



WHEATSHEAF QUARRY

WINSTONE AGGREGATES

A DIVISION OF FLETCHER CONCRETE AND INFRASTRUCTURE LIMITED

Landscape Visual Impact Assessment

Project No. 2024_022 | E

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Project no: 2024_022
Document title: Landscape Visual Impact Assessment

Revision: E
Date: 18 October 2024
Client name: Winstone Aggregates, a division of Fletcher Concrete and Infrastructure Limited

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File name: 2024_022 Winstone Wheatsheaf Quarry LVIA E

DOCUMENT HISTORY AND STATUS

REVISION	DATE	DESCRIPTION	BY	REVIEW	APPROVED
A	11/06/2024	LVIA for comment	ASF	HB	DCM
B	25/06/2024	Updates as per comments	ASF	HB	DCM
C	14/10/2024	Updates as per peer review	HB	DCM	
D	16/10/2024	Updates per comments	HB		
E	18/10/2024	LVIA E	HB		

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1. INTRODUCTION

DCM Urban Design have been commissioned by Winstone Aggregates, a division of Fletcher Concrete and Infrastructure Limited (hereafter referred to as 'the applicant' or 'Winstone') to assess the potential landscape and visual effects relating to the proposed quarry extension and operation at 668 Robinsons Road, Rolleston, in the Selwyn District.

The proposed quarry will cover an area of approximately 4Ha, with material being excavated down to a potential depth of approximately 10m below the current surface level. The quarry will be an extension of the existing adjacent Winstone Wheatsheaf quarry ('the existing quarry'), with material from the expansion area being transported to the processing plant on the existing quarry site. The site and surrounds have been visited several times over the last few weeks with a view to assessing the likely landscape and visual effects.

During the preparation of this report, we have worked closely with the applicant to develop mitigation measures to either avoid, remedy or mitigate any potential effects on the Landscape Character, Landscape Values and Visual Amenity.

This report is supported by an appendix of figures, Appendix 2, which includes a site location plan, photos of the existing site and surrounding areas, photos from external viewpoints, and illustrations and plans of the mitigation measures proposed.

2. METHODOLOGY

This Landscape and Visual Impact Assessment (LVIA) has been conducted in accordance with *Te Tangi a Te Manu - Aotearoa New Zealand Landscape Assessment Guidelines* (July 2022) for landscape and visual assessment, as well as the *Best Practice Guide – Landscape Assessment and Sustainable Management and Visual Simulations* (NZILA Education Foundation, 2010). The relevant statutory documents, including the Selwyn District Plan, have informed us of the assessment framework and scope of the report.

Our methodology involved the following steps:

- **Desktop Research and Site Surveys:** A combination of desktop research and multiple site visits were conducted to gather baseline data on the landscape's biophysical, sensory, and cultural attributes. This provided a comprehensive understanding of the landscape character and visual context of the receiving environment.
- **Landscape Character and Visual Context Analysis:** The site's biophysical, sensory, and cultural landscape attributes were analysed, including natural and human-made features, sensory qualities, and associative cultural values. The visual context of the receiving environment was established to be a 1000m offset from the centre of the proposed quarry extension. This distance was determined by the scale of the proposal and the flat topography of the receiving environment. The landscape character and visual context analysis focused on assessing the *nature and degree of effects on landscape values*, which is consistent with NZILA guidelines.
- **Impact Evaluation:** The potential landscape and visual impacts were evaluated by analysing the sensitivity of the receiving environment, the landscape's resilience to change, the values set out within the Selwyn District Plans, and the significance of the effects. The Aotearoa New Zealand seven-point scale was used to assess the magnitude of change. The proposal included a number of mitigation

measures incorporated into the proposal. This evaluation encompassed landscape character, values, and visual amenities to provide a holistic assessment of the proposal.

- **Mitigation Measures:** Working with the client, we established some mitigation measures that were to be included in the proposal as part of the development. These mitigation measures are listed as mitigation measures but form part of the proposal, meaning no pre-mitigation assessment was required.

The proposal was assessed against the relevant objectives and policies within the Selwyn District Plans relating to landscape values and visual amenity which are considered to represent the values of this particular landscape. Specific statutory documents have been referenced throughout the assessment to align with the NZILA guidelines and provide a clear basis for determining any effects on landscape and visual amenity.

Photography Methodology: All photographs used in this assessment were taken with a Sony Alpha A7 II digital camera with a fixed focal length of 50mm and no zoom. For viewpoint images requiring a panorama, a series of portrait-mode photos were taken from the same location and stitched together using Adobe Photoshop. The methodology for visual simulations adheres to the NZILA Best Practice Guide – Visual Simulations (2.11.10).

Statutory Documents: Relevant statutory documents and local planning guidelines, including the Selwyn District Plans, inform this assessment's landscape and visual amenity analysis. The NZILA seven-point scale was applied to evaluate the nature and magnitude of changes in landscape values and visual amenities.

