

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name: Hunua Quarry Development Substantive Application

Fast-Track application number: FTAA-2603-1185

Council application numbers: BUN60464053 (LUC60464054)

2.0 Technical Specialist Memo – Earthworks & Erosion and Sediment Control

To: Emma Chandler, Consultant Planner
Warwick Pascoe – Principal Project Lead

From: Steve Bryant (Bryant Environmental Solutions Ltd on behalf of Earth, Streams & Trees Team, Auckland Council)

Qualifications & Relevant Experience:

I have 26 years of full-time experience providing specialist erosion and sediment control services mainly to Regional Councils, and on the recommendation from Greater Wellington Regional Council I was contracted to the NZTA as one of three members of the Sediment Management Peer Review Panel (SMPRP) for the Transmission Gully project from 2013 to 2020.

I have a proven track record as a key witness with successful enforcement action for Auckland Council and Waikato Regional Council. Experienced with all forms of enforcement, including Abatement Notices, Infringement Notices and seven prosecutions (as Council's key witness) in the Environment Court.

I have an extensive understanding of RMA and consent processing/monitoring with an excellent understanding of the intent of consent conditions and the practical assessment/evaluation of effective site controls.

Preparation in Accordance with the Code of Conduct:

I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Signature:



Date:

30 July 2026

3.0 Executive Summary

Winstone is seeking approval for the project under the Fast-Track Approvals Act 2024 (FTAA). The Hunua Quarry Development is a Listed Project in Schedule 2 of the FTAA, reflecting its regional and national significance. The proposal is to expand the existing quarry to increase annual quarry production to a peak of approximately 5.4 million tonnes of aggregate, and to enable the continued extraction of aggregate for a further 80 years (“the Project”) or also referred to as the “quarry development area”. Through this approval process, Winstone proposes to update the consent conditions and quarry management plans applying to the site to incorporate the changes and enable greater operational efficiency.

This memorandum reviews the applicant’s proposal to undertake earthworks of approximately 23,398 million m³ over an area of 108ha.

To manage the potential effects of earthworks, the applicant has provided an *Erosion and Sediment Control Assessment Report. Hunua Quarry – Substantive Application under the Fast Track Approvals Act 2025*, (Infrastructure Report), and supporting engineering drawings, Erosion and Sediment Control Plans (ESCP) that proposes erosion and sediment control measures designed in accordance with the guidelines of Auckland Council’s GD05 document, and industry best practice.

The assessment concludes that, provided the earthworks are undertaken in accordance with the application documents, including a final Infrastructure Report and ESCP, and earthworks related conditions of consent, that the potential effects associated with all land disturbance will be appropriately managed.

4.0 Documents Reviewed

The following documents have been reviewed in preparing this memorandum:

- *Part B. Hunua Quarry Development Substantive Application Part B – Assessment of Environmental Effects and Application for Resource Consent*. Prepared for Winstone Aggregates. 30 March 2026. Revision Final. Prepared by Boffa Miskell Limited. (AEE)
- *Erosion and Sediment Control Assessment Report. Hunua Quarry – Substantive Application under the Fast Track Approvals Act 2025*. Prepared for Winstone Aggregates. Date June 2026. Revision 2 (19/06/0226). Prepared by MPD Environmental Limited. (Infrastructure Report)

- *Erosion and Sediment Control Plan Drawings. Drawing No: ESCP-HQ-01, Rev: 2 (19/06/2026). Prepared by MPD Environmental Limited. (Plans)*
- *Erosion and Sediment Control Plan Drawings. Drawing No: ESCP-HQ-02, Rev: 2 (19/06/2026). Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-03, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-04, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Erosion and Sediment Control Plan – Western Haul Road. Drawing Ref: ESCP-HQ-05, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-06, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-07, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-08, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-09, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- *Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-10, Rev: 2. Prepared by MPD Environmental Limited. (Plans)*
- Additional information received under section 92 of the Resource Management Act (RMA), by email with updated drawings and document from MPD Environmental Limited on 15, 22 and 28 July 2026 in relation to ESCP.

5.0 Additional Reasons for Consent Not included in AEE / Incorrect Reasons for Consent

The applicant has identified the reasons for consent relating to earthworks under chapter E11 of the Auckland Unitary Plan (AUP). I concur with those reasons for consent.

