An Bord Pleanála

37L Application - Restoration Plan

Bison Quarries Ltd

IE-40000205.R06.RP1
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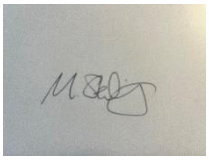
Signature				
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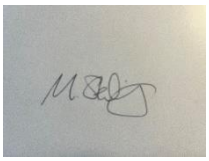
Signature				
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Contents

Figures

1 Restoration Plan

1.1 Introduction

This Restoration Plan has been prepared to accompany an application under Section 37L of the Planning and Development Act 2000, as amended ('37L application').

The Proposed Project is the restoration of a disused quarry through the import of clean, uncontaminated soil and stone (greenfield or equivalent greenfield). The proposed final ground levels in the fill area seek to tie in with the ground levels of the surrounding lands. The restored lands will largely be returned to their pre-extraction agricultural land use with enhanced biodiversity provisions included in the restoration of the disused quarry.

The lands on which the Proposed Project is located (the 'Application Site' or 'Site') are within the townland of Coolsickin or Quinsborough, Co. Kildare. The Application Site is situated approximately 9km west of Kildare town and approximately 2.7km northeast of Monasterevin.

A detailed description of the Proposed Project (including the site history and phasing of the Proposed Project) is provided in Chapter 2 (Project Description) of the Environmental Impact Assessment Report (EIAR) prepared to support the 37L application.

This Restoration Plan is to be read in conjunction with the EIAR and drawing pack provided within the wider 37L Application.

1.2 Consideration of KCC Policy

This plan is prepared cognizant of the after-use strategy for quarries post-closure as set out in the set out in the Kildare County Development Plan 2023-2029 ('KCC CDP 2023-2029') (see Section 9.9.1 therein)

The After-Use Strategy for Quarries states that '*restoration of quarries, as far as possible, to their original appearance* [...] *may result in the loss of key features that may ironically, have some ecological benefit or rich biodiversity interest. For example, sand and gravel banks are sometimes used as nesting sites by sand martins; rock faces and cliff ledges can provide ideal nesting sites for ravens and peregrine falcons; their crevices have been known to provide nesting sites for jackdaws, kestrels, and barn owls. Duck species and waders (such as snipe and lapwing) have been known to frequent the ponds and wetlands at quarry sites. Some of these species are of high or medium conservation concern being listed as red or amber (Birds of Conservation Concern Ireland/International Union for the Conservation of Nature). Orchids and other wildflowers have colonized exposed areas while colonizing scrub vegetation provides a sanctuary for other birdlife and mammals'*

Therefore, in developing any after-use strategy and/or restoration plan, there will be a requirement to prepare a detailed survey and assessment of the intrinsic ecological character first (by an appropriate ecologist), identifying the range and location of key

species of flora and fauna on site. The rehabilitation plan should work around these habitats and species in a process known as Rehabilitation Ecology.

A detailed survey and assessment of the intrinsic ecological character has been carried out by WSP and the findings of this are presented in Chapter 4 (Ecology and Biodiversity) of the EIAR accompanying the 37L Application. That assessment considers the range and location of key species of flora and fauna on site. **A map of habitats identified at the Application Site (*sensu* Fossit) is presented in Section 4.4.3.4 of Chapter 4 of the EIAR.**

The After-Use Strategy for Quarries states that '*Ideally, the final restoration plan will provide for a mosaic of habitats, including, for example, cliff/sand or gravel banks, ponds, wetlands, open meadow (appropriately seeded), naturally recolonizing scrubland and planted woodland (i.e., saplings of native tree species). The interface of habitats will provide for a rich biodiversity network. Where obvious scarring and visual impact off-site is evident, infilling and backfilling may be desirable however rather than reverting to agricultural grasslands, the lands should be given over to specific biodiversity and ecological benefit with, for example, wildflower meadows and native woodland planting.*

'In order to achieve this, specific targets need to be established. It is a requirement, that quarry remediation plans provide for a minimum of 80% of the area to be provided for environmental benefit, biodiversity, and re-wilding. Where other after-use strategies are proposed (i.e., concrete batching, etc.) that might require more than the 20% in use for ongoing economic purposes, then other lands (including other disused quarries) may be used to compensate any shortfall, either by condition of use, sterilisation/legal agreement, or rehabilitation and transfer to either the Council or an established wildlife group such as the Irish Wildlife Trust, Birdwatch Ireland, the Native Woodlands Trust, etc. The 80% requirement for environmental/biodiversity may be waived at sites closer to urban areas where a significant portion of the site is being provided for sports, recreation and amenity uses.'

The Proposed Project seeks to return the lands to their pre-extraction use (i.e. agriculture) with the inclusion of biodiversity enhancement measures. The Proposed Project is considered to have the following benefits:

- Returns the lands to use within the rural economy of Co. Kildare;
- Reduces the potential risk to human health (e.g. drowning, fall from height) on the Application Site[1] by removing the waterbody within the quarry void and reducing the height and extent of the exisiting exposed quarry faces within the void space; and
- Increased protection of groundwater resource by limiting direct pathway to groundwater.

