

# REMEDIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT NON-TECHNICAL SUMMARY

SUBSTITUTE CONSENT APPLICATION FOR A  
SAND AND GRAVEL PIT AT  
CLONFINLOUGH,  
CO. OFFALY.



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## 1.0 Introduction

This remedial Environmental Impact Assessment Report (rEIAR) has been prepared to accompany an application for Substitute Consent to An Bord Pleanála regarding the historic development of a sand and gravel pit located at Clonfinlough, Co. Offaly. This application is being submitted on behalf of Dermot Nally Stone Ltd. (the ‘Applicant’).

The development consists of 0.97 Hectares of an existing sand and gravel pit which was subject to extraction of material after expiry of planning permission on 31st day of December 2009. This extraction area is contained within the overall pit area of 15.34 hectares consisting of areas ancillary to the extraction area (0.97 Ha.) that were used for processing and storage of extracted material and storage of overburden pending restoration. The applicant is submitting this application in order to regularise the planning status of this sand and gravel pit.

The reserve of material at the application site has been exhausted and no future extraction will be undertaken at the pit. As stated above the applicant is submitting this application in order to regularise the development and restore in line with the landscape and restoration plan discussed in Section 13.0.

In 2012, Offaly Co. Co. (OCC) examined the development for the purposes of Section 261A and concluded that ‘No Further Action’ was required under that section, even though small scale development was continuing apparently out of term but wholly within the previously authorised area, all of which had undergone EIA by virtue of the overall site activities having been assessed during a second extension planning permission. In making its conclusions, OCC also found that no NIA offence had occurred by that time either.

The operator continued to operate in this manner thereafter. In 2015, OCC issued a Warning Letter to the operator in relation to the continued development post expiration of the 2004 permission authorisation deadline, and with regard to restoration of the site. The operator then elected to regularise the development and approached OCC with regard to this course of action.

Despite, (A) the entire site having undergone EIA previously, (B) the outcome of the Section 261A process being ‘No Further Action’, and (C) the area extracted post 2009 being a small percentage of even the threshold for determination for sub-threshold EIA, OCC decided that EIA was required, and would not entertain arguments to the contrary that EIA was not required based on (A) – (C). In making its decision, OCC insisted that EIA

be undertaken and that it was legally permissible with a retention element as the site had undergone EIA pre development previously.

The operator, with reservations, complied with the direction of OCC and applied to regularise the site and for prospective permission to complete the site works. In the course of processing the application, OCC then requested a Stage 2 Natura Impact Statement, again something which had not been raised prior to application even though submission of an Environmental Impact Statement had been discussed, but was asked for purely on foot of a request by the Dept. of Arts, Heritage and the Gaeltacht. Even though OCC had ruled out NIA as an issue at that time and previously during Section 261A in 2012, with no significant change to the site in the meantime, and with all development within the previously authorised areas, the operator was forced to comply with this Further Information request.

OCC made a decision to grant permission with the decision to grant appealed to An Bord Pleanála (hereafter the Board) by a known local objector. The Board overturned the decision to grant based on there being a retention element within an application for development with EIA and NIA under Section 34(12).

Following on from the refusal of planning permission the only planning process now available towards regularisation was to Apply for Leave to Apply for Substitute Consent to An Bord Pleanála under Section 177(C). An application for leave to apply for Substitute Consent was submitted to An Bord Pleanála on 21st August 2017. The application was assessed by An Bord Pleanála who decided by order dated 8th January 2019 that exceptional circumstances existed such that it would be appropriate to permit the opportunity for regularisation of the development by permitting an application for Substitute Consent. The applicant requested an extension of time to submit the application for Substitute Consent to An Bord Pleanála. An Bord Pleanála reviewed the application and granted an extension of time with the revised deadline for submission extended to 22nd July 2019.

The existing pit has an overall area of approximately 15.34 hectares and consists of a Pre-63 area and areas which were authorised by way of two separate planning permissions. Material was extracted by excavators and was processed into various grades depending on market demand at the existing processing plant on site.

The Board direction states that the application for substitute consent shall be in respect of the entire quarry of 15.34 hectares, and shall relate only to the quarrying development that has taken place since the first day of January 2010, and shall not include any

proposed further quarrying. Therefore the application is being submitted in respect of the area illustrated on Figure 1.3 attached at the end of this chapter which details the 15.34 hectare area and the 0.97 hectare area which was subject to extraction since the first day of January 2010.

Plant and machinery which operated in the application area consisted of tracked excavators, wheel loaders, dump trucks, processing plant and road trucks to haul material off site. Ancillary plant such as a water bowser for dust suppression was deployed where required.

The topography of the sand and gravel pit varies as a result of extraction undertaken to date. The pit is located on an esker feature composed of a narrow ridge of sand and gravel which more or less runs in a continuous line from Shannonbridge to Clonmacnoise and on to Clara. Existing berms and hedgerows in place around the boundary of the pit screen the pit from public view at the majority of locations. Access to the pit is gained via an existing entrance off the R444 Regional Road which links Shannonbridge to the N62 south of Ballinahown village.

