approval or acceptance of suitability by the council of any elements of the management plan that relate to other legislation, for example, but not limited to, the Building Act 2004, the Heritage New Zealand Pouhere Taonga Act 2014, or the Health and Safety in Employment Act 1992.

Schedule 3

Reasons for Decision

Resource Consent No: LU/0171/23

- 1 Whitehall Quarry is an identified and acknowledged as a regionally significant resource within the Significant Mineral Extraction Zone of the Waipā District Plan. Resource Consent has been sought for the approval of the Quarry Management Plan for the site as a Controlled Activity under the Waipā District Plan.
- 2 Pursuant to Sections 95A & 95B of the Resource Management Act 1991 the application has been processed on a non-notified basis and was approved under delegated authority without the need for a Council hearing.
- 3 Pursuant to Section 104 of the Resource Management Act 1991 the application has been assessed against the following:
 - a) The actual and potential effects of an activity on the environment (Section 104(1)(a)) and relevant provisions of an operative and / or proposed District Plan;
 - b) Any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse environmental effects that may or will result from the activity (Section 104(1)(ab));
 - c) The provisions of National Directions, the Regional Plan or the Regional Policy Statement, or any other relevant statutory documents (Section 104(1)(b)); and
 - d) Any other matter the consent authority determines relevant and reasonably necessary to determine the application (Section 104(1)(c)).
- 4 With regard to the adverse environmental effects resulting from the proposal, Council have determined that subject to the methods and actions outlined in the Quarry Management Plan, the effects can be suitably remedied or mitigated. This includes ongoing compliance with the existing consents LU/0140/22, RC/3770.02 and LU/0143/15.02.
- 5 Heritage New Zealand Pouhere Taonga have granted a general authority pursuant to Section 48 of the Heritage New Zealand Pouhere Taonga Act 2014 in respect of the archaeological site T15/45, dated 23 November 2023. Refer Council document #11142851.
- 6 The Kaitiaki a Kaupapa Report, prepared by Norman Hill, on behalf of mana whenua for Winstone Aggregates Whitehall Quarry, dated 6 September 2023, noted support for the quarry activities reaffirming the following:

- a) *"A consent condition be applied to preserve and protect cultural heritage and a requirement to place cultural covenants on NZAA sites T15/374, T15/344 and T15/341. These covenants need to remain in perpetuity and require a 20m stand-off.*
- b) *A consent condition be applied for the long-term pit design (when lodged), that needs to retain a significant percentage of the western SNA, as shown in the appended map.*
- c) *Implement sustainable practices for the use of natural resources.*
- d) *Establish and maintain protected areas to conserve biodiversity within the Quarry area, including appropriate restoration activities given to wider biodiversity gains for native birds, insects, lizards by providing specific habitats for these taonga.*
- e) *Based on the level of visual effects currently experienced any expansion would likely not be significant and assuming this to be the case, mana whenua does not consider visual effects to be a significant issue when implementing the landscape measures proposed."*

Subclause (a) above is addressed in Condition 3, subclause (b) will be addressed in a future application regarding expansion to the west, and subclauses (c) to (e) are addressed within the Quarry Management Plan.

WHITEHALL QUARRY MANAGEMENT PLAN



NOVEMBER 2023

Note: This plan is subject to change. Waikato Regional Council and Waipa District Council shall be contacted to ensure the latest version is being viewed.

A copy of this site management plan shall be kept on site and will be available for use by site personnel at all times.

Revision Record:

Date of Revision	Version	Summary of Revision
November 2023	1	

Next review date: Oct 2028

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1 CONTACT DETAILS

This Quarry Management Plan and its implementation is to be supervised by Tyler Sharratt, Resource Management Planner for Winstone Aggregates (Winstone). Tyler has been with Winstone for 6 years and is the sole Planner at the Company. Tyler holds a Bachelor of Applied Science degree, focusing on Natural Resource Management and has 20 years of planning experience both in the UK and New Zealand. His contact details are -

Tyler Sharratt [Resource Management Planner]

- 027 202 9453
- Tyler.sharratt@winstoneaggregates.co.nz

The overall management of site will be the responsibility of the Whitehall Quarry Manager or by delegated authority. Responsibilities include:

- Managing daily quarry operations – extraction and manufacturing of aggregate
- Ensuring compliance with the conditions of all resource consents
- Communicating resource consent requirements to staff, contractors and all other relevant parties
- Record keeping and management of any complaints from stakeholders, including the public, neighbours, clients, and regulators.

The Quarry Manager is Shane Burrett. Contact details are -

Shane Burrett [Winstone Aggregates Whitehall Quarry Manager]

- 027 836 1879
- Shane.Burrett@winstoneaggregates.co.nz

All visitors must report to the main office first and sign in. The level of induction each visitor requires will be determined by the nature of their visit and will be at the discretion of the Quarry Manager. For any further information, please contact -

Winstone Aggregates

- Postal Address: PO Box 17-195, Greenlane, Auckland (Attn: Environmental Manager)
- Phone: 09-525 9004 (Ask for the Environmental Manager)
- Website: www.winstoneaggregates.co.nz

2 CONSENT BACKGROUND

Resource Consents issued by Waikato Regional Council for Whitehall Quarry are as follows:

Consent Number	Authorised Activity	Expiry Date
WRC 143593.01.01	To undertake Overburden disposal to land up to a total of 1,040,000m ³ of overburden and to undertake soil disturbance works to expand the footprint of an existing overburden disposal area.	30 June 2028

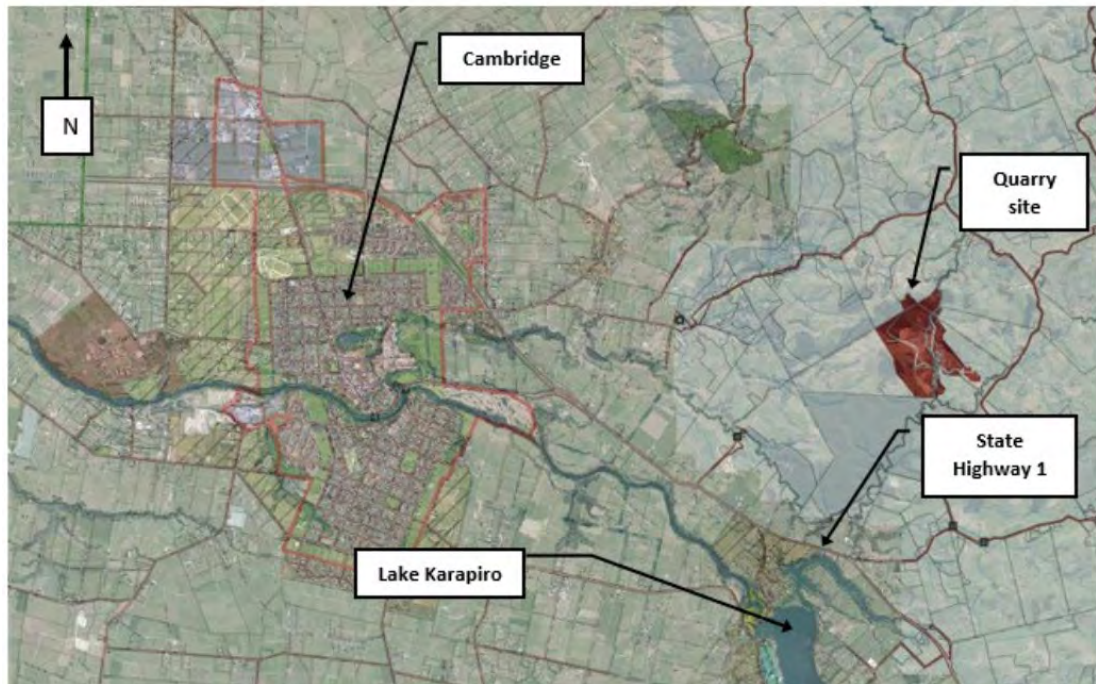
WRC 143593.02.01	To undertake soil disturbance works to expand the envelope of an existing quarry operation.	30 June 2028
WRC 143593.03.01	To discharge stormwater associated with the expansion of quarry and overburden operations to the Karapiro Stream.	30 June 2028
WRC 143593.04.01	To divert and discharge surface water and groundwater associated with the expansion of quarry and overburden operations.	30 June 2028
WRC 108112	Land use consent – Undertake soil disturbance activities and vegetation removal in high-risk erosion areas in relation to quarry operations.	30 June 2028
WRC 108113	Land use consent – Undertake channel works and place structures in, on and over beds of the Karapiro Stream and/or tributaries, including excavating of the existing streambed, culverts & stream crossings & drainage under overburden in relation to quarry operations	30 June 2028
WRC 108114	Water permit – To take, divert water from surface and groundwater sources within the quarry site and use up to 260 m ³ of water per day for dust suppression, process water and other quarry requirements relating to ongoing operation of Whitehall quarry, approximately 4km north of Karapiro near Cambridge.	30 June 2028
WRC 108115	Water permit – Divert Karapiro Stream via new constructed diversion channel, to facilitate quarrying operations in relation to the ongoing operation of Whitehall Quarry.	30 June 2028
WRC 108116	Water Permit – Divert surface water around operational quarry areas (including overburden deposits, stockpiles & quarry excavations) in relation to quarry operations.	30 June 2028
WRC 108117	Water Permit – To dam surface water for sediment control purposes in relation to the quarry operations.	30 June 2028
WRC 108118	Discharge Permit – To discharge stormwater and ground water containing sediment to Karapiro Stream in relation to ongoing operation of Whitehall Quarry.	30 June 2028
WRC 108119	Discharge Permit – Discharge dust & other contaminants to air from quarrying & ancillary activities in relation to quarry activities.	30 June 2028
WRC 108120	Discharge Permit – Discharge overburden to land including within high-risk erosion areas in relation to quarrying operations.	30 June 2028

WRC 135331.03.01 (Whitehall Shoeing Company Ltd)	Overburden Disposal Area extension to discharge stormwater to the Karapiro Stream.	30 April 2050
WRC 135331.04.01 (Whitehall Shoeing Company Ltd)	Overburden Disposal Area extension consent to divert surface water associated with land re-contouring.	30 April 2050
WRC 144652.01.01	Land use consent - To undertake soil disturbance works to expand the envelope of an existing quarry operation	30 June 2028
WRC 144652.02.01	Land use consent - To undertake overburden disposal to land for up to a total of 790,000m ³ of overburden material and to undertake soil disturbance works to create a new overburden disposal area (Flatland OBDA)	30 June 2028
WRC 144652.03.01	Discharge permit - To discharge stormwater to the Karapiro Stream associated with the expansion of a quarry and development of a new overburden operation	30 June 2028
WRC 144652.04.01	Water permit - To divert and discharge surface and ground water associated with the expansion of a quarry and development of a new overburden operation	30 June 2028

Resource Consents issued by Waipa District Council for Whitehall Quarry are as follows:

Consent Number	Authorised Activity
WDC – RC 3770	Land use consent for Whitehall Quarry (settled by consent order dated January 2004)
WDC – LU/0143/15	Land use consent to deposit overburden in the Significant Mineral Extraction Zone This consent was transferred to Winstone in July 2016.
WDC – LU/0280/07	Land use consent to remove indigenous vegetation and undertake earthworks in the rural zone. This consent was transferred to Winstone in July 2016.
WDC – s127 RC/3770 and LU/0143/15	Change conditions 1 and 24 of RC/3770, and conditions 1, 4 and 9 of land use consent LU/0143/15
WDC – s127 RC/3770.02 & LU/0143/15.02 WDC – LU/0140/22	Concurrent applications (RC/3770.02 & LU/0143/15.02) to change conditions of two resource consents to expand the aggregate extraction area, and an associated land use consent to establish new overburden disposal area (OBDA)

3 LOCATION AND LEGAL DESCRIPTION



The site is located at 249 & 253 Whitehall Road, Whitehall. Its legal description is Part Lot 1 Section 13 Block X Cambridge, Lot 1 DP South Auckland 76874, Lot 1-3 DP South Auckland 22660 and Lot 1 DP South Auckland 86845.

Most of the site is owned by Fletcher Concrete and Infrastructure Limited, with a small section of the current pit being leased (owned by the Scholes Estate).

4 QUARRY MANAGEMENT PLAN PURPOSE

This Quarry Management Plan (“QMP”) has been prepared in accordance with Rule 4A.4.2.1 of the Waipa District Plan. This rule requires that every 5 years from the approval date of the QMP the consent holder must confirm whether the contents of the QMP encompasses the operations for the successive 5-year period. Where it does not, the consent holder must submit a new or revised QMP to Council for approval as a controlled activity.

5 LINES OF RESPONSIBILITY

5.1 WINSTONE AGGREGATES

Overall management of the site is the responsibility of the General Manager of Winstone Aggregates (a division of Fletcher Concrete and Infrastructure Ltd) (“Winstone”). Operations on site are to be managed by Winstone, with the Whitehall Quarry Manager (see Section 1 above) responsible for the specific operation and management of the quarry, rehabilitation and any associated activities.

Winstone, as the consent holder, has a general responsibility to implement all consent conditions, to abide by this QMP, as well as all other Management Plans relevant to the Whitehall Quarry.

This responsibility includes ensuring that all contractors operating on site are familiar with the requirements of these documents and are undertaking their activities in accordance with those requirements.

5.2 WHITEHALL QUARRY STAFF & CONTRACTORS

Every Winstone employee and contractor at the Whitehall Quarry has a duty to avoid, remedy or mitigate any adverse environmental effects arising from an activity carried out by them or on their behalf. This includes, but is not limited to:

- Attending inductions and training relating to managing potential environmental effects such as dust, noise;
- Observing and reporting environmental issues such as excessive dust or noise, whether these have led to off-site effects when noticed;
- Reporting all incidents relating to environmental issues such as excessive dust or noise; and
- Ensuring processes for managing environmental issues such as excessive dust or noise are understood and adhered to.

Every Winstone employee has a duty to adopt the best practicable option to ensure that any effects remain within consented levels.

All personnel will be required to be appropriately qualified and/or trained for their role. The following systems will be implemented to manage environmental matters on site:

- Inductions;
- Project briefing;
- Job safety and environmental training including site-specific dust and noise issues;
- On the job training; and
- Posters and information leaflets.

Staff training records will be maintained on-site. The records will include:

- Who was trained;
- When the person was trained; and
- General description of training content and whether follow up/refresher courses are required at a later date.

5.3 TECHNICAL EXPERTS

Technical experts will from time to time provide advice and technical expertise on the operation. An understanding of consent conditions and this QMP as well as all other Whitehall Quarry Management Plans relevant to the site, is required.

6 SITE OPERATIONS

6.1 HOURS OF OPERATION

The Quarry will only carry out quarrying activities between the hours of –

- 0630 and 1730 Monday to Friday (excluding public holidays); and
- 0630 to 1200 on Saturday. This includes sales dispatch, processing, blasting, stripping, overburden disposal and general office and maintenance activities.

In general, blasting will be restricted to a maximum of twice per day between 9.00am and 4.00pm Monday to Friday.

No activities other than dust mitigation (if required) will be undertaken on Sundays or public holidays.

6.2 STRIPPING AND OVERBURDEN PLACEMENT

Stripping of the 12.69ha proposed extraction area (see **Appendix B**) will be completed over a period of approximately 5 years. The expansion will progress in a south-westerly direction, benching downwards to the finished pit floor level.

Initially, the topsoil and vegetation will be removed, with the topsoil being stored for rehabilitation. Vegetation removal will be undertaken in accordance with the Bat and Lizard Management Plan (see **Appendix D**).

The estimated overburden volume from the expansion area is approximately 2 million cubic metres. Overburden will be loaded and transported to the flatland overburden disposal area adjacent to the entrance road (see **Appendix B**). The overburden area will be progressively grassed and returned to productive pasture.

6.3 PROCESSING, STOCKPILING AND DISTRIBUTION

Rock is released from the pit face by blasting. The rock is then loaded onto dump trucks and carted to the processing plant area for crushing, screening, and washing.

The finished product is then either moved to form a stockpile in the yard or is conveyed to a bin depending on its specification. Loaders then fill customer trucks to order (see **Appendix A** for the general site layout which will not change over the next 5 years).

6.4 TRUCK MOVEMENTS AND PARKING

Trucks, staff and contractor vehicles all enter the site from Whitehall Road and travel approximately 850m along the access road. Trucks report to the weighbridge and enter the stockyard to be loaded. Staff and contractors park in the designated parking areas by the main office or the lab (see **Appendix A** for further details).

Truck numbers, product and weight information is collected at the weighbridge and all records are available to Council on request.

6.5 VEGETATION, FENCING AND BOUNDARY SCREENING

The quarry site contains a large number of significant natural areas (SNA's) and sporadic pockets of mature vegetation. Over the years, a considerable amount of offset planting has been added to the site.

As the majority of the site is a working farm, there is significant existing fencing in place.

Boundary screening involves the use of existing riparian vegetation along the Karapiro Stream, reducing views from the south and west. The development of the flatland OBDA also offers significant visual screening from the south.

6.6 SITE REHABILITATION AND VISUAL EFFECTS MITIGATION

Site rehabilitation is carried out in accordance with the Landscape and Site Rehabilitation Management Plan (see **Appendix C**). A copy of the most up to date Landscape and Rehabilitation Management Plan is also available at the site.

To minimise visual impacts from any offsite locations with a view of the quarry, exposed ground is hydroseeded to reflect the surrounding pasture area and the site eventually will return to a working farm.

6.7 PEST PLANTS AND ANIMAL CONTROL

The site is predominantly an active farm, comprising mostly pasture, bush and the quarry area itself. Weeds and pest plants are currently managed and sprayed by a contractor when required. Deer, Rabbits and Goats are either excluded through existing fencing, caught in active traps or hunted.

7 ECOLOGY MATTERS

Any activity involving vegetation clearance will not commence until it has been assessed in accordance with the requirements for Bat Management and Lizard Management as specified in the conditions of consent contained in **Appendix D**. This includes the requirements of Waipa DC Land Use Consent LU/0143/15.02.

For the management of native lizard species, one week prior to any earthworks, all grassed and pasture areas are mowed to ground level to deter any lizard species from the works footprint. If the mowing of these grassed areas has not been completed by winter (June to August) then a habitat reassessment by a suitably qualified and experienced herpetologist shall be undertaken to determine whether any lizard management will be required. These recommendations shall be included in the Lizard Management Plan for the site and shall be adhered to, as part of any earthworks or vegetation clearance.

Winstone will ensure the Construction Management Plan for each activity involving vegetation clearance specifies and requires adherence to the requirements of relevant Bat Management Plan and Lizard Management Plan.

8 TRAFFIC MANAGEMENT

8.1 SITE ACCESS, QUEUING, PARKING AND LOADING ARRANGEMENTS

Access to Whitehall Quarry is via Whitehall Road and speed is restricted to 30km/h. The long access road inside the Whitehall farm, and no gate at the quarry entrance means queueing of trucks on the public road is not an issue at Whitehall Quarry.

Parking is provided adjacent to the Main Office and there is also parking available at the Lab.

Customer trucks are loaded in the quarry stockyard, located adjacent to the processing area (see **Appendix A** for a plan detailing traffic movement through the site and the parking areas).

8.2 MANAGEMENT OF HEAVY VEHICLE BEHAVIOUR

All drivers of heavy vehicles visiting Whitehall Quarry are advised of the following good practice guidelines in order to increase traffic safety both on-site and in the wider Whitehall community:

- 1) Keep speed down during early morning and mid-afternoon when school buses and pupils are travelling to and from Karapiro School and surrounding roads.
- 2) Watch for pedestrian traffic related to school/school bus during early morning and mid-afternoon hours.
- 3) Accelerate in a timely manner and maintain a safe speed whilst traveling between Whitehall Road and Karapiro Road to prevent delaying other road users.
- 4) Adhere to all signage regarding speed and direction.
- 5) Reverse parking is required for all staff and contractor vehicles in the designated parking areas.
- 6) Slow down where visibility is limited, and where signage indicates concealed exits.

8.3 METHODS TO MANAGE AND MONITOR DEBRIS ON ROADS, DUST, NOISE, GLARE AND VIBRATION

All material spillage onto public roads originating from Whitehall Quarry will be removed immediately to the satisfaction of the Waipa District Council Asset Manager.

Effects from dust, noise, glare and vibration from truck traffic are minimised through regular maintenance of trucks, communication of expected behaviours to contractor truck drivers (speed, limiting use of engine brakes etc.), and the checking of loads prior to leaving the quarry site.

9 CULTURAL MATTERS

9.1 PROPOSED PIT EXPANSION

The proposed expansion area includes an archaeological site – T15/45 which is an identified pit complex and will be removed by the proposed pit expansion (see **Appendix E** for the Clough & Associates Archaeological Assessment).

Winstone are in the process of seeking an Archaeological Authority from Heritage New Zealand Pouhere Taonga for the removal of this feature in accordance with the Heritage New Zealand Pouhere Taonga Act 2014.

Winstone have engaged with Ngāti Hauā, Ngāti Korokī Kahukura Trust and the Raukawa Settlement Trust extensively over the years, holding a number of hui and site visits to Whitehall Quarry. Winstone reached an agreement with mana whenua resulting in their support of our resource consent applications and our application to Heritage NZ for the destruction of the above site.

Winstone are also proposing to protect three existing archaeological sites in perpetuity through establishing cultural covenants – T15/341, T15/344 and T15/374. These can be seen in **Appendix E**.

9.2 ACCIDENTAL DISCOVERY PROTOCOL

Winstone will inform the above mana whenua groups prior to the commencement of overburden stripping works and offer them the opportunity to monitor these works. This has worked successfully in 2022 and 2023, with a cultural monitor observing the staged overburden removal and having the opportunity to investigate the material directly as it is removed.

Should archaeological remains or features be uncovered during quarry operations, the following procedure must be followed:

- a. All works in the immediate vicinity of the discovery will cease immediately
- b. Immediate steps will be taken to secure the area to ensure the archaeological material is not further disturbed
- c. The consent holder or the consent holder's representative is to contact mana whenua and the Area Archaeologist of Heritage New Zealand (Heritage NZ). In the case of koiwi (human remains) the New Zealand Police must also be notified
- d. Mana whenua and Heritage NZ will jointly appoint/advise a qualified archaeologist who will confirm the nature of the accidental discovery material
- e. If the material is confirmed as being archaeological, the consent holder will ensure an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from Heritage NZ before work resumes (as per the Heritage New Zealand Pouhere Taonga Act 2014)
- f. The consent holder will also consult with mana whenua on any matters of tikanga (protocol) that are required in relation to the discovery and prior to commencement of any investigation
- g. If koiwi (human remains) are uncovered, in addition to the steps above, the area must be treated with utmost discretion and respect, and the koiwi dealt with according to both law and tikanga, as guided by mana whenua
- h. Works in the area shall not recommence in the immediate area until authorised by mana whenua, Heritage New Zealand (and the NZ Police in the case of koiwi) and any other authority with statutory responsibility, to ensure all statutory and cultural requirements are met
- i. All parties will work towards work recommencing in the shortest possible timeframe 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 Heritage New Zealand Pouhere Taonga Act 2014 if necessary. Appropriate management may include recording or removal of

archaeological material.