[1] It is noted that public access is not permitted onsite by Bison Quarries Ltd and fencing, security gates and signage are in place on the Site to deter trespass. However, incidents of trespassing have been observed, including indications that dog walking and swimming have taken place onsite.

Furthermore, the restoration plan seeks to incorporate the practice of Rehabilitation Ecology by working around the habitats and species onsite where practicable. The final restoration plan provides for a mosaic of habitats on the quarried northern section of the Application Site, including:

- Retention of calcareous grasses on the west of the Site;
- Retention of existing hedgerow;
- Planting and bolstering of hedgerow using native species to enhance linear hedgerow features;
- Retaining the upper section of the quarry void's east face where sand martin burrows are located in a sandy band at the top of the face. A drop of 3 m (minimum) exposed bank is maintained to protect the existing sand martin nesting area above a created shallow waterbody ('pond') (see drawing four in the drawing pack provided to support the 37L Application for detail);
- The created pond will provide breeding habitat for amphibians;
- Provision of bird boxes and bat boxes;
- Provision of invertebrate habitat;
- Provision of reptile refugia and basking areas;
- It is proposed to include a buffer strip of semi-natural grassland, which will extend along the field boundary of the Application Site and will be adjacent to the expanded hedgerow/treeline; and
- Stripped topsoil will be stored in such a way as to protect existing seedbank for restoration of final levels, where practicable.

1.3 Habitat Creation

1.3.1 Bats

While the bat assemblage on site is considered to be of Local Importance, it remains a legal requirement and good ecological practice to avoid adverse impacts and, where possible, provide enhancements. Habitat improvements and roost provision will support local biodiversity and contribute to the broader ecological value of the site.

1.3.2 Habitat

Where appropriate, enhancements to existing hedgerows or planting of new linear features should use guidance from Bat Conservation Ireland's Gardening for Bats leaflet[2]. Native plant species of Irish provenance should be selected to support invertebrate diversity throughout the year and be suited to site conditions.

Aquatic and semi-aquatic vegetation around the proposed new pond can further support foraging bats by enhancing invertebrate productivity. Recommended species include

[2] https://www.batconservationireland.org/wp-content/uploads/2022/07/Gardening-For-Bats.pdf

cuckoo flower (*Cardamine pratensis*), purple loosestrife (*Lythrum salicaria*), and water mint (*Mentha aquatica*) as outlined by the Bat Conservation Trust's Stars of the Night guidance.

Management of the grassland, pond margins, hedgerows, and woodland edge should avoid the use of pesticides, herbicides, and insecticides (except where invasive species control is required), thereby preserving insect diversity and abundance.

1.3.3 Roost Provision:

While no roosts have been confirmed within the proposed development footprint, the provision of alternative roosting opportunities will enhance habitat quality for local bat species. The following roost enhancements are recommended:

- Two bat boxes mounted on poles near the new pond, ideally with a southerly or south-easterly aspect to capture solar warmth and encourage use;
- Four installed along the western boundary near existing treelines or hedgerows, mounted at least 4 m above ground level with appropriate solar orientation; and,
- Where feasible, veteranisation of the mature tree near the site entrance can be undertaken to simulate natural decay processes and encourage the formation of future roosting cavities, if required.

1.3.4 Monitoring

Monitoring of enhancement measures should be proportionate to the site's Local Importance and aligned with any requirements under NPWS derogation licences, should these be needed.

Post-installation monitoring should include periodic bat activity surveys and visual inspection of bat boxes. Findings should be recorded and, where appropriate, submitted to Bat Conservation Ireland and the NPWS via the National Biodiversity Data Centre's online portal.

1.4 Planting Schedule

Proposed planting schedule is as follows:

Species assemblages to be agreed with Kildare County Council.

Aquatic and semi-aquatic vegetation - Next to Pond
To include species from the following
Marginal Planting - CG P9 & 2L, in random groups of 5-7 no at 4/sq.m
Cardamine pratensis *Lythrum salicaria* *Mentha aquatica* *Iris pseudacorus*

