# Environmental Impact Assessment Report
# Volume 1 of 3 – Non-Technical Summary

***For***

## FURTHER DEVELOPMENT OF UMMERA GRAVEL PIT MACROOM, COUNTY CORK


**Prepared for:**
Drimoleague Concrete Works Limited
Bredagh Cross
Drimoleague
County Cork

**Prepared by:**
Keohane Geological & Environmental Consultancy
Ivy House
Clash
Carrigrohane
County Cork


**September 2020**

# Environmental Impact Assessment Report

# Volume 1 of 3 – Non-Technical Summary

*For*

## FURTHER DEVELOPMENT OF UMMERA GRAVEL PIT MACROOM, COUNTY CORK

# TABLE OF CONTENTS

**PAGE**

# TABLE OF FIGURES

**PAGE**

# 1. INTRODUCTION

## 1.1. The Applicant

The applicant for this further development of Ummera gravel pit is Drimoleague Concrete Works Ltd (DCWL). DWCL is based at Bredagh Cross, Drimoleague where it operates a concrete ready-mix and concrete products manufacturing facility. It also operates a few quarries / gravel pits in the West Cork region, including Ummera gravel pit. DCWL is involved in the supply of raw materials for the construction industry in West Cork. These projects require the use of large volumes of concrete, aggregate and concrete products. The supply of such raw materials is critical for the continued development of, for example, residential housing and infrastructure on both a local and regional scale. The company provides an important service in meeting the development needs of the region.

## 1.2. Section 37L Further Development

Ummera gravel pit is on a landholding extending to 20.22 hectares. The further development application extends to an area of 15.5 hectares, in which gravel extraction has been carried out since the 1940's. DCWL, through its affiliated company (Murnane & O'Shea Ltd) has been operating at the Ummera site since the late 1970's through lease arrangements. DCWL purchased the lands in 2004.

In 2012 and in accordance with the Planning & Development legislation, Cork County Council carried out audits of quarries and gravel pits in the County to determine their status / compliance with environmental legislation. The Council issued its determination for the Ummera gravel pit in August 2012 requiring that DCWL apply to An Bord Pleanala for substitute consent, to include a remedial Environmental Impact Statement (now referred to as an Environmental Impact Assessment Report). This determination was appealed to An Bord Pleanala. In February 2014. An Bord Pleanala upheld the Council's determination requiring DCWL to apply for substitute consent. DCWL sought a judicial review of An Bord Pleanala's decision. This was delayed in the courts for a number of years. In August 2020, DWCL submitted an application for substitute consent to An Bord Pleanala. Provisions in the planning laws allows for quarry operators to make an application for further development of a quarry / gravel pit within six weeks of making an application for substitute consent.

## 1.3. The Consultants

Keohane Geological & Environmental Consultancy (KGEC) is a Cork-based consultancy specialising in geological and environmental sciences. In recent years, KGEC has prepared planning applications and/or EISs (EIARs) for several quarry developments in counties Cork, Limerick and Kerry. Damian Brosnan Acoustics carried out the noise assessment for the development; Dr. Charles Mount carried out the archaeological impact assessment; and Atkins prepared the biodiversity chapter.

# 2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

## 2.1. The Site

The gravel pit is in a rural setting in the townland of Ummera, approximately 2.5km to the northeast of Macroom. The site location is shown on Figure 2-1. The gravel pit is in a landholding of approximately 20.22 hectares, of which 17 hectares was included for registration under Section 261. The further development of the gravel pit relates to 15.5ha, as shown in Figure 2-2. The further development area includes the area covered by the substitute consent application, the original settlement ponds and areas along the eastern, southern and southwestern perimeter of the landholding. The extraction of gravel will continue within the current extraction footprint and expand to the south and along the eastern margins of the pit. The additional extraction areas extend to approximately 2 hectares. These areas are largely grazing land or occupied by temporary screening berms. The area occupied by the old farm buildings (at the southwestern corner of the landholding and the southernmost part of the grazing land (where the gallan stone is located) are not included in the further development area. The surrounding land use is predominantly grazing.

The site is accessed from the National Primary Route N22 via regional road R618, local road L-3423-0 and local road L-3423-20. The pit entrance is from local road L-3423-20.

The site varies in elevation between approximately 85mOD and 115mOD. The site entrance is at an elevation of approximately 85mOD and rises to the east to approximately 115mOD. The floor of the gravel pit is at an elevation of approximately 91mOD.

