PLAN

Landscape Plan Waihi

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Department	**Sustainability**
Location/Site	Waihi

Approval table

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Document issuance and revision history

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Revision number	Revision date	Section	Page	Description	Effective Date
1	01/04/2019	All	All	New document	01/04/2022
2	08/07/2022	All	All	Three yearly review, update to new OGL template	01/08/2022
3	Nov 2025			Three yearly review. No major changes.	27/11/2025

REFERENCE AND COMPLIANCE

Level	Source
Site	• WAI-200-PLN-011 Rehabilitation and Closure Plan
	• WAI-200-PRO-019 Tree and Vegetation Removal and Disposal procedure

	• WAI-200-FOR-011 Vegetation Removal Form

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1. INTRODUCTION

1.1. Plan Objective

The objective of this Landscape Plan ("Plan") is to detail the methods to be used by OceanaGold New Zealand Ltd - Waihi (OGNZL) to comply with the relevant conditions of Hauraki District Council (HDC) Land Use Consent (LUC) 202.2018.857.001 for Project Martha (Martha). It also incorporates components of the earlier Screen Planting Plan (now incorporated in the Rehabilitation and Closure Plan) where these components have a relevance to landscape impact mitigation.

1.2. Plan Requirements

Condition 61 of the Project Martha consents sets out the requirements for the Landscape Plan. The condition specifies that the Plan should be in general accordance with the concepts included in the concept plan prepared by Boffa Miskell Ltd in Appendix D of the Assessment of Environmental Effects for Project Martha, and requires details relating to:

a. The trees and plants to be removed as part of the activities in, and around, the Martha Pit that are authorised as part of this consent;
b. The relocation of the pit rim walkway between Miners Place and Cambridge Road;
c. The measures to ensure all disturbed areas outside the operational mine are planted to soften changes in landform and complement adjoining areas of vegetation;
d. The measures to ensure the water intake and outlet tunnel structures minimise disturbance along the Ohinemuri River and Mangatoetoe Stream respectively, and soften any necessary built elements with planting which appears integrated within adjoining riparian areas;
e. Indicate the species, size and number of proposed plants within identified planting areas; and
f. Outline maintenance and replacement requirements for the first three years following establishment to promote plant survival.

2. MARTHA PIT

2.1. Background

Mining in recent years in the Martha Pit has seen several cutbacks to improve the stability of the walls. While these have resulted in improvements, there are an ongoing stability issues that remain to be mitigated. April 2010 saw the beginning of the Martha East Layback. The footprint of the cutback remained entirely within either the existing mining licence or the Extended Martha Mining Area (EMMA) boundaries and noise management was in accordance with those authorities.

In April 2015, a slip on the North Wall caused the abeyance of mining. Mining ceased for the remainder of 2015 as investigations were undertaken to evaluate the options, safety, and viability of re-entry. Mining began again in January 2016 with a narrow switchback entry from the western wall of the pit (outside the slip failure zone). This was curtailed in April 2016 when further instability in the north wall precluded further work. Work resumed with a further cutback of the north wall in January 2017, with interim unloading of the highwall completed in August 2017.

Project Martha seeks to make comprehensive improvements to the pit wall stability. Mining will extend outside the EMMA boundary, requiring a modification to Cambridge Rd (where it meets Bulltown Rd), and will push back the north wall to create a more stable batter. In addition, the haul road will be reinstated and access to the bottom of the pit will be reinstated, allowing access to the recently opened

underground portal and remaining ore in the pit floor. A decision has yet to me made on when these works will commence. When a decision is made to proceed, the Council and Community will be advised.

2.2. Mitigation Considerations

From a visual aspect, the key landscape implications of the project are the diversion of Cambridge Rd and the construction of a noise bund (topped by a noise wall) along the crest of the pit's north wall (Figure 3). The primary focus of the landscape mitigation plan by Boffa Miskell Ltd was to minimise the visual impact of these features (see Figure 2 for an indicative alignment).

