APPROPRIATE ASSESSMENT SCREENING

May 2018

BALLINDERRY RESTORATION

Appropriate Assessment Screening - Ballinderry Restoration

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Executive Summary

This report presents the results of the Stage 1 Screening Statement, in support of the Appropriate Assessment process, to identify whether significant effects on Natura 2000 sites are likely to arise from the proposed restoration of a former quarry at Ballinderry, Carbury, Co. Kildare (the Site).

It is concluded that no significant effects arising from the proposed restoration activities are likely to occur in relation to the Natura 2000 sites recorded within a 15 km radius of the Site.

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1.0 INTRODUCTION

Golder Associates Ireland Limited ('Golder') was commissioned by GCHL ('the Client') to carry out the Appropriate Assessment Screening exercise for a former quarry site in Ballinderry, Co. Kildare ('the Site'), ahead of proposed restoration works. The Screening for Appropriate Assessment comprised an appraisal of potential impacts on designated conservation sites within a 15 km radius of the Site. This Appropriate Assessment Screening has been prepared by **Freddy Brookes MSc., MCIEEM – Senior Ecologist,** Golder Associates.

1.1 Terms of Reference

This screening has been undertaken in accordance with the requirements of the EU Habitats Directive (Directive 92/43/EEC). Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as *Natura 2000*. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

> *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

Article 6(4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan / project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

> *"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*
>
> *Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."*

The requirements of Articles 6(3) and 6(4) of the Habitats Directive have been transposed into Irish legislation by means of the Habitats Regulations, 1997 (S.I. No. 94 of 1997) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

2.0 METHODS

2.1 Desktop Review, Data Collation and Consultation

A desktop review was conducted of available published information and a review of data available on the NPWS http://www.npws.ie/en/, National Biodiversity Data Centre http://maps.biodiversityireland.ie/, and Environment Protection Agency (EPA) web-based databases.

2.2 Screening for Appropriate Assessment

This report has been prepared with reference to the following documents:

- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC (European Communities, 2002);
- Managing Natura 2000 sites: the provisions of Article of the 'Habitats Directive' 92/43/EC; and
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. (DOE, 2009, Revision Notes 2010).

Appropriate Assessment is carried out in stages, as recommended by the above-referenced Guidance Documents. There are four stages as follows:

2.2.1 Stage 1: Screening

This initial stage aims to identify the likely impacts of the project on a Natura 2000 site, either alone or in combination with other projects or plans. The impacts are examined to establish whether these impacts are likely to be significant. Assessment of the significance of effects is carried out in consultation with the relevant nature agencies.

2.2.2 Stage 2: Appropriate Assessment

The aim of this stage is to identify the conservation objectives of the site and to assess whether or not the project, either alone or in combination with other projects or plans will result in adverse effects on the integrity of the site, as defined by the conservation objectives and status of the site. Stage 2 is carried out in consultation with the relevant nature agencies. Where it cannot be demonstrated that there will be no adverse effects on the site, it is necessary to devise mitigation measures to avoid, where possible, any adverse effects.

2.2.3 Stage 3: Assessment of alternative solutions

This stage examines alternative ways of implementing the project that, where possible, avoid any adverse impacts on the integrity of the Natura 2000 site. If alternative solutions have been identified that will either avoid any adverse impacts or result in less severe impacts on the site, it will be necessary to assess their potential impact by recommencing the assessment at Stage One or Stage Two as appropriate. However, if it can be reasonably and objectively concluded that there is an absence of alternatives, it will be necessary to proceed to Stage Four of this assessment methodology.

2.2.4 Stage 4: Assessment where adverse impacts remain

For sites that host priority habitats and species, it is necessary to consider whether or not there are human health or safety considerations or environmental benefits flowing from the project. If such considerations do exist, then it will be necessary to carry out the Stage Four assessments of compensatory measures. If no such considerations exist, then establish whether there are other imperative reasons of overriding public interest (IROPI) before carrying out the Stage Four assessments. Where IROPI exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the site will be necessary before the project or plan can proceed.

This report is for Screening (stage 1) for Appropriate Assessment only.

3.0 DESCRIPTION OF THE PROJECT

The Project comprises the proposed restoration of a former sand and gravel extraction pit, which will be infilled with inert waste soil in order to return it to agricultural conditions (i.e. conditions that prevailed prior to extraction). An application is being made for a waste licence for the recovery of inert soil and stone, which is required in order to realise the restoration strategy. This Appropriate Assessment Screening report expands upon an Appropriate Assessment Screening report produced for the Site in 2017 (Roger Goodwillie & Associates, 2017), which was produced when a different restoration scheme was proposed.