The gravel pit is within the catchment of Sullane River, a tributary of the River Lee. It doesn't have any direct connection with designated sites within 15 kilometres. There is distant connection to designated sites in the River Lee and Cork Harbour downstream of the Inniscarra Dam, but too remote for the gravel pit to have any impact.

## 2.2. Need for the Development

DCWL requires a supply of aggregate for its concrete manufacture in Bredagh Cross and for its customers in the West Cork area. The further development of the gravel pit for 15 years is needed to enable DCWL to continue its operations.

## 2.3. Selection and Alternatives Considered

The selection of alternative sites is not relevant for the further development application. Alternative design is limited as the remaining deposits are largely to the south and within the footprint of the worked area. Constraints, such as the gallan stone and farm buildings, limited the expansion to the south.

## 2.4. Development Description

Ummera gravel pit is a small-scale operation, generally manned by one full-time operator. The site manager operates the front-end loader, loading the washing plant and loading aggregate into trucks. Additional employees and machinery are used when required for topsoil stripping, cleaning out the settlement ponds or carrying out repairs or maintenance on the plant / machinery.

The processes and activities that are being carried out at the gravel pit, and would continue for the further development, are summarised as follows:

1. Topsoil and overburden are stripped from the area from which gravel is to be extracted. Stripping is carried out using an excavator. The topsoil and overburden are used to provide temporary screening around the working area.
2. The deposit is variable in content (variable grain size), so is worked in different areas to achieve the desired blend of aggregate sizes to suit demand. Silt / clay layers occur in the deposit and these are set aside using an excavator.
3. Gravel is loaded into the washing plant using the front-end loader. The washing plant screens the aggregate into a number of size fractions, including sand, 6 to 10mm stone, 10 to 20mm stone, 20 to 50mm stone and $50mm^{+}$ stone.
4. Silts and fines are carried to the settlement ponds by the wash water. The ponds are cleaned periodically, and the silt is stored to the west and east of the of the ponds where it dries out. The silt will be used for future restoration. Occasionally, there is demand for this silt for use as bedding sand for underground utilities.

Additional infrastructure will include perimeter screening berms and planting, fuel storage shed, concrete refuelling pad and paving the site access road.