Dermot Nally Stone Ltd. operates a number of gravel pits within a twenty kilometre radius of Athlone, and this is the fourth generation of the family involved in the gravel business. The company supplies a range of sand, gravel and stone products to the construction industry, the main customers being local authorities and civil engineering/building contractors, farmers and private house holders. The company employs 8 full-time staff and 2 part-time staff. The applicant also owns and operates a number of pits in the Offaly Westmeath area.

## **2.0 Screening & Alternatives**

This chapter of the rEiAR details the screening exercise carried out in relation to the proposal and the alternative locations, layouts and designs considered as part of the process. No alternative designs or processes were considered as the subject rEiAR is being submitted to An Bord Pleanála in order to obtain Substitute Consent for an existing development. The landscaping and restoration of the pit was assessed and the plan proposed was assessed to be the most advantageous in that it will return the pit to an appropriate end use and will also benefit biodiversity of the site and area. The landscape and restoration of the site is discussed in Section 13.0 of this report.

### 3.0 Planning & Legislative Framework

This section of the EIAR sets out the planning and development context relating to the sand and gravel pit and reviews the national, regional and local planning policy relevant to the development.

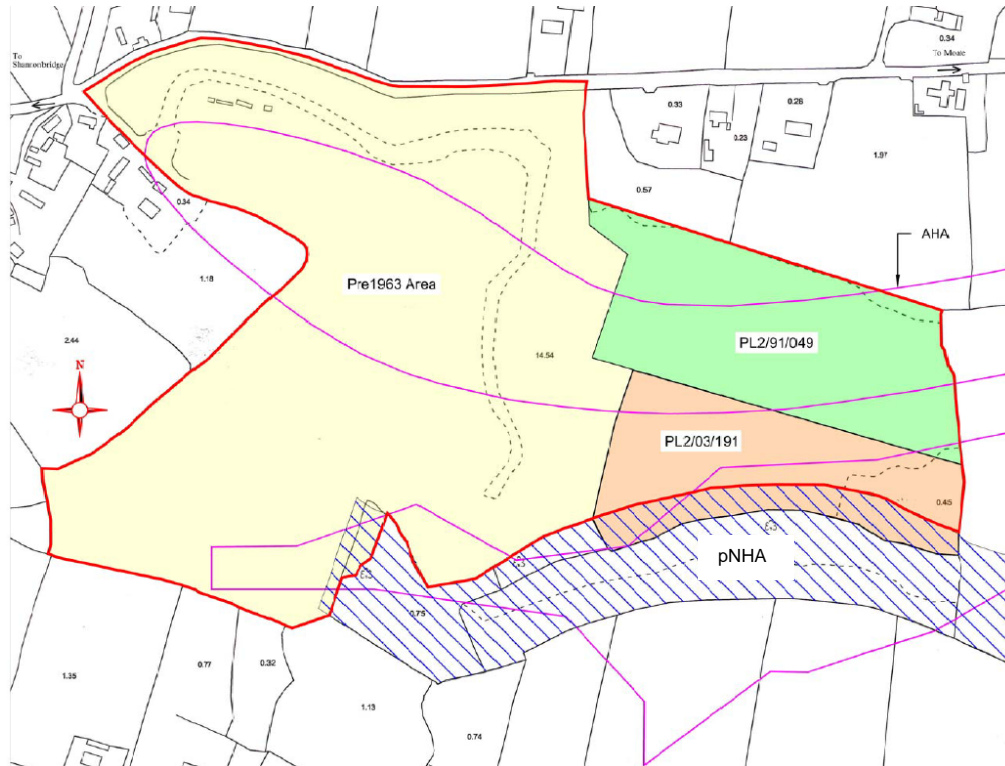
In recent years, there has been a conscious move in Ireland towards strategic planning with various policy documents and plans introduced over the years to support strategic planning and development. Policies and objectives of the Government are contained in documents such as Sustainable Development: a Strategy for Ireland (1997), National Spatial Strategy 2002 – 2020 (NSS) and more recently Project Ireland 2040. These in turn have derived their authority from higher order World and European Union (EU) agreed agendas and directives. Policy support filters down from national and regional levels through to specific Regional Assembly Plans, County Development Plans and Local Area Plans (LAPs) where applicable.

The application site extracted sand and gravel from the Clonfinlough Esker which is a southern spur off the main Eiscir Riada system. This extraction was authorised by way of being a Pre-1963 development and by two subsequent planning applications; P91/049 and P03/191. Plate 1 below illustrates the Pre-63 area and planning areas associated with the pit. Details in relation to the planning applications are summarised below:

- Pre-63 Area - The sand and gravel pit is a long established development in the area and originated Pre-63. There were two pits, which eventually joined under the Nally family ownership, totalling 10.81 hectares or thereabouts. This was the original pit operated by the Nally family in the area.
- PL2/91/49 – Permission for opening of a sand and gravel pit at Back Road, Clonfinlough. This application related to planning permission for the opening of a sand and gravel pit with an area of 2.735 hectares. This application was granted planning permission on the 16th July 1991, subject to six conditions.
- PL2/03/191 (PL19.205910) - Retention permission for an extension of gravel extraction operation at existing gravel pit with an area of 2.039 hectares. Offaly County Council granted planning permission subject to conditions on the 8<sup>th</sup> January 2004. The application was appealed to An Bord Pleanála who upheld the decision of Offaly County Council.

