



## **MONAGHAN COUNTY COUNCIL**

# **APPROPRIATE ASSESSMENT SCREENING REPORT FOR HISTORIC LANDFILL REMEDIATION AT KILLYCARD, CO. MONAGHAN**

**SEPTEMBER 2019**



Monaghan  
County Council



# APPROPRIATE ASSESSMENT SCREENING REPORT FOR HISTORIC LANDFILL REMEDIATION AT KILLYCARD, CO. MONAGHAN

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**Abstract:** This document comprises the Stage One: Appropriate Assessment Screening Report for remediation of Killycard historic landfill site in the townland of Killycard, Co. Monaghan. Appropriate Assessment is required under Article 6 (3) and (4) of the Habitats Directive for any project or plan that may give rise to significant effects on a Natura 2000 site.

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## 1 INTRODUCTION

Fehily Timoney and Company (FT) were commissioned by Monaghan County Council to prepare an Appropriate Assessment Screening Report, as required by Article 6 of Council Directive 92/43/EEC (Habitats Directive) with regard to proposed remedial works to Killycard historical landfill site, Co. Monaghan as recommended following Tier 3 Risk Assessment (see Figure 1 for location).

In compliance with the provisions of Article 6 of the Habitats Directive, in circumstances where a proposed plan or project is likely to have a significant effect on a European (Natura 2000) site, either individually or in combination with other plans or projects, an Appropriate Assessment (AA) must be undertaken by the competent authority, of the implications for the site in view of the site's conservation objectives.

European sites comprise both Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species. The Habitats Directive formed a basis for the designation of SACs. Similarly, SPAs are legislated for under the Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds). In general terms, European sites are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community.

Article 6 of the Habitats Directive envisages a two-stage process; screening for appropriate assessment is the first stage of the AA process (Stage One), in which the possibility of there being a significant effect on a European site is considered. Plans or projects that have no appreciable effect on a European site are thereby excluded, or screened out, at this stage of the process. Where screening concludes that there is the potential for significant effects, then it is necessary to carry out an AA (Stage Two) for the purposes of Article 6(3), and a Natura Impact Statement (NIS) is produced. The NIS, which forms the basis of the AA, considers the impact of a project or plan on the integrity of a European site and on its conservation objectives, and where necessary, draws up mitigation measures to avoid/minimise negative impacts.

The competent authority, in this case the Environmental Protection Agency (EPA), in carrying out an AA, is required to make an examination, analysis, evaluation, findings, conclusions and a final determination as to whether or not the proposed development would adversely affect the integrity of the relevant European site in view of its conservation objectives. To evaluate the potential impact(s) of the proposed development on the European sites, all sites located within a 15km radius of the development or those which are ecologically linked were considered. Please note that while a 15km radius is recommended for plans, there is no hard and fast rule for buffer size (DoEHLG, 2009). A 15km radius was used in line with standard industry practice; however, the potential zone of influence was considered to extend to European sites located outside the 15km buffer where downstream hydrological links exist.

The landfill site is not located within any European site. There are no European sites within 15km of the historical landfill. The closest European site is Slieve Gullion SAC (site code UK0030277) which is located c. 20 km east.

The landfill site is not hydrologically connected to any European site.

### 1.1 Legislative Requirements

The requirements for an AA are set out in the Habitats Directive 92/43/EEC. Articles 6(3) and 6(4) of this Directive states:

*6(3) Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have 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.*