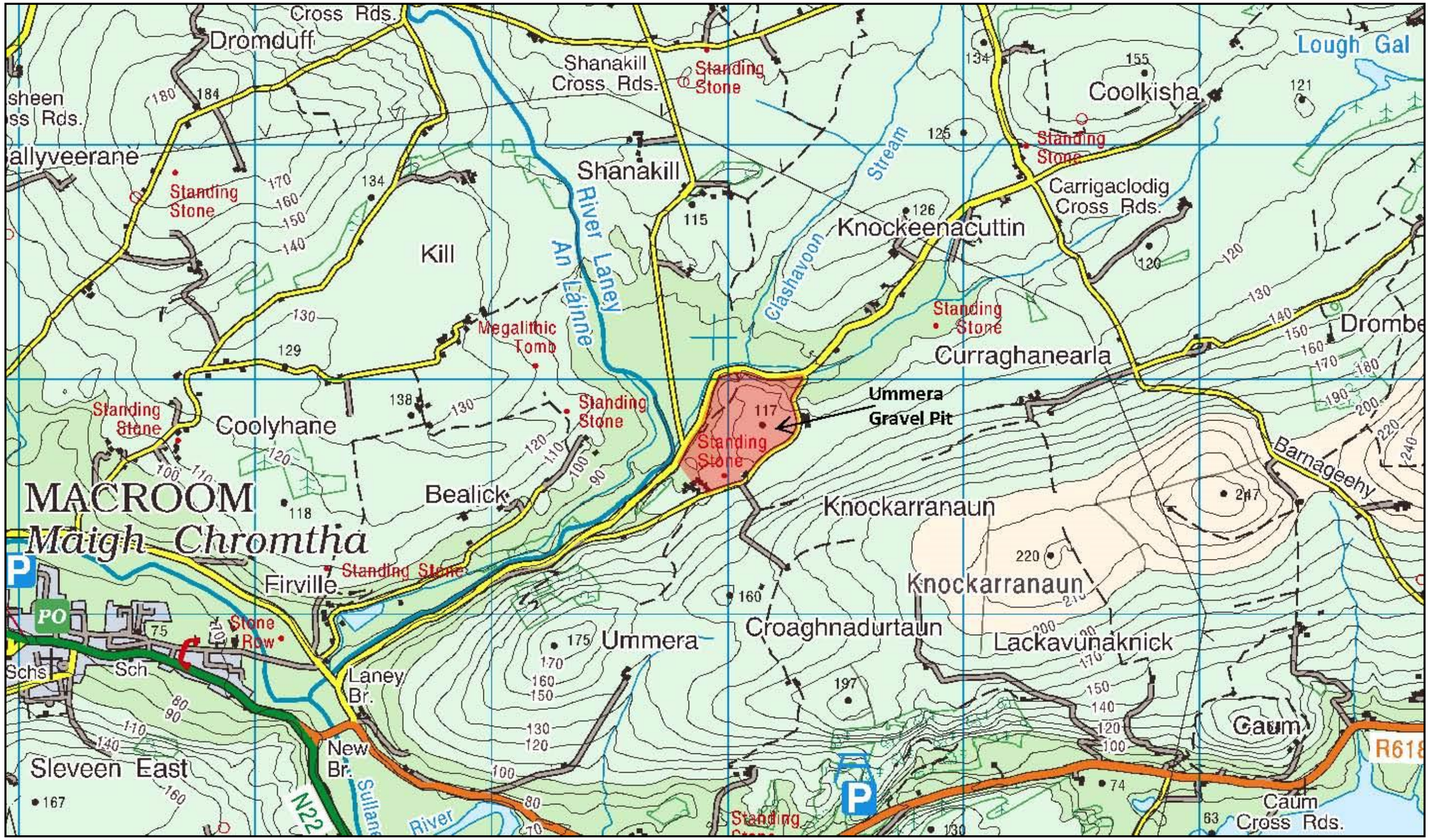


**Figure 2-1: Site Location Map**


**Figure 2-2: Site Layout Map**

# 3. LANDSCAPE – IMPACTS AND MITIGATION

## 3.1. Existing Environment

The gravel pit is in a rural environment dominated by rolling undulating grazing land in the catchment of the Laney River. The landscape comprises low rounded hills of Old Red Sandstone enclosing fairly broad undulating river valleys. While there is generally an appearance of roughness in this landscape type, the area in the immediate environs of Ummera are less so, with good quality agricultural land prevailing. The Laney River valley is lined with mature woodland. More rugged elevated topography occurs >5km to the north and northwest.

The Ummera gravel pit, which forms part of the existing landscape, is largely screened from most vantage points behind local topography and mature stand of trees along the northern, western and south-western perimeters. The gravel pit has been a part of this landscape for over 70 years. This existing screening will limit views into the further development area and will be augmented by perimeter berms and additional planting.

## 3.2. Landscape Impacts

The Ummera gravel pit has and will continue to have an impact on the landscape and visual character of the surrounding areas, and in the main these impacts will be perceived as negative. However, as the gravel pit has been operational for many decades, it is now considered part of the landscape, not an intrusion into it. Changes will continue to arise primarily from:

- The removal of existing agricultural lands.
- Continued extraction operations.
- Temporary storage of aggregates and silt washings.
- Construction of site infrastructure, such as screening berms.

These changes have and will have impacts primarily on residences and roads adjacent to the east side of the gravel pit and the more distant views from the west along local road L-7478. The gravel pit is well screened and will not have any significant impacts on views from other perspectives.

## 3.3. Conclusions of Landscape & Visual Impact

The gravel pit is well screened from most perspectives with only limited views of the pit available from a few locations. The continued acceptance of extraction operations at Ummera will be largely dependent on good site management, maintenance of effective screening provided by trees and berms, and control of emissions (namely noise and dust). The further development of the gravel pit will not significantly increase the visibility of the extraction operations. On completion of extraction, the site will be returned to mostly agricultural use, but retaining some aspects for biodiversity. Figure 3-1 shows an artist impression of the restored site.

**Figure 3-1: Artist Impression – Restored Gravel Pit**

# 4. POPULATION & HUMAN HEALTH – IMPACTS AND MITIGATION

## 4.1. Impacts and Mitigation Dwellings

There are 14 houses within 500 metres of the DCWL landownership boundary and of these 5 houses are within 500 metres of the further development boundary. The closest houses are located along the local road running along the eastern and southern boundary of the gravel pit. Screening berms have been constructed along the site perimeter along the road to protect the amenity of these houses. Additional berms will be constructed to define the southern perimeter of the further development boundary.