10 MANAGEMENT OF DUST

10.1 DUST MANAGEMENT MEASURES

TRAINING

- Successful dust management depends on appropriate actions by site personnel in day-to-day operations at Whitehall Quarry. Training is provided to staff and contractors during site inductions and regular environmental meetings to provide a forum to discuss:
 - On site practices relating to minimising dust emissions
 - Procedures for reporting and dealing with dust emissions as they arise.
- Records of staff training are kept at the site office and updated regularly as training proceeds.
- Winstone personnel and all contractors operating on site are made aware of all potential adverse effects of dust emissions.
- Job descriptions and annual training reviews identify individual staff training requirements in aspects of dust control. The Whitehall Quarry Manager oversees training and ensures that it is appropriate. A record of staff training is maintained and kept at the Whitehall Quarry site office.
- The Whitehall Quarry Manager ensures that any training provided by contractors to their own staff also meets the requirements with respect to dust control.

PROCESS FOR REPORTING

- All staff are trained to be vigilant in identifying conditions that are either are or could result in objectionable dust spreading beyond the boundary of the site. Such conditions can include both dry periods and / or the operation of heavy machinery/vehicles.
- The process following identification of a dust issue, or potential dust issue, is that the site manager (or acting site manager) is immediately advised, and he or she then responds accordingly. Options for resolving the dust issue can include:
 - directing the site water cart to the area to dampen down the dust;
 - Stopping on-site activity that is causing the dust issue; and
 - Altering on-site processes so that any dust effect is minimised.

DISTURBED GROUND

- Water and / or dust suppressants can be used on trafficked surfaces when required.
- A water cart is operated at Whitehall Quarry during dry periods and at other times when required.
- Areas of trafficked ground are minimised during regular quarry operations.
- Mulching, grassing and / or planting of bare areas such as bunds and rehabilitated areas is undertaken as soon as reasonably practicable as required for visual or erosion and sediment control reasons.

TRANSPORT AND HAULAGE

- On-site vehicles shall not exceed 40km/h, unless specifically provided for in a resource consent, and appropriate signage advising of this will be erected.

- The main internal access road is paved and maintained to a high standard. Site personnel are encouraged to immediately report any deterioration of the haul road surface.
- Secondary haul roads are regularly watered using the water cart during dry periods. In the event the water cart breaks down a replacement will be sourced as soon as practicable.
- Haul routes are generally restricted to the shortest possible travel distance along defined travel routes.
- When loading material onto trucks, drop heights from loaders are minimised as much as practicable to limit dust emissions.
- Dust emissions may be caused by the spillage of material from a truck either on site or once the truck has left the site. Spilled material could further act as a source of dust emission if it is crushed by traffic movements. Spillage from trucks is minimised by not overloading or otherwise incorrectly loading trucks. Any spilled material noted or reported to the quarry within the sealed area of the site or in the general vicinity of the quarry, once the truck has left the site, is promptly cleaned up.
- Winstone ensures that all its vehicles do not have downward facing exhausts as these may act to raise dust in dry conditions. All Winstone vehicles are regularly maintained to ensure minimum exhaust emissions.
- Drivers will be advised to maintain a good following distance between vehicles using the site haul roads to minimise the potential for cumulative dust emissions arising from closely traveling vehicles.

10.2 REVIEW OF DUST MANAGEMENT MEASURES

Winstone's procedures in respect of dust management will be reviewed annually by Winstone for the duration of the consent. Review parameters will include, but not be limited to:

- Any internal and external audit reports;
- Reports of Council officers;
- Environmental incident reports; and
- Complaints received

11 MANAGEMENT OF NOISE

11.1 NOISE EFFECTS

Noise is generated by several different activities carried out at the quarry including drilling, blasting, rock breaking, crushing, extraction, mobile plant, machinery, sales operations, and restoration activities. If noise is not controlled at the quarry there is the potential for noise to cause a nuisance to people who live near the quarry.

11.2 NOISE OBJECTIVE & MEASURES

Noise mitigation measures are intended to avoid, remedy, or mitigate adverse effects of noise generated by on-site activity on the residents of dwellings and on business activities in the vicinity of the quarry. Measures to assist in meeting this objective include:

- Managing the time and location of particularly noisy operations around the site to ensure compliance with the performance standards.
- Fixed processing plant, excluding conveyors are located in places that reduce the noise level at the boundary of the quarry.
- Machinery is regularly maintained to ensure that noise produced from machinery is kept to a practicable minimum.
- Bunds are constructed where appropriate to reduce the effects of noise beyond the boundary of the quarry.

11.3 NOISE PERFORMANCE STANDARDS – GENERAL OPERATIONS

The noise level from all extraction and processing operations on the site shall not exceed the following levels when measured at or within the notional boundary (meaning a line 20m from the external walls of any rural dwelling outside the application site boundary or legal boundary of the pre-1997 rural dwelling, whichever is closer to the rural dwelling), except for blasting operations:

- | | | |
|---|-----------------|---------------------------|
| • Daytime | 6.00AM - 8.00PM | 55dBA (L ₁₀) |
| • At all other times (including all day Sunday and public holidays) | | 40dBA (L ₁₀) |
| • Everyday | 8.00PM - 6.00AM | 65dBA (L _{MAX}) |

The noise level is measured and assessed in accordance with the requirements of New Zealand Standard NZS 6801:1991 "Measurement of Sound" and New Zealand Standard NZS 6802:1991 "Assessment of Environmental Sound".

Noise levels are measured in accordance with clause 5.3.3 of New Zealand Standard NZS 6801:1991 "Measurement of Sound" and the duration of any measurement period is not less than 15 minutes.

11.4 NOISE PERFORMANCE STANDARDS - CONSTRUCTION

The noise level from construction activities (i.e., stripping of topsoil, construction of noise bunds, initial OBDA development and construction of any internal access roads) shall comply with and be assessed in accordance with the provisions of New Zealand Standard NZS 6803:1999 "Acoustics - Construction Noise" at all occupied dwellings.

All activities relating to the deposition of overburden on site must not exceed the following sound levels at a notional boundary of 20 metres from any dwelling that existed on 1 January 1997 and is not owned or controlled by the quarry owner or operator. The noise levels shall be measured and assessed in accordance with the requirements of NZS 6801-2008 – Acoustics – Environmental Sound – and assessed in accordance with NZS 6802- 2008 Acoustics- Environmental Noise. The following provisions shall apply –

Time	Noise Limits	
	LAeq (15 mins)	Lmax
7.00 AM to 8.00 PM Monday to Saturday	55dBA	-
All other times and on public holidays	45dBA	75 dBA

11.5 NOISE MONITORING

Annual noise monitoring is undertaken by an independent noise expert with subsequent reports sent to Waipa District Council within three weeks of assessment. The monitoring report contains:

- Location of plant
- Type of equipment operating.
- Direction of operation (moving towards or away from the dwelling)
- Degree of screening.
- Weather conditions
- Any reason noise standards were exceeded (if this is the case)

Noise levels are monitored during extraction and processing activities, both during the day and under night-time operations unless the Waipa District Council requests more frequent monitoring as a result of complaints or significant modifications being made to site layout, plant and/or machinery.

11.6 BLASTING

Blasting is designed and supervised by a suitably qualified and experienced person and is designed and managed to minimise vibration and air blast. Blasting is restricted to a maximum of twice per day between 9.00am and 4.00pm Monday to Friday, except where necessary for emergency or safety reasons. Distinctive warning signals will be given at predetermined times prior to a blast. A complete record of each blast is maintained.

Noise generated using explosives must not exceed a peak overall sound pressure of 120 dBA (L_{peak}) at the notional boundary (meaning a line 20 metres from the external walls of any rural dwelling outside the application site boundary or legal boundary of the pre-1997 rural dwelling whichever is the closer to the rural dwelling), other than those on Certificate of Title 61A/508, 50B/848, and 21C/1171.

12 SPILL CONTINGENCY

12.1 INVENTORY OF HAZARDOUS SUBSTANCES USED ON SITE

LUBRICANTS AND OILS

Lubricants and oils are present in on-site storage tanks and various equipment including excavators, loaders and dump trucks. This includes greases as well as hydraulic, engine, and transmission oils.

DIESEL

Diesel fuel is present in all on-site machinery and is identified as a potential environmental contaminant.

12.2 SAFETY

The safety of people overrides all other considerations. In the event of spillage 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 must be suspended until conditions improve.

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

12.3 POTENTIAL SPILL SOURCES AND RISKS

The presence of diesel and other hazardous substances present on site are considered to have a low potential risk of environmental impact due to spills, as there is generally an opportunity to prevent the spill from getting into open water and ground water. The following are situations where there is potential for a spill of oil onto land:

- Re-fuelling (excavators) and servicing (excavators)
- Rupture (e.g. hydraulic line)
- Vandalism
- Equipment malfunction

Spill procedures set out below have taken into consideration all the different potential spill scenarios. It is not considered necessary to have different spill procedures for each scenario.

12.4 PREVENTATIVE MEASURES IN PLACE

When re-fuelling, the plant operator is required to remain in attendance in accordance with Winstone's standard operating procedure for re-fuelling. Additional measures to prevent spills include:

- All mobile plant is locked overnight.
- 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 Whitehall Quarry manager.
- 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 Whitehall Quarry manager as soon as possible.

12.5 SPILL RESPONSE EQUIPMENT AVAILABLE ON SITE

LAND-BASED SPILLS

The spill kits for land-based spills (e.g., engine oil or diesel) contain Spill-Sorb, a non-toxic, field proven, industrial absorbent. Spill-Sorb is spread over the affected area as quickly and evenly as possible to a sufficient depth to allow for immediate absorption. After use the absorbent/spill mix can be containerised for removal; either to be incinerated or sent to a land fill.

WATER-BASED SPILLS

Both Spill Sorb and floating booms will be used to contain any water-based spill (e.g., oil). Spill-Sorb is scattered across the surface of the water to a sufficient depth so as to ensure that full absorption will take place. Spill Sorb floats and the contaminated material will be contained using floating booms before being removed for disposal.

12.6 EQUIPMENT AND OPERATORS AVAILABLE ELSEWHERE

The Waikato Regional Council has equipment and resources to deal with spills that are considered more significant than Winstone can cope with itself. Waikato Regional Council's Environmental Team manages incidents via a 24-hour, 7-day incident response service. To report an incident, phone the environmental protection team on 0800 800 402.

13 COMPLAINTS PROCESS

13.1 COMPLAINTS PROCESS

Complaints can be made using the contact details listed in Section 1 above. A permanent record of any complaints received alleging adverse effects from or related to the operation of the Quarry site will be maintained.

This record will include the following:

1. The name and address of the complainant, if supplied
2. Date and time of the complaint and alleged event
3. The nature of the complaint and the activity and any adverse effects to which it relates (e.g., noise or dust)
4. Weather conditions at the time of the alleged event
5. In the event of a dust complaint, a description of the wind speed and wind direction when the dust that resulted in a complaint was detected by the complainant
6. The most likely source of noise or cause of dust or any other adverse effect detected by the complainant
7. Investigations undertaken by Winstone regarding the complaint and any measures adopted to remedy the effects of the incident/complaint
8. Summary of the response given to the complainant post-investigation; and

9. Where complaints result in the identification of issues requiring remedy the measures put in place to prevent occurrence of a similar incident.

The complaints record will be provided to WRC and WDC if requested. Winstone are happy meet with WRC and WDC to discuss complaints made to either party.

13.2 STAFF TRAINING ON COMPLAINTS

Winstone personnel and all contractors operating on site will be made aware of recent complaints and shall be proactive in identifying actual and potential causes of complaints.

Job descriptions and annual training reviews will identify individual staff training requirements in terms of complaints over the previous year. The Quarry Manager will oversee training and ensure that it is appropriate. A record of staff training will be maintained and kept at the Whitehall Quarry site office.

The Environmental Team will also ensure that all staff are adequately trained in the reporting and recording of complaints on the internal RADAR compliance software.

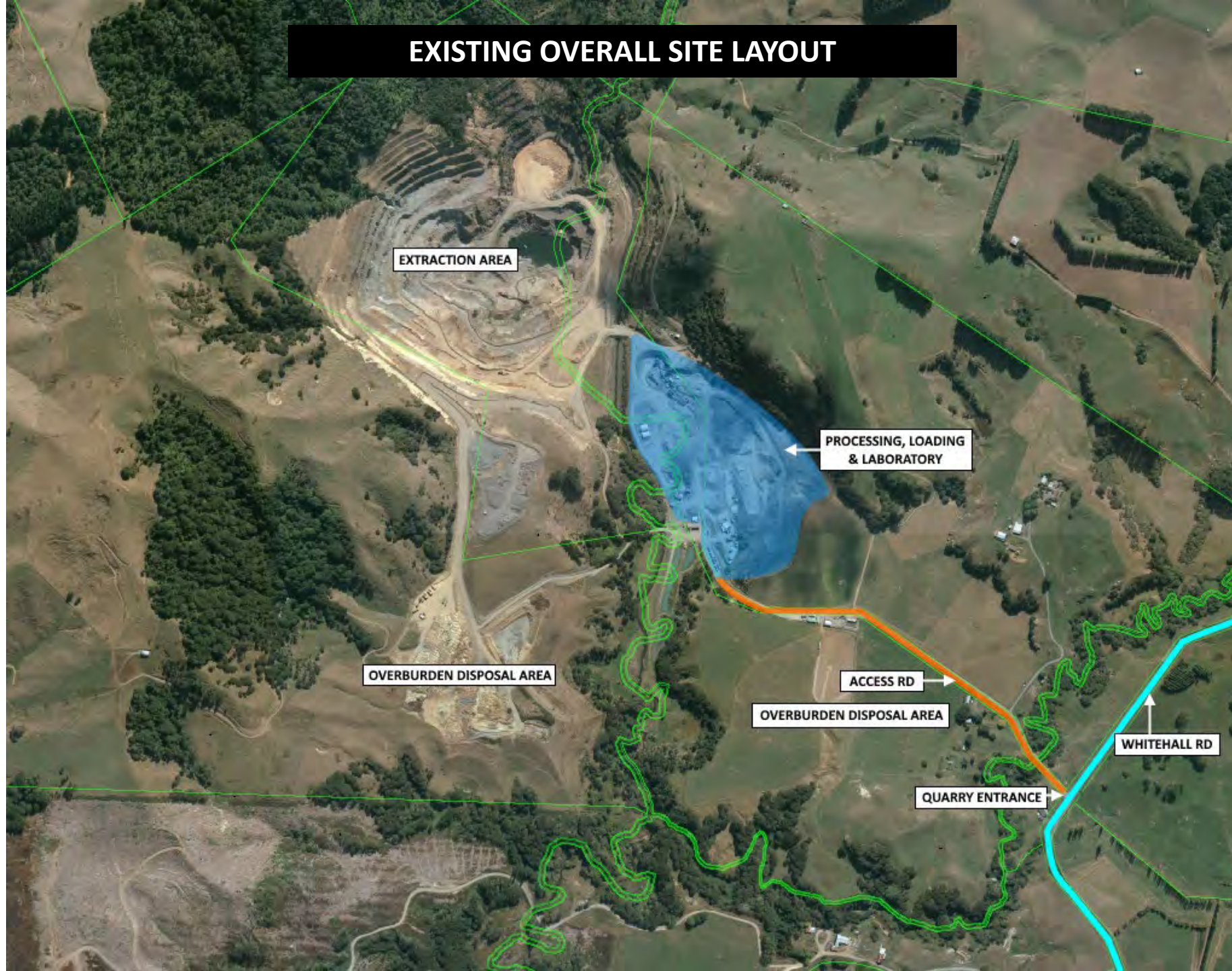
14 QUARRY MANAGEMENT PLAN REVIEW

This QMP will be reviewed every five years. Review parameters will include, but not be limited to:

- Five-year operation plan
- Any internal and external audit reports
- Reports of Council officers
- Review of work practices against industry best practice
- Environmental incident reports; and
- Complaints received.

APPENDIX A – EXISTING SITE LAYOUT, TRANSPORT ROUTES AND OVERBURDEN PLANS

EXISTING OVERALL SITE LAYOUT



EXISTING MAIN SITE LAYOUT



EXISTING PARKING, WEIGHBRIDGE AND TRUCK ROUTES



EXISTING PIT LAYOUT



Northern OBDA

Pit Sump

2022 Consented
Expansion Area



EXISTING FLATLAND OBDA AREA



Haul truck
route

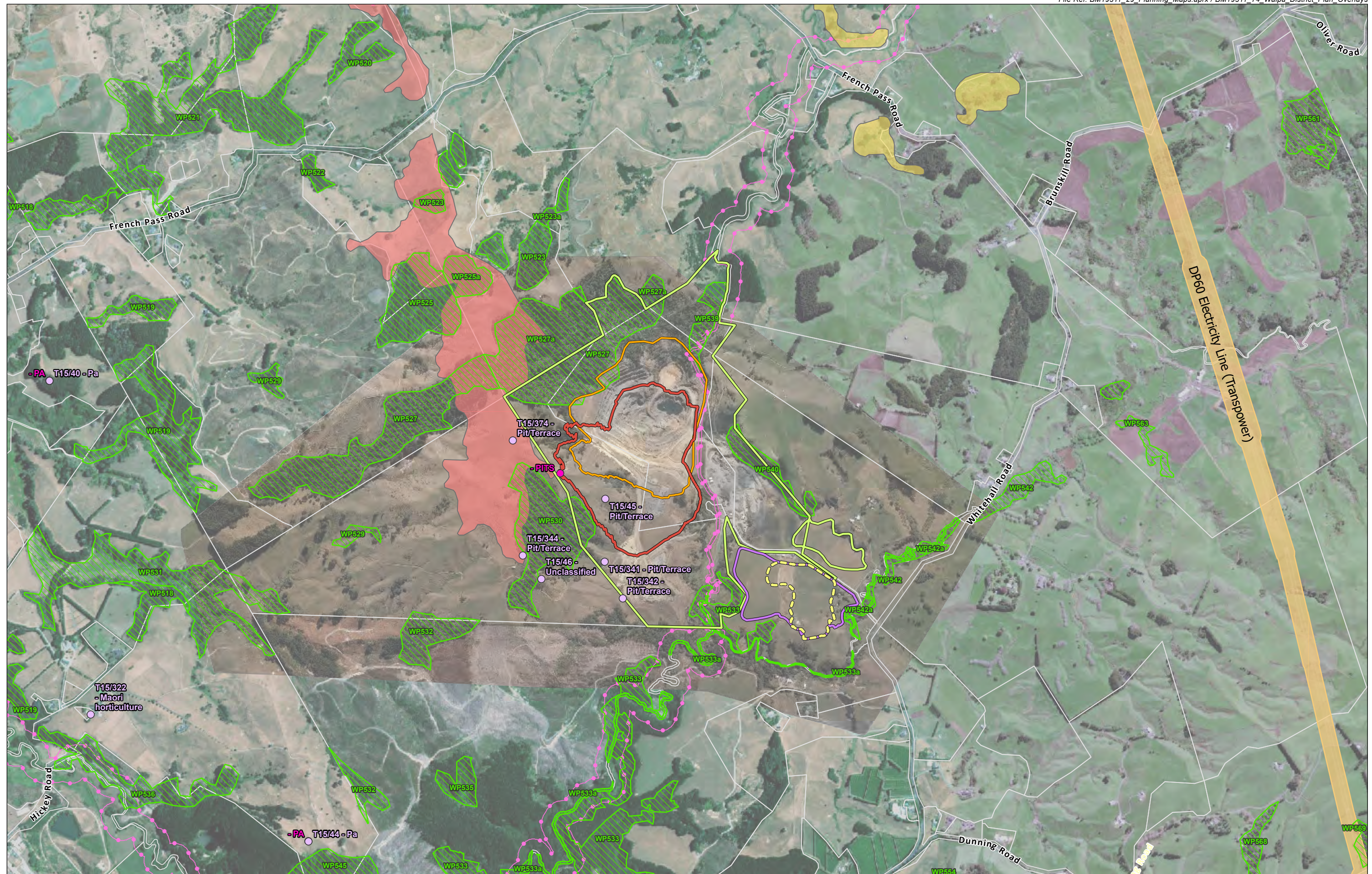
Main Pond

Access Road

2022 Consented OBDA



APPENDIX B – PROPOSED EXTRACTION AND OBDA PLANS AND SURROUNDING OVERLAYS



0 200 400 m
1:15,000 @ A3

Data Sources: Bing Aerial, Waipia District Council, Winstone, LINZ, BML

Projection: NZGD 2000 Mount Eden Circuit

LEGEND

- OBDA Stage 2 Boundary
- Medium Term 2023 Expansion
- Existing Consented Quarry
- Waipia District Overlays
- Significant Natural Feature & Landscape
- Visually Sensitive Hill Country
- Cultural Landscape Area Alert
- Significant Mineral Extraction Zone

- Eastern OBDA - Consented
- OBDA Boundary
- Significant Natural Areas
- Heritage Points
- NZAA Sites
- Designation
- Land Parcels

WHITEHALL QUARRY WAIPA

Waipia District Plan Overlays (2023 Overburden Area)

Date: 16 March 2023 | Revision: 0

Plan prepared for Winstone by Boffa Miskell Limited

Project Manager: Catherine.Clarke@boffamiskell.co.nz | Drawn: SGa | Checked: KTr

APPENDIX C – LANDSCAPE AND SITE REHABILITATION MANAGEMENT PLAN



WHITEHALL REVEGETATION & REHABILITATION MANAGEMENT PLAN

FEBRUARY 2023





NOTE: THIS PLAN IS SUBJECT TO CHANGE. THE WHITEHALL QUARRY MANAGER SHOULD BE CONTACTED TO ENSURE THE LATEST VERSION IS BEING VIEWED.

A COPY OF THIS SITE MANAGEMENT PLAN SHALL BE KEPT ON SITE AND WILL BE AVAILABLE FOR USE BY SITE PERSONNEL AT ALL TIMES.

Revision Record:

Date of Revision	Version	Summary of Revision
February 2023	1.1	Update of 2005 Rehab plan, incorporating subsequent site rehabilitation activities and requirements

Contact Details:

Shane Burrett	Quarry Manager	027 8361879 Shane.Burrett@winstoneaggregates.co.nz
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1 BACKGROUND & REQ FOR A REVEGETATION & REHABILITATION MANAGEMENT PLAN

Whitehall Quarry is an existing greywacke hard rock quarry operation. The quarry has been operating and supplying greywacke aggregate since the 1950s. Winstone has operated the quarrying operations at the site since 1998. The quarry produces high quality aggregate for a range of roading, building and construction projects, which is supplied throughout the Waikato Region and beyond.