3. LANDSCAPE IMPACTS

3.1. Removal of trees and other vegetation

The removal of vegetation as part of this project will be in following main forms:

- Removal of several garden/street trees in preparation for the modification to Cambridge Rd and relocation of the noise bund. While these trees are not special (most are either pines or wattles), they do serve to break up the crestline of the pit and noise bund.
- The current noise bund, constructed for the North Wall Layback and completed in 2017, will be removed and reconstructed adjacent to the relocated Cambridge Rd. Most of the bund is in pasture species, with a scattering of flax plants. The flax was transplanted from earlier works onto the bund to break up the pasture monoculture. Where practical, this flax will be salvaged again and reused in future plantings.
- 0.1 ha area of native bush near the end of Pitt St (at the western end of the proposed noise bund relocation) will also be required to be removed. This area is currently a depression that will be required to be filled by the elevated noise bund to achieve effective noise mitigation.

Where practical the vegetation removed for the works will be dealt with in the following manner:

- Mature trees will be felled and either milled or broken down to firewood. OGNZL has an ongoing practice of generating firewood from its land clearing activities and supplying firewood to disadvantaged residents around the town.
- Green vegetation will be either mulched (for use amongst replanted areas and walkway gardens), composted, or burnt (especially when a heavy weed-seed burden is evident). If burnt, the vegetation will either be burnt in situ (with resident liaison) or relocated to the company's green-waste yard on Baxter Rd.
- Some larger plants (particularly flax) may be able to be transplanted, either directly into newly established landforms or temporarily stockpiled for later use.

4. LANDSCAPE MITIGATION

The relocation of Cambridge Rd and the noise bund is seen as an opportunity to establish a vegetative area that complements the surrounding landscape and provides interest and pleasure from neighbours and users of the pit rim walkway. The current landscape in the impacted area is dominated by mature wattles and large pines; while it will take years to restore a similar screening effect, the establishment of native and decorative garden species will be more in keeping with a residential area.

4.1. Revegetation for Erosion Control

As soon as practicable after the relocated road and noise bund have been completed, pasture species will be re-established to provide ground cover and erosion control. Depending on the timing of activities, this may be a piecemeal activity (planting small areas as they are completed) or larger scale (e.g.

completing the entire noise bund in one entity). It is in the company's best interests to establish groundcover as soon as practical areas become available, to mitigate erosion liability and soil loss.

4.2. Shrub and Tree Planting

Once pasture species have been established on completed surfaces, opportunities will be sought to undertake planting of trees and shrub species. While some species benefit from being established as soon as possible (e.g. transplanted flax from cleared areas have large root systems and are capable of competing with pasture), it is preferred to let the pasture species establish for one year (for ground cover, weed suppression, and allowing a year of controlling invasive scrub weeds), then spot-spray areas and plant seedling tree/shrub species.

In total, an area of approximately 1.4 ha will be available for landscape mitigation. On areas adjacent to roadways and with gentle slopes, lawn areas will be developed that will avoid shading and maintain sites lines for traffic. On sloping areas, shrubland vegetation will be progressively established to provide an aesthetic backdrop to Cambridge Rd, a lower maintenance demand than pasture and a visual screen for walkers along the pit rim walkway. In total, it is expected that approximately 1 ha will be available for planting in shrubs/trees, with specific plants and locations largely dependent on microhabitat (i.e. damper areas get wetland tolerant species) and the need for a 'natural' mix. The following percentage breakdown of species is typical (species breakdown per 100 plants) and has proven successful in numerous plantings around Waihi to date, but needs to be flexible depending on the supply available for the nursery:

Table 1 Typical Planting List and Ratio

Botanical Name	Maori/Common Name	%	Est. numbers
Carex secta	Purei/Pukio	3	270
Cordyline australis	Ti-Kouka, Cabbage tree	5	450
Coprosma robusta	Karamu	8	720
Dodonea viscosa	Akeake	5	450
Griselinea littoralis	Kapuka, Broadleaf	3	270
Hebe stricta	Koromiko	6	540
Hoherea populnea	Hohere, Lacebark	5	450
Kunzea ericoides	Kanuka	15	1350
Leptospermum scoparium	Manuka	15	1350
Podocarpus totara	Totara	5	450
Phormium tenax	Harakeke, Flax	15	1350
Pittosporum crassifolium	Karo	5	450
Pittosporum eugenioides	Tarata	5	450
Pittosporum tenuifolium	Kohuhu	5	450

The plants identified in Table 1 will be PB2 or PB3 in size. Over the years these sizes have proven to be the most cost-effective size to plant; they are large enough to establish quickly and compete with grass, but small enough to plant in large numbers and do not require staking or watering like larger specimens. Planting densities are based on 1.0-1.2 m spacings between seedlings; this translates to 9000 plants per hectare. It is proposed the planting will be spread over two to three years; this will spread demand for the local nursery and planting contractor time and reduce the risk implications of a drought year.

In addition to the main plant list above, selected specimen trees (in sizes from PB 3 to PB8) will be planted as features in the rehabilitated areas. These will generally be larger seedlings of 'climax' species. These are usually planted one to two years after the main planting, using the established seedlings as a 'light-well', but they do require more post-planting care (often staking, watering in dry

weather, pruning of surrounding plants if necessary). Examples of these species include: Agathis australis (Kauri), Dacrydium cupressinum (Rimu), Prumnopitys taxifolia (Matai), Sophora tetraptera (Kowhai). These may be planted singularly or in small groups to achieve focal points and a natural effect in various parts of the rehabilitated batters.

An example of a rehabilitated area is shown in *Figure 3*

2012 **2016** **2019**

Figure 1 – Rehabilitation (Mangatoetoe Stream)

4.3. Relocation of the pit rim walkway

The Project Martha pit works will require the relocation of the pit rim walkway from its current position. The project will re-establish the walkway along the crest of the relocated noise bund, similar to the way the original pit rim walkway was created. Figure 2 shows the conceptual alignment of the pit rim walkway at closure. This will reinstate the separation between the walkway and public roads and will restore the views into the pit and across Waihi.

Figure 2: Martha Pit Concept Closure Plan

4.4. Intake and Outlet Structures Relating to Closure

4.4.1. Ohinemuri Intake

OGNZL has already demonstrated the ability to install structures in local watercourses with minimal disruption to the surrounding habitat, as evidenced by the operation's two treated water discharge points into the Ohinemuri. The engineering construction of the Ohinemuri Intake will be undertaken in accordance with the Waikato Regional Council consent AUTH139551.09.01. The company's ability to establish and maintain riparian restoration is also well known and acknowledged by peer review. It is proposed that any new intake structure will be similarly integrated into the watercourse environment and surrounded by riparian revegetation as is currently established through OGNZL's operational area.

The normal landscape mitigation measures around riparian structures include:

- The use of muted colours for buildings, concrete or pipework.
- The use of wetland species (sedges, flax etc) along the riparian margin, with taller shrubs above the primary flood zone.
- Avoidance of many large tree specimens within the flood zone, but the utilisation of larger species just outside that zone to provide stream shading and bird roosts.
- If established trees die, the practise is to assess whether they constitute a hazard and only remove them if they do. Otherwise, dead trees are retained as a visual variation and biodiversity habitat.

4.4.2. Mangatoetoe Outlet

OGNZL has already established riparian vegetation along the reach of the Mangatoetoe Stream where the lake outlet is planned to be constructed and discharge into (Figure 2). This outlet will be installed in accordance with the Waikato Regional Council consent AUTH139551.10.01. At least 10m of planting will be planted around outlet structures.

The landscape mitigation measures will be as for the Ohinemuri Intake (Section 4.3.1).