## 4.2. Impacts and Mitigation - Noise

The gravel pit is in a rural area dominated chiefly by road traffic noise. There are three dwellings located close to the boundary of the holding. Noise data recorded in the vicinity of these indicate that impacts associated with the existing operation are minimal.

Site operations are relatively small in scale, with a single loader used to load occasional trucks. Noise emissions arise from the loader, trucks, an aggregate washing plant, and a tracked excavator used at intervals to strip overburden. Specific noise levels currently attributable to site operations are less than 40dB at receptors, rising to 42dB at the nearest farmhouse. Levels are markedly lower than the 55dB criterion relevant to the site.

It is proposed to extend extraction downwards within the existing pit, and laterally into adjacent unworked zones to the south. No changes are proposed with respect to site operations, apart from the introduction of loader activity in the new zones. Changes to the noise regime will be minimal, and noise levels at the nearest receptors are expected to remain comfortably below the 55dB criterion throughout the lifetime of the further development.

Noise impacts will be imperceptible to not significant, on the basis that the further development will represent a continuation of the existing operation. During a 1 to 2-week period when berm construction is underway in proximity to the nearest dwellings, impacts will increase to slight adverse, and will be mitigated by their temporary effect.

## 4.3. Impacts and Mitigation - Land

The application covers an area of approximately 15.5 hectares of mostly active pit and a small area of agricultural land in a landholding of 20.22 hectares. The surrounding land use supports good quality agricultural land used mostly for dairy and beef farming. The advance of the extraction activities has resulted in the loss of agricultural lands over the lifetime of the gravel pit. The further development of the gravel pit will include expansion into a further 2ha of agricultural land. Most of the site will be returned to agricultural use once extraction is completed.

## 4.4. Impacts and Mitigation -Tourism

The gravel pit is in a rural settling distant from any population centres, local amenities (GAA clubs, churches, schools, parish halls, etc.) or tourist destinations. No direct or indirect significant impacts on tourism or local amenities are envisaged with the further development of the gravel pit. It is not visible from any of the tourist assets in the Mid Cork area.

## 4.5. Impacts and Mitigation – Traffic

The gravel pit is serviced by undivided local primary and local secondary roads. Most trucks leaving the site turn left to access the regional and national road network, near Macroom. The sightlines for trucks entering from, and leaving to, the south are good, but less so for trucks leaving the site and going right. The volume of truck traffic varies with demand but is typically up to 10 loads per day. The volume of traffic associated with the pit is not expected to change over the further development period (15 years).

A number of improvements to the traffic safety at the gravel pit have been carried out to date. The most notable is the relocation of the site entrance from the northwest corner to its current location. Further improvements proposed are the paving of the access road to the pit, which will improve the public road condition at the entrance, and the installation of another warning sign on the approach from the south.

## 4.6. Impacts and Mitigation – Cultural Heritage

The archaeological and cultural heritage assessment for the further development of Ummera gravel pit, consisting of a paper and fieldwork study, was carried out in September 2019 – March 2020. There is one Recorded Monument situated in the application area, the site of a Fulacht fia RMP CO071-058----, which is not visible at ground level, and is not impacted by the proposal. A standing stone RMP CO071-057---- is situated outside the application area, it will be preserved *in situ* within a 20m fenced buffer zone in accordance with the 2007 decision of an Bord Pleanála (04.QC2002) and will not be impacted by the proposal. There are no other known sites of heritage interest known from the application area. Due to the possibility of the survival of previously unknown sub-surface archaeological deposits or finds within the unextracted part of the application area, in areas 3 and 4, all topsoil-stripping in those areas should be monitored by a qualified archaeologist.

# 5. ENVIRONMENTAL ASPECTS – IMPACTS AND MITIGATION

## 5.1. Impacts and Mitigation – Biodiversity

The biodiversity assessment identifies, quantifies and evaluates potential effects of the further development at Ummera gravel pit on habitats, species and ecosystems; it considers impacts to ecological receptors that could occur; it identifies where mitigation measures have been put in place to offset or reduce the identified impacts. This assessment draws on baseline information identified from desk-based study, baseline surveys and evaluation of the ecological features.