Caltha palustris *Juncus effusus* *Juncus aerticulatus* *Filupendula ulmaria*	
Hedgerow Planting - Along lengths of the new hedgerows and as infill to gaps within existing hedges.	
Hedgerow Trees - br 120-150cm ht. Planted individually at approx. 10-15m c/cs through the hedges	Hedge - br 60-90cm ht., planted in random groups of 5-15 at 5/lin m and double staggered
Malus sylvestris - 20°% *Pinus Sylvestris* -10°% *Quereus petrea* - 50% *Sorbus aucuparia* - 20°%	*Corylus avellana* – Hazel – 13% *Crategus monogyna* - Hawthorn - 50% *Euonymus europaeus* - Spindle 5% *Ilex aquifolium* - Holly 3% *Prunus spinosa* - Blackthorn 17% *Rosa canina* - Dog Rose 2% *Viburnum opulus* - Guelder Rose 10%
Meadow & Agricultural Grassland Mixes	
Areas of grassland sown across the quarry floor over a topsoil layer of 0.3m depth. Selected Native Meadow Grassland mix to contain pollinator friendly rich native wildflowers species which flower at various times. Source of seed mix from an approved Irish grown supplier, e.g. Design By Nature MM12 Wild Flora for Raw improvised sub soil mix with a suitable grass nursery crop of bent and fescue grass species. Agricultural Mix of a suitable grassland cover, similar to that within the surrounding fields.	

1.5 Restoration Design Drawing

The restoration design is provided in Figure 1-1 (overleaf).

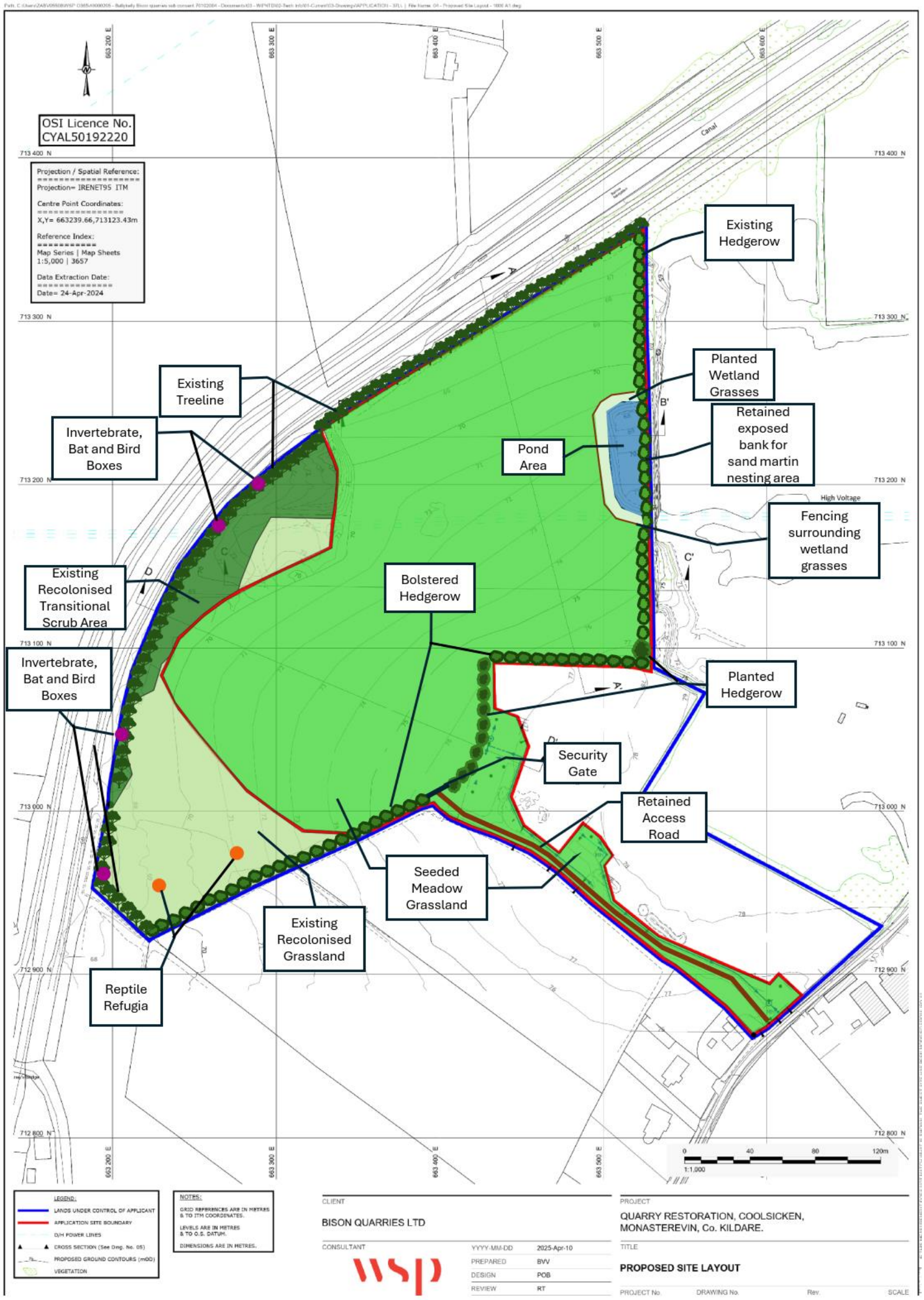

Figure 1-1 - Restoration Plan

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