For further details on assessment methodology and specific terminology used, please refer to Appendix 1.

3. EXISTING LANDSCAPE

The site is located between the outer peripheries of the towns of Rolleston and Prebbleton (Please refer to page 1 of Appendix 2 for the proposal site's context). The receiving environment is characterised by the vast and flat topography of the Canterbury plains and predominance of agricultural fields lined with shelterbelts. The proposal site is framed by Robinson Road, which runs parallel to its southwestern boundary, the existing quarry operations along the northern and eastern boundary, and a mix of land uses and Selwyn Road along the southern boundary.

Land use in the wider receiving environment, along Robinsons Road and Selwyn Road, is a combination of pastoral farmland and rural production activities, including an agricultural contracting and feed supply business, poultry farming and a plant nursery, while also containing a number of rural residential dwellings. The site and surrounding area is characterised by large, grassed paddocks with boundaries often delineated by well-established shelterbelts consisting of predominantly exotic species (such as pine and macrocarpa), reflecting the productive agricultural character of the area. The adjoining site to the north contains the existing quarry which is typical of a quarrying activity, including excavation and stockpiling areas, cleanfilling and rehabilitation, processing plant equipment, on site machinery, site offices and other ancillary activities which forms part of the baseline character of the immediate area.

The existing quarry and proposed extension area are located on relatively flat topography with only a minor variation in vertical height perceivable from eye level. Human development and modification within the surrounding area is generally spread out and low in density, related to farming, agricultural industry, and associated activities (sheds, commercial greenhouses, stockyards, and dwellings). Residential dwellings in the area are predominantly enclosed by shelterbelts, established vegetation and fencing, but some have open to partial views of the surrounding roads and neighbouring agricultural activities. There are no common styles, palettes, colours or materials unique to built form in the area, rather dwellings, buildings and the various other structures consist of an eclectic mix.

Vegetation types in the receiving environment are predominantly exotic species, with a lesser presence of native species. Taller vegetation in the receiving landscape consists largely of the shelter belts and screening vegetation mentioned above, running along paddock and property boundaries, while areas of grassed farmland otherwise predominate.

In terms of sensory qualities, wider views are mostly constrained by the tall existing shelterbelts present, which line road corridors and various internal and property boundaries. Where there are breaks in shelterbelts, views are generally over pastoral farmland, with distant glimpses of higher elevations, such as the Port Hills, available from some locations. The natural character of the environment is considered to be modified, with a highly legible rural character and land use consisting of typical rural grass paddocks, farming utilities, shelter belts and dwellings spaced sporadically throughout the landscape. The site itself reflects this character, being an open grass paddock with shelter belt plantings. While not highly visible, the existing quarry to the north forms part of the baseline character for this site and immediate area in terms of sensory qualities, including sights and sounds, with dense shelter belts and truck and machinery movements.

Overall, the receiving environment is considered to have a moderate to low sensitivity to change owing to its modified rural character. The receiving environment is recognized as a working landscape, containing several existing land uses (quarrying, farming, agricultural industry), a variation in landscape and built structures (rural dwellings, barns, greenhouses, bunds) as well as clearly identifiable vegetation patterns (large areas of grassed paddocks, with taller vegetation clustered around buildings and along boundaries).

4. THE PROPOSAL

Winstone are proposing an extension to the existing quarry at 668 Robinsons Road, Rolleston, in the Selwyn District. The proposed extension will cover an area of approximately 4Ha, with material being excavated down to a potential depth of approximately 10m below the current surface level. Material from the expansion area will be transported to the processing plant on the existing quarry site, with the main access to the site being from the existing quarry site access off Selwyn Road. Site access to the existing Wheatsheaf Quarry remains unchanged via the crossing at 50 Selwyn Road. Access to the expansion area is via internal haul roads from the Quarry. The proposal includes several mitigation measures, including proposed bunding and vegetation planting, with bunds to be approximately 3m high and established over a 4-week period as part of the establishment of the site. These bunds will be removed as part of the rehabilitation plan.

Additional mitigation measures include dust control through water carts and biodegradable suppression agents, visual screening by retaining existing vegetation and establishing new plantings, and noise mitigation through limited operational hours and maintained haul roads.

Extraction activities are proposed to be undertaken in stages followed by progressive rehabilitation of the extraction areas. Material will be transported via truck and trailers or dump trucks, via internal haul roads to the existing Quarry where processing of the material will take place. Following the completion of extraction stages, the Sullivan Block will be rehabilitated progressively in accordance with the staging plan (refer to the rehabilitation plan provided with the AEE).

The batter slope on completion of rehabilitation will be no steeper than 1 vertical (v):3 horizontal (h) where completed quarry areas adjoin neighbouring properties at original ground level. Where an area adjoins a rehabilitated quarry area, the ground contours will be graded to blend in with these. Excavated pit levels will guide the final landform of the rehabilitated site. Cleanfilling may occur on the site, and topsoil and subsoil materials,

which have been stored following site preparation, will be used in the site rehabilitation by providing a final topsoil layer. During the quarry's operational life, these materials will either be covered or grassed to prevent wind-blown erosion losses.