A desk study was carried out to collate the available existing ecological information on the development site. Field surveys included consideration of semi-natural habitats, flora terrestrial mammals, birds, bats and aquatic ecology (including the potential for occurrence of freshwater pearl mussel habitat in the Clashavoon Stream and River Laney, downstream of the gravel pit).

The site is not located within a Natura 2000 site (SAC or SPA) or a site of national importance (i.e. proposed Natural Heritage Area); nor are there any such sites in the immediate environs of the gravel pit. The nearest Natura 2000 site is the Gearagh SAC / SPA located on the River Lee (effectively upstream) of the confluence of the River Laney / Sullane with the River Lee. The nearest pNHAs, Lough Gal pNHA and Glashgarriff River pNHA. These are both in the catchment of the Glashgarriff River, which discharges to the River Lee near Coachford (downstream of the gravel pit).

No Annex I habitats or species (as defined under the EU Habitats Directive) are present on site. Semi-natural habitats are in general of local ecological value. From a review of aerial photos and historic maps, the current site supports a greater diversity of habitats than those which characterise the agricultural landscape (i.e. improved grassland; hedges & ditches) that may have characterised the site in the past.

Very low levels of bat activity were recorded during the 2019 bat survey and the site was not determined to be of importance for bats; species noted were Common pipistrelle; Leisler's bat and Soprano pipistrelle. Ummera gravel pit is not an important foraging site for bats. No badger setts were identified on site. Sand martin nest in exposed sand faces on site.

Water quality data is not collected on the Clashavoon Stream by the EPA. Sampling carried out as part of this study upstream and downstream of the gravel pit both indicate that the Clashavoon Stream is at Risk of not achieving Good status. EPA water quality data is presented from stations on the River Laney upstream and downstream of the confluence with the Clashavoon. These data suggest that water quality downstream of the gravel pit broadly mirror those of the upstream station on the River Laney; with the worst case of water quality noted on the River Laney upstream of gravel pit. Currently water quality downstream of the gravel pit is High (2018).

Freshwater pearl mussel have been recorded in the River Laney. Apart from limited records there does not appear to have been a systematic survey of pearl mussel within the full catchment of the River Laney. There was no evidence of pearl mussel in the Clashavoon Stream (2019 field surveys).

Habitats within the existing gravel pit are predominantly of no more than local ecological importance (higher value). The continuation of gravel extraction will result in negligible impacts to existing habitats which are dependent on the quarrying process e.g. Active Quarries and Mines (ED4); Spoil and Bare Ground (ED2); Recolonising Bare Ground (ED3) and transitional scrub. Further development of the gravel pit will see extraction continue southward leading to the loss of; Scrub (WS1); Hedgerow (WN1); Treeline (i) (WL2); Dry meadows and grassy verges (GS2); Wet grassland (GS4); Neutral Grassland (GS1) and Scrub (WS1). While an area of (Mixed) broadleaved woodland (WD1) located on the western boundary is within this proposed further development area this linear habitat provides screening and is an important corridor for fauna commuting from the Laney River and will therefore be retained. This will most likely include loss of areas of habitat of local ecological value replaced over time with a more diverse mix of semi-natural habitats that currently characterise the site.

Overall, the impacts of the proposed development on habitats and species within the gravel pit in the absence of mitigation would be assessed as no more than slight negative at a local / site level. Mitigation by avoidance is proposed for breeding birds, bats, aquatic fauna and to prevent the spread of invasive species. Measures to reduce the effects of artificial lighting, noise, surface water pollution and loss of habitats are also proposed. Planting of native woody species in landscaped areas is also proposed as mitigation. With careful maintenance and operation of these measures to protect water quality on site, negative impacts to water quality and sensitive species such as salmon, freshwater pearl mussel etc. in the adjoining catchment of the River Laney are not anticipated. While some short-term residual effects are anticipated due to the loss of habitats while replacement habitat matures it is considered that in the long-term that such losses will be mitigated. Furthermore, the improvement of surface water management within the gravel pit, reduction and screening of water abstraction from the Clashavoon Stream and partial removal of the weir will have positive effect on the Clashavoon Stream, the downstream Laney River and fauna using these connected waterbodies.

In all the residual impact of the proposed development is likely to be of no more than slight negative at local / site level.