In 2003 Winstone sought consents for a significant expansion of the quarry. Following the granting of consents Winstone prepared a Landscape and Site Rehabilitation Management Plan as required by:

1. Condition 12 of the Waipa District Council Consent (as amended by Consent Order Jan 2004) (WDC (04)); and
2. Condition 3 of the Waikato Regional Council (WRC) Land use Consent number 108112 granted September 2003

This Revegetation & Rehabilitation Management Plan (“RRMP”) is an updated version of the 2005 plan and is a requirement of Conditions 9-11 (see **Appendix A**) of WRC Land Use Consent AUTH143593.02.01 (granted 11 Nov 2021).

Reporting Conditions under both the 2003/04 consents and 2021 consent are set out at **Appendix B**.

2 STRUCTURE OF THE RRMP

The RRMP will:

1. Set out the high-level objectives of the RRMP;
2. Provide a summary of the quarry location, character and other activities in the local area;
3. Describe the management of quarry revegetation and rehabilitation activities in accordance with a Quarry Layout Plan (“QLP”) shown in **Section 5** below. The QLP sets out the general quarry activities, which may be undertaken at different times in different Activity Areas within the quarry site. Proposed revegetation and site rehabilitation activities will be discussed as they relate to specific activity areas in the QLP; and
4. Summarise the methodology for carrying out quarry revegetation and rehabilitation activities.

3 RRMP OBJECTIVES

The objectives of the RRMP are as follows:

- Progressive revegetation and rehabilitation of the site throughout the stages of extraction.
- Stabilisation of quarry faces and planting of completed and restored extraction areas.
- Ensure any areas where works have been completed are left in a safe and stable condition.
- Monitoring and controlling plant and animal pests during revegetation and rehabilitation works.

- Ensure that any areas where work is completed has adequate stormwater drainage or soakage.
- To reduce the footprint of open area as far as practicable.
- To mitigate any potential environmental effects.

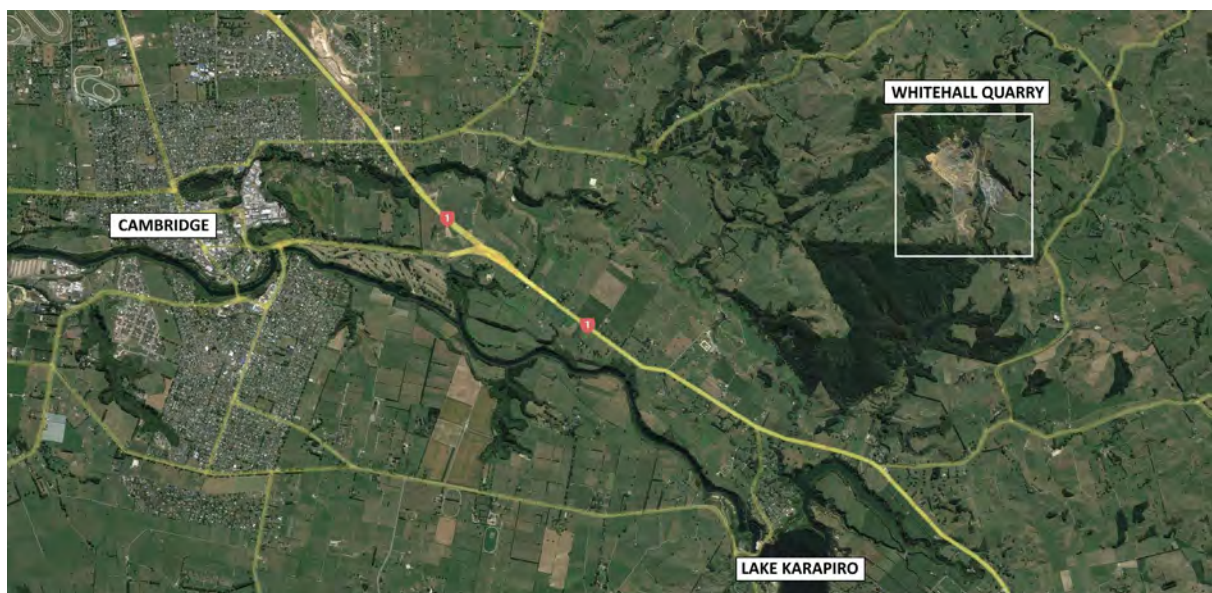
This responsibility includes ensuring that all contractors operating on site are familiar with the requirements of this document and are undertaking their activities in accordance with its requirements.

4 SITE CONTEXT AND OVERVIEW

4.1 SITE LOCATION

The site is located at 249 & 253 Whitehall Road, Whitehall (see plan below), approximately 8km east of Cambridge and 3km north of Lake Karapiro.

The site is located within Waipa District is one of two regionally significant quarries in that district with the other being J Swaps' Taotaoroa Quarry 6km to the east.



4.2 LEGAL DESCRIPTION

Part Lot 1 Section 13 Block X Cambridge, Lot 1 DP South Auckland 76874, Lot 1-3 DP South Auckland 22660 and Lot 1 DP South Auckland 86845

4.3 SITE CHARACTER AND ACTIVITIES

The site topography is hilly, and the quarry is surrounded on all sides by agricultural activities. There are a number of Significant Ecological Areas (Waipa District Plan) located near to the quarry and the Karāpiro Stream runs through the site. Quarrying activities onsite include:

- Blasting;
- Excavating rock;

- Processing rock by crushing, screening, washing, or blending;
- Storing, distributing and selling rock products;
- Removing and depositing overburden;
- Treating stormwater and wastewater; and
- Landscaping and rehabilitation works.

4.4 SURROUNDING SITE CHARACTER

The surrounding area is generally rural in nature and activities within the immediate vicinity include farming, dairy finishing and forestry.

5 QUARRY - REHABILITATION OBLIGATIONS AND STATUS



6 PLANTING / PROPOSED PLANTING VS CONSENT REQUIREMENTS

Consents granted in 2003 and 2021 require that a minimum quantity of revegetation be carried out to account for vegetation lost due to progressive quarry expansion works. Set out below are the minimum revegetation requirements set out in the consent conditions and a summary of the revegetation that has been carried out or is planned to be carried out.

WRC Consent 108112 Condition 2 –

“Indigenous vegetation removed as part of quarry extensions shall be replaced by an equal area of indigenous vegetation elsewhere on the quarry site”.

Indigenous Vegetation Removed in 2003	Indigenous Vegetation Planted (or planting planned for FY23) [Refer to Quarry Layout Plan]
1. 2.9HA (Pit expansion works) 2. 0.7HA (Overburden disposal) 3. 0.4HA (Realignment of Karāpiro Stream) <u>TOTAL VEG REMOVAL = 4HA</u>	1. 2.0HA (North of old pit – See ‘B’ on QLP) 2. 1.5HA (Karāpiro Stream NE Bank – See ‘D’ on QLP) 3. 0.8HA (Karāpiro Stream W Bank – See ‘N’ on QLP) 4. 2HA (Karāpiro Stream Riparian – See ‘E’, ‘F’ & ‘G’ on QLP) <u>TOTAL VEG PLANTING = 6.3HA</u>

WRC Consent AUTH143593.02.01 Condition 9 –

...The purpose of the Updated Revegetation and Rehabilitation Management Plan is to ensure that the ecological mitigation measures described in this consent being:

- a) at least 0.62 ha of indigenous vegetation to be planted within the site, and*
- b) at least 200 metres length of riparian planting be undertaken of at least 10 metres width on both sides along the Karapiro Stream, up-stream of the quarry,*

are implemented and maintained for the duration of this consent in conjunction with the revegetation and rehabilitation mitigation required by Conditions 1 and 2 of Resource Consent Number 108112.

At least 0.62HA of indigenous vegetation is to be planted in FY23 in Area ‘A’ on the QMP. In addition, a minimum of 200m of riparian planting (20m total width) is to be carried out in FY23 in Area ‘B’ on the QLP.

Condition 5 of Schedule 1 to WRC Consents AUTH144652.01.01, 02.01, 03.01 and 04.01

“Waiarumu Stream Enhancement Plan [See Area ‘O’ on the Plan at Clause 5 of this document]

5. *Within 3 months following the granting of this consent, the Consent Holder shall submit a Waiarumu Stream Enhancement Plan (WSEP) to the Waikato Regional Council for certification. Certification shall be limited to the Council’s assessment of whether the matters in condition 6 (a) to (d) have been addressed in sufficient detail to ensure that the WSEP achieves its purpose. The purpose of the WSEP is to ensure that the ecological betterment measures described in the information provided for this consent are undertaken, being that:*

- a. at least 320 metres length of initial plant and animal pest control be undertaken of at least 10 metres width on both sides along the Waiarumu Stream at the quarry property;*
- b. at least 320 metres length of riparian planting be undertaken of at least 10 metres width on both sides along the Waiarumu Stream at the quarry property, including protection by stock exclusion fencing;*
- c. Annual plant and animal pest management be undertaken within the 320m fenced length of the Waiarumu Stream;*

The ecological betterment measures a) and b) of this condition shall be implemented within one year of the commencement of this consent and maintained for the duration of this consent, and the ecological betterment measure c) of this condition shall be implemented annually.

6. *The WSEP required by condition 5 of this consent shall include details of, but may not be limited to, the following matters:*
- a. The location and areas of riparian land to be enhanced;*
 - b. The nature and type of vegetation to be used for planting, including a planting plan;*
 - c. The methods and procedures to be undertaken to achieve a performance standard for the planting required such that after 5 years there is a 90% vegetation survival rate, 80% indigenous canopy cover, and the site is free of weeds.*
 - d. The operational procedures which will be implemented to achieve the purpose of the WSEP.*
 - e. After the certification of the WSEP, the consent holder shall provide the Waikato Regional Council with an annual report by 1 October on progress in implementing it for the period ending 30 August, which includes an update on the status and completion of the enhancement measures described in condition 5 and 6 of this consent, undertaken during the previous year and the measures planned for the subsequent year.”*

[See **Appendix C** for more detail on the rehabilitation plans for a section of the Waiaruru Stream]

7 METHODOLOGY

7.1 REGRASSING

Following each earthworks season, bare earth areas of the overburden removal and overburden disposal areas shall be revegetated/grassed or hydroseeded, depending on surface condition of the batter slopes.

Grassed batters will be left to green until the following earthworks season when the areas will either be disturbed again with further earthworks or areas will be rehabilitated to pasture. Some areas will also be planted with native species as indicated above.

Pasture re-generation will involve the use of a reputable pasture rehabilitation contractor. Contract operations would begin at the end of the earthworks season when all soil placement onto final landforms proposed for pasture rehabilitation is complete. Application of fertiliser, weed control spray and appropriate time frames between these applications will ensure that the ground is ready for aeration and introduction of pasture species. Subsequently weed control sprays and fertilisers will be applied to kill broadleaf species and ensure the pasture is ready to take a light stocking ratio or early silage production towards the end of April early May.

7.2 REVEGETATION

Eco-sourcing

Plants are to be eco-sourced, using seed collected from the Waipa Ecological District. The plants are to be grown locally as much as practicable.

Site Preparation

All weeds found within the planting site and listed in the Consolidated List of Environmental Weeds in New Zealand (Howell, 2008) must be appropriately controlled.

Spraying operations will be carried out by a suitably qualified and experienced contractor with GrowSafe certification (or similar approved). All herbicide spraying application and rates shall be in strict accordance with the manufacturer's recommendations. For any use of sprays with a residual effect the sprayed area should be left for 4 weeks minimum prior to planting.

The planting must be secured from stock and fenced with 8-wire post and batten fencing. This fencing is to be maintained in perpetuity to protect the riparian planting.

Planting and Densities

All plants, plant grades and plant densities will be selected and planted accordingly.

All plants are to be supplied from the nursery in the specified grade and true to type. Foliage should be in good health and free from pests and disease. The roots must not be root-bound (roots wound around the inside of the pot) and enough to hold the soil around the roots.

Fertilizer

All plants are to be planted with a slow-release fertilizer tablet such as Plantodur Special™ or Osmocote™. Fertilizer provides the plant long lasting nutrients which is important for optimizing plant growth while the plants are small. Fertilizer tablets will be placed in the backfill of the plant hole prior to the placement of the plant within the hole.

Pest Control

Pests targeted are:

- Ferrets and stoats (mustelids)
- Possums
- Rats
- Goats
- Deer

For the control of ferrets, stoats and possums and rats a DOC 200 trap should be placed along linear landscape features (fence lines, forest edges, and tracks). These should be checked bi-weekly between January and May and monthly between June and December.

Possum control using toxins can also be effective but must be implemented by a pest control contractor. Best practice guidelines developed by Landcare Research (Landcare Research Ltd, 2019) must be followed for toxic pest control measures.

Maintenance

Any new plantings need to be maintained, including the following measures:

- The planting area to be fenced off and maintained to be stockproof
- Stock to be excluded from the planting area
- The felling or removal of any native plants or native trees within the planting area to be prevented, except where necessary to maintain access through the area
- Any noxious weeds to be removed from the area and maintained as such in an ongoing manner
- Possum control measures.

Timeline

The stages of the revegetation planting plan, season and activities to be undertaken is shown in the table below. The summer season is between November 1 and March 30 of any year. The winter season is between June 1 and September 30 of any year.

STAGE	SEASON	ACTIVITY
Year 1	Summer	Undertake initial weed control.
	Winter	Plant revegetation site.
Year 2	Summer	Undertake maintenance weed control (two visits per summer).
	Winter	Replace all dead plants from Year 1.
Year 3-5	Summer	Undertake maintenance weed control (one visit summer) .
	Winter	Replace all dead plants from previous plantings.

Completion targets after 5 years

- Planted vegetation will achieve a minimum 90% survival of all specimens,
- The planting has achieved a minimum of 80% canopy cover,
- The revegetation site is free of weeds.

8 PLAN REVIEW

This RRMP will be reviewed annually, with review parameters including, but not limited to:

- New resource consent conditions for future works as yet unconsented;
- Any internal and external audit reports;
- Reports of Council officers;
- Review of work practices against industry best practice;
- Environmental incident reports; and
- Complaints received.

Revegetation and Rehabilitation Management Plan

9. Within 6 months following the granting of this consent, the Consent Holder shall submit an Updated Revegetation and Rehabilitation Management Plan to the Waikato Regional Council for certification. The purpose of the Updated Revegetation and Rehabilitation Management Plan is to ensure that the ecological mitigation measures described in this consent being:
 - a) at least 0.62 ha of indigenous vegetation to be planted within the site, and
 - b) at least 200 metres length of riparian planting be undertaken of at least 10 metres width on both sides along the Karapiro Stream, up-stream of the quarry,are implemented and maintained for the duration of this consent in conjunction with the revegetation and rehabilitation mitigation required by Conditions 1 and 2 of Resource Consent Number 108112. The Updated Revegetation and Rehabilitation Management Plan shall include:
 - i. An update on the status and completion of the revegetation and rehabilitation mitigation required by Resource Consent Number 108112 and
 - ii. An update on the status and completion of the ecological mitigation measures described in this consent condition.
10. The Updated Revegetation and Rehabilitation Management Plan required by condition 9 of this consent shall be updated to include, but may not be limited to, the following additional matters:
 - i. The location and areas of land to be revegetated under condition 9 a) and b) of this consent;
 - ii. The nature and type of vegetation to be used for planting under condition 9 a) and b) of this consent, including a planting plan for 9 b);
 - iii. The staging (timing) of revegetation works relative to excavation works and overburden placement;
 - iv. The methods and procedures to be undertaken to achieve a performance standard for the planting required by condition 6a) such that after 5 years there is a 90% vegetation survival rate, 80% indigenous canopy cover, and the site is free of weeds.
 - v. The operational procedures which will be implemented to achieve the purpose of the Updated Revegetation and Rehabilitation Management Plan, including the
11. After the certification of the Updated Revegetation and Rehabilitation Management Plan required by conditions 9 and 10 of this resource consent, the consent holder shall provide the Waikato Regional Council with an annual report on progress in implementing it for the period ending 30 August, which includes:
 - i. An update on the status and completion of the revegetation and rehabilitation mitigation required by Resource Consent Number 108112 undertaken during the previous year and the rehabilitation mitigation planned for the subsequent year, and
 - ii. An update on the status and completion of the ecological mitigation measures described in condition 9 and 10 of this consent, undertaken during the previous year and the rehabilitation mitigation planned for the subsequent year.

APPENDIX B – REPORTING CONDITIONS

Condition 16 of the Waipa District Council Consent (WDC (04))

The consent holder shall provide Waipa District Council with an annual report for the period ending 30th August each year, which outlines the rehabilitation activities undertaken during the previous year, and the works planned for the subsequent year. The report shall be forwarded to Waipa District Council by 1st October each year.

Condition 4 of the Waikato Regional Council (WRC) Land use Consent number 108112 & Condition 3 of WRC Land Use Consent AUTH143593.02.01 (Land Use Consent)

The consent holder shall provide Waikato Regional Council with an annual report for the period ending 30th August, which shall include details of rehabilitation activities undertaken during the previous year, and rehabilitation works planned for the subsequent year. This report shall be forwarded to Waikato Regional Council by 1st October each year. The plan shall address, but may not be limited to, the following:

- i. The location and areas of land to be revegetated;
- ii. The staging (timing) of revegetation works relative to excavation works;
- iii. Objectives for soils conservation and remediation of biodiversity loss;
- iv. The operational procedures which will be implemented to achieve the revegetation objectives.

Condition 10 of WRC Land Use Consent AUTH143593.03.01 (Discharge Permit)

The consent holder shall at 3 monthly intervals following the granting of this consent prepare and forward to the Waikato Regional Council a report setting out the results of the monitoring undertaken in accordance with the *[stormwater and discharge]* conditions

Condition 13 of WRC Land Use Consent AUTH143593.03.01 (Discharge Permit)

The consent holder shall at annual intervals following the grant of this consent, prepare and forward to the Waikato Regional Council a report including relevant details of the monitoring undertaken in accordance with the conditions and performance of the water management and treatment system as set out below:

- i. Any difficulty (such a breakdowns) in the operation of the system;
- ii. The reasons for any difficulties;
- iii. Any difficulties in achieving compliance with any condition attached to this permit;
- iv. Any maintenance works, which are necessary, proposed or have been carried out and
- v. Any trends in water quality with the potential of causing adverse effects.

Condition 15 of WRC Land Use Consent AUTH143593.03.01 (Discharge Permit)

The water quality and aquatic habitat and biota surveys required by condition 14 of this resource consent shall be undertaken at a minimum of two sites upstream and two sites downstream of the quarrying operations at Whitehall. The downstream sites for deposited sediment shall be designed to

capture the extent of likely deposition of the sediment from the quarry discharge. Monitoring sites for aquatic biota monitoring shall be selected based on the most suitable location for the attributes being monitored. The monitoring shall be undertaken in the following timeframes by the Consent Holder:

- a) Within 6 months from the commencement of this consent, the methodology and sample sites for the water quality and aquatic habitat and biota surveys shall be submitted to the Waikato Regional Council for certification
- b) Within 12 months from the commencement of this consent, and thereafter at least once every 3 months (quarterly), the consent holder shall undertake the water quality surveys in accordance with the methodology and sites submitted to, and certified by, Waikato Regional Council.
- c) Within 24 months from the commencement of this consent, and thereafter at least once every 3 years, the consent holder shall undertake the aquatic habitat and biota surveys in accordance with the methodology and sites submitted to, and certified by, Waikato Regional Council. Aquatic habitat and biota sampling shall be undertaken during the months of January to March in any one year.
- d) The consent holder shall submit a report detailing the results of the water quality and aquatic habitat and biota surveys, to the Waikato Regional Council by 30 June of each year

Condition 24 of WRC Land Use Consent AUTH143593.01-04.01 schedule 1 – Common Conditions

The consent holder shall provide to the Resource Use Group of the Waikato Regional Council a report by March each year that any of the consents listed at the top of this Schedule are current. As a minimum this report shall include the following:

- a) overburden stripping undertaken during the preceding 12 months and overburden stripping proposed to be carried out during the following 12 months;
- b) any water quality data collected;
- c) all daily rainfall records
- d) all daily and annual water take volumes;
- e) a compliance audit of all consent conditions;
- f) any reasons for non-compliance or difficulties in achieving compliance with all consent conditions;
- g) recommendations on alterations to monitoring required by consent conditions; and,
- h) any other issues considered important by the consent holder

APPENDIX C – WAIARUMU STREAM REHABILITATION OVERVIEW

Animal and plant pest control to be undertaken along 320m of the length of Waiarumu Stream (see plan below). This pest control would include the removal of the Willow trees currently growing along the 320m stream length. Once initial pest control is undertaken the stream length would be riparian planted (see species list below), fenced at a minimum 10m either side, and ongoing pest control provided on an annual basis. The orange areas in the plan below were added to the 10m minimum corridor to provide mitigation for loss of bat habitat during pit expansion.

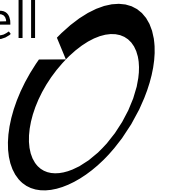
Species List

- Manuka
- Flax
- Lacebark
- Kowhai
- Carex sp.
- Cabbage tree

Plan



APPENDIX D – BAT AND LIZARD MANAGEMENT PLANS



Whitehall Quarry: Long-Tailed Bat Management Plan

Prepared for Winstone Aggregates

1 August 2021



Document Quality Assurance

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1.0 Introduction

Whitehall Quarry is an existing greywacke hard rock quarry operation situated some 9 km east of Cambridge in the Waikato region of New Zealand.

The quarry has been operating and supplying greywacke aggregate since the 1950s. Winstone have owned and managed the quarrying operations at Whitehall Quarry, since 1998.

Winstone Aggregates propose an expansion of Whitehall Quarry to meet the current and projected demand for supply of aggregate. The proposed expansion of the Whitehall Quarry is located entirely within Significant Mineral Extraction Zone (SMEZ, section 4A, Waipa District Plan), which provides for quarrying activities in the Waipa District Plan.

The Assessment of Ecological Effects (Boffa Miskell 2021) identified a population of long-tailed bats in the area of the quarry. This long-tailed bat management plan is submitted in support of this Assessment of Ecological Effects.

2.0 Long-tailed bat management

2.1 Wildlife Act Authority

The New Zealand long-tailed bat is 'absolutely protected' under the Wildlife Act (1953, s63 (1) (c)) Department of Conservation (DOC). As bats have been confirmed as using the site and potential bat roosts have been identified across the wider project area, a Wildlife Act Authority (WAA) to potentially disturb long-tailed bats as part of construction works is required for this project. The WAA will need to be granted before several of these protocols can be implemented. WAA permits can take a significant amount of time to process and it is recommended that the WAA be applied for at the earliest opportunity to prevent delays. We note the recent ruling that DOC is unable to authorise disturbance but can authorise other activities such as 'catch alive or kill' absolutely protected wildlife.

