ATTACHMENT E.1

Stage 1

Statement of Screening - Appropriate Assessment

In Line with the Requirements of Article 6(3) of the

EU Habitats Directive

APPLICATION TO THE EPA FOR A CERTIFICATE OF AUTHORISATION

FORMER MUNICIPAL HISTORIC LANDFILL

POTTLEBOY

COOTEHILL

CO. CAVAN

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STATEMENT OF SCREENING FOR APPROPRIATE ASSESSMENT OF AN EXISTING DEVELOPMENT AT POTTLEBOY, COOTEHILL, CO CAVAN

IN LINE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

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1 INTRODUCTION

1.1 BACKGROUND

Article 6 of the EU Habitat's Directive (Council Directive 92/43/EEC) requires that all plans and projects be screened for potential impacts on Special Areas of Conservation (SACs) or Special Protection Areas (SPAs). The aim of this screening process is to establish whether or not a full Appropriate Assessment of the plan or project in question is necessary.

Therefore, a comprehensive assessment of the past and current ecological impacts of an existing development at Pottleboy, Cootehill, Co. Cavan was carried out in November 2014 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment was carried out in order to identify whether any significant impacts on certain nature conservation sites have occurred in the past, are occurring presently or are likely to occur in the future. In addition, this assessment allowed areas of potential ecological value and potential ecological constraints associated with this existing development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

1.2 REGULATORY CONTEXT

RELEVANT LEGALISATION

The Birds Directive (Council Directive 79/409/EEC) implies that particular protection is given to sites (Special Protection Areas) which support certain bird species listed in Annex I of the Directive and that surveys of development sites should consider the status of such species.

The EU Habitats Directive (92/43/EEC) gives protection to sites (Special Areas of Conservation) which support particular habitats and species listed in annexes to this directive. Articles 6(3) and 6(4) of this Directive call for the undertaking of an Appropriate Assessment for plans and projects likely to have an effect on designated sites. This is explained in greater detail in the following section.

The Wildlife Act 1976 (and its amendment of 2000) provides protection to most wild birds and animals. Interference with such species can only occur under licence. Under the act it is an offence to "wilfully interfere with or destroy the breeding place or resting place of any protected wild animal". The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Under the Wildlife Amendment Act

(2000) NHAs are legally protected from damage. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2015 and that status doesn't deteriorate in any waters.

APPROPRIATE ASSESSMENT AND THE HABITATS DIRECTIVE

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 sets 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 APPROPRIATE ASSESSMENT PROCESS

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a site's conservation objectives.

Appropriate Assessment is an assessment of the potential effects of a proposed plan - 'in combination' with other plans and projects - on one or more European sites. The 'Appropriate Assessment' itself is a statement which must be made by the competent authority which says whether the plan affects the integrity of a European site. The actual process of determining whether or not the plan will affect the site is also commonly referred to as 'Appropriate Assessment'.

If adverse impacts on the site cannot be avoided, then mitigation measures should be applied during the Appropriate Assessment process to the point where no adverse impacts on the site remain (European Commission, 2000, 2001).

The conclusions of the appropriate assessment report should enable the competent authority to ascertain whether the proposal would adversely affect the integrity of the site (European Commission, 2000, 2001).

Under the terms of the directive (European Commission, 2000, 2001), consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of the site will not be adversely affected, or (b) where an adverse effect is anticipated, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This Statement of Screening for Appropriate Assessment (Stage 1) has been prepared with reference to the following:

- European Commission (2000). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2002). 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 Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four stage process is:

Stage 1: Screening – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

Stage 2: Appropriate Assessment – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain – An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this Natura Impact Statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Screening statement with conclusions.

2.2 DESK STUDIES& FIELD STUDIES

Information on the site and the area of the proposed development was studied prior to the completion of this statement. Aerial photographs and maps were examined and the websites of the National Parks and Wildlife Service (NPWS), the Environmental Protection Agency (EPA) and the National Biodiversity Data Centre were consulted for information on protected sites and the distance of these sites from the proposed development. Any records of rare and protected species were noted.