6.0 Specialist Assessment

The potential environmental effects of the proposed earthworks are primarily associated with the diversion and realignment of the Mangapu Stream, and the longer-term development of the site to enable construction of haul roads and other associated earthworks activities.

6.1 Earthworks - Erosion and Sediment Controls

To manage potential sediment discharges resulting from the proposed earthworks, the applicant has prepared a suitable ESCP in accordance with Auckland Council guidance document number 005, "Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region", June 2016, Incorporating Amendment 3 (GD05).

The proposed erosion and sediment controls for the site include the following:

Sediment Retention Ponds (SRP), Decanting Earth Bunds (DEBs), Silt Fences (SFs), Super Silt Fences (SSFs), Dirty Water Diversions (DWDs), Clean Water Diversions (CWDs), and a Stabilised Construction Entrance. I consider the applicant's proposal in this regard to be in accordance with GD05, and I support the applicant's proposal in this regard.

The Symonds Hill Pit development is proposed to occur in eight indicative stages to allow continuous production while progressively implementing environmental mitigation and rehabilitation. However, to enable operational flexibility and the need to respond to market conditions, the staging and programme may not be followed sequentially. Table 2 below identifies each stage, an overview of the activities to be undertaken and whether these are part of the enabling works or 'business as usual' quarrying activity.

Table 2: Staging and Indicative Life-of-Quarry Development Plan Overview

Stage	Activity	Nature of the works	Approximate duration (years)
1	Tributary realignment including the construction of a temporary bridge.	Enabling works	4
1	Stripping campaign to the northwest (NW), -, occurs concurrently with the tributary realignment. Provided for under existing consents.	Extraction and processing	1-4
2	Stream diversion completed – the temporary bridge will be removed.	Enabling works	1
2	NW cut down to 105RL. Provided for under existing consents.	Extraction and processing	1
2	Construct the western haul road.	Enabling works	1
3	Incremental stripping campaigns: South from current pit crest towards stream diversion down to 120RL	Extraction and processing	1

4	Incremental stripping campaigns: Southwest of the stream diversion and adjacent to the southern site boundary	Extraction and processing	43-73
5	Incremental stripping campaigns: Southern boundary towards the current pit	Extraction and processing	43-73
6	Incremental stripping campaigns: In an anticlockwise direction, extending the pit to the south and northwest and deepening the pit	Extraction and processing	43-73
7	Realign the western haul road, so that it runs, for a short distance, along the southeast extent of the pit. This will enable the pit to extend to the northwest.	Enabling works	43-73
7	Incremental stripping campaigns: in an anticlockwise direction, extending the pit to the southwest and northwest and deepening the pit	Extraction and processing	43-73
8	Incremental stripping campaigns: in an anticlockwise direction, extending the pit to the northwest and north	Extraction and processing	43-73

I consider the proposed controls detailed within the ESCP are in accordance with best.

ESCP Revision/Updates

It is anticipated that the ESCP will evolve over time, as erosion and sediment control methodologies develop alongside legislation and consent requirements. The ESCP will be a working document and will be updated regularly as required, with all changes submitted for certification to Auckland Council prior to works commencing.

Reasons for making changes to the ESCP will be documented. Any new/updated version of the ESCP documentation will be issued with an updated version number and dated. A copy of the current ESCP document and subsequent versions will be kept for the Project records. Superseded versions will be marked as obsolete.

Any relevant revisions to the ESCP will be submitted to the Auckland Council for review and certification at least 10 days before becoming operational.

Chemical Treatment

The applicant has proposed chemical treatment (flocculation) for the sediment control devices. It is well proven that chemical treatment will increase the overall efficiency of sediment controls treating Auckland soil types. As such, the provision of a Chemical Treatment Management Plan (ChTMP) for Auckland Council approval prior to

works commencing, and the chemical treatment of the SRPs throughout the earthwork's operation has been recommended and a condition has been included below.

Timing & Seasonal Restriction

The applicant seeks consent for a duration of 35 years. Given the scale of the works and the receiving environment, a seasonal restriction is proposed. This will suitably ensure the earthworks are undertaken during the standard Auckland Council earthworks season, being 1 October to 30 April of any year. This is consistent with similar earthworks proposals in the Auckland Region and will help ensure appropriate management of the works should the applicant intend to work during the wetter, winter months. I support the applicant's proposal in this regard.