If it is necessary to expedite the early stages of rehabilitation, additional rehabilitation material may be brought to the site prior to site bunding being disestablished or where further topsoil is required, Winstone will bring in clean topsoil from off site for the purpose of rehabilitation.

On completion of quarrying and rehabilitation activities, Winstone will remove all mobile machinery and secure the site suitable for its ongoing use. The final rehabilitated ground level throughout the majority of the site is yet to be determined but will ultimately depend on the consent holder's land use plans for the site.

Timeframes for rehabilitation will be driven largely by the rate of extraction and will occur progressively over the site once areas of extraction have been completed. It is anticipated that rehabilitation of the Sullivan Block site would be rehabilitated within 12 months after the completion of all extraction and cleanfilling has occurred.

cover.

5. STATUTORY PROVISIONS

The following phase of the landscape assessment reviews the relevant statutory provisions to help frame the landscape assessment. The purpose of reviewing the provisions is not to undertake a planning assessment of the proposal against the provisions. The objectives, policies, and rules contained within them are used to assist with the evaluation of the landscape values. The relevant statutory documents considered are listed below:

- Resource Management Act 1991
- The Selwyn District Plan
- The Partially Operative Selwyn District Plan

The relevant statutory context in terms of Landscape Values and Visual Amenity has been assessed in accordance with the operative Selwyn District Plan (SDP) and Partially Operative Selwyn District Plan (Appeals version) (POSDP). The expansion of quarry is a discretionary activity in accordance with Rule GRUZ-21.3 where the processing of the extracted material will take place less than 500 m, and excavation takes place less than 200 m, from the notional boundary of any lawfully established sensitive activity.

While not meeting the requirements for a restricted discretionary activity under Rule GRUZ-R21.3, the matters for discretion under Rule GRUZ-R21.2 provide some guidance for the assessment of quarrying activities. These are set out as follows:

2. The exercise of discretion in relation to GRUZ-R21.1 is restricted to the following matters:

- a. Effects on amenity values and rural character and highly productive land during the establishment, operation and rehabilitation of the site from the scale and intensity of the mineral extraction, including any cumulative effect, the location of buildings and plant.*
- b. The preparation and implementation of a site rehabilitation plan. This shall include, but is not limited to:*
 - i. the end use of the site, which should be suitable for an alternative use that maintains or enhances the amenity of the surrounding area and methods used to achieve this;*
 - ii. measures to mitigate potential instability of land and susceptibility to subsidence and erosion;*

- iii. *duration and staging of rehabilitation to minimise the period of any adverse amenity affects, such as dust nuisance; and*
 - iv. *The methods used to rehabilitate the site and any effects that may arise from the method and end use.*
- c.
- d. Effects on important infrastructure including compliance with NZECP34:2001, and bird strike risk on aircraft if located within 13km of a Christchurch International Airport runway.*

Effects on amenity vales and rural character during the establishment, operation and rehabilitation of the site are assessed below using the objectives and policies within the POSDP. These objectives and policies are considered to reflect the values held by landscapes within the General Rural zone. The site and has not been assessed against the sections relating to Outstanding Natural Features and Landscapes, as it does not fall within or near these overlays.

A site rehabilitation plan has been prepared for the site and is discussed within this report. For a full assessment against the statutory provisions and activity status of the proposal please refer to the AEE including Section K, and the Statutory Assessment contained in Appendix M to the AEE.

Operative Selwyn District Plan (SDP)

QUALITY OF THE ENVIRONMENT

Objective B3.4.2

A variety of activities are provided for in the rural area, while maintaining rural character and avoiding reverse sensitivity effects.

Policy B3.4.3

Avoid, remedy or mitigate significant adverse effects of activities on the amenity values of the rural area.

The use of earth bunds and vegetation will largely mitigate the adverse effects of the proposed development from a landscape perspective. By visually screening the proposal's scale and works, any effects of substance are limited, regarding the surrounding visual amenity values. A full visual impact assessment has been undertaken in Section 4.3 of this report.

As described under Landscape Character, the area is characterised by low-density-built form, large pasture fields, shelterbelts and existing agricultural activities, including the existing quarrying activity. The proposed quarry expansion is not expected to impact the variety of activities which are provided for in the existing rural landscape, and no reverse sensitivity effects are expected from a landscape perspective, which cannot be mitigated through the measures outlined, or which have not already been considered given the presence of the existing quarry.

Policy B3.4.6

Maintain low levels of building density in the Rural zone and the predominance of vegetation cover.

The proposal is for an extension of quarry operations and will utilise existing structures such as existing permitted buildings, offices, carparks, and accessways. It will remain within the permitted building density in the Rural Zone, adhering to bulk and location requirements.