## 5.2. Impacts and Mitigation – Surface Water

The gravel pit is located adjacent to the Clashavoon Stream, which is a tributary of the Laney River. It joins with the Laney River at the southwest corner of the landholding. Water is abstracted from the Clashavoon Stream for washing gravel. Water is recirculated through on-site settlement ponds, which have been moved and modified over the lifetime of the gravel pit to reduce pollution risk to the Clashavoon Stream.

As noted, surface water management has been improved in recent years to minimise the risk of polluting the Clashavoon Stream. Runoff water from the gravel pit is treated in the on-site settlement ponds prior to recirculation. Additional improvements are proposed to further reduce the risk to the receiving waters. These works will include paving the site access road and improvements in the storage and dispensing of fuel. Surface water management will be kept under review and improvements made when necessary.

Once the site is restored to mostly agricultural land, the rate, volume and nature of runoff will return to near greenfield conditions.

## 5.3. Impacts and Mitigation – Geology & Groundwater

The gravel pit is underlain by overburden glacial deposits consisting of tills and gravel, and mudstone, siltstone and sandstone bedrock. Depth to bedrock decreases across the site from the northwest to the southeast; based on non-intrusive surveys done in 2003 this ranges from 30m to 5m. Gravel deposits have been worked at the site since the 1940's. It is estimated that approximately 500,000$m^3$ of aggregate has been removed from the site since the 1990's. An estimated further 375,000$m^3$ will be removed with the further development of the gravel pit. There are no geological heritage sites affected by the activities at the gravel pit.

Groundwater is found in the bedrock, which is classified by Geological Survey of Ireland as locally important (southern part of site) and poor (north-western corner of site). Groundwater wells are used for domestic and agricultural supply in the local area. Groundwater springs are encountered in the gravel and interpreted to be perched water flowing on clay and silt layers.

The most significant impact occurring as the site is the permanent removal of gravel with the consequence of increased aquifer vulnerability. Storage of diesel presents a risk to groundwater quality. Groundwater wells on adjoining properties have not been impacted by the works.

Mitigation will include commencement of restoration and improvements in fuel storage and dispensing. Monitoring of groundwater levels in wells at neighbouring dwellings will continue to ensure impacts on wells is not occurring. In the unlikely event of impacts on wells occurring from the extraction activities, replacement water supplies will be provided.

## 5.4. Impacts and Mitigation – Air, Climate & Climate Change

The long-term weather patterns at the site reflect regional conditions affecting south-western Ireland. These patterns are predominantly low fronts from the west and southwest in winter months and more settled conditions during the summer months. Monitoring of air quality on a regional basis indicates that Ummera has an air-quality index of 3, indicating good air quality.

The main impact on air quality associated with extraction activities is the release of wind-borne dust to the surrounding lands, which resulted in complaints from the nearest residents in the 1990's / 2000's. Mitigation measures were implemented at that time to limit dust emissions, including the installation of a sprinkler system. While the system has fallen into disrepair, dust has not been an issue at the gravel pit in recent years. The unpaved access road has been a source of fugitive dust when raised by trucks entering and leaving the site. The paving of the access road will improve matters, reducing or eliminating this as a source of dust emissions.

Strict adherence to operational procedures incorporating best practice will ensure dust migration from the site will be minimised. The topographical and local climatic factors will result in the majority of airborne dust generated at the site being deposited within the site boundary. In addition, the environmental monitoring programme will highlight elevated dust emissions so that mitigation measures can be reviewed, or new ones introduced. The further development of the gravel pit will not affect climate change. If increased rainfall occurs, as predicted by climate change proponents, the levels of dust will be reduced.

.
.

# 6. CONCLUSION – INTERACTIVE IMPACTS AND CONCLUSION

The further development of the Ummera gravel pit has been assessed for a range of environmental aspects as required by the regulations. The assessment considered the impacts that may occur because of the continued operations at the gravel pit. The interactions between impacts associated with each aspect of the environment with the other aspects of the environment is discussed in the main EIAR report, along with the avoidance, reduction and mitigation measures employed at the gravel pit. Further mitigation measures have also been identified where improvements can be made to the site infrastructure and processes. An aggressive, but realistic, timeline is set for the implementation of these remedial measures.

The interactions of all environmental factors indicate an overall positive development providing a vital raw material for the construction industry in the south-western region of County Cork. The acceptance of the Ummera gravel pit is dependent on a continuation of good site management and adoption of improvement to practices, when required, to ameliorate impacts to the local community.