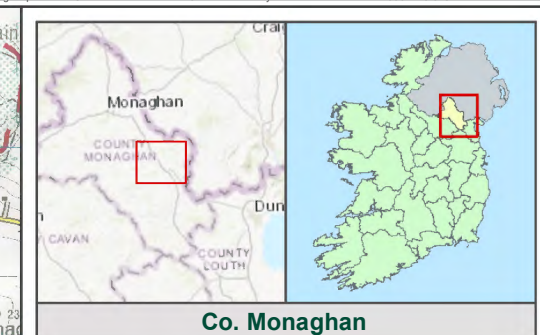
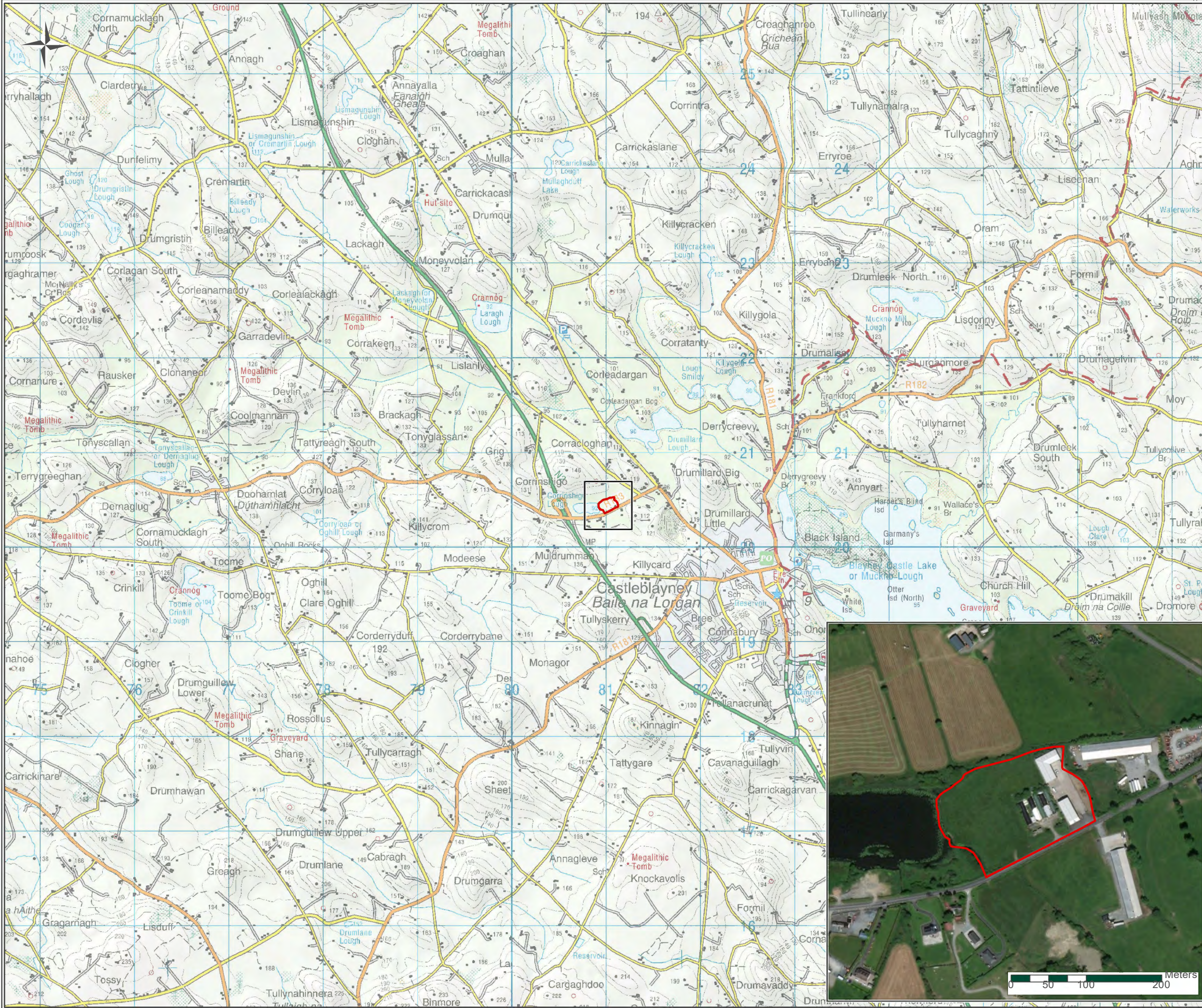
*6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take 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 statutory agency responsible for European sites is the National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht (DAHG). In December 2009 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government' was published (DoEHLG, 2009) with a minor amendment in 2010. This guidance document was prepared jointly by the NPWS and Planning Divisions of DoEHLG (now DAHG), with input from local authorities. Previously, in 2001, the European Commission issued a guidance document. This guidance document has been updated in the recently published European Commission (2018) "*Managing Natura 2000 sites the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*" This Appropriate Assessment Screening Report has been prepared in accordance with the relevant Irish and European Commission Guidance.