During operation, the quarry will have a lower level of built form than if the site were to be developed to its full potential under the current District Plan standards, with the open character of the site retained. Plant equipment will be positioned in the centre of the site, with large setbacks from the property edge, to ensure they are not visible from outside of the site.

The existing and proposed landscape plantings along the site boundaries will maintain a similar level of vegetation on the site, and the predominance of greenery will be retained when looking towards the site from external viewpoints.

Partially Operative Selwyn District Plan

Part 3 – Area Specific Matters / zones / Rural Zones / GRUZ – General Rural Zone

GRUZ – Objectives

GRUZ – 01 Subdivision, use, and development in rural areas that:

- 1. Supports, maintains, or enhances the function and form, character, and amenity value of rural areas;**
- 2. Prioritises primary production, over other activities to recognise its importance to the economy and wellbeing of the district;**
- 3. Allows primary production, those activities that directly support primary production and have a functional or operational need to locate with the General Rural Zone and important infrastructure, to operate without being compromised by incompatible sensitive activities and reverse sensitivity effects;**
- 4. Retains a contrast in character to urban areas; and**
- 5. Protects highly productive land.**

The proposed quarry extension is consistent with the above objective. The screening planting and bunding proposed has been integrated into the proposal in order to maintain the wider amenity of the surrounding rural landscape, by limiting potential views of the quarry and associated activities. Quarrying is considered primary production defined by the National Planning Standards and the POSDP and defined as a rural activity under the Regional Policy Statement (RPS). As an extension of an existing quarry, the proposal is considered to be appropriately located within the General Rural Zone.

Given the presence and extent of the existing quarry no reverse sensitivity effects are expected to arise with the quarry expansion, which have not already been considered. The proposed quarry extension is not anticipated to compromise the existing contrast with the character of urban areas and will be rehabilitated as quarrying is completed with the land re-established for another rural/suitable activity.

GRUZ – Policies

GRUZ P1 General - Maintain or enhance rural character and amenity values of rural areas by:

- 1. retaining a low overall building density;***
- 2. enabling primary production while managing adverse effects of intensive primary production, and***
- 3. mineral extractive industries;***
- 4. managing the density and location of residential development;***
- 5. retaining a clear delineation and contrast between the district's rural areas and urban areas; and***
- 6. recognising that primary production activities can produce noise, dust, odour and traffic that may be noticeable to residents and visitors to the General Rural Zone.***

The proposed quarry extension is consistent with maintaining the character and amenity of the receiving rural area. The proposal does not propose any changes regarding building density and is not a residential development. As outlined above, quarrying is considered primary production and rural activity, and any adverse effects on the surrounding landscape should be appropriately managed. The proposed quarry extension has thereby integrated the mitigation measures outlined within this report, planting and earth bunding, to restrict external views to the proposal site and hence limit adverse effects on visual amenity and rural character. The proposed quarry extension is consistent with retaining a clear delineation between the district's rural and urban areas.

GRUZ – Policies

GRUZ P4 Economic Activity - Provide for the economic development potential of the rural area by enabling a range of activities that:

- 1. have a direct relationship with, or are dependent on, primary production;***
- 2. have a functional need, or operational need to locate in the rural area;***
- 3. represent an efficient use of natural and physical resources; and***
- 4. maintain or enhance the character and amenity values of the surrounding area.***

As outlined above, the proposal is appropriately located within the general rural zone as a rural and primary industry activity, and extension of an established quarry. With implementation of the mitigation measures outlined, the proposed quarry extension is not expected to adversely affect the surrounding rural environment's character and amenity. Instead, the quarry will be screened from external viewpoints by planting and bunding, both of which are commonly accepted screening measures in rural areas and have proven successful as demonstrated by the existing quarry.

GRUZ P8 Mineral Extraction – Enable mineral extraction in the General Rural Zone to meet the District's and region's supply needs, including by recognising the need for mineral extraction to locate where the mineral resource exists, while:

- 1. managing the spatial extent and effects of mineral extraction activities in order to maintain the amenity values of sensitive activities and residential activities;***

The proposed quarry extension appropriately manages the spatial extent and effects of mineral extraction through sufficient distancing of the proposed quarry extension from neighbouring public roads and dwellings, and compartmentalising effects by using bunding and screening planting along boundaries. It is therefore expected that, from a landscape perspective, the amenity values of the area will be maintained.