Note: depending on the area to be fenced off for planting and the cost of fencing, there will be a critical point where it may be more practical to simply plant out the entire paddock between the Mangatoetoe Stream and Moresby Ave.

4.5. Vegetation Maintenance and Replacement

The current practice of maintenance and replacement planting will continue to occur until 80% canopy closure has been achieved. This entails twice-yearly release spraying for the first two years, with release spraying as required in the following years. Deaths in the establishment phase are replaced depending on the space left behind (if the neighbouring trees are very healthy, individual plants do not require replacement), and normally involve not planting the same species back into the same spot (in practice, a dead plant is normally replaced by a tougher species).

OGNZL undertakes comprehensive invasive weed surveillance annually, with opportune weed removal undertaken as and when scrub weeds are spotted from outside a planting block. This practice typically applies to common weeds such as pampas, gorse, broom, wattle, willow, pine, flowering cherry, woolly nightshade, and cotoneaster. Buddleia, an aggressive colonising scrub weed that has caused issues in previous years, is not actively controlled around site due to the release of the Buddleia weevil; in fact, the plants are left as host plants to ensure the weevil population is sustained and able to respond to a plant outbreak.

5. LIAISON AND REPORTING

In recent years, a practice has developed whereby the removal of any large trees around the periphery of the pit has been referred to HDC. This has been to ensure that the screening function of trees around the pit is not unnecessarily compromised and that opportunities for enhancement are optimised. This has enabled HDC to understand what is being removed, when, why, and also what mitigation measures may be applicable. The practice has been formalised into a component of the site's Vegetation Removal Form (WAI-200-FOR-011) . It is proposed that this liaison will continue for the works relating to this Plan.

Reporting progress in relation to the Plan will be included in the annual Rehabilitation and Closure Plan (WAI-200-PLN-011). The R&C Plan reports what activities have been undertaken in the previous year and plans for upcoming works, with a strong focus on rehabilitation activities.

6. PLAN REVIEW

This Plan should be regarded as a working document. Amendments to the document may be required as operations proceed, with reviews being subject to recertification by HDC.

7. APPENDIX

7.1. Landscape Mitigation Conditions

PROJECT MARTHA HDC LAND USE CONSENT NO. 202.2018.857.001

LANDSCAPE MITIGATION

60. The consent holder shall prepare and implement a maintenance programme for the removal of invasive exotic trees, plants and seedlings in areas surrounding the Martha Pit. The maintenance programme shall be documented in the Rehabilitation and Closure Plan required in accordance with Condition 24 of Schedule One.

61. Prior to the first exercise of this consent, the consent holder shall submit a landscape plan that is in general accordance with the landscape mitigation concept plan included with the Landscape Mitigation Plan prepared by Boffa Miskell Ltd and contained within Appendix D of the Assessment of Environmental Effects (25 May 2018) for Project Martha to the Council for certification. The landscape plan shall detail the following:

a. The trees and plants to be removed as part of the activities in, and around, the Martha Pit that are authorised as part of this consent;

b. The relocation of the pit rim walkway between Miners Place and Cambridge Road;

c. The measures to ensure all disturbed areas outside the operational mine are planted to soften changes in landform and complement adjoining areas of vegetation;

d. The measures to ensure the water intake and outlet tunnel structures minimise disturbance along the Ohinemuri River and Mangatoetoe Stream respectively, and soften any necessary built elements with planting which appears integrated within adjoining riparian areas;

e. Indicate the species, size and number of proposed plants within identified planting areas; and

f. Outline maintenance and replacement requirements for the first three years following establishment to promote plant survival.

The landscape plan required in accordance with this condition may be part of the Rehabilitation and Closure Plan required in Condition 24 of Schedule One, and shall be implemented within the first available planting season following completion of the relevant works and maintained in accordance with the requirements of the plan.