As part of an assessment of the water quality in the area, a site visit was made on October 31st and biological water quality samples were taken upstream and downstream of the existing landfill site. The samples were classified using the Q-rating system and the Small Stream Risk Score.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

The Pottleboy Landfill is a small, municipal landfill (approximately 0.5 acres) that operated from 1967 until its closure in 1985. Upon closure it was capped with soil. More recently, the landfill has been piped to allow the release of gases.

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is located in the townland of Pottleboy, just off a local road. It is 0.6km south of Cootehill town. It is surrounded by agricultural land to the south, south-east and south-west and by residential areas to the north. The landfill has recently been disturbed and much of its surface is comprised of bare soil. From an examination of aerial photographs, the dominant habitat prior to this disturbance was scrub and unimproved / rank grassland. The boundary along the northern perimeter of the site remains and is comprised of a treeline / hedgerow and the Pottleboy Stream.

The Pottleboy Stream is a small stream that flows in a southerly direction along the northern and western boundaries of the landfill, before it flows under the road. From an inspection of the historical maps of the area, it seems that the Pottleboy Stream rises in the townland of Pottleboy, approximately 350m north of the landfill site. It then flows mostly through agricultural land in a southerly direction for approximately 1.3km, until it reaches the Annalee River in the townland of Campstown.Results from the investigation of the biological water quality monitoring in the Pottleboy Stream revealed that this watercourse is quite polluted. A Q3 was obtained upstream of the landfill and a Q2-3 downstream. This indicates that the stream in this area is of poor ecological status and at risk of not achieving the targets set out in the EU Water Framework Directive.

The location of the historic landfill can be seen in Figure 1 whilst an aerial photograph of the site and its surrounding habitats can be seen in Figure 2.

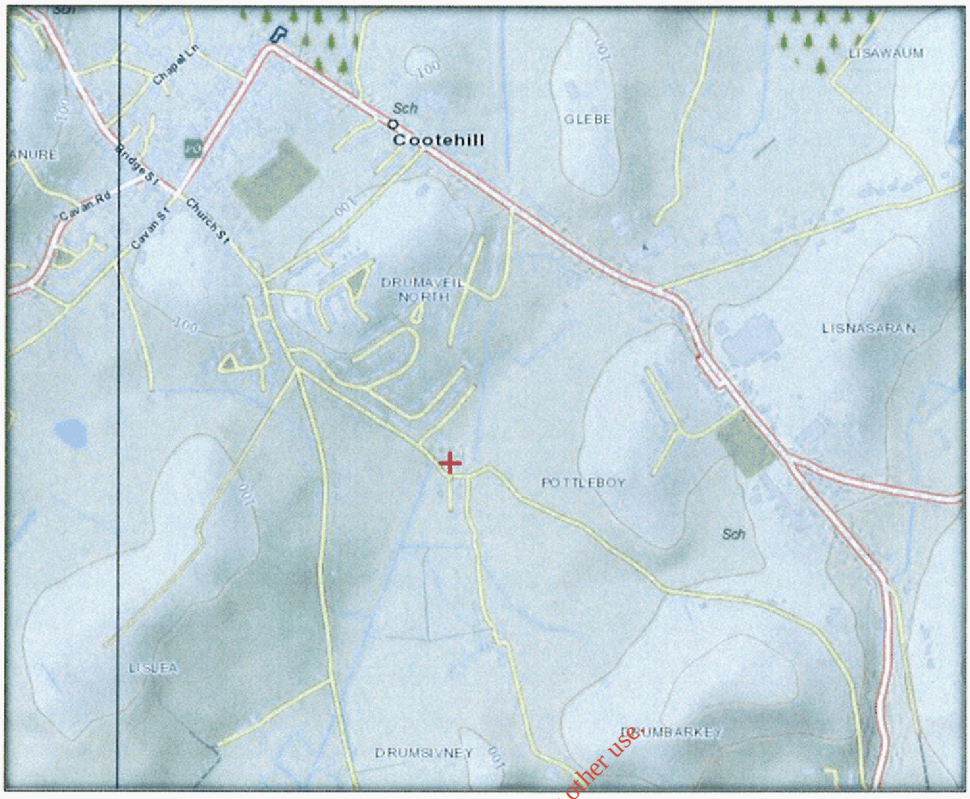

Figure 1 – Map showing the Location of the Pottleboy Historic Landfill (Indicated with a Red Cross)