3.1 Description of the Site

The majority of the Site has been disturbed by extraction activities, which have now ceased. The Site is primarily dominated by exposed sand and gravel or bare earth/spoil. Some vegetation has begun to colonise this bare earth, and where overburden has been stockpiled around the periphery of the Site the rate of colonisation has been faster. There are also two large acidic oligotrophic ponds within the Site, where the majority of the sand and gravel has been extracted. A third smaller, shallower surface water pond in the southwest corner of the Site is also present, which is only intermittently wet. The area south and east of the Site access road, which is a protected monument, has not been disturbed during sand and gravel extraction.

Habitats recorded on Site include:

- ED1 – Exposed sand, gravel and till;
- ED2 – Spoil or bare ground;
- ED3 – Recolonising bare ground;
- GS1 – Neutral grassland;
- FL2 – Acid oligotrophic lake
- FL8 – Artificial pond; and
- FS1 – Reed and large sedge swamp.

These are shown indicatively in Figure 1.

Figure 1: Habitat Types Recorded at the Site

3.2 Natura 2000 Sites

There are four Natura 2000 sites located within 15 km of the Site, as shown in Figure 2. Site citations are sourced from the Natura 2000 network viewer[1] and are presented verbatim.

[1] http://natura2000.eea.europa.eu/# accessed 17/05/18

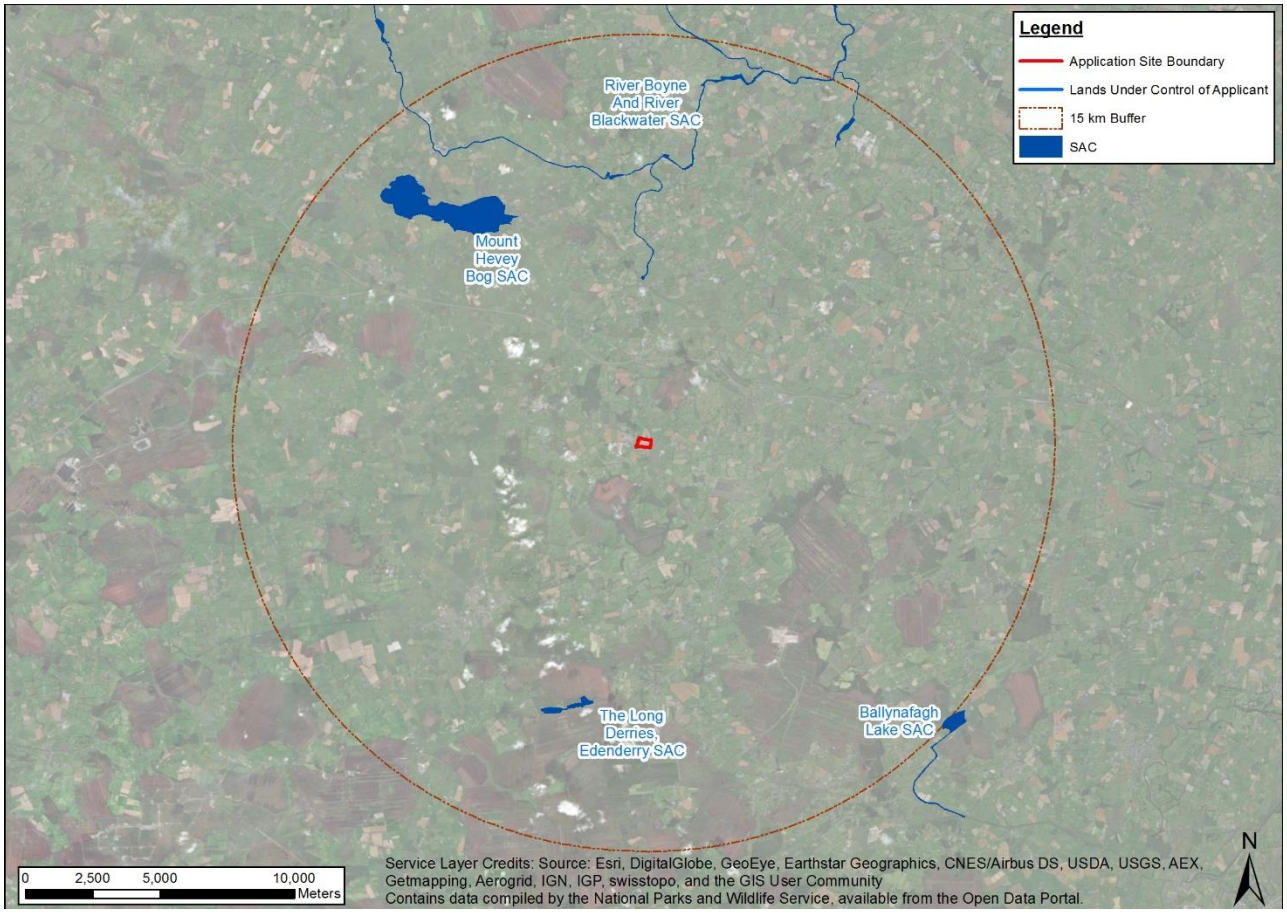

Figure 2: Natura 2000 sites within 15 km of the Site

3.2.1 River Boyne and River Blackwater SAC

This site comprises most of the freshwater element of the River Boyne from upriver of the Boyne Aqueduct at Drogheda, the Blackwater River as far as Lough Ramor and the principal Boyne tributaries, notably the Deel, Stoneyford and Tremblestown Rivers. This system drains a considerable area of counties Meath and Westmeath and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. The rivers flow through a landscape dominated by intensive agriculture, mostly of improved grassland but also cereals. Much of the river channels were subject to arterial drainage schemes in the past. Natural flood-plains now exist along only limited stretches of river, though often there is a fringe of reed swamp, freshwater marsh, wet grassland or deciduous wet woodland. Along some parts, notably between Drogheda and Slane, are stands of tall, mature mixed woodland. Substantial areas of improved grassland and arable land are included in site for water quality reasons. There are many medium to large sized towns adjacent to but not within the site.

This SAC has been selected for:

