SITE SELECTION PROTOCOL FOR THE LOCATION OF DRILL SITES, PUMPING TEST / VENTILATION SHAFT SITES, PORTABLE DRILL RIG SITES, AND WATER PUMP SITES

# OVERVIEW

This document outlines the protocol which will be used by OceanaGold New Zealand Limited (“**the Consent Holder**”) to select the location of up to eight exploration drill sites, twelve investigative drill sites, up to four pumping test / ventilation shaft sites, up to fifty portable drill rig sites, and water pump sites at the proposed Wharekirauponga Underground Mine (“**WUG**”), located within the Coromandel Forest Park as part of the Waihi North Project (“**WNP**”).

The site selection protocol only applies to sites that are eligible for consideration in accordance with the conditions attaching to the Waihi North Project Wharekirauponga Access Arrangement and the Waihi North Project Northern Area Concession.

This protocol follows a cascading management approach whereby:

* A short list of suitable drill sites will be selected based on the Consent Holder’s

technical requirements;

* A short list of suitable ventilation shaft sites will be selected based on the Consent

Holder’s technical requirements.

* A short list of suitable portable drill rig sites will be selected based on the Consent Holder’s technical requirements; and
* A short list of suitable water pump sites will be selected based on the Consent Holder’s technical requirements.

Shortlisted sites will then be subject to a multicriteria assessment (“**MCA**”), which will evaluate each potential site against ecological, freshwater, landscape, heritage and recreational criteria. The final eight investigative drilling sites, four ventilation shaft sites, fifty portable drill rig sites, and water pump sites will be selected based on the outcomes of the MCA. This protocol will ensure that selected sites meet the Consent Holder’s technical requirements, whilst minimising adverse effects on the environment.

# SHORT-LIST SITE IDENTIFICATION–

The Consent Holder shall create a short list of options for drill sites, ventilation sites, portable drill sites, and water pump sites which meet engineering and geotechnical requirements.

The Consent Holder shall assess each of the shortlisted sites against the MCA (set out below) to inform the final site selection.

Note: all sites must meet engineering and geotechnical requirements in order to fulfil their intended function. For ventilation sites in particular, it is recognised that engineering and geotechnical requirements may result in a low number of potential options.

# MULTICRITERIA ASSESSMENT

The following assessment shall be used for drill sites and ventilation shafts.

Once the Consent Holder has established a shortlist of drill sites, ventilation shaft sites, portable drill sites, and/or water pump sites, it shall convene a team of appropriately qualified and experienced experts to undertake the MCA evaluation for each site.

The MCA will guide the Consent Holder’s selection of up to eight exploration drill sites, twelve investigative drill sites, up to four ventilation shaft sites, up to fifty portable drill sites, and up to six water pump sites (two associated with exploration and four associated with tunnel alignment) at locations which meet engineering and geotechnical requirements in order to fulfil their intended function and best achieve the outcomes set out below.

# Multicriteria Assessment Outcomes

## Terrestrial Fauna

* The loss of ‘At Risk’ or ‘Threatened’ herpetofauna is avoided;
* The loss of ‘At Risk’ or ‘Threatened’ terrestrial invertebrates is avoided;
* The removal of trees where bats are actively roosting is avoided; and
* The removal of trees in which birds[1](#_bookmark0) are actively nesting is avoided.

## Terrestrial Flora

* The loss of ‘At Risk’ or ‘Threatened’ flora is avoided;
* The loss of mature trees (trees that are greater than 50 cm in diameter at breast height (1.4 m above ground level)) is minimised where practicable; and
* Preference is given to sites where trees can be trimmed or tied back in such a way as to minimise felling.

## Freshwater Values

* Sites selected are located as far from surface waterbodies (including natural inland wetlands) as is reasonably practicable; and
* The loss of riparian vegetation within 20 m of a waterway is minimised where practicable.

## Landscape and Visual Amenity Values

* Sites selected can be visually contained, including any consequent plume from ventilation shafts, and assimilated into the environment so that they are reasonably difficult to see.

1 Any reference to birds means birds protected under the Wildlife Act 1953

* Once work has been completed, selected sites can be successfully rehabilitated to ensure that long term landscape and visual effects are avoided.

## Heritage and Cultural Values

* Disturbance to, or interference with listed or known heritage features and / or sites is avoided.
* Archaeological features and features of particular significance to iwi are avoided.

The Consent Holder must engage a suitably qualified and experienced archaeologist to assess if there are any known archaeological or other historic heritage features, or a likelihood of unidentified archaeological or other historic heritage features within 500m of the shortlisted investigative drill sites and **ventilation** shaft sites.

## Recreation Values

* Sites selected are located as far away as is practicable from the Te Wharekirauponga Track.