Figure 3 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats

3.3 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 10km of the proposed development have been identified and described according to their site synopsis, qualifying interests and conservation objectives.

There are no Natura 2000 sites within 10km of this proposed development. The closest Natura 2000 site is the Lough Oughter and Associated Loughs SAC 000007. At its closest point, it is **15.5km** west of the existing landfill site. There are many other areas of this SAC at further distances away from the site. The Lough Oughter Complex SPA 004049 is located approximately **21km** west of the site (at its closest point).

The closest Natural Heritage Area to the site is the Dromore Lakes (pNHA 000001). This is located approximately 1km north of the landfill site.

The location of the application site in relation to the designated sites is shown in Figure 3 and a full description of the Natura 2000 sites can be read in Appendix I. Their qualifying interests, i.e., the reasons for designation are listed below.

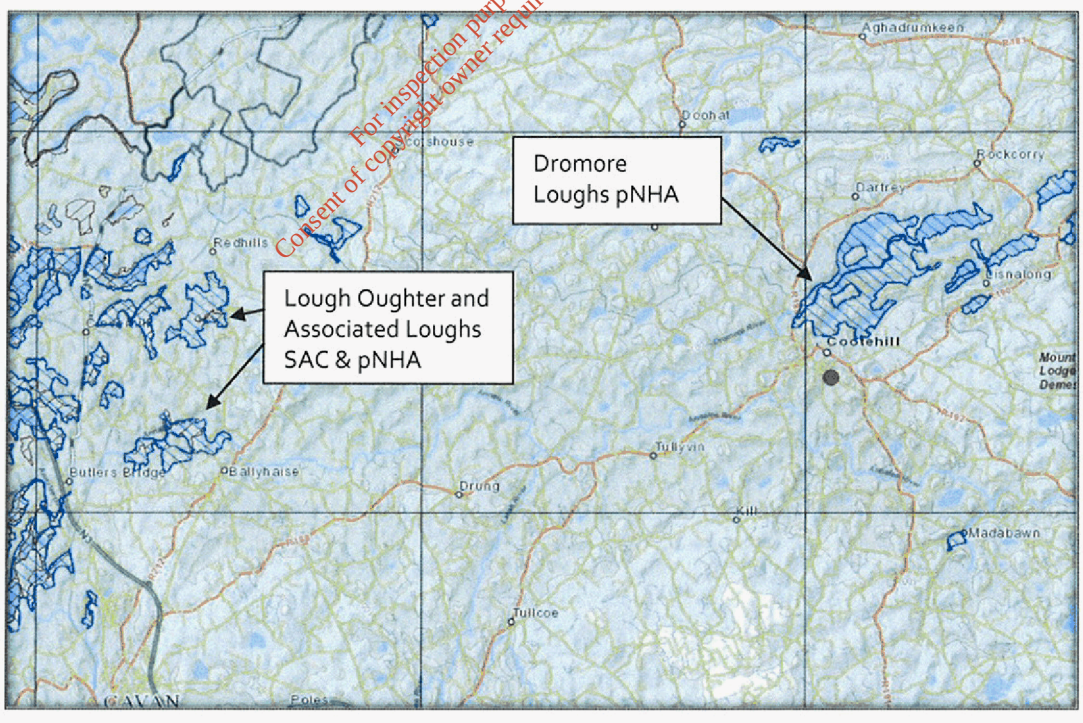

Figure 4 – The Application Site (Red Dot) in relation to the Designated Sites

LOUGH OUGHTER AND ASSOCIATED LOUGHS (SAC SITE CODE 000007)