2.2 Competent bat worker

We note that DOC operate a competency certification for bat ecologists. Certification is offered across a range of bat related activities. The competencies are provided in Table 1 below.

Only personnel certified at the appropriate level may undertake tasks in the tree felling protocol (i.e. roost felling).

In the case of felling a bat roost accidentally, whereby bats are injured or dislodged and capable of being caught, and if a competent bat worker is not available to handle the bat, the attending personnel must carefully place the bat or bats in cloth capture bags following guidance in the DOC Best Practice Manual (pages 154-155) and Advice to First Responders on the NZ veterinary association web page (https://cdn.ymaws.com/www.nzva.org.nz/resource/resmgr/docs/other_resources/Bat_Care_Advice.pdf), and take them to an authorised veterinarian described in Protocol C. Even if a bat appears uninjured, it is highly likely that it will be even though not obvious at the time.

Table 1: Bat Competencies (provided by DOC, 2021).

Competency	Type	Standard	Description
1. Catching bats	1.1 Use of mist nets	1.1.1	Extract 30 individuals of either species
		1.1.2	Demonstrate an understanding of correct mist net placement, mist net attendance, risks and safe extraction and handling
	1.2 Use of harp traps (free standing)	1.2.1	Identify appropriate harp trapping sites and set up and monitor traps(s) on 10+ different nights
		1.2.2	Extract 10+ bats appropriately
		1.2.3	Demonstrate understanding of harp trapping protocols (animal welfare considerations, trapping in the breeding season, rain etc)
	1.3 Use of harp traps (at roost entrances)	1.3.1	Identify appropriate harp trapping sites and set up and monitor traps(s) on 10+ different nights
		1.3.2	Extract 10+ bats appropriately
		1.3.3	Demonstrate understanding of harp trapping protocols at roost entrances (safe trapping, (risk management), predation risks, animal welfare considerations, trapping in the breeding season, rain etc)
2. Handling bats	2.1 Bagging, handling, sexing, aging, measuring, weighing and releasing	2.1.1	Long-tailed bats: 50 individuals
		2.1.2	Short-tailed bats: 50 individuals
	2.2 Banding long-tailed bats	2.2.1	50 individuals
		2.2.2	Demonstrate knowledge of how to remove bands safely (2 methods; demonstrate on model bat)
	2.3 Pit-tagging short-tailed bats	2.3.1	Pit-tagging short-tailed bats
		2.3.2	Bat handling for pit tagging
	2.4 Attaching radio transmitters	2.4.1	Long-tailed bats: watch 5 individuals being tagged
		2.4.2	Long-tailed bats: attach 5 individuals correctly under supervision
		2.4.3	Short-tailed bats: watch 5 individuals being tagged
		2.4.4	Short-tailed bats: attach 5 individuals correctly under supervision
	2.5 Taking wing biopsies	2.5.1	Watch 5 individuals having biopsies taken
	2.5 Taking wing biopsies	2.5.2	Take biopsies from 10 individuals under supervision
		2.5.3	Understand and follow the Standard Operating Procedure
3. High risk activities (risk of disturbance and/or injury to bats) – Roost felling	3.1 Assessing roost tree use using ABMs	3.1.1	Demonstrate correct timing, placement and interpretation of data
	3.2 Roost finding and watching - in at least two different habitat types	3.2.1	Find 10+ occupied roosts using radio tracking or swarming and identify roost entrance
		3.2.2	Undertake roost watches/emergence counts at 10+ occupied roosts where the entrance is visible
		3.2.3	Scope 10+ trees for potential roost cavities (under supervision)
	3.3 Rescuing bats	3.3.1	Rescuing bats after accidental discovery (demonstrate detailed understanding of how to handle bats, how to hold in temporary captivity and what steps to take if injured and how and where to release).

3.0 Roost Tree Features and Definitions

3.1 Potential bat roost trees

For the purposes of this protocol, trees offering potential bat roost habitat are defined as being >15 cm diameter at breast height (DBH), and have one of more of the following features:

- Crack, crevices, cavities and/or fractured limbs large enough to support roosting bat(s);
- Sections of loose flaking bark large enough to support roosting bat(s);
- A hollow trunk, stem or branches;
- Deadwood in canopy or stem of sufficient size to support roost cavities or hollows;
- Bat droppings, grease marks and/or urine staining around cavities.
- Epiphytes (*Astelia* or *Collospermum*) with cavities between the epiphyte and tree trunk/branch; or
- Cavities/hollows/shelter formed by double leaders.

Areas that have not been surveyed will require pre-felling surveys to identify potential bat roosts.

Trees with potential bat roosts need to be identified by a competent bat worker authorised for roost felling (competencies 3.1 and 3.2).

Note that trees <15cm DBH or with no roost features can be felled at any time.

3.2 Dawn and dusk definition

Dawn and dusk are defined as starting and ending 0.5 hours before or after the closest sunrise and sunset times provided by LINZ¹.

3.3 Bat activity seasonal constraints

Long-tailed bats enter torpor (a state of decreased physiological activity) more frequently during colder weather, generally from May through to the end of September. During this time bats cannot be effectively surveyed using traditional acoustic methods and hence it is not best practice to undertake bat monitoring during this timeframe.

As bats are nocturnal and often roost deep in tree cavities, they are particularly vulnerable to injury or mortality if they are occupying a tree during felling. When in torpor bats will not be able to rouse themselves in time to fly before the tree is felled.

We recommend that felling potential roost trees is carried out between 1 October and 30 April in any twelve-month period.

¹ See <https://www.linz.govt.nz/sea/nautical-information/astronomical-information>

4.0 Tree felling protocols

4.1 Identifying potential bat roost trees

Assessment method	Who can make this assessment	Timing	Outcome
For the purposes of this protocol, trees offering potential bat roost habitat are defined as being ≥ 15 cm diameter at breast height (DBH), and have one or more of the following features: - Cracks, crevices, knot holes, cavities and/or fractured limbs large enough to support roosting bat(s); - Sections of loose flaking bark large enough to support roosting bat(s); - A hollow trunk, stem or branches; - Deadwood in canopy or stem of sufficient size to support roost cavities or hollows; - Epiphytes that may provide roosting bats; or - Bat droppings, grease marks and/or urine staining around cavities. Areas that have not been surveyed will require pre-felling surveys to identify potential bat roosts.	Measuring DBH can be carried out by anyone capable of measuring a tree DBH. Roosting tree features must be assessed by a competent bat worker (Competencies 3.1 – 3.2).	This assessment can be done at any time.	Trees which are not ≥ 15 cm DBH can be felled at any time. Trees which are ≥ 15 cm DBH but do not have any of the features indicative of roost potential may be felled at any time under the supervision of an approved bat expert who can identify if a potential bat roost becomes apparent during the removal process that was not previously observed. In this case, felling must stop until the tree has been further assessed. Trees which are ≥ 15 cm DBH and have features indicative of roost potential must be further assessed following either of the assessments outlined below (or a suitable combination of detailed methods) in sections 4.3 and 4.4.

4.2 Do bats roost in the tree?

There are two ways in which a tree can be assessed for bat roosting activity:

Climbing the tree and inspecting features - this is usually most suitable when there are a small number of trees that are safe to climb and can be visually inspected – Detailed in section 4.3.

Using ABMs (Automatic Bat Monitoring devices) to check if bats are present close to the time of tree removal - Detailed in section 4.4.

4.3 Inspection of roost features by climbing

Note: Care must be taken while climbing trees to avoid disturbing, removing or destroying tree features with bat roost potential such as large sections of loose bark or cavities in dead wood.

Assessment method	Who can make this assessment	Timing	Outcome
a) Do possible roost features observed from the ground still show potential on closer inspection when the tree is climbed? For example: - Cracks, holes and splits may lead to cavities or may be superficial. - A cavity may be wet indicating no potential. - Cobwebs maybe across a cavity indicating it is not used. - Other incompatible animals may be occupying the cavity (e.g. rats).	A competent bat worker (competency 3.2) or an experienced tree-climber (e.g. an arborist) working with an approved bat expert. If the latter, the tree-climber provides information along with photographs or video footage, which the bat expert assesses.	Any time	If no: the tree can be removed. If yes: further assessment must be done (see below).
b) Are potential features being used by roosting bats? - Can bats be seen? - Can bats be heard - either audible squeaking or using a hand-held bat detector listening at 25 kHz (for social calls) and 40 kHz (for echolocation calls)? - Is guano present or urine staining?		Between 1 October and 30 April only.	If no: the tree can be removed on the day of the tree inspection following the method in section 5.1 and 5.2. If yes: the following communication procedures shall be implemented: - If bats are sighted or sign detected, the approved bat expert, as soon as possible, shall: - Call the tree felling supervisor to inform him/her which affected tree(s) cannot be felled due to detection of bat sign. - Send an email to the site manager, and a bat expert representing the council and DOC detailing the results of the survey and outlining the measures for protection or relocating the roost tree. Measures for the immediate protection of the tree/s should follow that detailed in section 5.2. - A record (including photos) of any vegetation containing bat roosts shall be kept detailing the size, location and type of tree.

4.4 Survey of bat activity

Note: Prior to the commencement of surveys, ABMs must be checked for correct operation at a site where bat activity is known to be high. Faulty or suspect ABMs must not be deployed.

Assessment method	Who can make this assessment	Timing	Outcome
Is bat activity recorded at any time during two consecutive, valid survey nights proceeding tree felling? Bat activity can be recorded preferably using ABMs. Location of ABMs or observers must provide sufficient coverage to be able to determine if bat roosts are present in one or more of the trees. 'Valid' survey nights must meet the following criteria: • Begin one hour before official sunset and end one hour after official sunrise. • Temperature between 10 and 17°C. • Relative humidity > 70%. • Precipitation < 2.5 mm in the first 2 hours after dusk. • Mean overnight wind speed does not exceed 20 km/h. • Maximum overnight wind gust does not exceed 60 km/h.	Only under supervision of a competent bat worker (competency 3.1).	Between 1 October and 30 April only.	If no: bats are detected, the vegetation can be removed on the day immediately following the survey nights. If yes (bats are detected): survey must continue on subsequent nights until no bat activity is recorded for two consecutive nights (to indicate bats have left the area) prior to felling OR roost features of each tree must be visually assessed via climbing.

4.5 Protection and protocols for trees confirmed to have roosting bat/s present:

If bats are confirmed to be roosting within a tree, it will not be removed until further monitoring (to minimise further disturbance to roosting bats) confirms that the bat(s) have abandoned the roost.

The following actions will be taken:

- a) The immediate area will be cordoned off with safety fencing and signage erected in a 10 m radius around the roost, alerting any person approaching the area that a bat roost is present and to stay clear.
- b) The existence of the roost will be widely publicised to all works staff and work instructions for the immediate area will be updated to reflect the presence of the roost and the measures to minimise disturbance.
- c) No work will take place within 100 m of the roost from one hour before dusk to 1 hour after dawn.
- d) Roost trees will be clearly marked, and all relevant staff briefed to ensure the tree is not removed. The Grantor shall be informed by email with relevant information, such as photos, provided.

5.0 Tree removal

5.1 Trees not identified as potential bat roosts

All trees **not** identified as potential bat roost trees may be felled at any time without the need for acoustic survey.

5.2 Does the tree have to be removed?

Assessment method	Who can make this assessment	Timing	Outcome
a) Is the tree known to provide a roost location for bats or has potential to do this?	Only under supervision of competent bat worker (competencies 3.1 – 3.2).	Between 1 October and 30 April only.	If no: remove as in 5.1. If yes: consider whether any changes can be made to maintain the tree, or consider carefully relocating the tree, or part of the tree, when bats are not present (not detected for two valid survey nights prior ²), to continue to provide future roosting opportunities. This is particularly important where roosting opportunities are limited.
b) Is the only option to remove the tree entirely?			If no: consider leaving or relocating the tree. If yes: the tree can be removed under supervision of an approved bat expert when bats are not present (not detected for two valid survey nights prior ²). Trees must be inspected again for signs of bats once felled and before removing from the site. Follow section 5.3 should bats be detected during tree removal.

² See section 3.2 for valid survey night criteria.

5.3 Bats encountered during tree relocation or removal

Assessment method	Who can make this assessment	Timing	Outcome
a) Have bats been detected prior to the tree being completely felled?	Only under supervision of a competent bat worker (competencies 3.1 – 3.2).	Between 1 October and 30 April only.	If no: Follow 5.1 and 5.2. If yes: felling must stop, and DOC must be contacted. See below if bats do not fly away or are injured.
b) Bats have been detected once the tree has been felled.			All further work must stop, and DOC must be contacted. Any live bats that are not immediately able to fly away must be collected and placed in cloth bat bags or cloth-lined bat boxes. The felled tree must be thoroughly inspected for further bats. See below if bats do not fly away or are injured, or below if they are dead.
c) Bats are found on the ground or in trees once felled	Approved competent bat worker (competencies 1 and 2) in consultation with vet and DOC.		If yes: take the bat to a nearby vet to be examined. Place the bat in a cloth bag in a dark, quiet place at ambient (or slightly warmer) temperature and take to a veterinarian for assessment as soon as possible. A maximum of two bats should be kept in one bag. Vets must euthanise bats whose injuries are causing suffering and are not likely to heal sufficiently to allow rehabilitation and return to the wild. The bat expert and vet must consult with DOC to consider appropriate rehabilitation options where suffering is minimal and chances of return to the wild are high. Euthanised bats must be handed over to DOC.
d) Dead bats have been found.	Approved competent bat worker (competencies 1 and 2 and 3.3).		Dead bats must be handed over to DOC.

NB. If a vet with no bat experience is necessary, then refer the vet to the Initial Veterinary Care for NZ bats document on the NZ veterinary association website (https://cdn.ymaws.com/www.nzva.org.nz/resource/resmgr/docs/other_resources/Initial_Vet_Care_NZ_Bats.pdf)

NB. DoC Kirikirioa / Hamilton Office at 73 Rostrevor Street, Hamilton 3204 (phone: 07 8581000. e-mail: hamilton@doc.govt.nz)

6.0 Reporting

1. A letter report will be completed and issued to the Grantor within two months of completion of the vegetation clearance works for Whitehall Quarry.
2. A copy of the report shall also be sent to the DoC Kirikiriroa / Hamilton Office at 73 Rostrevor Street, Hamilton 3204. Phone: 07 8581000. E-mail: hamilton@doc.govt.nz
3. The applicant must ensure that reporting includes:
 - a) A record of any trees that contain bat roosts detailing the size, location and type of tree.
 - b) Where no bats are detected within potential bat roost trees scheduled for removal then survey data will be attached in the annual monitoring report.
 - c) Details of any bats managed under Protocol C, the outcome of the vet's assessment and any adaptive management implemented to improve detection of bats occupying trees scheduled for removal.

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

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Charlene Lubbe

From: Catherine Clarke
Sent: Monday, 2 August 2021 3:52 pm
To: Charlene Lubbe
Subject: FW: Long-tailed Bat Management Plan

From: Tertia Thurley <tthurley@doc.govt.nz>
Sent: Thursday, 29 July 2021 9:42 am
To: Ian Boothroyd <Ian.Boothroyd@boffamiskell.co.nz>
Subject: RE: Long-tailed Bat Management Plan

Hi Ian

These felling protocols are difficult aren't they. Which is why the bat recovery group is taking so long to approve one of our own for people to use! Some comments here:

2.1 Post the PauaMac case DOC is unable to authorise disturbance, though disturbance is an offence under the Wildlife Act. This is really confusing, and I recommend that you get advice from the DOC Permissions Team in Hamilton, because I can't seem to get my head around it!

4 and 5. You could specify the competency level required to make the assessment. i.e. 3.2, or 3.1 for ABM use.

4.4. Would prefer if ABMs are used for this and not people with handheld detectors (who likely will not stay awake all night as well as ABMs can). There is no need to have the full moon as not valid (there is no data to support decrease in activity associated with full moon). Under 'outcome', what you've put relates to tree inspection, not ABMs. Should be: If no bats are detected, the vegetation can be removed on the day immediately following the survey nights. If yes (bats are detected), survey must continue on subsequent nights until no bat activity is recorded for two consecutive nights (to indicate bats have left the area) prior to felling. **OR** roost features of each tree must be visually assessed via climbing

5.3

We won't be able to tell if bats are injured – injuries may not be obvious, so we should take all bats that do not fly away to the vet. i.e.: If any bats are found on the ground or in the tree once felled, place the bat in a cloth bag in a dark, quiet place at ambient (or slightly warmer) temperature and take to a veterinarian for assessment as soon as possible. A maximum of two bats should be kept in one bag.

Cheers
Tertia

From: Ian Boothroyd <Ian.Boothroyd@boffamiskell.co.nz>
Sent: Wednesday, 28 July 2021 9:09 pm
To: Tertia Thurley <tthurley@doc.govt.nz>
Subject: RE: Long-tailed Bat Management Plan

Hi Tertia,

As I mentioned in my earlier e-mails, please find attached a draft bat management plan for DOC review.

As you will read the plan refers to some vegetation clearance at Whitehall Quarry. Bats are known to occur in the area.

Let me know if you require any further information.

Thanks,
Ian

From: Tertia Thurley <tthurley@doc.govt.nz>
Sent: Tuesday, 13 July 2021 7:05 pm
To: Ian Boothroyd <ian.Boothroyd@boffamiskell.co.nz>
Subject: RE: Long-tailed Bat Management Plan

Hi Ian
I'm not sure of the appropriate pathway either but that sounds good.
Cheers
Tertia

From: Ian Boothroyd <ian.Boothroyd@boffamiskell.co.nz>
Sent: Tuesday, 13 July 2021 7:01 pm
To: Tertia Thurley <tthurley@doc.govt.nz>
Subject: RE: Long-tailed Bat Management Plan

Hi Tertia,
We had an interaction over a Kainga Ora Long-tailed bat management plan late last year.

I thought I would get I touch and inform you that I have another bat management in preparation and will be looking for some DoC comments/review in due course – over the next couple of weeks.

I am not sure of the most appropriate pathway to you but would it be appropriate to simply send you a draft when ready?

Thanks,
Ian

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Whitehall Quarry Lizard Management Plan

**Prepared for Winstone Aggregates
8 September 2022**

Report Number 21207.2-001



Document Sign-off

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Ecology New Zealand Limited

Revision	Revision Date	Details	Status	Author/Editor	Authorised by
0		Lizard Management Plan	Final	BO	SC

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1. INTRODUCTION

This report¹, prepared by Ecology New Zealand Limited (ENZL) for Winstone Aggregates ('the client'), presents a Lizard Management Plan (LMP) for the proposed quarry expansion at Whitehall Quarry. ENZL prepared a memorandum² which has been detailed to manage the proposed localised level of effects on the site's ecological values, as such this LMP will not provide further assessments of impacts. The intent of the LMP is to guide the implementation of lizard salvage methodologies. The LMP has been guided by the Department of Conservation's key principles for lizard salvage and transfer in New Zealand³.

1.1. Background

Whitehall Quarry is located on Whitehall Road approximately 4km to the north of Karapiro near Cambridge in the Waipa District of the Waikato Region. The quarry has been operating for more than 70 years and is a major supplier of aggregate resources for projects across the Waikato and Bay of Plenty Regions.

Winstone Aggregates is seeking consent for an expansion of the quarry. The expansion proposal is comprised of three components (Figure 1; Figure 2):

- Expansion of the existing quarry pit towards the southeast,
- A new overburden disposal area (OBDA) approximately 400m southeast of the existing pit, and
- A haul road between the quarry pit and the new OBDA

The memorandum⁴ describes the site's vegetation communities, ecosystems and potential indigenous fauna habitats within the project footprint and provides management recommendations to avoid and/or mitigate potential adverse ecological effects. The memorandum identified six native lizard species which may occur on-site.

¹ This report is subject to the Report Limitations provided in Appendix A.

² Ecology New Zealand Limited 2022. Report No. 21207-3.001-Rev1. Prepared for Winstone Aggregates.

³ Department of Conservation Lizard Technical Advisory Group (2019). Key principles for lizard salvage and transfer in New Zealand. Department of Conservation, Wellington, New Zealand.

⁴ Ecology New Zealand Limited 2022. Report No. 21207-3.001-Rev1. Prepared for Winstone Aggregates.



Figure 1: Site location and quarry expansion footprint.

1.2. Goals and objectives of this plan

- To effectively undertake the full suite of recommended salvage methodologies to avoid the injury or death of native lizards.
- Maintain a self-sustaining population of the lizard species found on-site in the long-term.
- To enhance areas where lizards are released through microhabitat creation and pest animal control.

1.3. Project Herpetologist

The Project herpetologist that will oversee the implementation of this LMP is Simon Chapman, Principal Ecologist. He has successfully undertaken hundreds of lizard survey and salvage projects across New Zealand, many of which have included targeted efforts for Auckland herpetofauna species. Simon currently holds a Wildlife Act Authority from DOC (93018-FAU) to implement lizard salvage operations across Auckland.

The implementation of this LMP, will be undertaken by a suitably qualified and experienced ENZL ecologist who has demonstrated sufficient competency to undertake the required tasks through remote supervision alone. ENZL's implementing herpetologists' will be Jennifer Gollin, Kelly Hayhurst, and Blair Outhwaite. These ecologists have met competencies measured against internal company standards to ensure individuals are sufficiently trained by experienced staff. The implementing herpetologists/ecologists have experience implementing lizard management over numerous jobs around New Zealand. Any lizard management works that is carried out on-site must be undertaken by an ENZL ecologist who is named on the relevant Wildlife Act Authority issued from DOC.

If ENZL's ecologists are unable to oversee and implement the LMP then DOC must be notified and any changes to it and/or implementation of the LMP must be carried out by a suitably qualified and experienced herpetologist.

1.4. Lizard populations on-site

No Threatened lizard species have been detected on-site nor are any expected to be found on-site based on desktop assessments. It should be noted that only habitat assessments and opportunistic manual searches have been undertaken on-site and At-Risk copper skinks (*Oligosoma aeneum*) were detected. Several species may occur on-site within areas of native vegetation (Table 1). Species which are confirmed or expected on-site include At Risk species. The habitat within the works footprint largely consists of exotic grass which is intensively managed. It includes ground-level habitats that are likely to only be suitable for copper skinks.

Table 1: Potential lizard diversity and presence at Whitehall Quarry.

Common Name	Scientific Name	Threat Status ⁵
Pacific gecko	<i>Dactylocnemis pacificus</i>	At Risk - Relict
Copper skink	<i>Oligosoma aeneum</i>	At Risk - Declining
Elegant gecko	<i>Naultinus elegans</i>	At Risk - Declining
Forest gecko	<i>Mokopirirakau granulatus</i>	At Risk - Declining

⁵ Hitchmough, R., Barr, B., Knox, C., Lettink, M., Monks, J.M., Patterson, G.B., Reardon, J.T., van Winkel, D., Rolfe, J., Michel, P. 2021. Conservation status of New Zealand reptiles, 2021. New Zealand Threat Classification Series 35.