GRUZ-R21 – Mineral Extraction Matters for discretion:

- 2. The exercise of discretion in relation to GRUZ-R21.1 is restricted to the following matters:**
- a. Effects on amenity values and rural character and highly productive land during the establishment, operation and rehabilitation of the site from the scale and intensity of the mineral extraction, including any cumulative effect, the location of buildings and plant.**
 - b. The preparation and implementation of a site rehabilitation plan. This shall include, but is not limited to:**
 - i. the end use of the site, which should be suitable for an alternative use that maintains or enhances the amenity of the surrounding area and methods used to achieve this;**
 - ii. measures to mitigate potential instability of land and susceptibility to subsidence and erosion;**
 - iii. duration and staging of rehabilitation to minimise the period of any adverse amenity affects, such as dust nuisance; and**
 - iv. The methods used to rehabilitate the site and any effects that may arise from the method and end use.**

As noted above, potential adverse effects on amenity values and rural character are expected to be largely mitigated by the bunding and planting proposed as part of the quarry extension. Views of the quarry extension from external locations will be screened, as mentioned, to maintain pleasant views of greenery. Boundary planting and bunding are commonly accepted screening methods in rural areas, and so will not detract or appear out of place in the existing rural landscape. The proposed quarry extension is not of such a scale that the possible cumulative effects in regard to landscape and visual amenity (when considered along with the existing quarry and infrastructure) won't be able to be mitigated by the measures outlined. These measures are expected to remain effective when the existing quarry and proposed extension are considered cumulatively.

Please refer to the sections on The Proposal and Mitigation Measures within this report for greater detail around rehabilitation of the proposed quarry extension. Rehabilitation is intended to be progressive as each stage of extraction is complete, and centres around restoring land to a grassed, free draining and stable site, suitable for future permitted rural activities. The anticipated outcome of the quarry rehabilitation is expected to maintain the rural character and visual amenity values of the surrounding landscape, with the remediated pastoral nature consistent with the surrounding landscape. Although the ground levels of the site are unlikely to be returned to pre-extraction levels, this is not considered an adverse outcome, as despite the change in the terrain the land will still be functional for several rural activities, while visibility of this topographical change will be limited from external viewpoints.

Overall, the proposal is considered consistent with the Objectives and Policies relating to the character and amenities within the SDP and POSDP. With the implementation of the mitigation measures outlined, the aesthetic coherence and landscape character of the site will be maintained to be consistent with the receiving landscape context.

6. LANDSCAPE EFFECTS

EFFECTS ON LANDSCAPE CHARACTER

Landscape character is the combination and composition of various elements such as topography, vegetation, built form and sensory qualities, and how these are perceived by humans. Landscape character also includes spiritual, cultural and social associations. The proposed site is not within an outstanding natural landscape area or any areas of historical, spiritual and cultural significance.

The proposed site is located to the south of the existing quarry and is currently a grassy paddock, accessible by an informal internal access road branching off Robinsons Road. It is intended to be an extension of ongoing quarry operations, as outlined in the introduction of this report.

The site, including the immediate and wider surrounding area, falls within the flat expanse of the Canterbury plains. Regarding this aspect of landscape character, the proposed quarry extension will result in topographical change, which will largely take place below natural ground level, with the creation of irregular internal slopes and a lowered ground level as part of quarrying and excavation activity. This change in the site's terrain will be largely screened from external viewpoints however, by the existing planting present in the receiving environment. This includes shelterbelts along the local area's various internal, road and property boundaries, as well as established plantings associated with various buildings and structures. Existing and proposed bunding, softened by planting, will additionally help to mask these topographical changes from the north, and from neighbouring properties in close proximity (Please refer to Section 5 below, Mitigation Measures). With consideration of boundary planting and bunding, it is expected that the change in landform proposed will be indiscernible from locations external to the site.

Owing to the proposed location next to existing quarry operations, and the relatively small size and enclosed nature (through mitigation measures) of the expansion area, it is considered that the proposed extension will not adversely affect the sensory qualities or compromise any sensitive views from a landscape perspective.

The quarry extension is not expected to adversely affect any existing vegetation patterns in the receiving environment. The proposal does require the removal of an existing internal shelterbelt along the northeastern boundary of the extension area (please refer to page 12 of Appendix 2), however as this is required for functional reasons and consists of a commonly found exotic species, the removal of this shelterbelt is not considered unreasonable or inappropriate.

The anticipated effects of the proposed quarry extension on the receiving environment's rural landscape character and values will be largely indiscernible from locations external to the site. As the proposal centres around expanding on an accepted existing rural activity and will be largely screened and distanced from surrounding dwellings, businesses and roads, overall effects on landscape character are assessed as low. While the Sullivan Block adjoins the existing quarry, limits on active working areas are not proposed to change while extraction rates and vehicle movements will not increase beyond those that presently exist, meaning that the scale and intensity of the quarry will generally remain the same throughout its life despite progressing through the expansion area. Overall, the proposal will be seen as an extension to the existing quarry and no cumulative effects are anticipated.

EFFECTS ON VISUAL AMENITY

The visual context of the receiving environment is considered to be a 1000m offset from the centre of the proposed quarry extension. This distance has been determined by the scale of the proposal and the flat topography of the

receiving environment. At distances further than 1000m the proposed quarry extension is unlikely to be discernible, which is consistent with our observations of the existing quarry. A series of key viewpoints were selected to show a representative sample of the likely visual effects that could result from the proposal (refer to Appendix 2 for the relevant photos). Viewpoints are generally located on public land, and where possible located as close as possible to existing or proposed residential dwellings or other key viewpoints.

