FEHILY TIMONEY
30 YEARS

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

APPENDIX 1

Finding of No Significant Effects Report

Finding of No Significant Effects Report	
Name and location of the Natura 2000 sites	• Akeragh Banna and Barrow Harbour cSAC (000332) • Tralee Bay Complex SPA (004188) • Tralee Bay and Magharees Peninsula, West to Cloghane cSAC (002070) • Magharee Islands SAC (002261) • Magharee Islands SPA (004125) • Kerry Head SPA (004189) • Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) • Slieve Mish Mountains cSAC (002185) • Ballyseedy Wood SAC (002112) • Lower River Shannon cSAC (002165)
Description of the project or plan	The proposed works are comprised of the following elements: • Scrub within the footprint and on the perimeter to be removed (0.1675ha), • Topsoil layer to be rotovated and supplemented if required to establish a 200 mm topsoil layer (0.1675ha), • Grass seeding. • Regular maintenance requiring a minimum 3 mowings per annum. • Perimeter fencing (164m), • Groundwater and surface water monitoring regime, • Landfill gas monitoring regime, and • 1 no. borehole. The remediation plan is presented in P1766-0100-0002 and existing (BH01 and BH02) and proposed borehole (BH03) are presented in P1766-0100-0003 is appended to the Tier 3 Risk Assessment, located in Appendix 2 of this report.
Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?	No.
Are there other projects or plans that together with the project of plan being assessed could affect the site (provide details)?	A planning search limited to applications submitted within the townlands overlapping and surrounding the historic landfill site (Ardfert and Skrillagh) during the previous 5 years was conducted on 21st August 2020. Of the planning applications identified only one (Ardfert Quarry) is of a scale or type that could act cumulatively with the proposed remediation works at the historic landfill site are proposed or consented in the townlands overlapping and surrounding the site. Consented and proposed developments in these townlands are few and comprised of the construction/extension of residential and agricultural buildings. *Ardfert Quarry* An operating limestone quarry, Ardfert Quarry is located approximately 1.9km to the northeast of the historic landfill site. The quarry has also received

permission (ID: 151063) for its extension. The quarry is hydrologically linked to the River Tyshe upstream of the historic landfill site and therefore is hydrologically connected to the Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188). The EPA mapviewer indicates that two first order tributaries run through the quarry whilst aerial photography does not indicate streams within the site; and the EIS states that they have been culverted within the footprint of the site. The EPA mapviewer also indicates that the quarry is located within the same ground waterbody as the site.

The quarry currently has a water discharge licence (Ref:AS/W82). The Environmental Impact Statement for the permitted extension indicated that the quarry does and will continue to pump groundwater and release it to the River Tyshe. In the past whilst water quality has remained the same, there have been spikes in suspended solid concentrations. Also, the release in pumped groundwater has caused flooding downstream of the River Tyshe. The Appropriate Assessment Screening Report carried out for the permitted extension concluded that there will be no significant impacts on its own or cumulatively with any other development. Planning conditions for the development include a Water Management Plan and Dust Management and Monitoring Plan.

Whether or not extension works at the quarry have begun is unknown. Prior to extension works at the quarry suspended solid release spikes are likely to continue. However, the fact that historical water quality sampling indicates that water quality has not changed indicates that suspended solid spikes are not a common occurrence and are not significant. As suspended solid release from proposed remediation works at Ardfert Historic landfill will be limited and temporary (over a 3-4 week period), a cumulative suspended solids release will not be significant and will not have a cumulative impact on Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188).

During extension works the release of suspended solids will be mitigated via the Water Management Plan and Dust Management and Monitoring Plan. As suspended solid release from remediation works at Ardfert Historic landfill will be limited and temporary, a cumulative suspended solids release will not be significant and will not have a cumulative impact on of Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188).

Other Historic Landfills

Within Ardfert historic landfill's 15km buffer there are 10 European sites. Of these 10 European sites, one or more is located within the 15km buffer of 6 other historical landfills which require remediation works (see Table 6-2 below for more information). Of these 6 historic landfills, three are located in north County Kerry (Ahascra, Lenamore, Listowel), three are located in mid County Kerry (Castleisland, Rockfield Tralee) and one is located in west Kerry (Dingle). The closest historic landfill to Ardfert historic landfill is Tralee historic landfill, located ca. 8.4km southeast of Ardfert historic Landfill.

Pathways for surface water runoff containing suspended solids and leachate from Ardfert historic landfill site are via the perimeter drainage ditch which feeds into the River Tyshe. The potential cumulative effect (if any) between Ardfert historic landfill site and the other historical sites on European sites on the European within Ardfert historic landfill's 15km buffer are assessed below.

Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188)

The ground waterbody of Ardfert historic landfill overlaps with that of Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188). Ardfert historic landfills existing soil cap is estimates to be 1m deep. Remediation works will require site clearance of vegetation the rotavating of topsoil (20cm deep) and reprofiling of topsoil.

