FEHILY TIMONEY

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	• Lower River Shannon cSAC (002165) • Moanveanlagh Bog cSAC (002351) • Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) • River Shannon and River Fergus Estuaries SPA (004077)
Description of the project or plan	Proposed works for the historic landfill are outlined in Section 5 Remedial Action Plan of the Tier 3 Risk Assessment report. The proposed works comprise of the following elements: • 3 no. ground extraction wells (and associated infrastructure) • 14 no. gas monitoring well (and associated infrastructure) • 1 no. leachate storage/pump station • leachate interceptor trench • Continuous gas monitoring system (for all buildings on or immediately adjacent to the site within 100m of the perimeter) • Landfill gas, groundwater and leachate monitoring regimes • Replacement of vegetation removed for the installation of remediation works Layout locations of the proposed remediation design proposals are presented on Drawing P1766-0102-001 and is appended to the Tier 3 Impact Assessment located in Appendix 2 of this report. For the most part proposed works will unobtrusive and vegetation will be left in place. The most obtrusive works will be limited to excavation of the proposed leachate interception trench along the sites southern boundary with the KCC yard which will cover an area of 1200m^2 and is located 102m from the River Feale/ Lower Shannon SAC.
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 was conducted on 20th August 2020. The search was limited to applications made over the previous 5 years within the townland of the historic landfill site (Ballygowloge). Of the planning application only one (Kerry Foods) is of a scale that could act cumulatively with the proposed remediation works at the historic landfill site. *Kerry Foods (Kerry Ingredients (Ireland Ltd))* Kerry Foods is located ca. 500m downstream of the historic landfill on the opposing bank of the River Feale. According to EPA online documentation related to license details for the site (http://www.epa.ie/terminalfour/ippc/ippc-view.jsp?regno=P0393-03), the company is an integrated dairy processing installation and has an industrial

emissions licence from the EPA (P0393-03) for the treatment and processing of milk, combustion of fuels and production of waste for disposal to landfill. The license sets conditions on the facility which includes discharge to surface water. An EPA Inspectors Report for review of the licence (24th Oct 2012) stated that there was one discharge point to the River Feale and emissions were treated via a WWTP before discharge and were not effecting the water quality of the River Feale (this includes salmonids). The license has since been amended for the extension of the facility which will requires further combustion of fuels. An Appropriate Assessment Screening Report (13th September 2017) for the extension concluded that the proposed development of the site and its operation would not have a significant impact on European sites due to air emissions. Following further inspection by the EPA (which includes surface water emissions) the license was amended (Inspectors Report dated 10th November 2018). As the Kerry Foods facility is not having an effect on the surface water of the river Feale, there can be no cumulative/in combination effect with the proposed remediation works at Listowel historic landfill.

Other Historic Landfills

Within Listowel historic landfill's 15km buffer there are four European sites. Of these four European sites, one or more is located within the 15km buffer of 5 other historical landfills which require remediation works (see Table 6-2 below for more information). Of the 5 historic landfills: two are located in north County Kerry (Ahascra, Ardfert) and three are located in mid County Kerry (Castleisland, Rockfield Tralee). The closest historic landfill to Listowel historic landfill is Ahascra historic landfill, located ca. 8.8km northwest of Listowel historic Landfill.

Potential pathways for surface water runoff (containing suspended solids), invasive species material (Three-cornered Leek, Cherry Laurel and Winter Heliotrope) and leachate from remediation works are via the stormwater drain at the adjacent KCC works/storage yard (soil/wastebody material and leachate) and an access track between the yard which feed into the River Feale. Pathways are located ca 102m away from the River Feale. The potential cumulative effect (if any) between Listowel historic landfill and the other historical sites on the European sites within Listowel historic landfill's 15km buffer are assessed below.

Lower River Shannon cSAC (002165)

Potential pathways for emissions from remediation works from Listowel historic are located at a distance ca. 102m from the River Feale which is designated as part of the Lower River Shannon cSAC (002165). During excavation of the trench, soil/wastebody material and invasive (if present in the footprint of the excavated trench) will be directly loaded into an awaiting adjacent dump truck and any leachate build up in the excavated trench will be pumped into an awaiting tanker. Both leachate and soil/wastebody material will be removed offsite and taken to appropriate licensed facilities under required permits (see Section 5.1 for more information). Due to the work method of excavations the increase in the volume of leachate entering stormwater drains as runoff will be negligible, the emission of soil/wastebody leachate entering the storm water drain or

access track will be negligible and the emission of invasive species is deemed to be highly unlikely.

Due to distance and the nature and method of excavation works there will therefore be no effect on the nearby Lower River Shannon cSAC (002165) during remediation works. The SAC is also located within the same ground waterbody as the historic landfill. Remediation works will not increase the levels of leachate entering the underlying ground waterbody as the majority of proposed boreholes will be shallow and only three boreholes will be deep and water will not be allowed to enter them. The most obtrusive works will be comprised of the interception trench, which be covered so as not to prevent the ingress of water and further production of leachate. Remediation works at Listowel historic landfill will have no effect on the Lower River Shannon cSAC (002165), and therefore will not result in cumulative / in combination effects with any other historical landfill sites.