Lough Oughter and Associated Loughs SAC occupies much of the lowland drumlin belt in north and central Cavan between Upper Lough Erne, Killeshandra and Cavan town. The site is a maze of waterways, islands, small lakes and peninsulas including some 90 inter-drumlin lakes and 14 basins in the course of the Erne River. The site has been designated for the protection of natural eutrophic lakes and bog woodland, two habitats listed in Annex I of the E.U. Habitats Directive. In, addition, the site contains areas of dry woodland, marsh, reedbed and wet pasture.

The main habitat types within this SAC include:

- Inland water bodies, i.e., standing water, running water (73%)
- Bogs, marshes, water fringed vegetation, fens (11%)
- Broadleaved deciduous woodland (7%)
- Humid grassland, Mesophile grassland (5%)
- Heath, scrub, Maquis and Garrigue, Phygrana (3%)
- Improved grassland (1%)

The NPWS qualifying interests of the Lough Oughter SAC are:

- Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation
- Bog woodland

Lough Oughter has also been designated for the protection of the otter *Lutra lutra,* a species that is listed in Annex II of the Habitats Directive. Other mammals which would probably occur in the area include badgers *Meles meles,* hares *Lepus timidus hibernicus* and bats.

Within this SAC, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;
- The conservation status of its typical species is favourable.

The Conservation Objectives of the Site are:

- To maintain the favourable conservation status of the Qualifying Interests (outlined above) of this SAC.

- To maintain the extent, species richness and biodiversity of the entire site.
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

LOUGH OUGHTER SPA

The Lough Oughter site has been designated as an SPA for the protection of certain bird species. It is an important site for a range of wintering wildfowl, including whooper swan, great-crested grebe, mute swan, wigeon and goldeneye.

The Conservation Objectives of this Site are:

1. To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA, namely:
    - Great Crested Grebe (*Podiceps cristatus*)
    - Whooper Swan (*Cygnus cygnus*)
    - Wigeon (*Anas penelope*)
    - Wetlands & Waterbirds

3.4 ASSESSMENT CRITERIA

The impacts (if any) of the landfill on the Natura 2000 sites identified above are described below.

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on nearby Natura 2000 site:

There are no individual elements of this landfill that may have given rise to impacts upon Lough Oughter and Associated Loughs SAC in the past, present or the future. There is a sufficient distance between the source (Landfill) and the receptor (Lough Oughter and Associated Loughs SAC) to be certain that no impacts have occurred, are occurring or are likely to occur.
In addition, there has not been nor will there be any impacts upon Dromore Lakes pNHA.

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

Size and scale: Given the small size and scale of the development in relation to the overall size of the Lough Oughter and Associated Loughs SAC, the likelihood of any direct, indirect or cumulative impacts (past, present, future) on this designated site is low.

Land-take: There has been / will be no land-take from any designated site. There will be no interference with the boundaries of any designated site (including Dromore Lakes pNHA).

Distance from Natura 2000 site or key features of the site: At its closest point, the proposed development is situated 15.5km east of the Lough Oughter and Associated Loughs SAC. The distance from this Natura 2000 site is adequate to predict that there has been / will be no impacts.

Resource requirements (water abstraction etc.): No resources have been / are being / will be taken from any Natura 2000 site and there are no resource requirements that have impacted / will impact upon any designated site.

Emissions: It is possible that emissions from the landfill in the past and the present are impacting upon the Pottleboy Stream. This stream is a tributary of the Annalee River, which is a tributary of the River Erne / Lough Oughter SAC. However, there is a sufficient downstream distance between the Pottleboy Stream and the River Erne to ensure that no impacts have or will occur. In addition, the Dromore Lakes pNHA is upstream of the Pottleboy Stream, therefore it is unlikely that any impacts upon this pNHA have occurred or are occurring.