### 1.1.1 Regulatory Context

In 1997, the Habitats Directive was transposed into Irish National Law by the European Communities (Natural Habitats) Regulations, SI 94/1997 (as amended by S.I. 233/1998 & S.I. 378/2005). The European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477/2011) revoked the 1997 Regulations (and amendments) as well as the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010. The purpose of the 2011 Regulations was to address transposition failures identified in the Court of Justice of the European Union (CJEU) judgements. Following additional amendments in 2013 (S.I. 499/2013) and 2015 (S.I. 355/2015) the regulations are now cited as the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

The Regulations have been prepared to address several judgments of the CJEU against Ireland, notably cases C-418/04 (*Commission v Ireland*) and C-183/05 (*Commission v Ireland*), in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.



**Legend**

Site Boundary

**Figure Title**  
Site Location

**Figure No.** 1

**Project** Appropriate Assessment Screening of Historic Landfill Remediation at Killycard, Co. Monaghan

**Client** Monaghan County Council

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## 2 METHODOLOGY

### 2.1 Appropriate Assessment Methodology

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the AA process. Firstly, a project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the project and should design the project in order to avoid such impacts.

There are four stages in an AA, as outlined in the European Commission Guidance document (2001). The following is a brief summary of these steps:

- Stage One - Screening: This stage examines the likely effects of a project either alone or in combination with other projects upon a European Site and considers whether it can be objectively concluded that these effects will not be significant.
- Stage Two - Appropriate Assessment: In this stage, the impact of the project on the integrity of the European site is considered with respect to the conservation objectives of the site and to its structure and function. Mitigation measures should be applied to the point where no adverse impacts on the site(s) remain.
- Stage Three - Assessment of Alternative Solutions: Should the Appropriate Assessment determine that adverse impacts are likely upon a European site, this stage examines alternative ways of implementing the project that, where possible, avoid these adverse impacts.
- Stage Four - Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the Natura site will be necessary. European case law highlights that consideration must be given to alternatives outside the project area in carrying out the IROPI test. It is a rigorous test which projects are generally considered unlikely to pass.

In the preparation of this assessment therefore regard has been given to the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations 2011, and with reference to the relevant guidance, in particular:

- 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 2001.
- *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin 2009.
- European Commission (2018). *Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC*. Brussels, 21.11.2018 C (2018) 7621 final.

#### 2.1.1 Impact Assessment

The first step in the screening process is to develop a list of European sites potentially affected by the proposed development. Each European site is reviewed to establish whether or not the proposed development is likely to have a significant effect on the integrity of the site, as defined by its structure and function, and its conservation objectives.

The qualifying interests of each European site are identified and the potential threats are summarised into the following categories for the screening process, and described within the screening matrix as follows:

- Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development or agricultural purposes. Direct impacts can be as a result of a change in land use or management, such as the removal of agricultural practices that prevent scrub encroachment.



- Indirect and secondary impacts do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect impacts of the plan (or project) – in combination with other plans and projects - have been established. These can arise when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a site, and the qualifying interests that rely on the maintenance of water levels. Deterioration in water quality can occur as both an indirect or direct consequence of development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species can also be defined as an indirect impact, which results in increased movement of vectors (humans, fauna, surface water), and consequently the transfer of alien species from one area to another.
- Disturbance to fauna can arise directly through the loss of habitat (e.g. bat roosts) or indirectly through noise, vibration and increased activity associated with construction and operation.

## 2.2 Desktop Study

In order to complete the Screening for Appropriate Assessment certain information on the existing environment is required. A desk study was carried out to collate available information on the site's natural environment. This comprised a review of the following publications, data and datasets:

- National Parks and Wildlife Service (NPWS) website and metadata ([www.npws.ie](http://www.npws.ie))
- Joint Nature Conservation Committee (JNCC) website ([www.jnc.defra.gov.uk](http://www.jnc.defra.gov.uk))
- OSI Aerial photography and 1:50,000 mapping
- National Biodiversity Data Centre (NBDC) (on-line map-viewer)
- Geological Survey Ireland (GSI) area maps
- River Catchment & Sub-catchment WFD datasets

## 2.3 Site Visit

Characteristics of the landfill and general site information recorded during engineering surveys undertaken by Fehily Timoney on 12<sup>th</sup> June 2018 have been used to describe the site of proposed works and character of the surrounding landscape.

### 3 PROPOSED WORKS

It is proposed to cap the historical landfill with an engineered barrier. The cap will be placed on top of the existing soil covering. The cap will incorporate a sub-surface drainage layer, LLDPE Barrier, and landfill gas migration layer and associated gas collection pipework. A covering of topsoil and free-draining subsoil will cover the barrier layers, with surface and sub-surface runoff draining to a network of French drains surrounding the cap.