The main channel of the Boyne contains a good example of alluvial woodland of the *Salicetum albo-fragilis* type which has developed on three alluvium islands. Alkaline fen vegetation is well represented at Lough Shesk, where there is a very fine example of habitat succession from open water to raised bog. The Boyne and its tributaries is one of Ireland's premier game fisheries and offers a wide range of angling, from fishing for spring salmon and grilse to sea trout fishing and extensive brown trout fishing. The site is one of the most important in eastern Ireland for *Salmo salar* and has very extensive spawning grounds. The site also has an important population of *Lampetra fluviatilis*, though the distribution or abundance of this species is not well known. *Lutra lutra* is widespread throughout the site.

Some of the grassland areas along the Boyne and Blackwater are used by a nationally important winter flock of *Cygnus cygnus*. Several Red Data Book plants occur within the site, with *Pyrola rotundifolia*, *Poa palustris* and *Juncus compressus*. Also occurring are a number of Red Data Book animals, notably *Meles meles*, *Martes martes* and *Rana temporaria*. The River Boyne is a designated Salmonid Water under the EU Freshwater Fish Directive.

3.2.2 Mount Hevey Bog SAC

Mount Hevey is a large midland raised bog, which is situated 3 km north-east of Kinnegad village and lies on the border of counties Meath and Westmeath. The bog overlies Carboniferous limestone bedrock and occurs in four sections. Two of these are small and lie to the north of a railway line while two larger lobes lie to the south of the railway line. These two larger lobes are of higher ecological value due to the presence of active bog. Cutover bog surrounds the uncut high bog. Part of the high bog and also part of the cutover has been afforested with conifers. Other parts of the cutover has been invaded by *Betula pubescens* scrub and small amounts of broad-leaved woodland. Some of the cutover has been converted to semi-improved grassland.

This SAC has been selected for:

Mount Hevey Bog is one of the most easterly, relatively intact raised bogs in Ireland and represents one of the largest bog areas in the eastern half of the country. Although more than half of the site area consists of cutover bog, there is a large area of active raised bog. The active areas support well-developed pool areas and have a high Sphagnum cover which include the rare species *Sphagnum fuscum* and *S. imbricatum*. A soak area, which has developed from an infilled lake and now supports some *Betula pubescens* trees, adds diversity to the bog surface. A substantial area of uncut high bog that is classified as degraded raised big is present. The degraded bog supports a wide range of plant communities, depending on factors such as height of water table and past burning events. The bog, and especially the active parts, contains substantial areas of Rhynchosporion vegetation which have a typical species composition and generally exist in a well-preserved condition. The cutover areas which surround the high bog contain large areas of scrub woodland dominated by *Betula pubescens*.