Excavation requirements: N/A

Transportation requirements: N/A

Duration of construction, operation, decommissioning etc: N/A

Describe any likely changes to the nearby Natura 2000 sites arising as a result of:
Reduction of habitat area: The proposed development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. **Disturbance to key species:** There has been / will be no direct disturbance to any species listed in Annex I of the Birds Directive or Annex II of the Habitats Directive. . **Habitat or species fragmentation:** There will be no habitat or species fragmentation within any SAC, SPA or pNHA. No ecological corridors between the proposed site and Lough Oughter and Associated Loughs SAC or Lough Oughter SPA will be damaged or destroyed. **Reduction in species density:** There will be no reduction in species density. **Changes in key indicators of conservation value (water quality etc.):** There has been / will be no negative impacts upon surface or ground water quality within any SAC or SPA. However, it is likely that there have been impacts upon the water quality in the Pottleboy Stream.
Describe any likely impacts on the nearby Natura 2000 sites as a whole in terms of:
Interference with the key relationships that define the structure or function of the site: It is not considered likely that there has been or will be any impacts on the key relationships that define the structure or function of the Natura 2000 sites identified.
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: None **Fragmentation**: None **Disruption & disturbance**: None **Change to key elements of the site (e.g. water quality etc.):** None

3.5 FINDING OF NO SIGNIFICANT EFFECTS

Finding of No Significant Effects Report Matrix	
Name of project	An Existing Landfill at Pottleboy, Cootehill, Co. Cavan
Name and location of Natura 2000 site	Lough Oughter and Associated Loughs SAC is 15.5 km west of the site.
Description of project	A small historic landfill
Is the project directly connected with or necessary to the management of the site?	No
Are there other projects or plans that together with project being assessed could affect the site?	No
The Assessment of Significance of Effects	
Describe how the project is likely to affect the Natura 2000 site	No impacts on designated sites have occurred in the past nor are they likely to occur in the future.
Explain why these effects are not considered significant	Not applicable as there is no potential for negative impacts
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive.	No impacts likely
Data Collected to Carry out the Assessment	
Who carried out the assessment	Noreen McLoughlin, MSC, MCIEEM. Consultant Ecologist
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Traynor Environmental, Cavan County Council
Level of assessment completed	Stage1 Appropriate Assessment Screening
Where can the full results of the assessment be accessed and viewed	Full results included

4 APPROPRIATE ASSESSMENT CONCLUSION

It can be concluded objectively that this historic landfill has had no historical impacts upon any SAC, SPA or NHA. Current and future impacts are also considered unlikely. The integrity and the conservation objectives of all sites have been maintained and the habitats and species associated with sites have not been / will not be adversely affected. This development does not need to proceed to Stage II of the Appropriate Assessment process.

5 BEST PRACTICE MEASURES

Whilst the existing landfill is not having any impacts upon the integrity of any area that has been designated as a Natura 2000 site, certain measures should be taken in order to help and to protect the local biodiversity of the surrounding area and ensure the protection of local water quality and wildlife. Therefore the following measures are recommended:

- An analysis of the water chemistry upstream and downstream of the landfill site should be undertaken in order to obtain a more robust understanding of the reasons for poor ecological status within the Pottleboy Stream;
- Bare soil capping the landfill should be seeded as soon as possible with a suitable grass / flower mixture. This will prevent run-off into the Pottleboy Stream.
- There is quite a lot of debris, wood and rubbish in the stream. This is impeding the flow of the water, reducing its attenuation capacity. This should be removed.
- With the agreement of all landowners, soil disturbance close to the Pottleboy Stream should be ceased and a buffer area could be agreed upon.
- In future, any run-off from agricultural works or any areas of exposed soil could be channelled and intercepted at regular intervals for discharge to silt-traps or lagoons with over-flows directed to land rather than the stream.
- Inland Fisheries Ireland could be consulted for advice on re-mediating this river Pottleboy Stream.