Following remediation works, leachate levels will be monitored and will either be piped to Listowel WWTP via the sewer system or stored on site (underground) and tankered offsite when required. The method of leachate management and monitoring will be decided during detailed design. However, connection to the sewer system or tankering leachate off site will be undertaken under permit received by Irish Water (see Section 5.1 for more information). Leachate management following remediation works, will prevent existing leachate breakouts at the KCC works/storage yard, which enter the SAC via a stormwater drainage system. Leachate management will result in minimal potential positive effects to Lower River Shannon cSAC (002165) with regards to future water quality. Therefore, any potential cumulative/in combination effects with other historical landfills with be neutral - slightly positive for the Lower River Shannon cSAC (002165).

<u>Other European sites</u>

Moanveanlagh Bog cSAC (002351), Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) and River Shannon and River Fergus Estuaries SPA (004077) are located within the same ground waterbody as the historic landfill. Remediation works will not increase the levels of leachate entering the underlying ground waterbody. The most obtrusive works will be comprised of the interception trench, which be covered so as not to prevent the ingress of water and further production of leachate.

There is a remote hydrological link between the historic landfill site and the aforementioned European sites. The closest of these European sites is Moanveanlagh Bog cSAC (002351) located 3.6km (direct distance) from Listowel historic landfill site. None of these sites receives waters from the River Feale and any leachate or soil/wastebody sediment released to the River Feale will be negligible and the release of invasive species material is highly unlikely. As there will be no effect on the River Feale during remediation works there can be no cumulative/in combination effects with other historical landfills on any European sites.

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	Following remediation works leachate management will have a positive effect on the water quality of the River Feale and ground waterbody. However, due to distance there will be no cumulative / in combination effects with any other historical landfill sites with regards to surface water. With regards to groundwater any potential cumulative/in combination effects with other historical landfills with be neutral - slightly positive for Moanveanlagh Bog cSAC (002351), Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) and River Shannon and River Fergus Estuaries SPA (004077).
Assessment of Effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site	*Vegetation Clearance Works* Three-cornered Leek is located within the historic landfill site and is a Third Schedule listed species under Regulations 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011. (Note: Regulation 50 not yet enacted). Under the regulations it is an offence to spread the species. Clearance of existing vegetation will be required, the most will be located in the area of the interception trench. *During Remediation Works* During remediation works emissions created by the works will be comprised of leachate, soil/wastebody material which may contain limited amounts of invasive species material (if present): • Leachate arisings: - may occur during 3 deep well and 14 shallow well installations - will be absorbed by surrounding vegetation - excavation of the interception trench – will be collected on site by an awaiting vehicle and tankered offsite under licence/permit • Soil/wastebody material (total of 480 tonnes): - Installation of 3 deep well and 14 shallow well installations – will be removed offsite to a licensed facility - excavation of interception trench (300m^3) and leachate storage (80m^3) - excavated material to be immediately placed into an awaiting dump truck and brought offsite to a licensed facility. - Excavated soil may contain limited amounts of invasive species material (Three-cornered Leek, Cherry Laurel and Winter Heliotrope) – will be collected with excavated soil/wastebody material. The most southern boundary of the site is located 8m away from the River Feale/ The Lower River Shannon cSAC (002165). There are two potential pathways between interceptor trench works and a stormwater drain and the River Feale/The Lower River Shannon cSAC (002165). A stormwater drain which is likely to feed into the River Feale and an access track are both located 102m from the River Feale.

Finding of No Significant Effects Report	
	After Remediation Works Following remediation works emissions will be comprised of leachate: • The method of leachate management and monitoring will be decided during detailed design. - leachate levels will be monitored and will either be piped to Listowel WWTP via the sewer system or, - stored on site (underground) and tankered offsite when required Listowel WWTP discharges into the River Feale/The Lower River Shannon cSAC.
Explain why these effects are not considered significant	*Vegetation Clearance Works* To accommodate works, vegetation will be cleared at well locations and in the area of the interception trench (1200m^2). Three-cornered Leek was recorded on site during a walkover of the historic landfill. Three-cornered Leek is a Third Schedule listed species under Regulations 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011. (Note: Regulation 50 not yet enacted). Under the regulations it is an offence to spread the species. During the clearance of vegetation and excavation of soil (for the interception drain) there is potential to spread the species. To ensure compliance with the European Communities (Birds and Natural Habitats) Regulations 2011 Three-cornered Leek will be cleared from the historic landfill site prior to any clearance works/excavation. Clearance of the species will be done according to a tailored invasive species management plan. Clearance will include the removal of all invasive species material and infested soil offsite to a licensed facility so that the species cannot be spread within site during vegetation clearance and remediation works. Following the clearance of Three-cornered Leek, minimal clearance of existing vegetation will be required, the most will be located in the area of the interception trench. Due to distance (102m from trench), nature of works (unobtrusive) and nature of the site (closest element of works is a shallow well located 15m form the River Feale within established vegetation with bunded boundaries) vegetation will not be emitted from site into a European site. *During Remediation Works* Both leachate and soil/wastebody material will be removed offsite and taken to appropriate licensed facilities under required permits (see Section 5.1 for more information). The most intensive remediation works will be undertaken over an area of 1200m^2 (the interceptor trench), other works are comprised of deep and shallow well installations within vegetated areas and will not increase the levels of leachate entering the underlying ground waterbody and River Feale (via groundwater).