3.2.3 The Long Derries SAC

The site forms part of a low esker ridge which primarily consists of glacial gravels interspersed with loam and peat soils. The site comprises a mosaic of dry esker grassland (calcareous), Cretaegus scrub, gravel quarries (used and disused) and humid grassland. The north-eastern side of the site grades into peatland and here an interesting mixture of acid and base loving plants occurs. Much of the western half of the site was previously used as a golf course. A wide variety of activities occur on the site and the western half is the most disturbed.

This SAC has been selected for:

This is an important site for several reasons. It supports good quality dry, calcareous esker grassland in which occurs a substantial population of the rare and protected *Orchis morio*. An interesting transition between this habitat and acid, peaty grassland is found on the eastern side of the site. Gravel quarries on the site support other rare plant species: *Acinos arvensis* (a protected species) and *Erigeron acer*, as well as the uncommon, introduced *Minuartia hybrida*. The site is an important ornithological site; the most notable species, *Caprimulgus europaeus* (Nightjar) of which only about thirty pairs are known to breed in Ireland, breeds on the site. Several other important bird species also occur.

3.2.4 Ballynafagh Lake SAC

The site comprises a former reservoir (generally called Ballynafagh Lake) and an associated canal feeder (Blackwood feeder), the latter now disused and mostly dry. The lake is shallow and is now very overgrown with various wetland vegetation types with only a small area of open water remaining. Fen is the predominant habitat, with reed-swamp, wet grassland and some bog or heath also occurring. A strip of deciduous woodland occurs on some drier ground. The main habitats along the canal feeder are dry grassland (partly improved), wet grassland, swamp vegetation and scrub.

This SAC has been selected for:

Alkaline fen is a main habitat at this site, occurring in mosaic with a range of swamp and transitional bog communities as well as fen woodland. The fen is well-developed and of good quality and represents one of the best examples in eastern Ireland. The site also contains a relict population of *Vertigo moulinsiana*. Confirmed record for 1997 and noted to be a large population. All recently surveyed sites with confirmed populations of this species are considered important. The site supports a population of *Euphydryas aurinia* and contains a number of other rare invertebrate species, some of which are good wetland indicator species, including the mollusc *Pisidium pseudosphaerium*, the lepidopterans *Ectoedemia argyropeza* and *Apomyelois bistriatella subcognata*, and the coleopterans *Chlaenius tristis* and *Philonthus corvinus*. Of some local importance for wintering waterfowl.

4.0 STAGE 1 SCREENING ASSESSMENT CRITERIA

4.1 Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 sites by virtue of:

Size and scale	The proposed restoration works involve the infilling of a former sand and gravel quarry with inert waste soil in order to return the Site to its pre-excavation agricultural conditions.
Land-take	None from Natura 2000 sites.
Distance from Natura 2000 site or key features of the site	The Site is within 15 km of four Natura 2000 sites: ■ Mount Hevey Bog SAC (Site Code – 2342) – 9.3 km north west of the Site; ■ The River Boyne and River Blackwater SAC (Site Code – 2299) – 5.9 km north of the Site; ■ The Long Derries, Edenderry SAC (Site Code – 0925) – 9.4 km south of the Site; and ■ Ballynafagh Lake SAC (Site Code – 1387) – 15 km south east of the Site.
Resource requirements (water abstraction etc.)	No water abstraction activities are proposed at the Site. The restoration strategy will require inert waste soil to be transported to the Site.
Emissions (disposal to land, water or air)	Ground, water and air emissions from the Site are unlikely to cause impacts on the Natura 2000 sites due to distance from the Site, an absence of ecological pathways or negligible emissions/change from existing conditions. Emissions to air are limited dust and vehicle emissions and it is considered that these will not impact on any of the Natura 2000 sites within 15 km of the Site due to distance from the Site. There are no proposed discharges to surface water as part of the restoration strategy. All water will be stored on-site to prevent sediment loading in nearby surface water features. Water stored on-site will enter into groundwater – this presents the only viable potential pathway. All emissions directly to ground will consist of inert material. Mount Hevey Bog SAC is a raised bog that is rainwater fed and is hydrologically isolated from the Site. As such, it will be unaffected by the proposed restoration works. The Long Derries SAC is also raised above groundwater and so is hydrologically isolated from the Site. As such, it will be unaffected by the proposed restoration works. The Ballynafagh Lake SAC is hydrologically isolated from the Site and will be unaffected by the proposed restoration works. The River Boyne and River Blackwater SAC is potentially connected to the Site via groundwater that enters into the Balrinnet stream (adjacent to the Site), which feeds into the River Glash, which ultimately enters into the River