APPENDIX I-NPWS SITE SYNOPSIS

NPWS Site Synopsis of Lough Oughter and Associated Loughs SAC

Site Code: 000007

Lough Oughter and its associated loughs occupy much of the lowland drumlin belt in north and central Cavan between Upper Lough Erne, Killeshandra and Cavan town. The site is a maze of waterways, islands, small lakes and peninsulas including some 90 inter-drumlin lakes and 14 basins in the course of the Erne River. The area lies on Silurian and Ordovician strata with Carboniferous limestone immediately surrounding.

This site is a candidate Special Area of Conservation for natural eutrophic lakes and bog woodland, two habitats listed on Annex I of the E.U. Habitats Directive and for the otter, a species listed on Annex II of the same Directive. The site also contains areas of dry woodland, marsh, reedbed and wet pasture.

Drainage within the area is inefficient and the water levels prone to natural fluctuation as a result. The regularly flooded areas still accommodate a variety of specialist plant species such as Amphibious Bistort *(Polygonum amphibium)* and Marsh Foxtail (*Alopecurus geniculatus)*, as well as rarer species such as Needle Spike-Rush (*Eleocharis acicularis)* and Lesser Marshwort (*Apium inundatum*).

The lakes and basins are shallow, and the water well mixed and nutrient rich (eutrophic). The aquatic flora is varied with several pondweed species such as Bluntleaved Pondweed (*Potamogeton obtusifolius*), Shining Pondweed (*Potamogeton lucens*), Broad-leaved Pondweed (*Potamogeton natans*), Reddish Pondweed (*Potamogeton alpinus*) and Various-leaved Pondweed (*Potamogeton gramineus*). Typical in the zone of aquatic plants are Yellow Water-lily (*Nuphar lutea*), Canadian Pondweed (*Elodea canadensis*), Mare's Tail (*Hippuris vulgaris*), Water Milfoil (*Myriophyllum spicatum*), Brooklime (*Veronica beccabunga*), Water Dropwort (*Oenanthe spp.*) and Starwort (*Callitriche sp.*). The aquatic community includes species of limited distribution in Ireland such as the Duckweed species *Lemna gibba* and *Spirodela polyrhiza.*

Around much of the shoreline there are well developed swamp and marsh communities, typically with a zone of Bulrush (*Schoenoplectus lacustris*) in front of a zone of Common Reed (*Phragmites australis*) which is in turn backed by a more species rich zone of sedges, grasses and herbs, particularly Bottle Sedge (*Carex rostrata*), Common Sedge (*Carex nigra*), Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filipendula ulmaria*), Marsh Helleborine (*Epipactis*

palustris), Water Plantain (*Alisma plantago-aquatica*), Rough Horsetail (*Equisetum hyemale*), Water Horsetail (*Equisetum fluviatile)* and Wild Angelica (*Angelica sylvestris*). Less widespread species also occur on the wet lake margins; species such as Water Dock (*Rumex hydrolapathum*), Greater Water-parsnip (*Sium latifolium*), Cowbane (*Cicuta virosa*), Tufted Sedge (*Carex elata*), Water Soldier (*Stratioites aloides*), Arrowhead (*Sagittaria sagittifolia*), Flowering Rush (*Butomus umbellatus*) and Greater Spearwort (*Ranunculus lingua*) may be locally prominent.

There are many variations on this typical zonation of sheltered shores with species such as Reedmace (*Typha* spp.), Branched Bur-Reed (*Sparganium erectum)* and Reed Canary-grass (*Phalaris arundinacea*) gaining local prominence. More exposed shores lack the extensive swamp zones, here smaller species such as Common Spike Rush (*Eleocharis palustris*) can be found.