7.2. Visual Simulations

Figure 3: Visual Simulation of North Wall

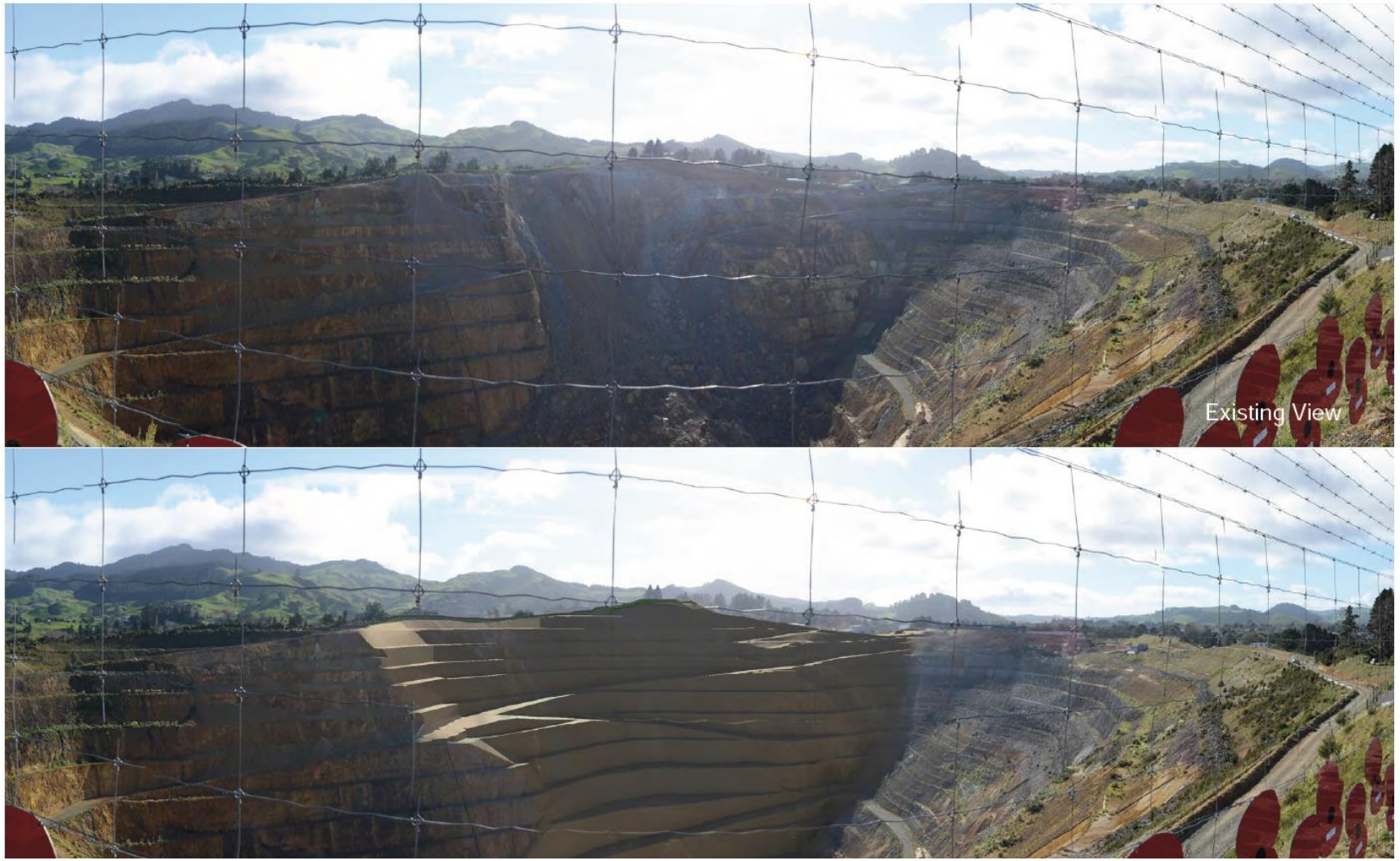

Figure 5: Visual Simulation of North Wall of Pit During Operation