6.2 Stream Works - methodologies

The proposal accommodates diversions, culverts, bridges and works associated with stream realignments that require streamworks consent. The applicant provided a proposed range of generic control options that, depending on the nature of the works, will be decided upon during construction and managed via the various proposed management plans.

I consider the applicant's Streamworks proposal to be in accordance with GD05, and I support the proposed methodologies. These are outlined below.

General Online Stream Diversion Methodology (structure installed within the existing stream)

There are two options to consider for online stream diversions – over-pumping or construction of a stream diversion channel to allow the water to by-pass the worksite.

1. Dam and Divert Methodology:

Damming a stream and pumping the flows around the worksite back to the stream considerably minimises disturbance relative to constructing a new diversion channel. With high flow streams, diversions are sometimes the only option; however, with most small streams, damming and pumping are less harmful to the environment and relatively simple to carry out.

The installation of a culvert (or bridge requiring in-stream works) using an online methodology will be undertaken in the following manner:

A dam is constructed across the stream with stabilised materials such as sandbags, sheet metal plate or other suitable construction materials. A pump will be installed in the dam and sufficient hose length must be available to reach below the extent of in-stream works.

The pump inlet should be placed in a drum with holes to minimise the possibility of sucking sediment from the bottom of the dam. Inclusion of a fish screen is required. The outlet should be directed to a stabilised area with an energy dissipater such as rip-rap boulders or similar.

A dam and pump methodology can only be used for works with a short duration or where the site can be stabilised at the end of each workday, so that flows can continue through the stream channel. Generally, it is not considered appropriate to implement a dam and pump methodology where the pump is required to be operating day and night for the duration of the operation (due to noise and pump reliability issues).

Sizing the pumped diversion for a given storm event depends on the duration of the stream diversion. As a minimum, the temporary pumping should be sized for a one-year peak discharge from the contributing catchment. These design parameters are based on the assumption that full channel 5% AEP (20 year) capacity is made available overnight or when storm events are predicted.

2. Temporary Stream Diversion

These short-term watercourse diversions allow work to occur within the main watercourse channel. This includes:

- Size the diversion channel to allow for a 5% AEP rain event but consider the implications for secondary flow paths and upstream flood effects of having a larger event, up to 1% AEP.
- The diversion channel should be excavated leaving a plug at each end so that the watercourse does not breach the diversion.
- Stabilise the channel with, at a minimum, polythene and geotextile. This depends on the velocity of the water. Rip rap may be required to prevent scour and erosion.
- Once the channel is stabilised, open the downstream plug to allow water to flow up the channel, keeping some water within the channel to reduce problems when the upstream plug is excavated. Then open the upstream plug, allowing water to flow into the channel.
- A non-erodible dam should be placed immediately in the upstream end of the existing channel. A steel plate or earth bund (immediately stabilised) could be used.
- A non-erodible downstream dam should then be installed to prevent backflow into the construction area. The structure and all channel works are then completed.
- Once the culvert works are complete, the downstream dam should be removed first, allowing water to flood back into the original channel. The upstream dam is then removed, and both ends of the diversion channel are filled in with non-erodible material. Any sediment-laden water should be pumped to a sediment retention pond or dewatered. The remainder of the diversion channel should be filled in and stabilised.

Offline Stream Diversion methodology (structure installed adjacent to the existing stream)

The installation of a culvert (or bridge requiring in-stream works) using an offline methodology will be undertaken in the following manner:

- Suitable access will be formed to provide access to the site.
- Where the installation area is not already impounded by site perimeter controls, a silt fence will be installed between the culvert installation area and the stream.
- The culvert(s) will be installed, as close to the existing stream as practical without breaching the banks of the stream.
- Any excavated material unsuitable for backfill will be removed from the work area for disposal in an existing controlled stockpile area. Material suitable for backfill will be appropriately stockpiled and protected from erosion and sediment discharge.
- Any groundwater encountered during this operation will be pumped to a suitable sediment retention device such as a silt fence or SRP. If the water is clean and meets discharge consented limits, it can be pumped directly off-site following the dewatering/pumping protocol. A permit to pump form will be completed for any pumping activities.
- The required channels to and from the end of the culverts to the stream will be excavated and stabilised (to final detail) to within approximately 0.5m of the stream.