# Multicriteria Assessment Tool

A red / amber / green (“**RAG**”) MCA tool will be utilised to guide decision-making. The assessment tool has three rankings, based on the level of adverse effect anticipated for each criterion, noting that the grading is relative to the other effects, not absolute:

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| Lower effects | Moderate effects | Higher effects |

The criteria for assessing each value set is set out in **Table 1**.

## Table 1: MCA Assessment Tool.

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| **Criteria** | **Lower effects** | **Moderate effects** | **Higher effects** |
| **Terrestrial Fauna** |
| Habitat value for native frogs | <20 % cover of kiekie and / or fern species | ≥20 %, ≤50% cover of kiekie and / or fern species | >50 % cover of kiekie and / or fern species |
| ‘At Risk’ and / or‘Threatened’ terrestrialinvertebrates | No ‘At Risk’ and / or ‘Threatened’ terrestrial invertebrates are found on site. | ‘At Risk’ and / or ‘Threatened’ terrestrial invertebrates are found on site, but can be salvaged and moved to suitable habitat at least 50m away from the drilling and / or ventilation shaft site (as assessed by a suitably qualified entomologist). | At Risk’ and / or ‘Threatened’ terrestrial invertebrates are found on site, and cannot be salvaged and moved to suitable habitat at least 50m away from the drilling and / or ventilation shaft site (as assessed by a suitably qualified and experienced ecologist). |
| Bat roosts | No trees with bat roost characteristics identified on site (as assessed by suitably qualified zoologist). | Trees with bat roost characteristics identified on site, but no bats are found to be currently roosting in the tree (as assessed by a suitably qualified ecologist). | Trees with bat roost characteristics identified on site, with signs that bats are currently roosting in the tree (as assessed by a suitably qualified ecologist). |
| Nesting birds | No active bird nests detected on site (as assessed suitably qualified ecologist). | - | Active bird nests detected on site (as assessed by a suitably qualified ecologist). |
| **Indigenous Terrestrial Flora** |
| ‘At Risk’ and / or ‘Threatened’ floraNB This does not include kauri and Myrtaceae species (classified as ‘Threatened - Nationally Vulnerable’ or ‘At Risk – Declining’ in response to disease risk.) | No ‘At Risk’ and / or ‘Threatened’ flora identified is on site (as assessed bysuitably qualified botanist). | ‘At Risk’ and / or ‘Threatened’ flora identified is on site, but can be readily translocated to a suitable alternative site containing similar light, soil and vegetation community characteristics (as determined by a suitably qualified botanist), or retained on site by bending back without cutting. | ‘At Risk’ and/ or ‘Threatened’ flora identified on site, and cannot be readily translocated to a suitable alternative site containing similar light, soil and vegetation community characteristics (as determined by a suitably qualified botanist), or retained on site by bending back without cutting. |
| Removal of mature trees | No removal of trees greater than 50 cm in diameter at breast height is required. | Removal of <=4 trees greater than 50 cm in diameter at breast height is required. | Removal of >4 trees greater than 50 cm in diameter at breast height required. |
| **Freshwater** |
| Proximity to rivers and streams | Site is more than 100 m from nearest river or stream. | Site is between 50-100 m from nearest river or stream. | Site is less than 50m from nearest river or stream. |
| Proximity to wetland | Site is more than 100 m from nearest wetland. | Site is between 10 - 100 m from a wetland. | Site is within or within 10 m of a wetland.[2](#_bookmark1) |
| Riparian vegetation | No riparian vegetation removal required. | Minimal riparian vegetation removal is required. | More than minimal riparian vegetation removal is required. |

2 NB: Resource Consent will be required under the NES-Freshwater for any earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland, or outside a 10 m, but within a 100 m, setback from a natural inland wetland results, or is likely to result, in the complete or partial drainage of all or part of the wetland

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| **Criteria** | **Lower effects** | **Moderate effects** | **Higher effects** |
| **Landscape and Visual Amenity** |
| Visibility | Site cannot be seen from any formal walking track or viewpoints beyond the Coromandel Forest Park. | Site can partially be seen from any formal walking track or viewpoints beyond the Coromandel Forest Park. | Site can be clearly seen from any formal walking track or viewpoint beyond the Coromandel Forest Park. |
| **Heritage** |
| Heritage features/Cultural | No heritage or cultural features and / or sites are identified within 500m of the site. | Heritage/cultural features and / or sites are identified within 500m of site, but outside the proposed site footprint. | Heritage/cultural features and / or sites are identified with the proposed site footprint. |
| **Recreation** |
| Proximity to recreational tracks | Site is at least 750 m from nearest formal walking track. | Site is between 400 -750 m from nearest formal walking track. | Site is within 400 m of nearest formal walking track. |
| Proximity to *Waikato Conservation Management Strategy* recreation remote zones | Site is more than 500 m outside of a recreation remote zone. | Site is within 500 m of a recreation remote zone. | Site is within a recreation remote zone. |