A vertical LLDPE cut off barrier and anchor trench backfilled with cohesive compacted material will be installed around the waste body; the impermeable sub-surface drainage layer will extend outside the cut-off trench, with surface and subsurface drainage feeding into the French drain network around the cap. A separate drainage system will collect leachate. The landfill gas barrier and associated collection pipework will be located on the inner side of the cut off trench.

The primary components of the engineered covering proposed are listed below:

- 200mm Topsoil
- 800mm Free Draining Subsoil
- Sub Surface Drainage Layer
- LLDPE Barrier
- Landfill Gas Migration Layer
- Surface and Sub-surface Water Collection
- Leachate Collection
- 160mm SDR17 Landfill Gas Migration Pipework
- Vertical Cut Off/Anchor Trench

The historical landfill borders Lough Corrinshigo to the west. This is a small drumlin lake with no outlet.

## 4 STAGE ONE - SCREENING REPORT

### 4.1 Brief Description of the Existing Site

Killycard historical landfill is located approximately 1.7km North-West of Castleblayney town on the R183 Castleblayney to Ballybay Regional Road. According to information provided by Monaghan County Council (MCC), the landfill ceased operations in 1987. The site covers approximately c. 2 ha.

The historical landfill is located in a low-lying valley within a predominantly rural setting in an area of rolling topography.

The site is generally flat with a hill rising from the northern boundary of the site. The low-lying valley gives rise to the Corrinshigo lake which defines the western boundary of the site. The site is at an elevation of between 93 m and 95 m above Ordnance Datum (OD).

Since its closure, the site has been covered with a soil cap, no other remediation works have been carried out. Commercial developments have been constructed on site including mushroom grow houses (now derelict) and an operational industrial building in the eastern portion of the site. The western portion of the site shares a boundary with Corrinshigo lake. A steeply sloped agricultural field is located to the north of the site. The land use in the area is primarily agricultural with the covered landfill area currently used for silage.

The schedule III listed species (under Regulations 49 & 50 of the EC Birds & Natural Habitats Regulations 2011) Japanese knotweed *Fallopia japonica* is present along the western boundary of the historical landfill/Corrinshigo Lough shore. Evidence of herbicide treatment was observed during the site visit.