The viewpoints selected were as follows:

VP1– View north from 108 Selwyn Road (approximately 400m).

VP2 – View east from 679 Robinsons Road (approximately 170m).

VP3 – View northeast from 668 Robinsons Road (approximately 160m).

VP4 – View east from 693 Robinsons Road (approximately 200m).

VP5 – View west from 32 Selwyn Road (approximately 550m).

VP 6 – View northwest from 90 Selwyn Road (approximately 280m).

In assessing the potential effects on visually sensitive receptors, the key viewpoints outlined above have been used as a reference point where it is considered that the effects will be similar for a group of viewers. The viewpoints are a representative view, as close as possible to the view likely to be experienced by those who are travelling along the Robinsons Road and Selwyn Road or residing in the surrounding area but obtained from a public location.

The following table outlines the potential visual effects each Visually Sensitive Receptor might receive and how the effects may potentially be mitigated. The effects take into account the likely magnitude of effects (a combination of distance from the proposal and degree of change) to determine what the likely residual effects from the proposal will be. Mitigation measures are outlined in Section 5 of this report.

Table 1: Assessment of Effects on Visually Sensitive Receptors

Viewpoint	Visually Sensitive Receptors (VSR)	Distance from Proposal (m)	Type of View (open, partial, screened)	Magnitude of Change	Mitigation Measures	Effects
1	Vehicles users travelling northeast or southwest along Selwyn Rd.	400	Screened	Very Low		Very low
	Residents at 108 Selwyn Rd.			Very Low		Very low
2	Vehicle users travelling northwest or southeast along Robinsons Rd.	170	Screened	Very Low		Very low

Viewpoint	Visually Sensitive Receptors (VSR)	Distance from Proposal (m)	Type of View (open, partial, screened)	Magnitude of Change	Mitigation Measures	Effects
	Residents at 679 Robinsons Rd.			Very Low		Very low
3	Vehicle users travelling northwest or southeast along Robinsons Rd.	160	Screened	Low	MM1 MM2 MM3	Low
	Residents at 668 Robinsons Rd.			Low	MM1 MM2 MM3	Low
4	Vehicle users travelling northwest or southeast along Robinsons Rd.	200	Screened	Low	MM1 MM2 MM3	Low
	Residents at 693 Robinsons Rd.			Low	MM1 MM2 MM3	Low
5	Vehicles users travelling northeast or southwest along Selwyn Rd.	550	Screened	Very Low		Very low
	Residents at 32 Selwyn Rd.			Very Low		Very low
6	Residents at 75 and 90 Selwyn Road	280	Partial	Low	MM1 MM2 MM3	Low

VP1 – VIEW NORTH FROM 108 SELWYN ROAD

Description of Existing View – The view consists of a partially visible rural property, low post and rail fencing and a central section of tall hedging. The site is enclosed on its periphery with a dense shelter belt, supported by several established pine trees. A limited view of the shed located to the side of the dwelling is available, with visibility of both the shed and the dwelling obstructed/partially obstructed by varying vegetation types. Views are screened looking north towards the proposed quarry extension site.

Description of Effects – Vehicle users travelling along Selwyn Road will experience screened views of the quarry at a glimpse, with no adverse visual effects anticipated. Residents at 108 Selwyn Road will also experience screened views of the quarry as it currently is screened by existing vegetation, resulting in a negligible visual effect.

In the event that the shelterbelts within 108 Selwyn Road and neighbouring properties were removed, the visual impact may increase slightly. However, the proposal incorporates the implementation of 3m high bunding along this boundary with native planting which will screen any views if neighbouring vegetation was to be removed. The proposed bunding with planting will effectively screen the proposal from views along Selwyn Road and from 108 Selwyn Road, resulting in very low (less than minor) visual effects.

VP2 – VIEW EAST FROM 679 ROBINSONS ROAD

Description of Existing View – The view consists of the access track entrance to the proposed quarry extension site from Robinsons Road, between two mature shelterbelts. It features low post and rail fencing with a permeable wire mesh gate, with tall shelterbelts either side. The ground surface transitions from the smooth asphalt of the road to coarse gravel, and eventually forming the rugged access track which features a younger line of screening vegetation (on the 668 Robinsons Road property) along the track boundary.

Description of Effects – When travelling along Robinsons Road and from the entrance to 679 Robinsons Road, views of the proposal will be screened largely by the existing mature shelterbelts present, with secondary screening provided by the more juvenile shelterbelts (located on 668 Robinsons Road) planted along the southeast boundary of the proposed quarry extension site, and along the access track. Given that views of the proposal site will be screened by the shelterbelts along Robinsons Road, and those more recent plantings along the access track and southeastern boundary, it is considered that the resulting effects on visual amenity will be very low (less than minor). Mitigation measures proposed as part of the proposal, including bunding and additional planting, will ensure ongoing screening of quarry operations, even if the existing shelterbelts are removed.