Common Name	Scientific Name	Threat Status ⁵
Crenulate skink	<i>Oligosoma robinsoni</i>	At Risk - Declining
Ornate skink	<i>Oligosoma ornatum</i>	At Risk - Declining

2. LIZARD HABITAT

The lizard habitat on-site consists of areas of native vegetation and exotic grasses. Large patches of mature native bush are present on-site which may support native geckos and skinks. The canopy and trunks of mature native trees and shrubs may support native geckos while leaf litter, clumping vegetation, and woody debris may provide for native skinks. Smaller, scattered patches of mature native trees may also support native geckos and skinks on-site. The majority of the site is comprised of pasture grass which is only expected to support copper skinks. The works is expected to require the removal of mostly grazed pasture grass. A copper skink has been detected within the works area.

3. LIZARD MANAGEMENT

Given the habitat availability on-site the lizard management proposed will be focussed on the salvage of copper skinks (*Oligosoma aeneum*). Lizard management will incorporate Artificial Cover Objects (ACOs), manual systematic searches, destructive searches, vegetation clearance supervision and post-clearance searches within lizard management areas that are deemed to contain suitable habitat by the implementing Project Herpetologist.

Specific methodologies are summarised below. Lizard management will be avoided during the colder months (June-August) due to low levels of animal movement (which limits the use of traps) and the increased stress on native lizard salvages, which is also generally defined within DOC Authority seasonal restrictions. Some methodologies such as ACOs will also require favourable conditions (warm temperatures, no rain, or strong winds). An outline of the timing and management required on-site is provided in the table below.

The site is an active quarry and supervision of habitat removal will not be possible due to the clearance methodology and health and safety concerns arising from this methodology. The ground and arboreal habitat will be cleared simultaneously during overburden removal and will be lumped together. Given the destructive nature of habitat removal, only pre-clearance and post-clearance salvage methodologies are utilized here.

Table 2: Summary of lizard management, roles, and timing.

Management Stage	Persons Responsible	Timing and Conditions Required ⁶
Pre-works lizard management		
Secure appropriate release site	Herpetologist in consultation with DOC/Landowner/Auckland Council	No Seasonal constraints Prior to any lizard management (e.g., July – August 2022)
Lizard Habitat Survey	Herpetologist	September to May Inclusive Immediately prior to ACO deployment, the works areas on-site will be surveyed to assess where lizard management will be required.
x3 - 5 Checks of ACOs	Herpetologist	September to May Inclusive Establish ACOs no less than 6 weeks prior to habitat clearance. Commence checks 2 weeks prior to vegetation clearance, x3 ACO checks over a one-week period. If triggered, additional x2 checks over one week where lizards are detected. Favourable conditions required (warm, no rain or strong winds)
Destructive Manual Systematic Searches	Project Herpetologist	September to May Inclusive Undertaken concurrently with ACO checks.
Release Site Enhancement - Eco-stacks Pest Control	Herpetologist	No Seasonal constraints Prior to any lizard management (e.g., July – August 2022)
Lizard Management during works in areas where lizards are detected during pre-works		

⁶ Please note that habitat clearance may occur in stages and methodology will be repeated as required at each stage based on the recommendations from the implementing herpetologist.

Management Stage	Persons Responsible	Timing and Conditions Required ⁶
N/A	N/A	N/A
Post-works lizard management		
Post-clearance searches	Project Herpetologist	September to May Inclusive Following habitat clearance.
Completion report and ARDs card to client, council, and DOC	Project Herpetologist	No Seasonal constraints Required 10 working days of completion of works.
Pest Animal Control	Pest control contractor	Pest animal control will be carried out within relocation areas where salvaged lizards are to be released. This should be in place prior to relocation and ongoing pest animal control carried out after relocation.

3.1. Methodologies (Implemented between September – May)

The following methodologies have been determined as appropriate to manage lizard values at the subject site. These methods have been specifically selected based on the on-site habitat and diversity of lizards confirmed or potentially within the works footprint. Where appropriate an adaptive management approach has been built into the below management requirements which will trigger additional effort should lizards occur at higher densities.

3.1.1. Pre-works Lizard Management

Lizard Habitat Survey

While no suitable habitats for native lizards were observed within the project footprint in Figure 2, such habitats can be highly dynamic, and colonisation of the site by lizards from surrounding areas may occur rapidly if favourable conditions were to develop (e.g., if the existing grassland/pasture areas are allowed to grow tall/dense enough to provide cover). Taking a conservative approach, a habitat survey by a suitably qualified and experienced herpetologist will be carried out in both works areas to determine where lizard management will be required.

Artificial Cover Objects

Artificial Cover Objects (ACOs) will be installed on-site and will be left to establish for no less than 4 weeks within areas identified as containing suitable lizard habitat. The exact number and placement of these will be determined by or under the supervision of the Project Herpetologist within areas containing suitable habitat. ACOs are to be spaced approximately 10m apart or in suitable microhabitat areas identified.

Prior to the clearance of vegetation ACOs will be checked at minimum three times over a one-week period (Monday, Wednesday and Friday). Where skinks are detected during any of the first three checks, an additional two days of ACO checks will be conducted on the subject transect/area prior to any clearance activities.

The checking of ACOs will involve slowly approaching each ACOs looking for any basking lizards and then quickly lifting the ACOs and capturing any lizards that may be underneath. ACO checks will be carried out during favourable conditions for lizard activity (warm temperatures, no rain, or strong winds).

Destructive Manual Systematic Searches

A minimum of 8 person hours of destructive manual systematic searches will be carried out across all lizard habitat areas identified on-site. This method will involve the implementing herpetologist actively searching for emerged lizards and checking potential retreat sites (e.g. clumping vegetation, rock crevices, logs and tree cavities) for inactive lizards⁷. Destructive searches will involve the implementing Project Herpetologist destructively searching through habitat areas, ripping apart clumping vegetation, raking through leaf litter and weedy ground cover, and flipping and dismantling logs/rock stacks in an attempt to search for and rescue as many lizards as possible. These searches will be undertaken prior to any habitat clearance across all ground cover habitat areas across the clearance area. Destructive manual systematic searches can be carried out in conjunction with ACO checks.

3.1.2. Post-works management

Post Vegetation Clearance Destructive Searches

Given the absence of vegetation clearance supervision, the implementing ecologist will undertake post-clearance searches. Manual searching and raking of the cleared habitat and the overburden pile will be carried out to detect any emerging native lizards from the works area. The search methodology will follow the methodology outlined above in Section 3.1.1 where possible.

3.2. Lizard Capture, Holding and Photography

Lizards will be captured by hand and, where necessary, temporarily held in either catch bags (<2 hours) and/or storage containers (<4 hours) with appropriate ventilation. Temporarily holding lizards will allow the implementing Project Herpetologist to avoid unnecessary delays during lizard salvage efforts and record required lizard data (morphometric measurements, gender, photos for individual identification) prior to release. Lizard containers used are a minimum of 23cm by 15cm and no more than 5 lizards should be held within the storage

⁷ M Lettink & JM Monks (2016) Survey and monitoring methods for New Zealand lizards, Journal of the Royal Society of New Zealand, 46:1, 16-28, DOI: 10.1080/03036758.2015.1108343

containers at one time. Once vegetation clearance is complete, lizards will be relocated to the relocation area as described in Section 3.3.

If necessary, lizards will be kept in captivity until vegetation clearance is complete. The maximum timeframe for this is recommended to be 12 months but this will need to be specifically authorised within the Wildlife Act Authority under which this LMP is implemented. Lizards kept in captivity will follow the standard procedures outlined in the Guide to Keeping New Zealand Lizards in Captivity (Gibson, R) which is a Best Practice Guide written to meet obligations under any Wildlife Act Authorisations. Keeping lizards in captivity should be avoided where possible as it can be highly stressful for the animals. Lizards should be relocated to the recommended relocation area, or within suitable habitat 100m or more from site, rather than bringing animals into captivity. The Project Herpetologist will determine the need for a lizard exclusion fence where there is a risk of recolonisation, and this will need to be in place prior to vegetation clearance and relocation.

Prior to release, key data will be documented for each captured lizard. At a minimum, this shall include:

- SVL length measurement; and
- Photography for individual identification (e.g. specking/marks on the head and ventral neck/body of skinks).

3.3. Lizard release site

To ensure relocated lizards can effectively reproduce and contribute to a local metapopulation, they will be relocated into an area where there is evidence of a resident population. Any captured lizards will be released into the bush block to the north of the existing quarry (Figure 3). The vegetation in this bush block was dominated by native vegetation. Opportunistic lizard surveys during habitat assessments have detected copper skinks on the edge of this vegetation under woody debris.

It is acknowledged that resident lizard populations in release areas are likely at some form of carrying capacity based on the current level of resources and pressures present. Pest animal control and habitat enhancement is therefore required to supplement the current state of environment to best support relocated and resident animals.

- **Long term protection**

The lizards will be released at the edge of existing covenant vegetation. If the lizards cannot be released into the protected vegetation, a covenant will be applied for to cover the release area. This covenant provides formal legal protection of this area in perpetuity. The covenant will require ecological enhancement and on-going maintenance.

- **Habitat enhancement – Restoration Planting**

The edge of the vegetation at the release area will be subject to restoration planting which focuses on skink friendly species. The planting area will equate to 2,200m² as the lizard habitat to be cleared will equate to an area up to 2,200m². This planting should be detailed in an appropriate planting plan and be subject to a covenant.

- **Habitat enhancement - Pest control**

Appropriate pest control to protect relocated lizards must be considered for habitat enhancement. On that basis ENZL, will install at least one self-resetting Goodnature A24 trap on the day of salvage to target rodents if any lizards are relocated. Further traps will be installed for every 10 lizards relocated. The installation of this trap provides certainty that a level of pest suppression is undertaken during the settling in period for relocated animals. As per the product specifications for this trap, it will automatically kill up to 24 rodents during a period of approximately six months. The trap will then be left on-site for on-going maintenance to be voluntarily undertaken by the client in the long-term.



Figure 3: Lizard release area on-site at Whitehall Quarry.

4. RELEASE SITE CONTINGENCIES

If more than 30 skins are detected during the salvage operation, the implementing Project Herpetologist will determine if further enhancement of the release sites is required, or an additional or alternate release site will be more appropriate for lizards to be released. Any alternate or additional release sites shall be:

- Similar or better habitat than the source location, and capable of supporting that lizard species;
- Preferably within five hundred (500) metres of the development footprint; and

- Where habitat for that species of wildlife has been enhanced and approved prior to relocation, using accepted techniques such as provision of extra refuges suitable for the species providing protection from predators, or long-term predator control; and
- Where the site has long-term security (i.e., legal protection) from development or modification (e.g., Council or DOC management reserves, covenants, or District Plan provisions).

5. LIZARD MANAGEMENT CONTINGENCIES

Department of Conservation, Waipa District Council, and Waikato Regional Council will be consulted to gain approval for any appropriate course of action (e.g., off-setting/compensation) if the implementing Project Herpetologist determines that the LMP has not been implemented correctly and adverse effects on native lizards likely occurred as a result. The client will also need to be part of this discussion and any subsequent actions will be at the client's expense.

6. REPORTING

The results of the lizard relocation will be reported to Council and the Authority Grantor, in a completion/compliance report, submitted within 10 working days following the completion of vegetation clearance. Amphibian and Reptile Distribution Scheme (ARDS) cards with details of all relocated lizards will at the same time be submitted to both Auckland Council and separately to the Department of Conservation. To ensure adherence to Wildlife Act Authority conditions, the completion report will include:

- a. the Wildlife Act Authority number used to authorise the relocation;
- b. the species and number of any animals caught alive and liberated;
- c. the GPS location (or a detailed map) of the collection point(s) and liberation point(s); and
- d. results of all surveys and monitoring to be provided by 30 June each year.

7. CONCLUSION

This site-specific LMP aims to ensure any adverse effects from the proposed quarry expansion on native lizard species will be short lived and are commensurately mitigated. Given that native lizards are protected under the Wildlife Act 1953, a precautionary and adaptive approach has been adopted to ensure that any native lizards present are relocated to suitable unaffected habitats. The Plan has been guided by key principles for lizard salvage and transfer in New Zealand. The methodologies, scale and intensity of mitigation efforts, timeframes, and adaptive management proposed in this LMP are considered appropriate for managing the predicted ecological impacts of the proposed quarry expansion.

APPENDIX A

Report Limitations

This Report/Document has been provided by Ecology New Zealand Limited (ENZL) subject to the following limitations:

- i) This Report/Document has been prepared for the particular purpose outlined in ENZL's proposal and no responsibility is accepted for the use of this Report/Document, in whole or in part, in other contexts or for any other purpose.
- ii) The scope and the period of ENZL's services are as described in ENZL's proposal and are subject to restrictions and limitations. ENZL did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Report/Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by ENZL in regards to it.
- iii) Conditions may exist which were undetectable given the limited nature of the enquiry ENZL was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Report/Document. Accordingly, if information in addition to that contained in this report is sought, additional studies and actions may be required.
- iv) The passage of time affects the information and assessment provided in this Report/Document. ENZL's opinions are based upon information that existed at the time of the production of the Report/Document. The Services provided allowed ENZL to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.
- v) Any assessments, designs and advice made in this Report/Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Report/Document.
- vi) Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by ENZL for incomplete or inaccurate data supplied by others.
- vii) The Client acknowledges that ENZL may have retained sub-consultants affiliated with ENZL to provide Services for the benefit of ENZL. ENZL will be fully responsible to the Client for the Services and work done by all of its sub-consultants and subcontractors. The Client agrees that it will only assert claims against and seek to recover losses, damages or other liabilities from ENZL and not ENZL's affiliated companies. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any legal recourse, and waives any expense, loss, claim, demand, or cause of action, against ENZL's affiliated companies, and their employees, officers and directors.
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- ix) Where lengths or other measurements have not been provided by a surveyor, ENZL has used basic GIS mapping and measurement systems to estimate these numbers. These should not be taken as surveyor-level accuracy for the purposes of decision making.

APPENDIX E – ARCHAEOLOGICAL ASSESSMENT

CAMBRIDGE, WHITEHALL, PROPOSED QUARRY EXPANSION AND OVERBURDEN DEPOSITION AREA: ARCHAEOLOGICAL ASSESSMENT

Addendum to Cambridge, Whitehall Quarry Expansion: Archaeological Assessment
(July 2019)

Prepared for Winstone Aggregates
A Division of Fletcher Concrete and Infrastructure Ltd

March 2023



By

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INTRODUCTION

Project Background

Winstone Aggregates proposes to further develop the existing quarry at Whitehall, Cambridge (Figure 1). The proposed works will include the medium term expansion of the quarry and creation of the Stage 2 overburden deposition area (OBDA). The legal description of the property containing the proposed expansion areas is Section 13 Block X Cambridge SD. The current development will be done in stages with the works to be included in this assessment covering the areas as shown in Figure 2.

An Archaeological Assessment Report for a previous quarry expansion in 2019 containing the general historical and archaeological background of the area was prepared to establish whether future development is likely to impact on archaeological values (Cameron and Clough July 2019). As well, parts of the currently proposed expansion were also included in a later report (Cameron July 2022). Both reports were submitted as part of the required assessment of effects accompanying a change of conditions application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA).

This addendum report, which should be read in conjunction with the July 2019 and 2022 reports, has been commissioned by Winstone Aggregates to establish whether the areas proposed for medium term expansion of the quarry and Stage 2 OBDA included in this assessment are likely to impact on archaeological values. This report has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

Methodology

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Waipa District Plan Schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rārangi Kōrero were searched to determine whether any archaeological sites or other historic heritage sites had been recorded on or in the immediate vicinity of the proposed works areas. Literature and archaeological reports relevant to the area were consulted (see Bibliography). Early survey plans and historical aerial photographs were checked for information relating to past use of the properties containing the quarry.

Previous field surveys have included the area of the proposed medium term quarry expansion and the proposed Stage 2 OBDA included in this assessment and additional survey was not undertaken. During the surveys, the ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape relating to Māori settlement, or indications of 19th century European settlement remains). Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy. Subsurface testing with a probe and spade was carried out to determine whether buried archaeological deposits could be identified or establish the nature of possible archaeological features. Particular attention was paid to the spur and ridge lines and areas bordering streams (topographical features where archaeological sites are often found to be located). Sites were photographed and GPS readings taken. Field sketches

were made as required and site record forms written or updated and photographs were taken to record the topography and features of interest.

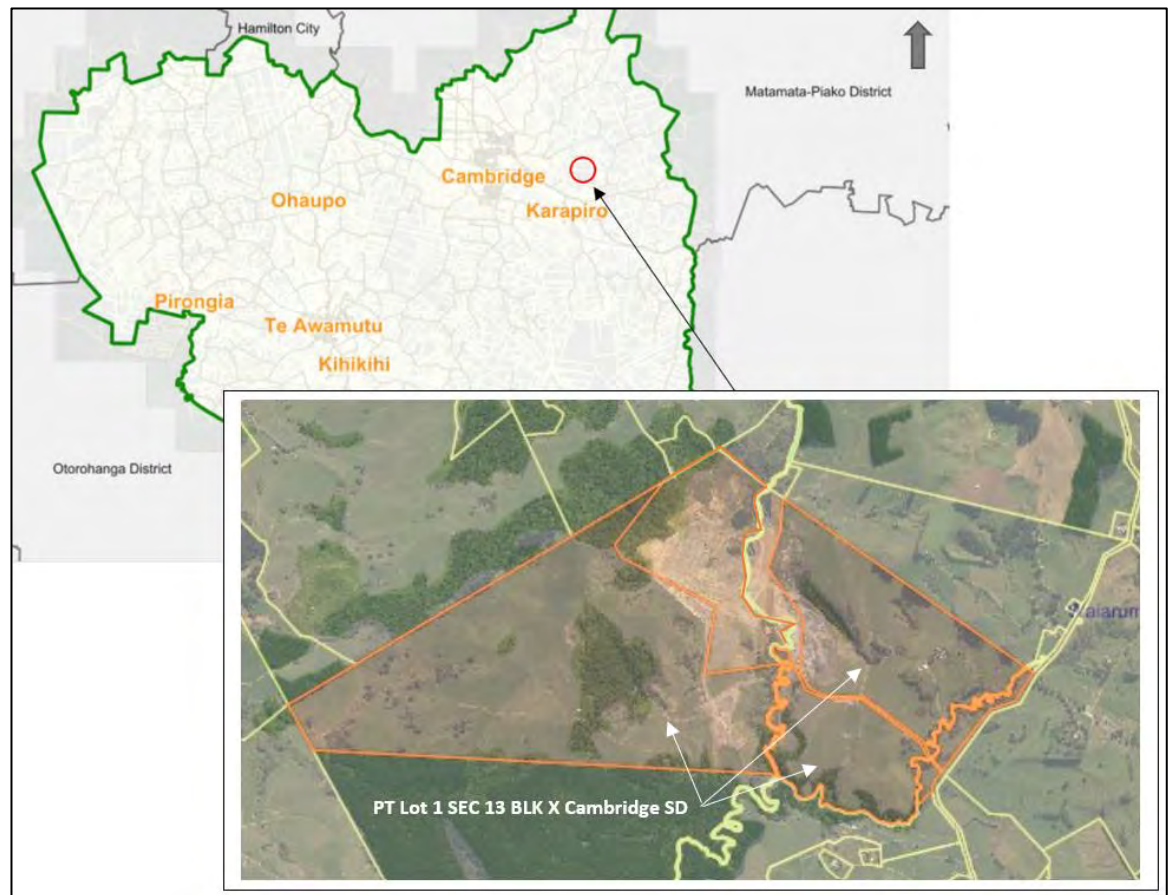


Figure 1. Upper map showing the location of Whitehall Quarry in a regional setting and lower aerial plan showing the property boundaries (outlined in orange) containing the proposed medium term quarry expansion and Stage 2 OBDA included in this assessment (source: Waipa District Council Intramaps)

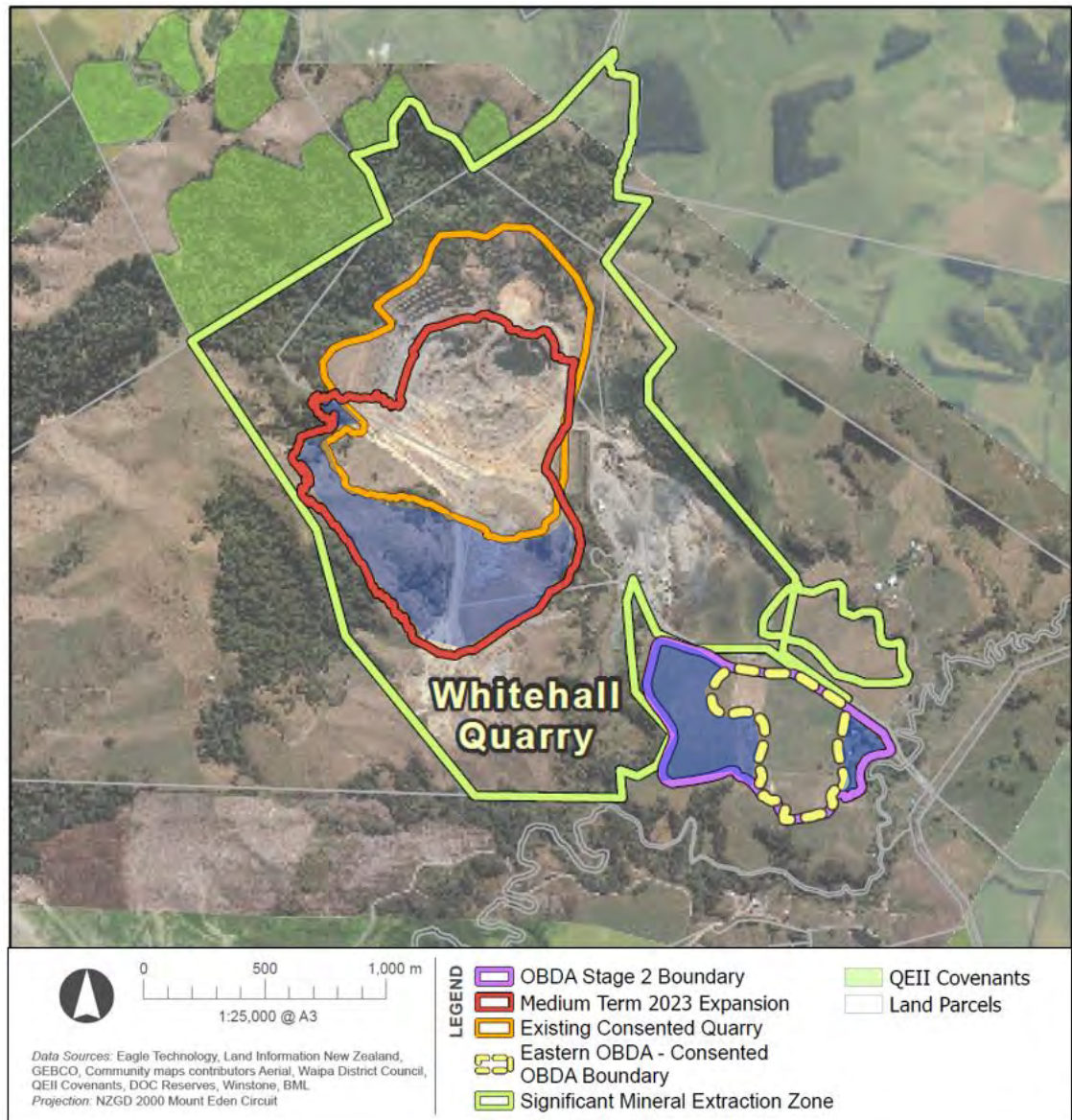


Figure 2. Aerial plan showing the proposed medium term quarry expansion and Stage 2 OBDA with areas covered in this assessment shaded blue (source: Boffa Miskell)

HISTORICAL BACKGROUND

Māori Settlement

In oral tradition the Tainui canoe, captained by chief Hoturoa made its final landfall at Kawhia some 800 years ago. The canoe had travelled around various parts of the central North Island, including the Bay of Plenty, the Coromandel, the Manukau Heads and the Hauraki Gulf, with some people leaving the voyage and settling in these areas (Te Ara Website). Hoturoa is said to have made his base at Kawhia and over the years the Tainui people expanded inland from there. This included movement into the Waikato and Māori settlements spread throughout the region, with many concentrated along the coast to exploit the rich resources available there. Further inland, settlements were made along navigable waterways, such as the Waikato and Waipa Rivers and their tributaries, with numerous pā identified as well as gardening and food storage sites. Intertribal conflicts occurred periodically as a result of alliances, disputes and competition for resources. In the late 18th century there was a major encounter near Ōhaupō referred to as the battle of Hingakākā, which saw the defeat of Ngāti Toa by the Waikato tribes (Sole 2005: 137).