- In an ephemeral stream the final connections will simply be excavated and stabilised within 1 day.
- During this operation the existing stream channel will be ‘plugged’ at each end with the outside face stabilised with geotextile.
- In a perennial stream the final connections will be made under a short term (1 day) over pumping operation
- Once complete, suitable perimeter controls (typically silt fences) will be installed around the wing walls to control runoff from these isolated areas if required, or otherwise fully stabilised.

Stream flows will then be allowed to enter the culvert.**Over Pumping and Dewatering**

Over pumping operations may be required at certain stages of the work if required or a change in methodology is required. This is anticipated to be on a short-term basis only (<24hrs). And, as the earthworks progress, a certain degree of dewatering may be required. The ESCP component of this report would need to be updated to reflect this change.

I consider the applicant’s Streamworks proposal to be in accordance with GD05, and I support the applicant’s proposal.

6.3 – Conclusion

With regard to the proposed earthworks, the applicant states that best practice ESC measures will be utilised to ensure the proper management of any potential sediment related effects, and that any resulting effects will be less than minor. An assessment of the technical aspects of the earthworks and sediment control methodology has been undertaken and provided the earthworks are completed in accordance with the application documents and all supporting information, including any additional recommendations noted above, I concur with the applicant’s assessment and consider that the potential effects associated with sediment discharge will be appropriately managed.

7.0 Section 67 Information Gap

Regarding the proposed earthworks, I have identified that there are no section 67 information gaps.

8.0 Recommendation

Based on the information available regarding the proposal’s earthworks, including erosion and sediment control and construction water management, I support the application.

9.0 Proposed Conditions

Table 1 below contains the earthworks related conditions proposed by the applicant. As per the Infrastructure Report included with the application documents, I have followed the numbering of Draft Conditions agreed to date.

Table 1 – Applicants Proposed Consent Conditions.

Condition	Proposed Conditions	Comment or suggestion
1	Except as provided for in the conditions below, the Project must be undertaken in general accordance with: (a) the information submitted with the Application; (b) the applicant's responses to section 67 FTAA requests for further information dated [insert date]; and (c) responses to section 51 reports and comments received in relation to the Project dated [insert date]; as referenced by the Council under consent reference number BUN60464053 and comprised of the following information (being documents, plans, drawings, reports, and management plans): • <i>Part B. Hunua Quarry Development Substantive Application Part B – Assessment of Environmental Effects and Application for Resource Consent. Prepared for Winstone Aggregates. 30 March 2026. Revision Final. Prepared by Boffa Miskell Limited. (AEE)</i> • <i>Erosion and Sediment Control Assessment Report. Hunua Quarry – Substantive Application under the Fast Track Approvals Act 2025. Prepared for Winstone Aggregates. Date June 2026. Revision 2 (19/06/2026). Prepared by MPD Environmental Limited. (Infrastructure Report)</i> • <i>Erosion and Sediment Control Plan Drawings. Drawing No: ESCP-HQ-01, Rev: 2 (19/06/2026). Prepared by MPD Environmental Limited. (Plans)</i> • <i>Erosion and Sediment Control Plan Drawings. Drawing No: ESCP-HQ-02, Rev: 2 (19/06/2026). Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-03, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i>	I agree with this condition.

	• <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-04, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Erosion and Sediment Control Plan – Western Haul Road. Drawing Ref: ESCP-HQ-05, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-06, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-07 , Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-08, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-09, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i> • <i>Hunua Quarry Expansion Erosion and Sediment Control Plan. Drawing Ref: ESCP-HQ-10, Rev: 2. Prepared by MPD Environmental Limited. (Plans)</i>	
38	Erosion and Sediment Control Plan The objective of the Erosion and Sediment Control Plan (ESCP) is to detail the measures and procedures to be implemented in accordance with GD05 to minimise the discharge of debris, soil, silt, sediment or sediment-laden water beyond the Site or into watercourses and receiving waters, and ensure compliance with the requirements in Conditions 110 - 114. The ESCP must be updated annually by 30 April each year, and re-certified in accordance with Conditions 22 - 26.	I agree with this condition.
39	The ESCP must include:	I agree with this condition.