VP3 – VIEW NORTHEAST FROM 668 ROBINSONS ROAD

Description of Existing View – Views are restricted to the proposed quarry extension when looking northeast from 668 Robinsons Road. The view consists of the existing 668 Robinsons Road rural residential property, enclosed by vegetation which varies in type and scale. This includes a dense shelter belt on the southern boundary, situated to the right of the viewpoint, a low hedge along the street frontage, and a mixed hedge/planting along the northern boundary in front of a 1.8m solid fence, situated on the left of the image.

Although not clearly visible from the viewpoint photo, the dwelling at 668 Robinsons Road adjoins to a large grass field to the north, which has its northeastern and northwestern boundaries planted with a juvenile shelterbelt (please refer to page 12 of Appendix 2). This field provides separation from the proposed quarry extension site and access track, while the shelterbelt planting will provide an increasing level of additional screening as it matures.

Description of Effects – Both vehicle users of Robinsons Road and the residents of 668 Robinsons Road are anticipated to experience limited views of the proposed quarry extension, with the proposed bunding and additional planting being visible from this viewpoint. Currently, the existing vegetation along this section of the road, along with well-established plantings surrounding the dwelling, effectively restrict views of the proposal site. The additional bunding and planting will slightly reduce the openness of the views from this viewpoint, resulting in low (less than minor) effects on visual amenity.

VP4 – VIEW EAST FROM 693 ROBINSONS ROAD

Description of Existing View – Screened views of the proposal site are available when looking east from the driveway of 693 Robinsons Road towards the proposal. This view consists of the residential dwelling (692 Robinsons Road, owned by the applicant) behind which glimpses of the existing quarry operations' earth bund can be seen. Low vegetation helps define the gravel driveway while the taller vegetation provides some screening along street frontage. The post and rail fencing and mesh wire gate delineate the property's boundaries.

Description of Effects – Residents at 693 Robinsons Road will experience partial views of the edge of the proposed quarry operations site. Existing layers of vegetation along the property front, accessways, and rear boundary, as well as the earthwork bund, will largely screen the quarry operations, preventing open views. As the operations will be excavated into the ground, any visible aspects are likely to be vehicles rather than the quarry operations themselves. Furthermore, proposed bunding and additional vegetation incorporated as mitigation measures as part of the proposal will further screen any potential views into the site, including views of any vehicle movements, resulting in a low (less than minor) effect on visual amenity. Access to the quarry extension is anticipated to be through the existing quarry, so vehicle movements along the current access track to the site will be limited.

VP5 – VIEW WEST FROM 32 SELWYN ROAD

Description of Existing View – Views are screened looking west from 32 Selwyn Road towards the proposal site. This view consists of an existing residential property that neighbours the entrance to the existing operational quarry. It features established vegetation (native and exotic), varying in scale and type, at the street frontage and internal boundaries. This vegetation creates a tall and dense screen, effectively preventing views to both the existing quarry and quarry extension. The street front hedging, combined with brick and permeable fencing, helps delineate the property's residential nature.

Description of Effects – Although the residential property (32 Selwyn Road) is located next to the existing quarry entrance, there are no views of the existing and proposed extension site. Given the distance and obstructed views, and that there is no increase in heavy vehicle movements proposed, there are no mitigation measures required for this viewpoint. The visual effects are considered to be very low (less than minor).

VP6 – VIEW NORTHWEST FROM 90 SELWYN ROAD

Description of Existing View – Views to the northeast from the driveway of 90 Selwyn Road are screened when looking towards the proposal site from Selwyn Road. A dense band of mixed, established planting and a shelterbelt lines the road in front of the 90 Selwyn Road property, with only very limited visibility available of the dwelling and beyond. Therefore, this viewpoint was selected, towards the eastern boundary of 90 Selwyn Road, where there is a gap in 90 Selwyn Road's shelterbelt, which gives us a better indication of possible visual effects.

This viewpoint shows the northern boundary of 90 Selwyn Road which adjoins to the proposed quarry extension site. The proposal site is partially visible through a large break in the established macrocarpa shelterbelt, and through the base of these trees. This view is considered to also reflect the views from 75 Selwyn Road.

Description of Effects – From this viewpoint, residents will be able to see parts of the proposed bund and additional plantings along the eastern boundary of the proposal site through gaps in the shelter belt along the neighbouring property boundary, completely screening any views of the extraction area. The proposed bunding

may slightly reduce the feeling of openness from this viewpoint but is not necessarily considered adverse. Effects on the visual amenity of this view are considered to be low (less than minor).