During the early years of the 19th century contact with European traders and missionaries increased, one result being the introduction of muskets into Māori intertribal conflicts. In the early years the northern tribes were the first to arm themselves in this way and gained some advantage in battles with tribes who had not obtained such weaponry. However, by the 1830s most tribes were more or less equally equipped and were unable to sustain the long-term and large-scale warfare often referred to as ‘The Musket Wars’ that had occurred over the previous two decades. In the years that followed, European influence increased and conflicts between Māori and the colonial government over the European demand for land became an ongoing issue, resulting in open conflict by the early 1840s. Contentious land sales, and the demands of settlers for land that was not properly secured, continued to result in conflicts and in 1845-46 these were centred in the north. However, confrontations between Māori and government forces continued with skirmishes, raids and battles taking place to the south, in the Hutt Valley and Wanganui in the late 1840s (Cowan 1955: 100-103; 143-144).

Early European Settlement

The military settlement at Cambridge was established in July 1864 and the site soon became the headquarters of the 3rd Waikato Regiment. Just after the outbreak of hostilities in the Waikato, the government had devised a scheme to form militia regiments that would provide a population base for military settlements in the Waikato once the government had taken control of the area (Allen 1969:33). The land for the settlements was to be confiscated from the Māori by the government and by mid-1864, military settlements were being planned at Cambridge, Alexandra (later renamed Pirongia), Kihikihi and Hamilton. The settlements were intended to prevent further unrest within the Māori population by establishing a larger European presence in the area and to guard from further attacks from the Kingites living to the south of the Pūniu River (Cowan 1955: 412). The soldiers were given one acre land grants within the town of Cambridge and also larger farm allotments in the surrounding area.

HISTORICAL SURVEY

Information from Early Maps and Plans

The land at Whitehall was not included in the military land grants at Cambridge. It instead had been leased from Wiremu Tāmehana by William Thorne Buckland. Buckland, who was born in Devon, England around 1819 or 1820, had arrived in New Zealand from South Australia in 1841 and ran a butchery business in Auckland for several years before he turned to farming in the Waikato. He also served in public office as member of the New Zealand Parliament for Raglan (1865-1866) and for Franklin (1871-1875). Buckland died suddenly at the age of 56 in 1876. Along with the land containing the Whitehall Quarry, he had also held land leases at Karapiro, Fencourt and Tirau and the area was known collectively as ‘Buckland’s Run’, which is shown in the 1867 plan in Figure 3 (Cambridge Museum Website). After the government confiscation of Māori land, Buckland purchased land through the land courts. The early 1870s map in Figure 4 entitled ‘Plan of Farms at Taotaoroa’ includes the land containing the Whitehall Quarry and also has the following annotation, ‘Property of W.T. Buckland.’

Buckland was not the only Aucklander who purchased land in the Cambridge area. As noted earlier, Whitehall was not granted to the soldier settlers, however, much of the surrounding land was. Unfortunately, for a number of reasons, including poor land quality and inexperience, many of the soldiers sold or abandoned their farms in the early days of the military settlement. To a number of Auckland businessmen, the large swathes of land now becoming available were seen as an opportunity to make a profit and they took advantage of the situation by buying up military farm allotments and the surrounding land to create large farming estates (Stone 2013). The Auckland Agricultural Company was formed in 1881 and held a large farming estate (Fencourt) to the Northeast of Cambridge which was soon expanded to include the land at Whitehall (Stone 2010; Cambridge Museum Website). The success of the companies who owned the large farming estates was short-lived and the Auckland Agricultural Company collapsed in 1887 with the landholdings purchased by the government in 1898 (Stone 2010). The government soon after took applications from settlers to be granted sections as Crown tenants with lease in perpetuity, with the land allotment chosen by ballot and the Whitehall settlement opened in 1900. There were only a handful settlers already living at Whitehall who had arrived there in the 1870s and their number was greatly increased with the opening of the settlement in 1900 with the currently proposed works being located in Section 13 which is shown on the plan in Figure 5. A slightly later plan dating from 1913 shows the subdivision of Section 13 into Lots 1 and 2 (Figure 6). The plan notes that it was prepared for ‘J. H. Cowling’, namely John Cowling, who was mentioned as an early landowner at the Whitehall Settlement in a 28 March 1935 Newspaper article titled ‘Half-Century of Taotaoroa History’ and printed in the *Waikato Independent*.

The plan from 1940 in Figure 7 shows land to be taken for a quarry site and the Whitehall Quarry began operations soon after, initially to provide aggregate for farming operations, but later expanded to provide aggregate for wider purposes, including the construction of the Karapiro Dam (Winstone Aggregates Website). The plan has descriptions of the terrain with the southern part, where the proposed Stage 2 OBDA is located, described as ‘undulating country in grass’ and the proposed medium term quarry expansion area as ‘Native Bush - Very steep slopes’.

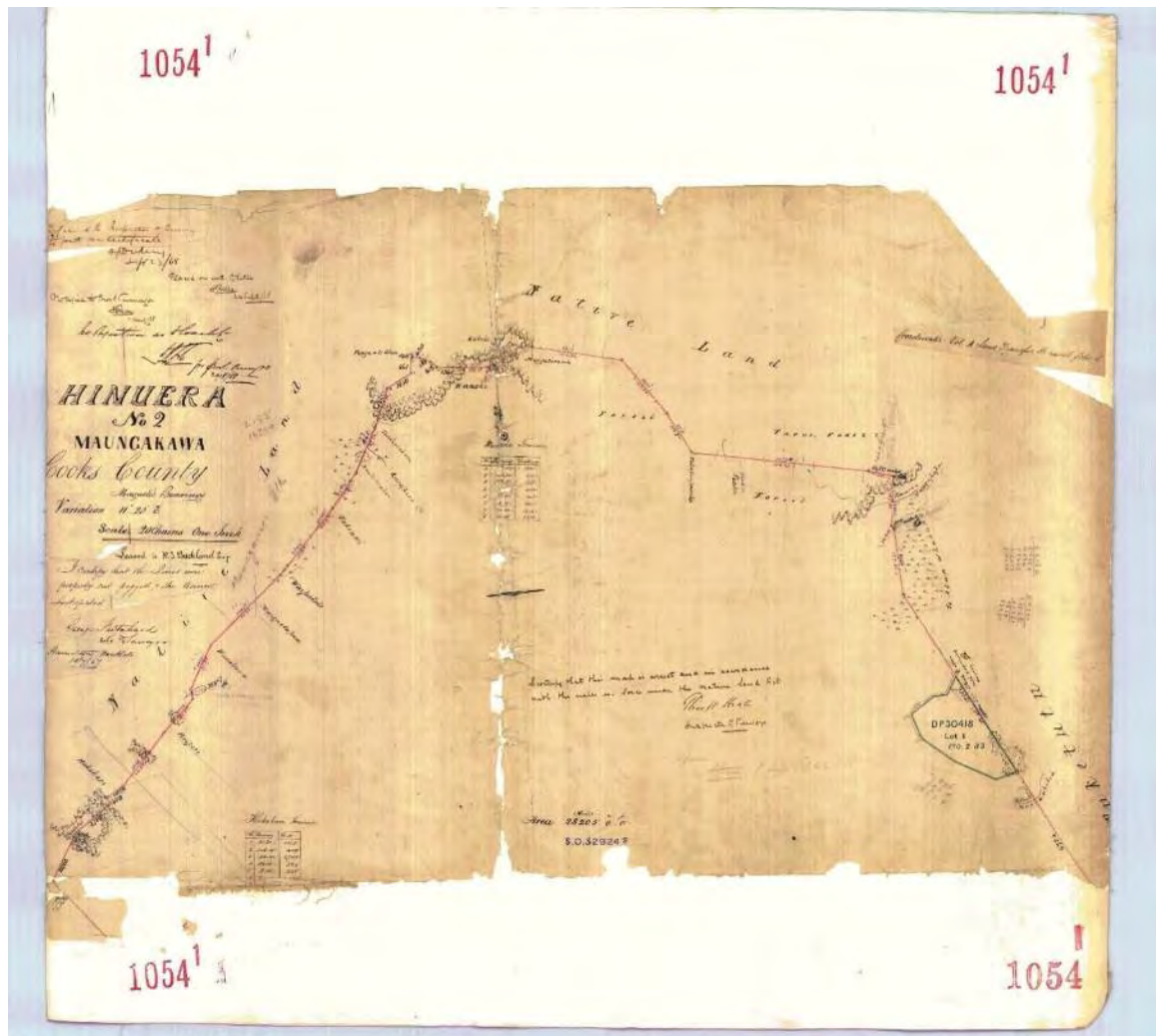


Figure 3. HNC ML 1054 I dated 1867, showing land leased to William Thorne Buckland (source: Quickmap)

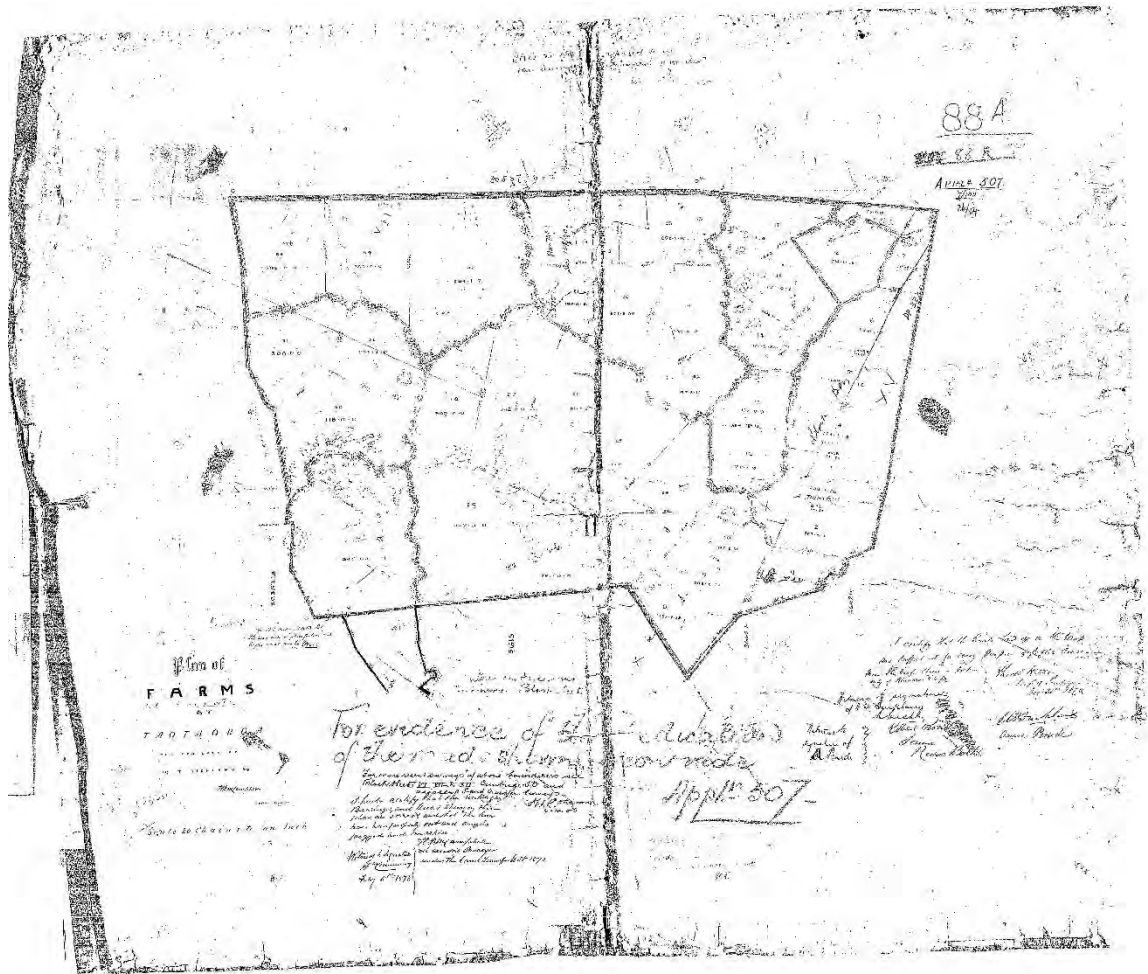


Figure 4. HN Deed 88 A I dated 1873, entitled 'Plan of Farms at Taotaoroa – The Property of W.T. Buckland Esq.' (source: Quickmap)



Figure 5. HNSO 11749 dated 1900, part of the plan of the Whitehall Settlement including Section 13, with area for the proposed medium term quarry expansion and Stage 2 OBDA circled in red (source: Auckland Libraries Heritage Collections NZ Map 4427)



Figure 6. HNC SO 17456 I dated 1913, showing the subdivision of Section 13 Block X Cambridge Survey District into Lots 1 and 2 with area for the proposed medium term quarry expansion and Stage 2 OBDA circled in red (source: Quickmap)

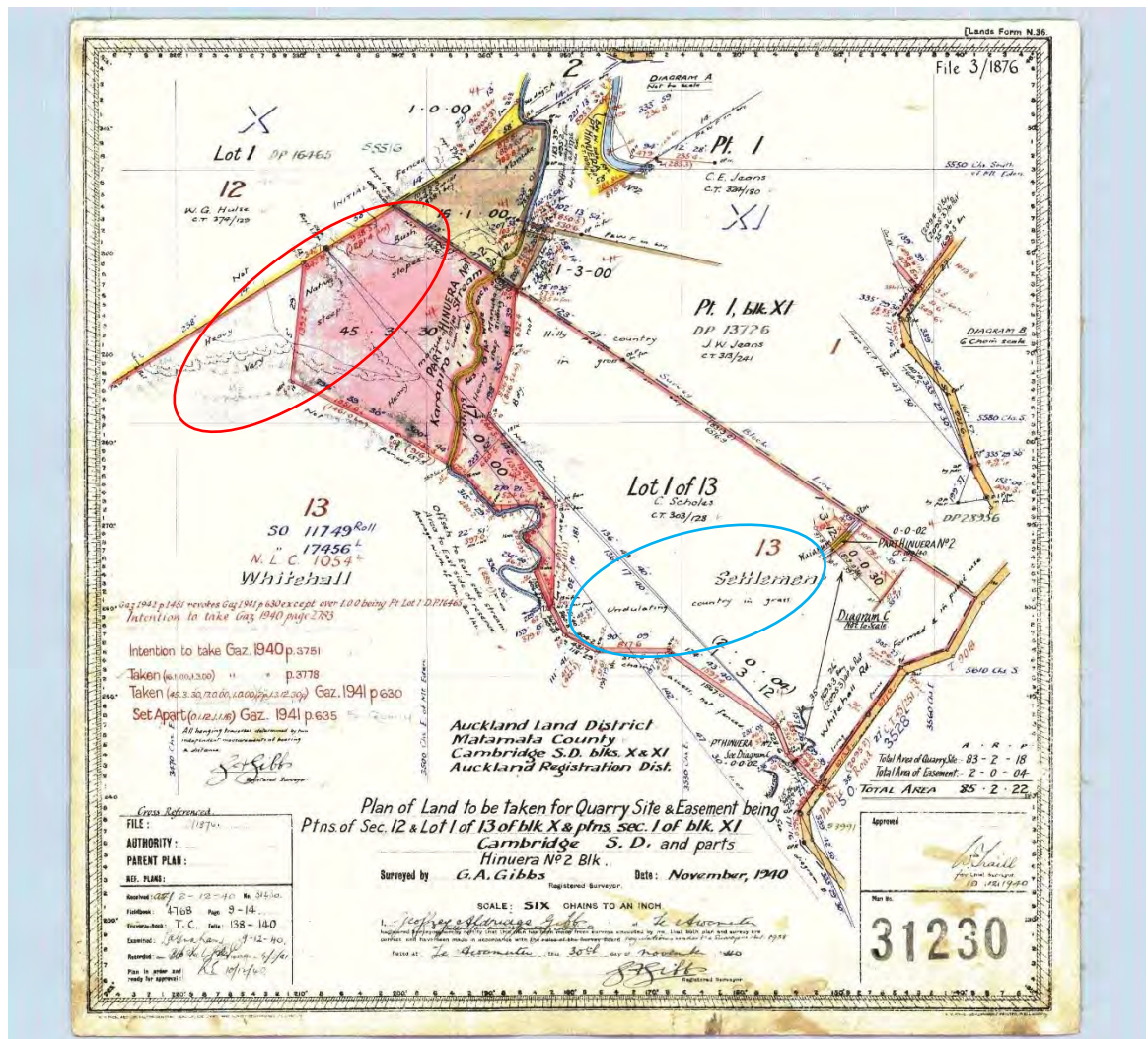


Figure 7. HN DP 31230 dated 1940, showing land to be taken for the proposed medium term quarry expansion described as 'Native Bush' and 'Very steep slopes' (circled in red) and the proposed Stage 2 OBDA described as 'Undulating country in grass' (circled in blue) (source: Quickmap)

ARCHAEOLOGICAL BACKGROUND

Recorded Sites

There are five recorded archaeological sites on the properties containing the Whitehall Quarry: T15/45, T15/341, T15/342, T15/344 and T15/374 (see Figure 8 for locations and Table 1 for a summary description of the sites). One of the sites will be affected by the proposed medium term quarry expansion covered in this assessment, T15/45. This site is a pit complex that was identified in 1977 through inspection of old aerial photographs. The site was first visited during the assessment for an earlier proposed expansion of the Whitehall Quarry in May 2019 (Cameron and Clough July 2019). It was located on a south-facing spur on a steep hillside and was found to contain four roughly rectangular-shaped pits, two near the back of the spur and two near the front. The NZAA Site record is appended to this report for reference.

T15/341, T15/342 and T15/344 were recorded in 2002 during an earlier assessment for expansion at the Whitehall Quarry. T15/341 is situated on a west-east running spur and was described as containing six well-defined pits along a flattened spur top, terraces, a possible house site and a number of indistinct depressions that may indicate the presence of subsurface features, possibly rua (NZAA Site Record). T15/342 was described as a pit terrace site with a number of terraces cut into the flanks of two east-west running spurs that overlook a small tributary of the Karapiro Stream (NZAA Site Record). T15/344 was described as consisting of four to five pits with four to five terraces cut into the southern face of a narrow ridge. (NZAA Site Record). T15/374 was recorded during the survey for an expansion of the Whitehall Quarry in July 2019. It consists of a series of nine roughly rectangular pits located on a high ridge. It should be noted that T15/46, which was tentatively identified as a pā from inspection of aerial photograph, was visited in 2013 and as a result of the inspection it is considered a natural landform and not archaeological in nature (NZAA Site Record).

Archaeological Landscape

Studies relating to the archaeological landscape of inland Waikato have been ongoing for many years, with attempts to understand the settlement location and chronology being one of the main research points. One of the earlier hypotheses, which used an environmental reconstructive model, predicted that the earliest sites would most likely have been located near lakes, such as Lake Mangakaware and Lake Ngaroto and the swampy surrounding land, rather than along rivers (Cassells 1972). Cassells also noted that pā away from the lakes were found in association with modified garden soils and in his opinion, these would have been the second most preferable settlement location (Cassells 1972). Although the connection Cassells made between pā and associated modified garden soils has been supported by data collected in more recent years, recent evidence would suggest that the earliest inland settlements were not in fact situated around these lakes, but instead focussed on the Waikato River. Much of the data that has been collected in favour of the Waikato River, as opposed to lakes, as early settlement sites has been gathered from radiocarbon dates obtained from material collected from Māori horticultural sites. Some of the earliest dates so far have come from sites near Leamington¹ and date to the mid-14th century (Gumbley and Laumea 2018:16). The preference for the Waikato River as an initial

¹ Sites S15/639, S15/641 and S15/757 (source: Gumbley and Laumea 2018).

settlement focus is supported by the abundance of resources it would have contained, the nearby associated soils that would have been suitable for horticultural uses and its role in transportation and communication links with the coastal communities. It should be noted that, although our knowledge has increased greatly over the years, there are still many unanswered questions surrounding the movements of people both geographically and over time through inland Waikato.

With respect to the archaeological sites recorded around the Whitehall Quarry, as can be seen in the map in Figure 8 these sites lie to the north and northeast of a large number of archaeological sites have been recorded to the along the Waikato River. The sites along the river represent a mixture of settlement sites (pā) and also sites associated with Māori horticulture. Many of the latter are borrow pits and many of these sites were recorded during a desk-based project aimed at identifying features associated with Māori horticultural activity (Gumbley and Hutchinson 2013). The land containing the Whitehall Quarry is situated c.3km to the north of the Waikato River in hilly country. However, there are several streams, including the Karapiro Stream and the Waiarumu Stream, running though the property and flat ridges and terraces are present, all of which would have provided a suitable environment for Māori settlement and horticulture. The proximity of these sites to the larger cluster described above makes them part of the overall archaeological landscape of the area.