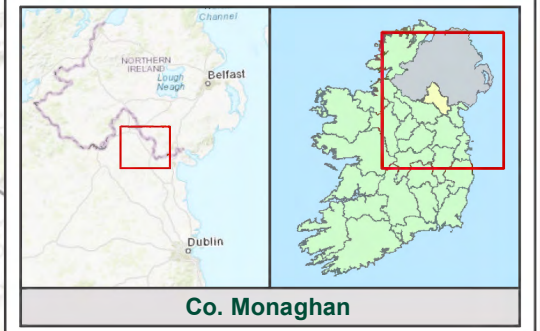
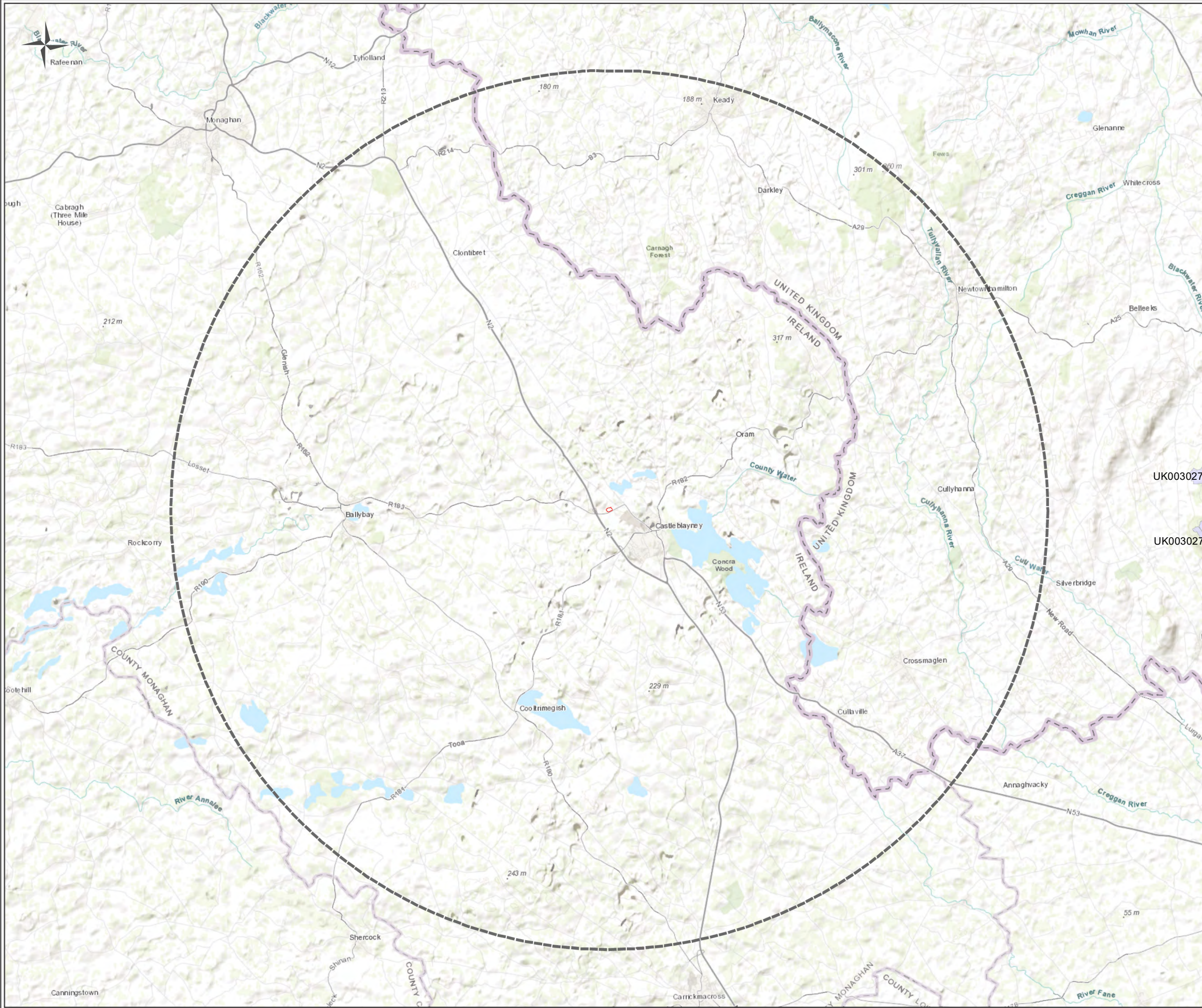
The Quaternary Map provided by GSI Online identifies the quaternary sediments at the site as 'cut-over raised peat'. The historical landfill site is underlain by cut over raised peat overlying a poorly productive bedrock aquifer. The subsoils are typically of cutover/cutaway peat. Beyond the northern and southern site boundaries the superficial geology is made up of glacial tills derived from 'Lower Palaeozoic sandstones and shales'.

During the installation of boreholes during site investigation, the presence of peat to a depth ranging from 4.0m to 4.8m BGL was recorded at boreholes GW01 to GW03.

The GSI online 1:100,000 scale bedrock geology map shows the site and surrounding area is underlain by the Silurian Oghill formation (OL) which is generally made up of 'grey to grey-green massive sandstone (greywacke), microconglomerate and amalgamated beds with subordinate thin to thick-bedded greywacke and locally, at least partly, infaulted dark grey or black pyritic, occasionally graptolitic shale-mudstone'. The GSI bedrock geology map shows a fault travelling north-south across the eastern area of the site.

A drain runs along the northern boundary of the historical landfill towards Corrinshigo Lough, which forms the western boundary of the site. Corrinshigo Lough is a small drumlin lake of c. 2 ha which is isolated from the wider surface water network. As such, there are no hydrological connections between the historical landfill and surrounding areas.

There are no European sites within 15km of the landfill. The closest European site is Slieve Gullion SAC (site code UK0030277) which is located c. 20 km to the east. The historical landfill is not hydrologically or otherwise linked with any European site. Therefore, the proposed works do not have the potential for any adverse effects on European sites.