Level, wet pastures tend to be dominated by Creeping Bent (*Agrostis stolonifera)* and Rush species (*Juncus* sp.*)* with a scattering of marshland and wet grassland plants such as Marsh Marigold (*Caltha palustris),* Water Forget-me-not *(Myosotis scorpiodes)* and Yellow Iris (*Iris pseudacorus).* Soft Rush (*Juncus effusus)* is most abundant with frequent Hard Rush (*Juncus inflexus*) and Sharp-Flowered Rush (*Juncus acutiflorus)* and less widespread Conglomerate Rush (*Juncus conglomeratus*) also occurring.

Where a general lack of grazing pressure or a particular slope has allowed it, deciduous woodland has re-established itself behind the reedbeds. Two species of Willow (*Salix caprea* and *Salix cinerea*) are common constituents along with Alder (*Alnus glutinosa*), Downy Birch (*Betula pubescens*), Hazel (*Corylus avellana*) and Hawthorn (*Crataegus monogyna*). Along submerged margins Alder and Willow are most commonly found with a flooded understorey typically containing Reed Canarygrass, Meadow Sweet, Yellow Flag and in places Tufted Sedge (*Carex elata*) and Greater Tussock Sedge (*Carex paniculata*). Downy Birch occurs along lake edges and also forms stands of wet woodland on cutover bog with varying degrees of wet and dry peat. Purple Moor-grass (*Molinia caerulea),* Marsh Cinquefoil (*Potentilla palustris)* and Bog Moss (*Sphagnum* sp.) occur in areas with pools and dry areas. Where there is dry peat, Bracken (*Pteridium aquilinum*), Bramble (*Rubus fruticosus* agg.) and Gorse (*Ulex* sp.) occur under the Birch canopy. Birch dominated wood is also found in association with Ling Heather (*Calluna vulgaris*) bog.

In areas of wet bog with good *Sphagnum* cover, bog woodland has developed. Downy Birch characterises this habitat; other typical species include Purple Moor-grass (*Molinia caerulea*) and Bottle Sedge (*Carex rostrata*).

Dry broad-leaved woodland is characterised by Ash (*Fraxinus excelsior*), Hazel, Holly (*Ilex aquifolium)* and Oak (*Quercus spp.*), while shrubs include Blackthorn (*Prunus spinosa*), Spindle (*Euonymus europaeus)* and Guelder Rose (*Viburnum opulus*). The Red Data Book species Bird Cherry (*Prunus padus*) has also been recorded from the site. The clayey soils have a characteristic flora, including Wood Avens (*Geum urbanum),* Wood Sorrel (*Oxalis acetosella*), Primrose (*Primula vulgaris*), Herb Robert (*Geranium robertianum*) and Wood Sedge (*Carex sylvatica).*

The site supports a substantial population of water birds including internationally important numbers of Whooper Swan (average peak 231) and nationally important numbers of Tufted Duck (average peak 247) and Cormorant (average peak 130) as well as important numbers of species such as Greenland White-fronted Goose, Great Crested Grebe, Wigeon, Teal and Pochard. Lapwing, Snipe and Golden Plover also utilise the wet grassland areas. Wildfowl Sanctuaries exist at Inchin Lough, Derrygid Lough, Farnham Lough, Derrybrick Lough, Derrinishbeg Lough and Annagh Lough. Part of the site is designated an SPA under the EU Birds Directive.

Otter, a species listed on Annex II of the E.U. Habitats Directive occurs at the site. Irish Hare has also been recorded. Both of these species are listed in the Irish Red Data Book and are legally protected under the Wildlife Act 1976.

The main threats to the quality of the site are water polluting activities such as run-off from fertiliser and slurry application and sewage discharge which have raised the nutrient status of some lakes to hypertrophic. Housing and boating developments are on the increase, adjacent to and within the site respectively. There is also significant fishing and shooting pressure on and around the lakes. Increased afforestation has resulted in some loss of wetland habitat and also loss of feeding ground for wintering birds such as Greenland White-fronted Geese.