As none of the archaeological sites at Whitehall Quarry have been previously investigated, the information they currently provide is limited to the fact that they show that the area was utilised by the Māori in the past, as pits, terraces and possible house platforms have been recorded. No dates have been established for the archaeological sites at Whitehall Quarry and their chronological relationship with the much more extensive gardening and occupation area along the Waikato River is yet to be established.

Table 1. Brief description of the recorded archaeological sites on the property containing the Whitehall Quarry*

NZAA #	Site Type	Description	NZTM Easting	NZTM Northing
T15/45	Pit/ Terrace	Pit complex identified from aerial photographs and not previously visited	1825082	5803304
T15/341	Pit/ Terrace	Six pits, six terraces and possible house floor and collapsed rua. Near a level stream terrace that may have been suitable for gardening.	1825298	5803068
T15/342	Pit/ Terrace	A number of terraces cut into the flanks of two parallel spurs above a stream terrace. Damage from stock.	1825374	5802907
T15/344	Pit/ Terrace	Series of terraces and pits damaged from insertion of a water pipeline.	1824942	5803102
T15/374	Pit/ Terrace	Nine roughly rectangular pits located on a high ridge.	1824908	5803604

*T15/46 formerly recorded as an archaeological site has been determined to be a natural feature.

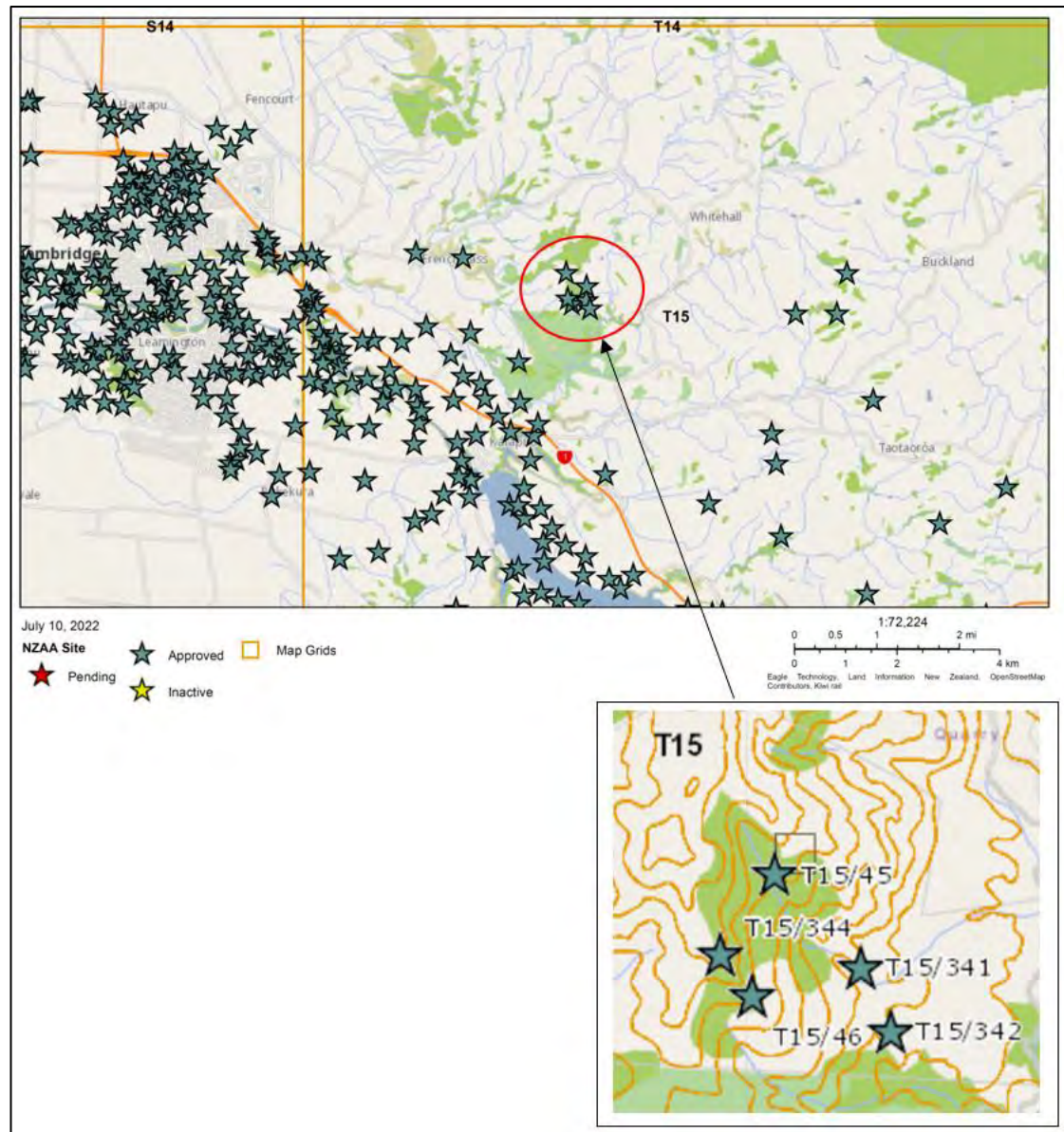


Figure 8. Upper map showing the distribution of archaeological sites in the general area around the Whitehall Quarry with sites on properties containing the proposed development works (circled in red); and lower inset showing the location of the sites in detail (source: NZAA ArchSite)

PHYSICAL ENVIRONMENT

Topography, Vegetation and Historical Modification

The area proposed for the medium term quarry expansion covered in this assessment is situated in steep hilly country ranging from c.250 to 110m asl as can be seen on the aerial plan with contours in Figure 9. The majority of the area has already been modified with the existing quarry making up the northern part of the proposed expansion area. It is also noted that the area to the east of the existing quarry road has also been modified through previous quarry associated activities, as can be seen in the aerial photographs also shown in Figure 9. The area to the west of the quarry road has not previously affected and is for the most part grass covered with some tree cover along the northern boundary and also some trees scattered along the eastern boundary along an existing quarry road. This area contains one recorded archaeological site, T15/45, which is situated on a knoll on a steep hillside.

The proposed Stage 2 OBDA covered in this assessment is located on the southern side of a road running in a north-westerly direction from Whitehall Road to the quarry. As can be seen in the aerial photograph with contours in Figure 10, most of the area is situated on relatively flat ground at c.80-85m asl and consists of planted out/grassed fields. There is also a hillock in the south, which rises up to 110m asl. The land extending from the hillock to the northeast is also more elevated than the rest of the proposed Stage 2 OBDA, lying at c.90m ASL. This area can be seen to contain some buildings and trees. The aerial photograph dated 1966 in Figure 11 shows that this area contained a house, several outbuilding and a small orchard at that time.

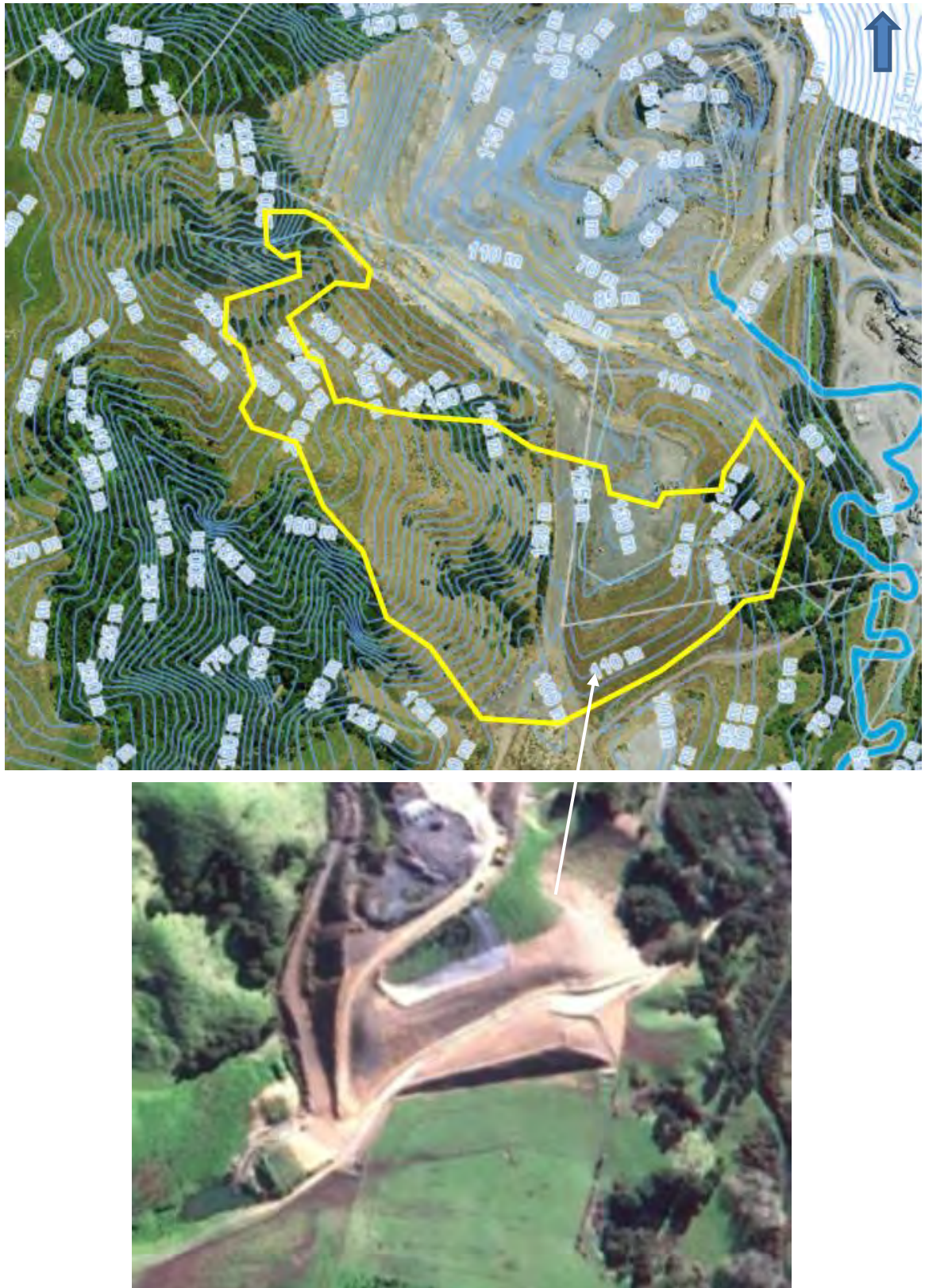


Figure 9. Upper aerial photograph from 2021 with contours showing the approximate area of the proposed medium term quarry expansion covered in this assessment outlined in yellow and lower aerial photograph (dated 2010) showing the modifications to the east of the quarry road (source: upper - Waipa District Intramaps, and lower – Google Earth)



Figure 10. Aerial photograph showing the area of the proposed Stage 2 OBDA covered in this assessment outlined in yellow (sourced from: <http://retrolens.nz> and licensed by LINZ CC-BY 3.0)



Figure 11. Aerial photograph dated 1966 (Crown 1558 3595 4) showing the proposed Stage 2 OBDA covered in this assessment outlined in yellow (sourced from: <http://retrolens.nz> and licensed by LINZ CC-BY 3.0)

FIELD ASSESSMENT

Field Survey Results

The currently proposed development is one in a series that have taken place at Whitehall Quarry and previous surveys have covered the areas included in the current assessment. These consist of a survey of the proposed quarry expansion area in May 2019 and survey of the proposed Stage 2 OBDA undertaken in June 2022.

May 2019 Survey

A site visit for a previous quarry expansion was undertaken on 27 May 2019 with the area included in the current assessment shown in Figure 12. During the survey the coordinates provided in the NZAA site record for archaeological site T15/45 were found to be in a steep-sided and wooded gully and were clearly incorrect. So instead, the area to the east, a location that fitted the written description in the site record, was walked over and visually scanned. Much of this area was located on steep-sided hill slopes, although some small, flat-topped spurs were also noted. One such spur was found to contain four roughly rectangular-shaped pits c.4m x 3m with two near the back end of the spur aligned north-south and two near the front edge of the spur oriented east-west. Probing in the pits identified a soft, easily penetrated soil down to c.80-85cm, where a hard layer was encountered. Again the ground surrounding the pits provided a uniform moderately compacted soil when probed. Based on the description of site T15/45 in the NZAA site record as being at the c.500ft (155m) contour and several hundred metres to the southwest of the quarry as it existed in 1966, this is considered to be site T15/45, with the adjusted coordinates being E1825306 N5803342 +/-6m (taken by handheld GPS). Photographs are provided in Figure 13 and Figure 14, and the site record form is appended to this report. No other archaeological features or deposits were identified during the survey.



Figure 12. Aerial plan showing the area surveyed for the proposed medium term quarry expansion outlined in yellow and location of site T15/45 indicated by blue star (source: Google Earth)



Figure 13. View of the two pits (indicated by arrows) near the end of the spur at archaeological site T15/45 (looking southeast)



Figure 14. View of the back part of the spur containing archaeological site T15/45 with the two pits in this area indicated by arrows (looking northwest)

June 2022 Survey

A survey of the part of the proposed Stage OBDA included in this assessment was undertaken on 20 June 2022. These areas included paddocks in the western side and also the area containing the house and orchard on the 1966 aerial photograph in Figure 11. The survey areas are shown in Figure 15 and results of the survey from both of these areas are presented below.



Figure 15. Aerial plan showing the proposed Stage 2 OBDA covered in this assessment indicated as Areas 1 and 2 (source: Google Earth)

Paddocks to the South of the Quarry Road (Area 1)

The land was observed to be divided into grassed paddocks with varying degrees of water saturation present and in general the ground was moist with sporadic areas of standing water. The entire area was walked over and intermittent probing was undertaken. The visual inspection did not identify any unusual features in the ground surface and probing indicated a generally uniform soil consistency with the probe being able to be extended fully into the soil. Photographs are shown in Figure 16 and Figure 17. Five test pits were also excavated in this area (Figure 18), four of which were distributed from north to south along the western side bordering the Karapiro Stream. The fifth test pit was located near the quarry road at coordinates E1826042 N5803078 ± 2 m. This test pit (TP1) showed a grass turf from 0-4cm below surface (bs) with yellowish brown silt, overlying a light yellowish brown to grey brown loosely packed silt from 4-31cm (bs). At 31cm (bs) a yellow/orange silty clay was encountered and the test pit was stopped. It was noted that the lower few centimetres of the test pit showed a mixing of the silt and clay layers.

The next test pit (TP2) was located at the northern part of this area at coordinates E1825878 N5803104 $\pm$ 2m. This test pit showed a thin grass turf layer from 0-2cm (bs) over a light yellowish brown silt from 2-18cm (bs) becoming mixed with a yellow/ orange silty clay from 18-20cm (bs) where a yellowish/ orange silty clay layer was encountered and the test pit was stopped. The third test pit in this area (TP3) was located in an area bordering the gully that was fenced off and the location was chosen as it was considered to be located in an area that would have been less disturbed than the main paddocks. The test pit was located at coordinates E1825843 N5803020 $\pm$ 2m. It showed a thin grass turf from 0-2cm (bs) over a yellowish brown slightly clayey silt from 2-18cm (bs) where a yellow/ orange silty clay layer was encountered and the test pit was stopped. The fourth test pit (TP4) was located further to the south. This test pit showed a grass turf from 0-4cm (bs) over a yellowish brown to pale greyish brown silt from 4-24cm (bs) becoming mixed with yellow/ orange silty clay with depth. At 24cm (bs) a yellow/ orange silty clay layer was encountered and the test pit was stopped. TP5 was the most southerly test pit undertaken in this area, it showed a grass turf from 0-2cm (bs) over a yellowish brown slightly clayey silt from 4-18cm (bs) where a yellow/ orange silty clay layer was encountered and the test pit was stopped. The survey in this area did not identify any archaeological features or deposits.



Figure 16. Photograph showing a general view of the February 2022 survey area for the proposed Stage 2 OBDA , looking west



Figure 17. Photograph showing an area of water saturation in the survey area, looking north

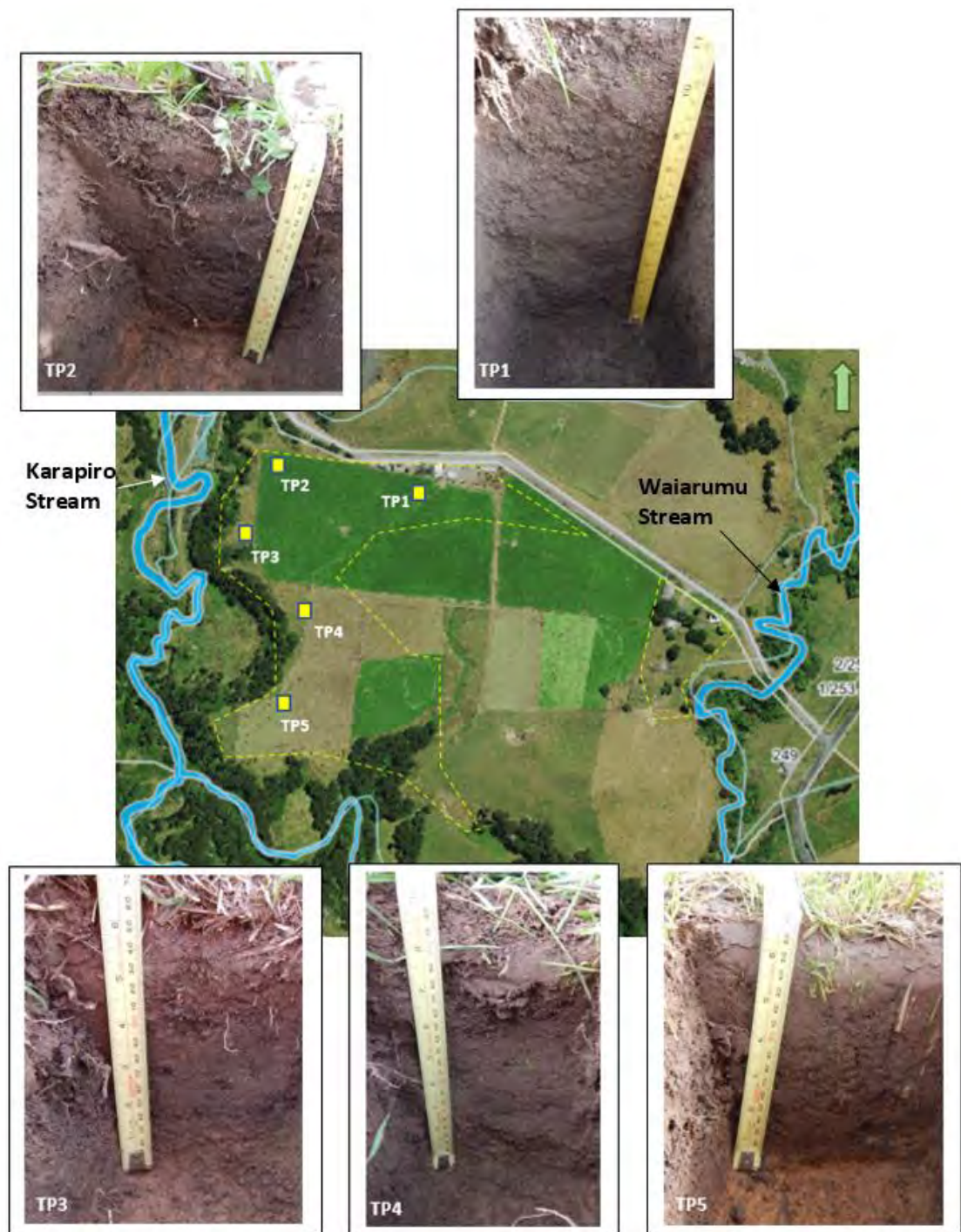


Figure 18. Aerial plan in centre with locations of test pits TP1 to TP5 with details of test pits in the insets and locations of Waiarumu and Karapiro Streams indicated (source: Waipa District Intramaps)

Location of House on 1966 Aerial Photograph (Area 2)

The site of the house and outbuildings that were visible on the 1966 aerial photograph (Figure 11) was visited next. The location of the former house was found to be on a northward-facing hillside that had been benched out part way down the slope for the house (Figure 19). Three corrugated iron structures were observed during the survey, two along the western side and one in the southern part, all of which were of modern construction (Figure 20).

The area to the south of the former house site contained the top of the hill and sloped down to the southwest to a relatively flat area. As noted earlier this area had formerly been planted out with trees, most of which had been removed although two orange trees were still noted to be present, indicating the former use as an orchard. The ground surface was noted to be uneven with numerous irregularly shaped depressions, which are considered most likely the result of the removal of the trees (Figure 21). The south-eastern part of this area bordering the Waiarumu Stream (Figure 22) was probed, but no evidence of any archaeological features or deposits were identified during the survey.



Figure 19. Photograph showing location of the former house, looking southeast



Figure 20. Photograph showing the corrugated iron shed, looking west



Figure 21. Photograph of the hillside to the south of the former house with irregular ground surface visible



Figure 22. Photograph showing the area to the south of the former house bordering the Waiarumu Stream, looking southwest

DISCUSSION AND CONCLUSIONS

Summary of Results

Five archaeological sites have been recorded on the properties containing the Whitehall Quarry and all of the sites reflect the use of the area by Māori in the past. One of the archaeological sites will be affected by the proposed quarry development. This is site T15/45 (pits) which is located within the proposed medium term quarry expansion area covered in this assessment. The other four sites – T15/341 (pits and terraces), T15/342 (pits and terraces), T15/344 (pits and terraces) and T15/374 (pits) – are not within the proposed works areas and will not be impacted by the proposed works. No evidence of archaeological features or deposits was identified during the background research and survey for this assessment in the proposed Stage 2 OBDA.

Māori Cultural Values

This is an assessment of effects on archaeological values and does not include an assessment of effects on Māori cultural values. Such assessments should only be made by the tangata whenua. Māori cultural concerns may encompass a wider range of values than those associated with archaeological sites. The historical association of the general area with the tangata whenua is evident from the recorded sites, traditional histories and known Māori place names.

Survey Limitations

It should be noted that archaeological survey techniques (based on visual inspection and minor sub-surface testing) cannot necessarily identify all sub-surface archaeological features or detect wahi tapu and other sites of traditional significance to Māori, especially where these have no physical remains.

Archaeological Value and Significance

The Waikato Regional Policy Statement (RPS) identifies several criteria for evaluating the significance of historic heritage places. In addition, Heritage NZ has provided guidelines setting out criteria that are specific to archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2019: 9-10). Both sets of criteria have been used to evaluate the value and significance of archaeological site T15/45 in Table 2 and Table 3. Overall, the site is considered to have moderate archaeological/historic heritage value based on the criteria discussed. The site is not rare in the region but has moderate potential to add to existing information on Māori settlement and horticulture through radiocarbon dating of material recovered from within the pit features (if suitable material is present) and investigation of Māori horticultural activities through aspects such as structural form, drainage, capacity and also the type of plants that were stored in the pit. The site also has contextual value as part of a broader archaeological landscape.