**Co. Monaghan**

**Legend**

- 15 km Buffer
- Site Boundary
- Slieve Gullion SAC, 20 km

|                     |  |
|---------------------|--|
| <b>Figure Title</b> | 15 km Buffer   |
| <b>Figure No.</b>   | 2  |
| <b>Project</b>      | Appropriate Assessment of Historic Landfill Remediation at Killycard, Co. Monaghan |
| <b>Client</b>       | Monaghan County Council  |
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## 4.2 Screening Matrix

The screening matrix is presented in Table 1 below. Throughout this the line items in *italics* refer to suggested instructions for information to be contained in a screening assessment, and in an appropriate assessment from the guidance document '*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, 2001). The standard 'Screening Matrix' and 'Finding of No Significant Effects Report Matrix' in Annex 1 of this guidance document are also followed.

As set out in NPWS guidance (DoEHLG, 2009), the task of establishing whether a plan or project is likely to have an effect on a European site(s) is based on an evaluation using available information and data (e.g. water quality data), supplemented as necessary by local site information and ecological surveys. This results in a determination by the competent authority as to whether there may be a significant effect on the designated site. A precautionary approach is required.

Some examples given in the NPWS guidance (DoEHLG, 2009) of effects that are likely to be significant are:

1. Any impact on an Annex I habitat,
2. A reduction in the area of a habitat of conservation interest in a European site or a reduction in the area of a European site,
3. Direct or indirect damage to the physical quality of the environment (e.g. water quality and supply, soil compaction) in the European site,
4. Serious or ongoing disturbance to species or habitats for which the European site is selected (e.g. increased noise, illumination and human activity),
5. Direct or indirect damage to the size, characteristics or reproductive ability of populations in the European site,
6. Interference with mitigation measures put in place for other plans or projects.

**Table 1: Screening Matrix**

| Assessment Criteria  | Discussion of Potential Impacts   |
|--|---|
| <p><i>Brief description of project or plan</i></p>   | <p>It is proposed to cap the historical landfill with an engineered barrier. The cap will be placed on top of the existing soil covering. The cap will incorporate a sub-surface drainage layer, LLDPE Barrier, and landfill gas migration layer and associated gas collection pipework. A covering of topsoil and free-draining subsoil will cover the barrier layers, with surface and sub-surface runoff draining to a network of French drains surrounding the cap.</p> <p>A vertical LLDPE cut off barrier and anchor trench backfilled with cohesive compacted material will be installed around the waste body; the impermeable sub-surface drainage layer will extend outside the cut-off trench, with surface and subsurface drainage feeding into the French drain network around the cap. A separate drainage system will collect leachate. The landfill gas barrier and associated collection pipework will be located on the inner side of the cut off trench.</p> <p>The primary components of the engineered covering proposed are listed below:</p> <ul style="list-style-type: none"> <li>• 200mm Topsoil</li> <li>• 800mm Free Draining Subsoil</li> <li>• Sub Surface Drainage Layer</li> <li>• LLDPE Barrier</li> <li>• Landfill Gas Migration Layer</li> <li>• Surface and Sub-surface Water Collection</li> <li>• Leachate Collection</li> <li>• 160mm SDR17 Landfill Gas Migration Pipework</li> <li>• Vertical Cut Off/Anchor Trench</li> </ul> |
| <p><i>Brief description of the Natura 2000 (European) Site</i></p>   | <p>There are no European sites within 15km of the historical landfill. The closest European site is Slieve Gullion SAC (site code UK0030277) which is located c. 20 km east.</p> <p>The historical landfill site is not hydrologically connected to any European site</p>   |
| <p><i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites.</i></p>   | <p>Potential for spread of Japanese knotweed <i>Fallopia japonica</i> to European sites..</p> <p>There are no other potential connections between the historical landfill and any Natura 2000 sites.</p> <p>The proposed remediation works will have a positive effect environmentally as they will limit and reduce impacts to the surrounding environment.</p>  |
| <p><i>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 site by virtue of:</i></p> <ul style="list-style-type: none"> <li>▪ Size and scale;</li> <li>▪ Land-take;</li> </ul> | <p><b>Spread of Invasive Alien Species</b><br/> <b>Potential Impacts: None</b></p> <p>There is a legal requirement to prevent the spread of invasive alien species listed on Schedule III of Regulations 49 &amp; 50 of the EC Birds &amp; Natural Habitats Regulations 2011, as such measures are required to be in place to ensure that remediation measures do not result in the spread of Japanese knotweed and that any plant material or infested soil is disposed of appropriately.</p>  |