SUMMARY OF EFFECTS ON VISUAL AMENITY

The proposed changes will likely only minimally affect road users from a visual amenity perspective. Due to the existing topography and vegetation, only partial views of the proposal will be available from small sections along Robinsons Road and Selwyn Road, where the proposal will generally be seen only from a distance. Given the implementation of the mitigation measures outlined to be incorporated into the proposal it is expected that even these limited views of the proposed quarry extension site will be effectively screened. Overall, the proposal is anticipated to have a minimal impact on the visual and landscape amenity of vehicles and road users, with no significant disruptions expected from a landscape point of view.

The proposed quarry expansion is anticipated to have minimal impacts on the landscape and visual amenity of surrounding residents also. Existing screening measures, such as dense vegetation, shelterbelts, and fencing, already provide visual mitigation. Additionally, the mitigation measures outlined below are included as part of the proposal to diminish any adverse effects on visual amenity.

Overall, the levels of adverse effects on visual amenity, as a result of the proposed quarry extension, are considered to be low to very low.

TEMPORARY EFFECTS

While being constructed, the proposal may have additional temporary effects, particularly while the proposed bund is being constructed, with views of vehicles and machinery being possible from Robinsons Road and Selwyn Road during this time. Given the existing limited views of the proposal site and limited machinery required to construct a bund, this type of activity is not considered out of place within a rural environment and is not considered to have any adverse effects.

7. MITIGATION MEASURES

The following mitigation measures are proposed by the client as part of the proposal, developed in consultation DCM, to avoid, remedy or mitigate any potential adverse effects on the visual amenity as viewed from the surrounding receiving environment.

MM1 SCREENING BOUNDARY PLANTING

A prominent feature of the receiving environment is the large number of shelterbelts, most of which are densely planted and mature in height, although some newer more juvenile shelterbelts also exist (please refer to page 12 of the provided figures). The proposed quarry extension relies on the presence of these shelterbelts for screening and visual mitigation, it should be noted however that many of these shelterbelts are not on the applicant's property. Therefore, it is proposed that screening boundary planting (in the form of fast-growing native species, or infill planting consistent with existing species) is implemented by Winstone for the life of the quarry (proposed to be five years) if any gaps in existing screening planting are

identified, or if any critical screening shelterbelts on neighbouring properties were to be removed.

MM2 BUND AND LANDSCAPE PLANTING

A grassed 9m wide and 3m high earth bund is proposed along the proposed quarry extension site boundary shared with 90 Selwyn Road and 668 Robinsons Road, due to the proximity of these properties to the proposal. Bunding will be set back a minimum of 2m from the closest part of the existing shelterbelt trees or at least 4m from the tree trunks, whichever is the furthest, in order to avoid undermining shelterbelt species and/or damaging its roots.

A 1m wide landscape strip will be included on the outside face of the bund, to be planted with native species including *Pittosporum tenuifolium*, *Cordyline australis*, *Austroderia richardii* and *Phormium tenax* (and/or other appropriate native species). The grassed bunds and planting shall be maintained in a tidy condition, with any dead, diseased or damaged planting to be replaced with similar species throughout the duration of quarrying activity.

Rehabilitation of the site may result in the removal of the bunds, but it is likely that the bunds and planting will be retained once quarrying is complete.

MM3 REHABILITATION

Rehabilitation of the quarry extension area will focus on reestablishing the site to be suitable for future activities as appropriate and permitted in the rural zone, such as primary production. Extraction is proposed to take place in stages, with progressive rehabilitation taking place as extraction in each stage is complete. Rehabilitation will not restore the proposed quarry extension site back to its original ground levels, instead a minimum of 0.3m of topsoil will be placed and land recontoured to create a free draining and stable site. The site will also be re-grassed with an appropriate species, to allow for routine farming activities and the grazing of light stock to take place on the rehabilitated land.

The rehabilitation plan proposed will work to remediate the proposed quarry extension site post extraction, returning grass cover as consistent with the surrounding landscape, and restoring the land to be fit for alternate future rural land uses. Although the topography of the site will not be returned to its pre-extraction levels, this is not considered an adverse outcome. This change in ground level will not be highly visible from external viewpoints and is considered acceptable as a reflection of the productive nature of rural areas and common practice in quarry rehabilitation.

These have been assessed as being part of the proposal, with no pre-mitigation assessment required.

8. CONCLUSION

In terms of the landscape character and values of the area, the proposal is expected to introduce a low magnitude of change to the receiving environment. The greatest change will be to the topographical character of the area, due to the required excavation and recontouring of the land as part of both quarrying excavation and rehabilitation. Given the widespread existing screening planting and subject to the mitigation measures proposed

as part of the site, this topographical change will be largely screened from external viewpoints in the wider landscape. It is therefore considered that the effects on landscape character and values will be low (less than minor).

The proposal aligns well with the relevant statutory provisions of both the operative and partially operative district plans. In terms of visual amenity, the proposal is screened from the majority of viewpoints in the receiving environment, with screening only expected to increase as juvenile shelterbelts mature and the mitigation measures outlined are implemented. With the implementation of the proposed mitigation measures and limited visibility of the proposal, any effects on visual amenity are assessed to be very low to low (less than minor).