Lower River Shannon cSAC (002165)

The Lower River Shannon cSAC (002165) is located adjacent to the ground waterbody which the historic landfill site feeds into. As discussed above in, remediation works will not increase in the levels of leachate entering the underlying ground waterbody or the River Feale.

The closest element of the proposed remediation works will be a shallow perimeter well located within a mounded planted area outside the interred waste body, ca. 15m from the SAC; 14 shallow wells will be located along the perimeter of the site within vegetation. Three deep wells will be located ca. 139m away from the River Feale/SAC at their closest point; located in the centre of the site. Any leachate produced will be absorbed by the surrounding vegetated ground and will be localised (not leave site as runoff). Soil/wastebody arisings will be collected in a dumper truck for removal offsite to a licensed facility under permit.

Interceptor trench excavation works along the boundary between the historic landfill site and KCC yard will produce soil/wastebody material (which may contain limited amounts of invasive species material). In the location of excavation trench works there are two pathways for emissions to reach the River Feale/SAC; a stormwater drain within the adjacent KCC yard[2] and an access track which services the KCC yard. Both pathways are located ca. 102m distance away from the River Feale/SAC.

During the excavation of the interceptor trench, soil/wastebody material and invasive species material (if present) will be directly loaded into an awaiting adjacent dump truck and any leachate build up in the excavated trench will be pumped into an awaiting tanker. Both leachate and soil/wastebody material will be removed offsite and taken to appropriate licensed facilities under required permits. Whether or not leachate will go to Listowel WWTP will be decided prior to remediation works. Listowel WWTP discharges into the River Feale/Lower River Shannon cSAC (002165). Remediation works will not be undertaken without a permit received from Irish Water and may require commission of a licensed waste contractor. (see Section 5.1 for more information),

During remediation works, due to the method of works the increase in the volume of leachate entering stormwater drains as runoff will be negligible, the emission of soil/wastebody material entering the stormwater drain or access track will be negligible and the discharge of invasive species material to the SAC via stormwater drains or the access track is deemed to be highly unlikely. Due to distance, the nature and method of works and the tankering of leachate offsite to a licensed facility under permit from Irish Water, there will be no effect on the nearby Lower River Shannon cSAC (002165) during remediation works.

[2] The link has not been verified but assumed as such.

Other European Sites

Moanveanlagh Bog cSAC (002351), Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) and River Shannon and River Fergus Estuaries SPA (004077) are located within the same ground waterbody as the historic landfill. As discussed above, remediation works will not increase the levels of leachate entering the underlying ground waterbody.

There is a remote hydrological link between the historic landfill site and the aforementioned European sites. The closest of these European sites is Moanveanlagh Bog cSAC (002351) located 3.6km (direct distance) from Listowel historic landfill site. None of these sites receives waters from the River Feale and any leachate or soil/wastebody sediment released to the River Feale will be negligible and the release of invasive species material is highly unlikely. As there will be no effect on the River Feale during remediation works there will be no effects on the aforementioned European sites.

After Remediation Works

Leachate entering the sewer system (and treated by Listowel WWTP) or being tankered off site will be undertaken following receipt of a permit from Irish Water.

The interception trench will prevent the existing leachate breakouts which are occurring in the adjacent KCC yard. The leachate breakouts are currently entering the stormwater drain in the yard which is likely to discharge to the River Feale/Lower River Shannon cSAC (002165).

Lower River Shannon cSAC (002165)

Following remediation works, leachate levels will be monitored and will either be piped to Listowel WWTP via the sewer system or stored on site (underground) and tankered offsite when required. The method of leachate management and monitoring will be decided during detailed design. However, connection to the sewer system or tankering leachate off site will be undertaken under permit received by Irish Water.

Leachate management will prevent the likely leachate breakouts entering the River Feale/SAC. Leachate management is likely to result in minimal positive effects to the Lower River Shannon cSAC (002165) with regards to future water quality.

Other European Sites

There is a remote hydrological link between the historic landfill site and Moanveanlagh Bog cSAC (002351), Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA (004161) and River Shannon and River Fergus Estuaries SPA (004077).

Following remediation works leachate management is likely to have a minimal positive effect on the water quality of the River Feale. However, due to distance there will be no effect on the aforementioned European sites.

Finding of No Significant Effects Report	
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