	Boyne. As this is the situation that exists presently (i.e. without the proposed restoration works), it is considered that the introduction of inert material to the Site will not negatively affect water quality and so will not impact the SAC. Water quality in the Balrinnet stream/River Glash remains the same as it was prior to, and during, excavation activities at the Site ('moderately polluted'). During this time vehicles and plant have been used on Site to extract sand and gravel, with no change in water quality. As such, it is considered that activities on Site will not impact upon the SAC.
Excavation requirements	No excavation activities are proposed as part of the restoration. There are no excavation requirements within the Natura 2000 sites.
Transportation requirements	No traffic movements within or affecting the Natura sites.
Duration of construction, operation, decommissioning etc.	Restoration – approximately 4 years
Other	None.

4.2 Describe any likely changes to the sites arising as a result of:

Reduction of habitat area	None
Disturbance to key species	None
Habitat or species fragmentation	There will be no habitat or species fragmentation due to the proposed restoration. The development site is not part of the Natura 2000 sites in question and no resources are required from it.
Reduction in species density	No reduction in species density is anticipated.
Changes in key indicators of conservation value (water quality etc.)	The proposed restoration of the Site will not result in impacts to surface or groundwater, with all restoration activities proactively managed by strictly adhering to the Environmental Good Practice on Site Guidelines (CIRIA, 2015).
Climate change	None

4.3 Describe any likely impacts on the Natura 2000 sites as a whole in terms of:

Interference with the key relationships that define the structure of the site:	No impacts are likely.
Interference with key relationships that define the function of the site	No impacts are likely.

4.4 Provide indicators of significance as a result of the identification of effects set out above in terms of:

Loss (Estimated percentage of lost area of habitat)	There will be no habitat loss.
Fragmentation	There will be no habitat fragmentation.
Disruption and disturbance	Disturbance and disruption to species is considered highly unlikely. Species for which the Natura 2000 sites have been designated for are highly unlikely to use the Site.
Change to key elements of the site (e.g. water quality etc.)	None. The project will not adversely affect surface and ground water quality, availability, flow or distribution.

4.5 Cumulative Impact

Cumulative impacts are defined as impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project (European Communities, 1999). It is considered that, as no impact is predicted, no cumulative impacts will be derived from the proposed restoration.

4.6 Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is unknown

As described within this Stage 1 assessment it is considered highly unlikely that the proposed restoration works will significantly impact on the Natura 2000 sites pertinent to this Stage 1 screening assessment. As such, it is concluded objectively that significant effects will not be afforded.

The following key considerations contributed towards this conclusion:

- The Site is not part any Natura 2000 site and does not require any resources from a Natura 2000 Site, nor does it interact with any – thereby discounting any direct habitat losses;
- There is sufficient distance between the Site and all Natura sites that the proposed restoration works will not cause the disturbance / displacement of any species that form the part of the qualifying interests of any of the Natura 2000 designations. The Site is currently a former sand and gravel quarry, and the restoration will provide improved habitats similar to those that prevailed prior to extraction and that reflect the wider agricultural landscape. Current on-site habitat is replicated on adjacent land; and
- No hydrological impacts on any Natura 2000 site are expected due the absence of, or very limited, hydrological interaction. There will be no waste water disposal on site, and all construction works will be carried out according to best practice.

5.0 DATA COLLECTED TO CARRY OUT THE ASSESSMENT

The assessment was carried out by:

Freddy Brookes MSc., MCIEEM – Senior Ecologist Golder Associates

Reviewed by:

Ruth Treacy, MSc. Agr. - Senior Environmental Consultant - Golder Associates Ireland

Sources of Data:

Existing information from NPWS, GSI, EPA and MyPlan.ie.

Level of assessment completed:

Desktop study, field survey and Screening report.

Report Signature Page

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