The Lough Oughter area contains important examples of two habitats listed on Annex I of the E.U. Habitats Directive and supports a population of the Annex II species, otter. The site as a whole is the best inland example of a flooded drumlin landscape in Ireland and has many rich and varied biological communities. Nowhere else in the country does such an intimate mixture of land and water occur over a comparable area, and many of the species of wetland

plants, some considered quite commonplace in Lough Oughter and its associated loughs, are infrequent elsewhere.

SITE NAME: LOUGH OUGHTER SPA

SITE CODE: 004049

Lough Oughter is a medium-sized lake that extends over a wide area. Its situation in submerged drumlin country accounts for the extremely ramified nature of its basin. The main feeders to the lake are the River Erne and the Annalee River. These flow over relatively insoluble rock (Ordovician and Silurian strata) so that the lake water is only moderately hard, despite the fact that most of the immediate surroundings are of Carboniferous limestone. Lough Oughter is a shallow lake (maximum depth 10 m) and is considered to be a naturally eutrophic system. Since the 1970s the lake has, however, shown clear signs of organic enrichment and has most recently been classified as being hypertrophic (though chlorophyll levels have dropped markedly in recent years).

The lakes have a well-developed aquatic flora, with a range of pondweeds (*Potamogeton* spp.) and such species as Yellow Water-lily (*Nuphar lutea*), Canadian Pondweed (*Elodea canadensis*), Mare's-tail (*Hippuris vulgaris*), Spiked Water-milfoil (*Myriophyllum spicatum*) and Water-starwort (*Callitriche* sp.). The aquatic community includes species of limited distribution in Ireland such as the duckweeds, Fat Duckweed (*Lemna gibba*) and Greater Duckweed (*Spirodela polyrhiza*). Around much of the shoreline there are well developed swamp and marsh communities, typically with a zone of Common Clubrush (*Scirpus lacustris*) in front of a zone of Common Reed (*Phragmites australis*) which is in turn backed by a more species-rich zone of sedges, grasses and herbs. In places, wet woodland is well-developed at the lake margins. This is mainly of willows (*Salix caprea* and *S. cinerea*), along with Alder (*Alnus glutinosa*), Downy Birch (*Betula pubescens*) and Hazel (*Corylus avellana*).

Lough Oughter is of importance for a range of wintering waterfowl. Of particular note is an internationally important population of Whooper Swan (302) that is based in the area and which uses the lakes as a roost - all figures are average peaks for the 5 seasons 1995/96-1999/00. A population of Greenland White-fronted Goose (67) of regional importance also roosts on the lakes and feeds mainly on nearby improved grassland. The site supports nationally important wintering populations of four species, i.e. Great Crested Grebe (92), Mute Swan (128), Wigeon (910) and Goldeneye (123). Other species which occur regularly include Teal (225), Mallard (341), Pochard (60), Tufted Duck (160), Lapwing (523), Curlew (95), Little Grebe (9), Cormorant (83) and Black-headed Gull (357).

Lough Oughter is at the centre of the breeding range of the Great Crested Grebe in Ireland and the site supports in excess of 10% of the estimated national breeding total (115 individuals in 1986-88). A small colony of Common Tern occurs, with 10 pairs on Farnham Lough in 1995.

Otter, a species that is listed on Annex II of the E.U. Habitats Directive, occurs at the site.

Lough Oughter is a very nutrient-enriched lake and numbers of wintering wildfowl, especially diving duck, are likely to be depressed due to the enriched conditions. Water pollution is likely to remain a problem in the near future. Recreational and wildfowling activities currently cause some disturbance to the birds and any increase in such activities would be of concern. Increased afforestation in surrounding areas could result in the loss of feeding habitat for wintering birds such as Whooper Swan and Greenland White-fronted Goose.

The Lough Oughter SPA is of importance for both wintering and breeding birds. Of particular note is the internationally important population of Whooper Swan that is based in the area. The site also supports nationally important populations of a further four wintering species. The site is of especial importance for one of the highest breeding concentrations of Great Crested Grebe in the country. Of note is that three of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Greenland White-fronted Goose and Common Tern.