If any additional unidentified subsurface archaeological sites are present they would also have archaeological value, although the level of significance would depend on the site type and its extent and condition.

Table 2. Assessment of the historic heritage values of site T15/45 based on the Waikato Regional Policy Statement criteria (Section 10A table 10.1)

Archaeological Qualities	
Information	The site includes at least four storage pits and investigation could add to our understanding of Māori settlement and horticultural activities in the area.
Research	Any intact features, including material suitable for radiocarbon dating could be used to provide information on patterns of past Māori settlement in inland Waikato.
Recognition or Protection	The site is recorded in the NZAA Site Recording Scheme and is a protected archaeological site as defined in the HNZPT Act 2014.
Architectural Qualities: Not applicable to this site.	
Cultural Qualities	
Sentiment	The site is not currently important as a focus of spiritual, political, national or other cultural sentiment. Cultural value to Māori should be determined by tangata whenua.
Identity	The site is not currently a context for community identity or sense of place and does not provide evidence of cultural or historical continuity.
Amenity or Education	Limited, as the site is located on private land.
Historic Qualities	
Associative Value	The site does not have any known direct association with, or relationship to, a person, group, institution, event or activity that is of historical significance to Waikato or the nation.
Historical Pattern	Intact archaeological features and datable material could be used to provide information on patterns of Māori settlement in the area.
Scientific Qualities	
Information	The site does not have any particular potential to contribute information about an historic figure, event, phase or activity.
Potential Scientific Research	The research potential of the site is of an archaeological nature and is addressed under the first heading.
Technological Qualities	
Technical Achievement	There is no evidence that the site shows a high degree of creative or technical achievement or is associated with scientific or technical innovations or achievements.

Table 3. Assessment of the archaeological values of site T15/45 based on Heritage NZ criteria (Heritage NZ 2019: 9-10)

Value	Assessment
Condition	The site is in fair condition and can be identified through surface evidence. The condition of subsurface features is not known.
Rarity	It is not a rare site type.
Contextual value	The site is part of an archaeological landscape of Māori settlement and horticultural activities along the Waikato River and further inland. Its contextual value lies in its contribution to the wider archaeological landscape of the area.
Information potential	This depends on both the ability of a site to provide information relating to the history of New Zealand through archaeological investigation, and on the research questions to which it could contribute. The site has some information potential as it could provide information on Māori settlement patterns in inland Waikato.
Amenity value	The site is located on private land and has limited amenity value.
Cultural associations	The site has Māori cultural associations. Their cultural significance is for tangata whenua to determine.
Other	No other values were identified.

Effects of the Proposal

Five archaeological sites have been recorded on the properties containing the Whitehall Quarry. Four of the sites are outside of the proposed area of works and will not be impacted by the proposed works. The proposed activity will affect one recorded archaeological site, T15/45, as it is located within the proposed medium term quarry expansion area. Impacts on archaeological sites should be avoided wherever possible, and consideration could be given to complete or partial avoidance of this area. However, based on the location of the site in the middle of the expansion area, it appears unlikely that the site can be avoided. If so, the quarrying works will require removal of all material overlying the rock to be quarried which would destroy any archaeological remains present. As such it is recommended that topsoil stripping on the knoll where the archaeological site is located takes place under archaeological supervision, as shown in Figure 23, and that any archaeological features identified are investigated, recorded and sampled according to professional archaeological standards to recover information relating to the history of the area. An Authority will be required under the HNZPTA before the site can be modified (see below).

The overall effects on archaeological values are considered to be minor as site T15/45 has been evaluated as having no more than moderate archaeological value and it is considered likely that any unrecorded subsurface remains encountered during the works would be of a similar nature. As well, the four other archaeological sites recorded in the area will not be affected by the proposed works. Site T15/45 makes only a small contribution to the broader archaeological landscape and the effects on this landscape would therefore also be minor.

Two areas proposed for overburden deposition are also included in this assessment, labelled as Survey Area 1 and 2 for reference purposes in this report. As topsoil stripping will be required prior to deposition of the overburden material any archaeological remains that are present would be affected by the works.

The survey in Area 1 did not identify any archaeological deposits or features. It is noted, however, that the upper layers of the soil had been affected by agricultural activities, including ploughing, which would have obscured any archaeological remains which may have been present near the surface. As the area is near the Karapiro Stream on its western side, the presence of archaeological remains at deeper levels cannot be completely ruled out and if present would be affected by the proposed works.

It is noted that a house was identified on a 1966 aerial photograph in Survey Area 2 but based on the research for this assessment no evidence of a pre-1900 use of the property for a homestead was identified. As the property was included in the 1900 survey of the Whitehall Estate (Section 13) and subdivided in 1913, it is considered that the use of the homestead would be from the early decades of the 20th century. However, as the exact date of use of the property has not been able to be established it is considered possible that use may pre-date 1900 and if any remains of such use have survived that would be affected by the proposed works.

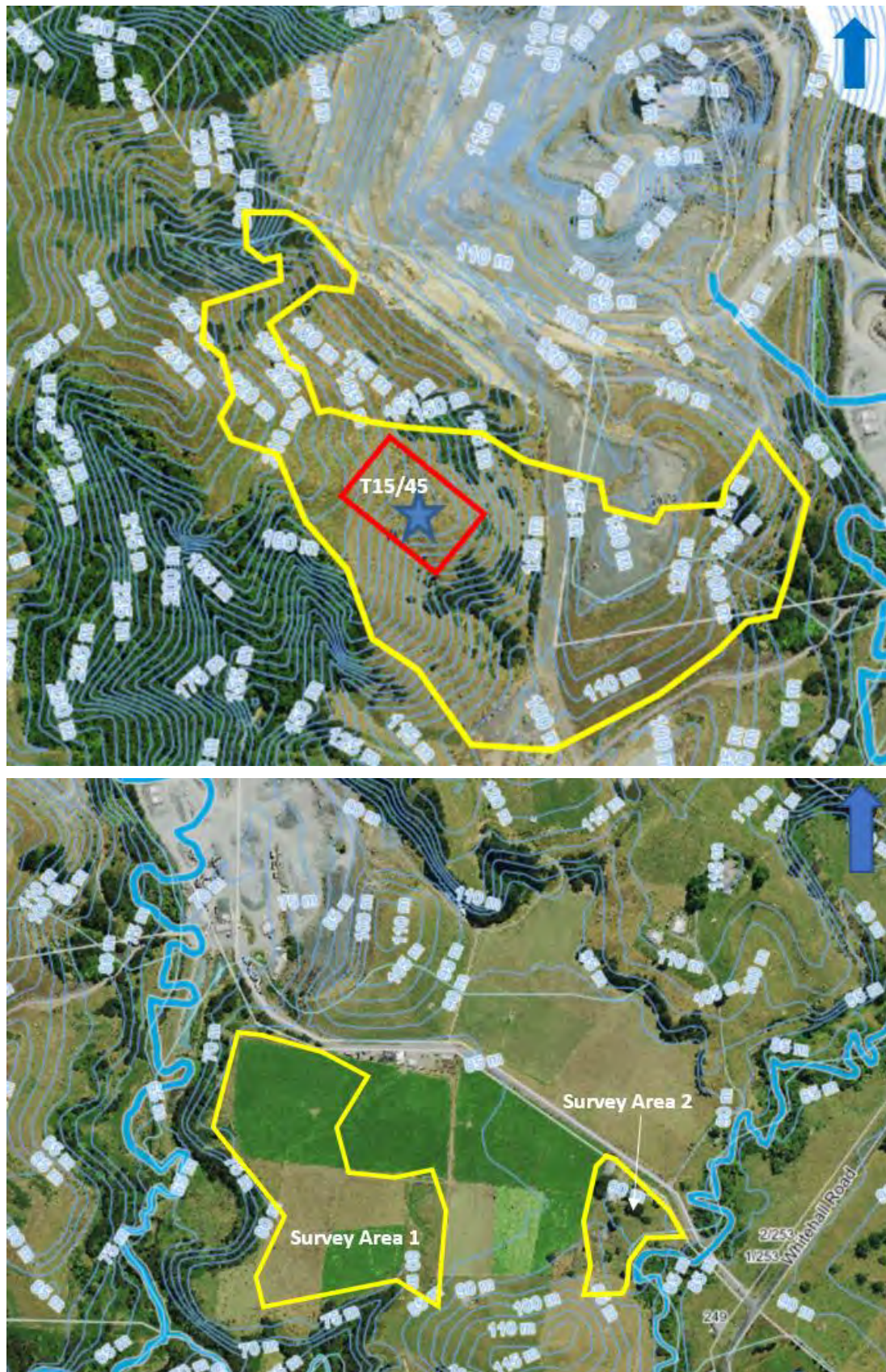


Figure 23. Aerial plans with area to be covered under an authority outlined in yellow- Upper with contours showing the proposed medium term quarry expansion with the area to be monitored by an archaeologist during topsoil stripping outlined in red and with location of recorded archaeological site T15/45 indicated and lower aerial photograph showing the OBDAs (source: Waipa District Intramaps)

Resource Management Act 1991 Requirements

Section 6 of the RMA recognises as matters of national importance: ‘the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources’. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: ‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Māori, including wahi tapu; (iv) surroundings associated with the natural and physical resources’.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the rules of the RMA. The Waipa District Plan is relevant to the proposed activity.

This assessment has established that the proposed activity will affect archaeological site T15/45. This site is included in Appendix N3 in the Waipa District Plan which states that all archaeological sites both recorded and unrecorded are protected under the HNZPTA. Although it is considered unlikely, the possibility that additional unidentified subsurface archaeological remains may be exposed during the works cannot be completely discounted. Any unavoidable effects on archaeological deposits or features can be appropriately mitigated through archaeological investigation and recording to recover information relating to the history of Māori settlement in the inland Waikato.

If resource consent is granted, it is recommended that an advice note regarding the provisions of the HNZPTA is included, as an Authority under that Act will be required for any modification and investigation of archaeological remains relating to T15/45.

Heritage New Zealand Pouhere Taonga Act 2014 Requirements

In addition to any requirements under the RMA, the HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

‘archaeological site means, subject to section 42(3), –

(a) any place in New Zealand, including any building or structure (or part of a building or structure) that –

(i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1)²

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)), or for the purpose of conducting a scientific investigation (Section 44(c)). Applications that relate to sites of Māori interest require consultation with (and in the case of scientific investigations the consent of) the appropriate iwi or hapu and are subject to the recommendations of the Māori Heritage Council of Heritage NZ. In addition, an application may be made to carry out an exploratory investigation of any site or locality under Section 56, to confirm the presence, extent and nature of a site or suspected site.

As effects on site T15/45 cannot be avoided, an Authority must be obtained from Heritage NZ before any work can be carried out that may affect the site. The conditions of the authority are likely to include the archaeological recording/investigation of any remains affected. As the possibility of additional subsurface remains cannot be completely discounted, especially in the vicinity of the former house located in Survey Area 1 and also in the area near the Karapiro Stream in Survey Area 2, it is recommended that the authority cover all works areas for the project.

Conclusions

Five archaeological sites have been previously recorded on the properties containing the Whitehall Quarry. Although the likelihood of additional subsurface remains being present is considered low, the possibility cannot be completely discounted. The currently proposed development will impact on one recorded archaeological site, T15/45 and based on its location in the centre of the proposed medium term quarry expansion area it is considered unlikely that it can be avoided. Any works that are likely to result in modification of an archaeological site require an archaeological Authority under the HNZPTA, which must be granted prior to the start of works.

Overall, it is considered that any adverse effects on archaeology resulting from the proposed medium term quarry expansion and Stage 2 OBDA covered in this assessment are likely to be minor, due to the nature of the archaeological site that would be affected. It is considered that if additional subsurface archaeological remains are identified during development, they are unlikely to be extensive or of high archaeological significance. The adverse effects on archaeology could be appropriately mitigated through the recovery of archaeological information, potentially including material suitable for radiocarbon dating, relating to Māori settlement in the inland Waikato region.

² Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be demolished. Under Section 43(1) a place post-dating 1900 (including the site of a wreck that occurred after 1900) that could provide 'significant evidence relating to the historical and cultural heritage of New Zealand' can be declared by Heritage NZ to be an archaeological site.

RECOMMENDATIONS

- Consideration should be given to avoiding impacts on the recorded site T15/45 in the proposed quarry expansion area.
- If site T15/45 cannot be avoided, an Authority must be applied for under Section 44(a) of the HNZPTA and granted by Heritage NZ prior to the start of any works that will affect the site. (*Note that this is a legal requirement*).
- Because it is possible that additional unrecorded sites may be exposed during earthworks, the Authority application should include any additional sites that may be discovered when works are under way.
- The affected archaeological site(s) should be investigated and recorded in accordance with the conditions of an Authority issued by Heritage NZ to recover information relating to the history of the area.
- Earthworks in the vicinity of T15/45 (i.e. on the knoll containing the site, as shown in Figure 23) should be monitored by an archaeologist to establish whether any additional unrecorded subsurface remains are present.
- In the event of koiwi tangata (human remains) being uncovered, work should cease immediately in the vicinity of the remains and tangata whenua, Heritage NZ, the NZ Police and Council should be contacted so that appropriate arrangements can be made.
- As the affected site relates to Māori settlement, the tangata whenua should be consulted regarding the cultural effects of the proposal (this will be required as part of the authority application and is likely to be required for resource consent purposes).

BIBLIOGRAPHY

- Allen, P. 1969. Military Settlement in the Middle Waikato Basin. Thesis presented in partial fulfilment of the requirements for the Degree of M. Phil in Geography. University of Waikato.
- Belich, J. 1986. *The New Zealand Wars and the Victorian Interpretation of Racial Conflict*. Auckland University Press, Auckland.
- Bickler, S., D. Prince and R. Clough. 2002. Whitehall Quarry Archaeological Assessment. Clough & Associates Report prepared for Winstone Aggregates. A Division of Fletcher Concrete and Infrastructure Ltd.
- Cameron, E. and R. Clough. July 2019. Cambridge, Whitehall Quarry Expansion: Archaeological Assessment. Clough & Associates Report prepared for Winstone Aggregates. A Division of Fletcher Concrete and Infrastructure Ltd.
- Cameron, E. July 2022. Cambridge, Whitehall Quarry Expansion and Eastern Overburden Deposition Area: Archaeological Assessment. Addendum to Cambridge, Whitehall Quarry Expansion: Archaeological Assessment (July 2019). Clough & Associates Report prepared for Winstone Aggregates. A Division of Fletcher Concrete and Infrastructure Ltd.
- Cassels, R. 1972. Human ecology in the prehistoric Waikato, *The Journal of The Polynesian Society* Vol. 1 No.2, pp. 196-247.
- Gumbley, W. and M. Hutchinson. 2013. *Pre-European Māori Garden Sites in Waipa District: An assessment of the State of the Resource*. Report for NZ Historic Places Trust.
- Gumbley, W. and M. Laumea. 2018. Amberfield – Assessment of Archaeological Values and Effects. W Gumbley Ltd Report for Weston Lea Ltd.
- Heritage NZ. 2006. Writing Archaeological Assessments. Archaeological Guidelines Series No. 2. New Zealand Historic Places Trust Pouhere Taonga (now Heritage NZ).
- Sole, T. 2005. *Ngati Ruanui: A History*. Huia Publishers, Wellington New Zealand.

Internet Sources:

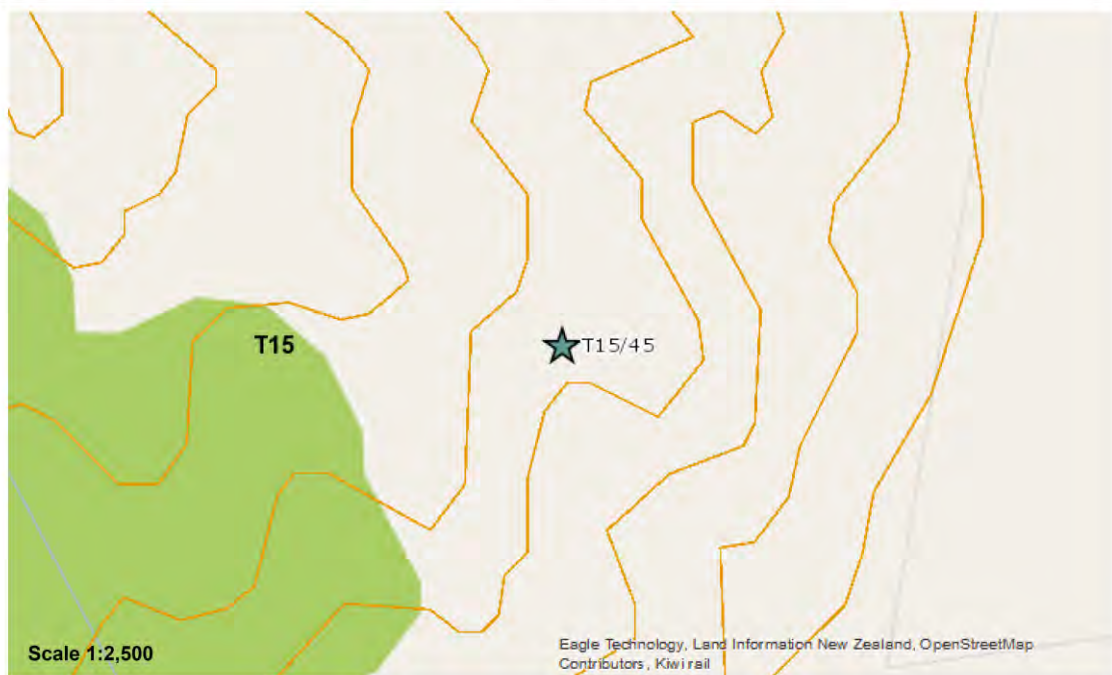
- Cambridge Museum Website accessed at: <http://cambridgemuseum.org.nz/>
- Cowan, J. 1955. *The New Zealand Wars: A History of the Māori Campaigns and the Pioneering Period: Volume I (1845–64)*, sourced at <http://nzetc.victoria.ac.nz/tm/scholarly/tei-Cow01NewZ-c35.html>. Copyright: 2016 Victoria University of Wellington.
- New Zealand Archaeological Association ArchSite Database, accessed at <http://www.archsite.org.nz>.
- New Zealand Heritage List, accessed at <http://www.historic.org.nz>
- Stone R.J.C. 2010. 'Williamson, James', Dictionary of New Zealand Biography, first published in 2010. Te Ara - the Encyclopedia of New Zealand, <https://teara.govt.nz/en/biographies/1w27/williamson-james> (accessed 20 March 2018)
- Stone R.C.J. 2013. Makers of Fortune: A Colonial Business Community and its Fall. Auckland University Press. Accessed at: https://books.google.co.nz/books?id=JeAwAAQBAJ&pg=PT263&lpg=PT263&dq=william+thorne+buckland+cambridge&source=bl&ots=frKh_zHY1j&sig=WIUGGQfYNIZrs2X0UYqViDdtYpU&hl=en&sa=X&ved=0ahUKEwiulr6I8PnZAhVInJQKHclADY84ChDoAQguMAE#v=onepage&q=william%20thorne%20buckland%20cambridge&f=false
- TeAra - Rāwiri Taonui. 'Canoe traditions - Te Arawa and Tainui', Te Ara - the Encyclopedia of New Zealand, updated 22-Sep-12 accessed at <http://www.TeAra.govt.nz/en/canoe-traditions/page-5>
- Winstone Aggregates Website- accessed at <https://winstoneaggregates.co.nz/sites-locations/>

Newspaper Articles accessed at: <https://paperspast.natlib.govt.nz/newspapers>:

Waikato Independent 28 March 1935

APPENDIX A: SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 Site Record Form		NZAA SITE NUMBER: T15/45 SITE TYPE: Pit/Terrace SITE NAME(s): DATE RECORDED:
SITE COORDINATES (NZTM) Easting: 1825306 Northing: 5803342 Source: Handheld GPS		
IMPERIAL SITE NUMBER: N66/66 METRIC SITE NUMBER: T15/45		
		
Finding aids to the location of the site the site is located on a spur that drops down steeply to the southeast approximately 120m to the east of a woodland area.		
Brief description Four roughly rectangular pits on spur (c. 3-4 m and 80-85cm depth), two near the back of the spur (oriented north-south) and two near the slope of the front (southeastern edge) oriented east west.		
Recorded features Pit		
Other sites associated with this site		

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: T15/45
Site description Updated 19/07/2019 (Field visit), submitted by ellencameron , visited 27/06/2019 by Cameron Ellen; Harding Leah Grid reference (E1825306 / N5803342) The site is situated on a slightly southeasterly sloping grassed spur of land located on a hill side running down to a lower lying area that has been impacted by quarrying activities over many decades. Four roughly rectangular pits were identified on the spur (c. 3-4 m and 80-85cm depth), two near the back of the spur (oriented north-south) and two near the slope of the front (southeastern edge) oriented east west. Condition of the site Updated 19/07/2019 (Field visit), submitted by ellencameron , visited 27/06/2019 by Cameron Ellen; Harding Leah The site has some damage from stock movements. Updated 19/07/2019 (Field visit), submitted by ellencameron , visited 27/06/2019 by Cameron Ellen; Harding Leah The site has some damage from stock movements. Statement of condition Updated: 14/11/2019, Visited: 27/06/2019 - Fair - Some intact features, but others may be unclear or damaged Current land use: Updated: 14/11/2019, Visited: 27/06/2019 - Grazing Threats: Updated: 14/11/2019, Visited: 27/06/2019 - Quarrying	

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: T15/45
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Supporting documentation held in ArchSite

photograph of the two pits near the back of T15/45



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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

AM AW -- AD AA EA

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM		SITE NUMBER N66/66
Map number N66	Map name Matamata	SITE NAME: MAORI OTHER
Map edition NZMSI 4th ed 1971	Grid Reference 058346	SITE TYPE pit complex
1. Aids to relocation of site E305800 N534600 Between French Pass Road and Karapiro/Whitehall Roads at approximately 500' contour several hundred metres south west of the quarry		
2. State of site; possibility of damage or destruction Good state of preservation		
3. Description of site (NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.) Pit complex located using aerial photographs - ground inspection to follow presently.		
4. Owner to be ascertained Address		Tenant/Manager Address
Attitude		Attitude
5. Methods and equipment used Photographs taken: Yes/No (Describe on Photograph Record Form) Date recorded 11/1/77		
6. Aerial photograph or mosaic No. 3595/3 & 4		Site shows: Clearly ~~not~~ not ~~not~~ not
7. Reported by Address S. C. EDSON WAIKATO ART MUSEUM BOX 937 HAMILTON		Filekeeper S. C. EDSON WAIKATO ART MUSEUM BOX 937 HAMILTON
Date 11/1/77		Date 11/1/77

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

View of pits near front of spur at T15/45 taken by Ellen Cameron for the Whitehall Quarry Expansion Archaeological Assessment



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