| Assessment Criteria  | Discussion of Potential Impacts   |
|--|---|
| <ul style="list-style-type: none"> <li>▪ Distance from Natura 2000 site or key features of the site;</li> <li>▪ Resource requirements;</li> <li>▪ Emissions;</li> <li>▪ Excavation requirements;</li> <li>▪ Transportation requirements;</li> <li>▪ Duration of construction, operation etc.;</li> <li>▪ Other.</li> </ul> | <p><b>Size and scale, land-take and distance from Natura 2000 sites</b></p> <p><b>Potential Impacts:</b> <i>None</i></p> <p>The remedial works proposed are not on an extensive scale and at a remove from European sites (closest is 20 km).</p> <p>As the historical landfill is not located within or adjacent to any European site, no direct impacts in terms of habitat loss or disturbance/displacement impacts are predicted because of the proposed works.</p> <p>There will be no land-take from any European site and no direct impact on the size and scale of any site, because of the proposed works.</p> <p><b>Resource requirements and Excavation requirements</b></p> <p><b>Potential Impacts:</b> <i>None</i></p> <p>There will be no resource requirements or excavation requirements from any European site because of the proposed works.</p> <p><b>Emissions</b></p> <p><b>Potential Impacts:</b> <i>None</i></p> <p>The historical landfill site is isolated from the surface water network; therefore, there can be no waterborne emissions to any European sites.</p> <p><b>Transportation requirements</b></p> <p><b>Potential Impacts:</b> <i>None.</i></p> <p>Site access will not traverse any European Site.</p> <p><b>Duration of Construction and Operation</b></p> <p><b>Potential Impacts:</b> <i>None.</i></p> <p>Duration of repair works is anticipated to be 6 months.</p> <p><b>Cumulative impacts</b></p> <p><b>Potential Impacts:</b> <i>None.</i></p> <p>While several projects including medium scale commercial and residential developments are permitted in the vicinity of the historical landfill, due to the hydrological isolation of the historical landfill and lack of European sites within 20km, no cumulative impacts are deemed possible.</p> |
| <p><i>Describe any likely changes to the site arising as a result of:</i></p> <ul style="list-style-type: none"> <li>▪ Reduction of habitat area;</li> <li>▪ Disturbance of key species;</li> <li>▪ Habitat or species fragmentation;</li> <li>▪ Reduction in species density;</li> </ul>                                  | <p>There will be no direct or indirect reduction in habitat area or habitat fragmentation within any European site because of the proposed works.</p> <p>There is no predicted impact via disturbance of key species or reduction of key species because of the proposed works.</p> <p>There are no predicted changes in key indicators of conservation value due to the proposed works.</p> <p>The carbon emissions generated during remedial works will be in line with those resulting from similar engineering projects; the capping and collection of landfill gas will have a positive effect on climate change by reducing methane and carbon dioxide emissions.</p>   |

| Assessment Criteria   | Discussion of Potential Impacts  |
|---|--|
| <ul style="list-style-type: none"> <li>▪ <i>Changes in key indicators of conservation value;</i></li> <li>▪ <i>Climate change.</i></li> </ul>   |  |
| <p><i>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</i></p> <ul style="list-style-type: none"> <li>▪ <i>Interference with the key relationships that define the structure of the site;</i></li> <li>▪ <i>Interference with key relationships that define the function of the site.</i></li> </ul>   | <p>There are no potential impacts on the key relationships that define the structure or function of any European site considered in this Appropriate Assessment Screening due to the proposed works.</p> |
| <p><i>Provide indicators of significance as a result of the identification of effects set out above in terms of:</i></p> <ul style="list-style-type: none"> <li>▪ <i>loss,</i></li> <li>▪ <i>fragmentation,</i></li> <li>▪ <i>disruption,</i></li> <li>▪ <i>disturbance,</i></li> <li>▪ <i>change to key elements of the site (e.g. water quality etc.).</i></li> </ul> | <p>No effects are predicted; therefore, an indicator of significance is not required.</p>  |
| <p><i>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 of magnitude of impacts is not known.</i></p>  | <p>No significant impacts or impacts of unknown scale or magnitude, either alone or in-combination with other projects or plans are predicted.</p>   |

### 4.3 Stage One Screening Conclusion

No significant effects on any European Sites are predicted, as there is no European Site ecologically connected to the works. The closest site is Slieve Gullion SAC (site code UK0030277) which is located over 20km from the site and is not ecologically connected via surface waters. See Appendix 1 for Findings of No Significant Effects Report.