With regards to surface water and leachate, there is an indirect hydrological link between Ardfert historic landfill and Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) via the River Tyshe. As the wastebody will not be excavated remediation works will not increase leachate production and existing levels of leachate entering perimeter stream/drainage ditch will not be affected during remediation works.

With regards to surface water runoff containing suspended solid levels entering the perimeter stream/drainage ditch will be limited due to the area of works (0.1675ha) and nature of works (rotavating to a depth of 20cm and reprofiling). Also, soil runoff entering the perimeter stream/drainage ditch will travel 50.4m (instream distance) before entering the River Tyshe and a further 5.9km (instream distance) before reaching the overlapping SAC and SPA. Distance and dilution factor will result in negligible levels of suspended solids entering the coastal/marine European sites. All the SACs 9 qualifying interests are coastal/marine habitats and include no transitory species. The special conservation interests of the SPA are unlikely to find valuable foraging/breeding within the site or along the first, second third order tributaries of the River Tyshe as they are not coastal/marine habitats. See Section 6.5 for more detail.

There will be no effect on the qualifying interests/special conservation interests of Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) due to suspended solids or leachate emissions, there can therefore be no cumulative in combination effects with any other historical landfill sites

Other European sites

Tralee Bay and Magharees Peninsula, West to Cloghane cSAC (002070), Magharee Islands SAC (002261), Magharee Islands SPA (004125), Kerry Head SPA (004189), Stack's to Mullaghareirk Mountains West Limerick, Hills and Mount Eagle SPA (004161), Slieve Mish Mountains cSAC (002185) and

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	Ballyseedy Wood SAC (002112), Lower River Shannon cSAC (002165) are located 2.5km or greater from Ardfert historic landfill. Ardfert historic landfill site does not have a hydrological link with any of the aforementioned Europeans sites. Lower River Shannon cSAC (002165) is the only SAC with transitory qualifying interests. Transitory qualifying interests of the Lower River Shannon cSAC (002165) are: Otter, Salmon and Lamprey (Sea, Brook, River sp.). There is a 17km instream distance (along the coast) between the SAC and the historic landfill site. This distance is highly likely to be outside an otter's territory (of the SACs otter population). With regards to salmonids, aerial photography indicates that the River Tyshe has been largely improved, i.e., straightened and the EPA mapviewer indicates the River Tyshe has a WFD status (2013-2018) of 'Moderate' or Q Value of 3-4. This indicates that the River Tyshe would not be of high ecological value to breeding/feeding salmonids and is highly unlikely to be used by them. There will be no effect to the Transitory qualifying interests of the Lower River Shannon cSAC (002165) The special conservation interests of the aforementioned SPAs are unlikely to find valuable foraging/breeding habitat within the site or along the first, second third order tributaries of the River Tyshe as they are coastal/marine species. Ardfert historic landfill site will have no impact on the aforementioned European sites, Ardfert historic landfill will therefore not have a cumulative in combination effect with any other historical landfill sites. See Section 6.5 for more information.
Assessment of Effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site	*During Remediation Works* During remediation works emissions created by the works will be comprised of soil sediment. Soil sediment will be produced during: • Clearance of scrub from site (0.1675ha) • Rotavating of an area of 0.1675ha to establish a 20cm topsoil layer (excavation of 168m$^{3)}$, supplemented where required. • Reprofiling the surface of the site • Drilling of 1 no borehole • Installation of fencing (164m). The proposed borehole will be located 314m north of the historic landfill site perimeter stream/drainage ditch. The borehole will be located four land parcels away from the site. Due to distance and field boundaries/buffers any surface water (containing suspended solids) will not enter the perimeter stream/drainage ditch. At present leachate migration to groundwater is deemed to be low to negligible and is unlikely to negatively impact groundwater quality. The potential for leachate emissions to enter the River Tyshe are considered low.

	Whilst no leachate breakouts were discovered during walkovers there is a potential risk of leachate breakouts entering the River Tyshe. During remediation works the top 20cm of the site's surface will be rotavated and reprofiled. The interred waste body (located 1m below the surface) will not be disturbed. Remediation works will therefore not result in the production of additional leachate to groundwater or surface water. *Following Remediation Works* Following remediation works leachate will continue to be produced and enter groundwater for a time. However, remediation works will prevent leachate outbreaks. The regraded surface will direct rainwater off site as surface water instead of it sitting on site and infiltrating the interred waste body therefore reducing the potential for leachate to be produced. During the establishment of the grass layer (will take several weeks) on the newly engineered cap, there will be surface water runoff containing suspended solids into the River Tyshe via the perimeter stream/drainage ditch. Suspended solid levels in collected surface water runoff will be far less than that produced during remediation works and will be limited. Following the establishment of grass, rainwater will be further filtered by the grass sward before entering the receiving stream/drainage ditch.
Explain why these effects are not considered significant	*During Remediation Works* <u>Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188)</u> The ground waterbody of the Ardfert historic landfill overlaps with that of Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188). As described above, present leachate migration to groundwater is deemed to be low to negligible and is unlikely to negatively impact groundwater quality and remediation works will not result in additional leachate entering the underlying ground waterbody. With regards to surface water and leachate, there is an indirect hydrological link between Ardfert historic landfill and Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) via the River Tyshe. As described above, at present the potential for leachate emissions to enter the River Tyshe are considered low, whilst leachate breakouts remain a potential risk to the River Tyshe. As detailed above remediation works will not add to leachate emissions. With regards to surface water containing suspended solids, there is an indirect hydrological link between Ardfert historic landfill and Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) via the River Tyshe. Suspended solid levels entering the perimeter stream/drainage ditch will be limited due to the area of works (0.1675ha), works type (rotavating (20cm depth) and reprofiling (168m^3). Also, suspended solids entering the perimeter silt/drainage ditch will travel 50.4m (instream distance) into the River Tyshe and a further 5.9km (instream distance) before