	(a) the expected area of quarry operations and areas to be worked over the next 12 months; (b) plans for Earthworks, including overburden stripping and disposal, over the next 12 months with specific reference to any works proposed for the period between the 30th April and 1st of October; (c) areas of vegetation removed, and areas stabilised and/or rehabilitated over the previous 12 months; (d) details of product stockpiling activities; (e) maintenance activities for erosion and sediment controls undertaken in the previous 12 months, and maintenance activities proposed over the next 12 months. (f) any problems in respect of water management on the Site during the previous 12 months, and proposals for addressing such problems; (g) detailed plans showing the location of sediment controls, on-site catchment boundaries, and sources of runoff; (h) drawings and specifications of designated sediment controls, including design calculations confirming that the erosion and sediment control measures have been sized appropriately in accordance with GD05; and (i) results of the previous 12 months of water quality monitoring required under Conditions 115– 119, including summarised rainfall data and an assessment of the sampling results. (j) procedures for water quality monitoring consistent with those in Conditions 105 - 108, including monitoring locations, limits, and reporting requirements.	
40	Chemical Treatment Management Plan The objective of the Chemical Treatment Management Plan (CTMP) is to detail the procedures for the treatment of SRP's and any other	I agree with this condition.

	impoundment devices during Earthworks at the Site to enhance sediment retention efficiency in accordance with GD05 and ensure compliance with the requirements in Condition 113.	
41	The CTMP must include: (a) roles and responsibilities for operation and maintenance of the chemical treatment system; (b) design details of the chemical treatment system based on a rainfall activated methodology for the site's SRP's, and any other impoundment devices; (c) water dosing treatment procedures, including optimum dosage; (d) monitoring, maintenance and contingency procedures; (e) a spill contingency plan; and (f) results of initial chemical treatment trial.	I agree with this condition.
107	Stream Works The Consent Holder must ensure that, during the realignment of the Mangapū Tributary, direct discharge of sediment laden water to the stream during Construction is minimised. Any sediment laden discharge pumped or otherwise diverted from the works area must be discharged only after treatment in a sediment control device provided in accordance with the certified ESCP and CTMP required under Conditions 38 and 40.	I agree with this condition.
109	Seasonal Restriction on Earthworks Earthworks on the Site, other than rock extraction, must not be undertaken between 1 May and 30 September in any year, unless a 'Request for winter works' has been made to and approved by AC. All requests granted by the Council must be renewed annually prior to the approval expiring, and Earthworks must not occur until written approval has been received from the Council.	I agree with this condition.

	Advice note: All winter works will be re-assessed monthly or as required by the Council to ensure that adverse effects are not occurring in the receiving environment. Approval may be revoked by Council upon written notice to the consent holder.	
110	Erosion and Sediment Controls The Consent Holder must design, construct and maintain all erosion and sediment control measures in accordance with GD05.	I agree with this condition.
111	The Consent Holder must ensure that all erosion and sediment control measures required by the certified ESCP required by Condition 38 are constructed and operational before Earthworks commence.	I agree with this condition.
112	Within ten working days following completion of each specific erosion and sediment control device as detailed in the certified ESCP (i.e. SRP's, DEB's, and clean and dirty water diversion bunds), a SQEP must provide written certification to AC that the erosion and sediment control measures have been constructed and completed in accordance with the certified ESCP and GD05. Advice note: Suitable documentation for certification of erosion and sediment control devices, can be obtained in Appendix C of GD05: Erosion and Sediment Control construction quality checklists.	I agree with this condition.
113	All SRPs and any other impoundment device utilised on the Site, must be chemically treated in accordance with the certified CTMP required by Condition 44 for the duration of the Earthworks.	I agree with this condition.
114	The operational effectiveness and efficiency of all erosion and sediment control measures required by the certified ESCP, must be maintained throughout the duration of Earthworks until areas of disturbed or bare earth are permanently stabilised against erosion in accordance with Condition 120. Maintenance must be undertaken in accordance with the certified ESCP and GD05 and a record of any maintenance work must be kept and be supplied to	I agree with this condition.

	AC on request.	
120	Stabilisation of Earthworks The Consent Holder must ensure that all disturbed and bare earth areas are: (a) revegetated or stabilised as soon as practicable upon completion or abandonment of Earthworks; and (b) revegetation or stabilisation is completed in general accordance with the measures set out in the certified ESCP and GD05. This condition does not apply to areas being actively worked, areas subject to rock extraction, and cut rock faces. Advice note: Stabilisation means when disturbed or bare earth areas are covered by a permanent erosion proof ground cover and includes aggregate, rock, polymer or vegetative cover which has obtained a density of more than 80 % of a normal pasture sward.	I agree with this condition.