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# Appendix 1

## Finding of No Significant Effects Report



## Finding of No Significant Effects Report

|   |  |
|---|--|
| <i>Name and location of the Natura 2000 sites</i>   | <p>There are no European sites within 15km of the landfill; the closest European site is Slieve Gullion SAC (site code UK0030277) which is located c. 20 km east.</p> <p>The landfill site is not hydrologically connected to any European site.</p>   |
| <i>Description of the project or plan</i>   | <p>It is proposed to cap the landfill with an engineered barrier; the cap will be placed on top of the existing soil covering. The cap will incorporate a sub-surface drainage layer, LLDPE Barrier, and landfill gas migration layer and associated gas collection pipework. A covering of topsoil and free-draining subsoil will cover the barrier layers, with surface and sub-surface runoff draining to a network of French drains surrounding the cap.</p> <p>A vertical LLDPE cut off barrier and anchor trench backfilled with cohesive compacted material will be installed around the waste body; the impermeable sub-surface drainage layer will extend outside the cut-off trench, with surface and subsurface drainage feeding into the French drain network around the cap. A separate drainage system will collect leachate. The landfill gas barrier and associated collection pipework will be located on the inner side of the cut off trench.</p> <p>The primary components of the engineered covering proposed are listed below:</p> <ul style="list-style-type: none"> <li>• 200mm Topsoil</li> <li>• 800mm Free Draining Subsoil</li> <li>• Sub Surface Drainage Layer</li> <li>• LLDPE Barrier</li> <li>• Landfill Gas Migration Layer</li> <li>• Surface and Sub-surface Water Collection</li> <li>• Leachate Collection</li> <li>• 160mm SDR17 Landfill Gas Migration Pipework</li> <li>• Vertical Cut Off/Anchor Trench</li> </ul> |
| <i>Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?</i>                     | No.  |
| <i>Are there other projects or plans that together with the project of plan being assessed could affect the site (provide details)?</i> | No cumulative impacts are predicted due to the hydrological isolation of the landfill and lack of European sites within 20km.  |

## Assessment of Effects

|  |   |
|--|---|
| <i>Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site</i> | Potential for spread of Japanese knotweed <i>Fallopia japonica</i> to European sites.   |
| <i>Explain why these effects are not considered significant</i>  | <p>There is a legal requirement to prevent the spread of invasive alien species listed on Schedule III of Regulations 49 &amp; 50 of the EC Birds &amp; Natural Habitats Regulations 2011; as such measures are required to be in place to ensure that remediation measures do not result in the spread of Japanese knotweed and that any plant material or infested soil is disposed of appropriately.</p> <p>There are no potential connections between the landfill and any Natura 2000 sites.</p> |

| <b>Data Collected to Carry out the Assessment</b>           |  |  |  |
|---|--|--|--|
| <i>Who carried out the assessment</i>                       | <i>Sources of Data</i>   | <i>Level of assessment completed</i>         | <i>Where can the full results of the assessment be accessed and viewed</i> |
| This evaluation was completed by Fehily Timoney and Company | <ul style="list-style-type: none"> <li>Information on the ROI designated nature conservation sites within 15km of the study area was obtained from the NPWS website and metadata available online from the NPWS mapping system (<a href="http://webgis.npws.ie/npwsviewer/">http://webgis.npws.ie/npwsviewer/</a>).</li> <li>Information on the NI designated nature conservation sites within 15km of the study area was obtained from the JNCC, DAERA and OpenDataNI <a href="https://www.opendatani.gov.uk/dataset?tags=Northern+Ireland&amp;res_format=SHP">https://www.opendatani.gov.uk/dataset?tags=Northern+Ireland&amp;res_format=SHP</a></li> <li>Information on the waterbody catchments in the development area was obtained from the Water Framework Directive Water Mapping Information System <a href="http://gis.epa.ie/Envision">http://gis.epa.ie/Envision</a></li> <li>OSI Aerial photography and 1:50000 mapping.</li> <li>Monaghan Co. Council Planning Search <a href="http://www.eplanning.ie/MonaghanCC/searchtypes">http://www.eplanning.ie/MonaghanCC/searchtypes</a></li> </ul> | Appropriate Assessment Screening (Stage One) | Environmental Protection Agency  |