reaching the overlapping SAC and SPA. Distance and dilution factor will result in negligible amounts of suspended solids entering the coastal/marine European sites. All the SACs 9 qualifying interests are coastal/marine habitats and include no transitory species. The special conservation interests of the SPA are unlikely to find valuable foraging/breeding habitat along the first, second third order tributaries of the River Tyshe as they are not coastal/marine habitats.

There will be no effect on the qualifying interests/special conservation interests of Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) due to emissions.

Other European sites

Tralee Bay and Magharees Peninsula, West to Cloghane cSAC (002070), Magharee Islands SAC (002261), Magharee Islands SPA (004125), Kerry Head SPA (004189), Stack's to Mullaghareirk Mountains West Limerick, Hills and Mount Eagle SPA (004161), Slieve Mish Mountains cSAC (002185), Ballyseedy Wood SAC (002112), Lower River Shannon cSAC (002165) are located 2.5km or greater from Ardfert historic landfill. Ardfert historic landfill site does not have a hydrological link with any of the aforementioned Europeans sites. The special conservation interests of the aforementioned SPAs are unlikely to find valuable foraging/breeding habitat within the site or along the first, second third order tributaries of the River Tyshe these habitats are freshwater/farmed land adjacent to a built area. The special conservation interests of Magharee Islands SPA (004125) and Kerry Head SPA (004189) require coastal/marine habitat whilst the sole special conservation interest of Stack's to Mullaghareirk Mountains West Limerick, Hills and Mount Eagle SPA (004161); Hen Harrier requires upland habitats with forestry.

The Lower River Shannon cSAC (002165) is the only SAC with transitory qualifying interests; Otter, Salmon and Lamprey (Sea, Brook, River sp.). There is a 17km instream distance (along the coast) between the SAC and the point where suspended solids emissions would enter the River Tyshe. This distance is highly likely to be outside an otter's territory (of the SACs otter population). If an otter from the SACs otter population were to travel to the River Tyshe, suspended solids will be limited and temporary and will be diluted within the River Tyshe and would therefore have a negligible effect on prey availability. With regards to salmonids, aerial photography indicates that the River Tyshe has been largely improved, i.e., straightened and the EPA mapviewer indicates the River Tyshe has a WFD status (2013-2018) of 'Moderate' or Q Value of 3-4. This indicates that the River Tyshe would not be of high ecological value to breeding/foraging salmonids and it is highly unlikely to be used by them. No direct or indirect effect will occur to the transitory qualifying interests of the Lower River Shannon cSAC (002165).

There will be no effect on Tralee Bay and Magharees Peninsula, West to Cloghane cSAC (002070), Magharee Islands SAC (002261), Magharee Islands SPA (004125), Kerry Head SPA (004189), Stack's to Mullaghareirk Mountains

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	West Limerick, Hills and Mount Eagle SPA (004161), Slieve Mish Mountains cSAC (002185), Ballyseedy Wood SAC (002112) or Lower River Shannon cSAC (002165) due to emissions. *Following Remediation Works* Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188) Suspended solids entering the River Tyshe will be negligible and temporary (a couple of months) and will therefore have no effect on Akeragh Banna and Barrow Harbour cSAC (000332) and Tralee Bay Complex SPA (004188).
Name of Agency or Body Consulted	**Summary of Response**
-	Consultation was not undertaken due to the positive nature of the works (in terms of leachate) and the lack of potential significant effects.

Data Collected to Carry out the Assessment			
Who carried out the assessment	*Sources of Data*	*Level of assessment completed*	*Where can the full results of the assessment be accessed and viewed*
This evaluation was completed by Fehily Timoney and Company	• Information on the designated nature conservation sites within 15km and whist hydrological link outside the 15km of the study area was obtained from the NPWS website and metadata available online from the NPWS mapping system (http://webgis.npws.ie/npwsviewer/). • Information on the waterbody catchments in the development area was obtained from the Water Framework Directive Water Mapping Information System http://gis.epa.ie/Envision • OSI Aerial photography and 1:50000 mapping. • Information on the historic landfill site was obtained from the Tier 2 and 3 Risk Assessment report located in Appendix 2. • Parameters and Results from monitoring are located in Appendix 3 • European site synopsis are located in Appendix 4.	Appropriate Assessment Screening (Stage One)	Environmental Protection Agency