- The sand and gravel pit was registered under Section 261 by Offaly Co. Co. therefore acknowledging that the quarry was a Pre-1963 development. Offaly Co. Co. restated, modified and added to the conditions in relation to the operation of the pit and assigned the reference number QY78. Condition No. 2 of the Section 261 Order stated that *'this permission shall be valid until the 31<sup>st</sup> day of December 2009'*.

**Plate 1: Planning Authorisations**



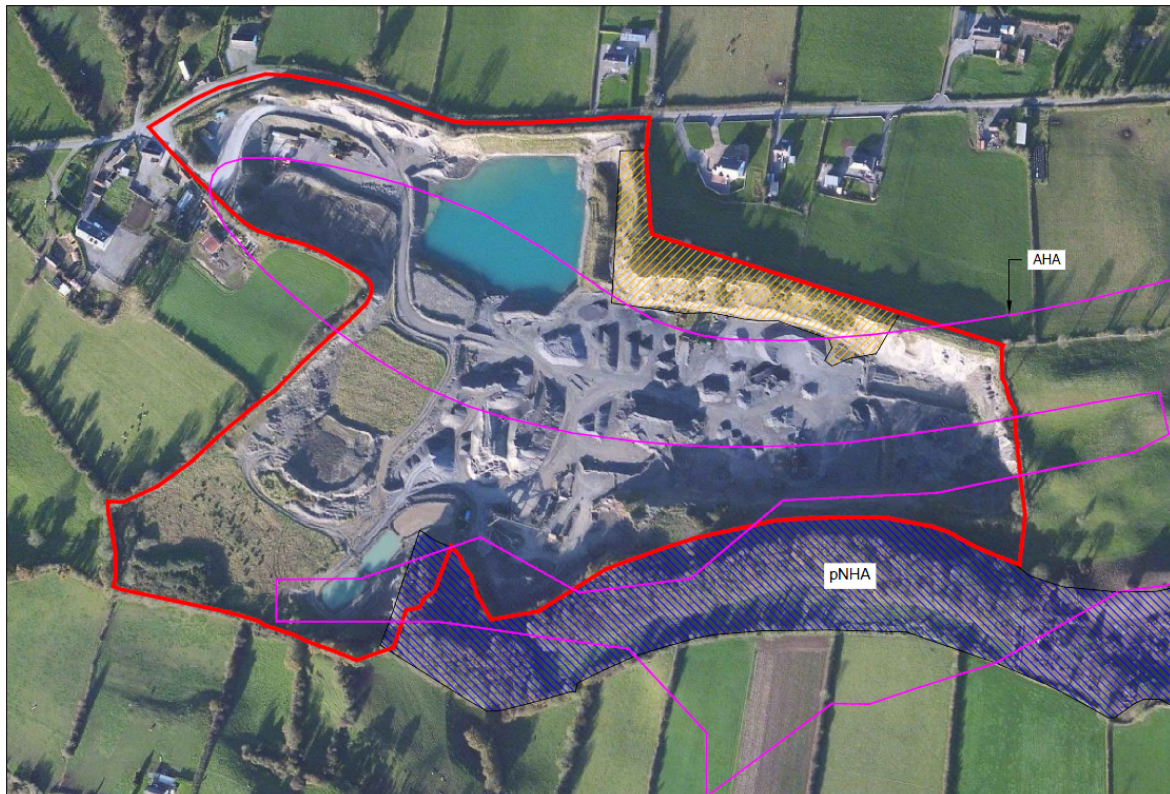
As seen from Plate 1 the extraction of material from the pit was authorised by way of the Pre-63 authorisation and two planning permissions. In granting both planning permissions, Offaly Co. Co. would have taken into consideration the compatibility of the planning proposals with regards to the Clonfinlough Esker pNHA (blue hatch) located along the southern boundary and the Area of High Amenity (magenta line) which traverses the site.

Plate 2 details an aerial photo from circa 2010 which shows the development which had taken place at the pit up to the date of the aerial photo. The entire pit area had been worked to some extent with restoration works undertaken in some areas of the pit. Plate 2 also shows the 0.97 Ha. area (hatched in yellow on plate 2) in relation to the

Clonfinlough Esker pNHA located along the southern boundary and the Area of High Amenity (magenta line).

As seen from the aerial photo, extraction from the 0.97 Ha. did not impact on the pNHA due to the distance between both areas. In relation to the AHA, only 0.064 Ha. of the 0.97 Ha. area (6.6%) is located within the AHA boundary and this area had been subject to sand and gravel extraction prior to 31st December 2009 in line with previous authorisations attached to the pit. Therefore the development undertaken post 31st December 2009 did not result in an impact on the AHA.

**Plate 2: 2010 Aerial Photo**

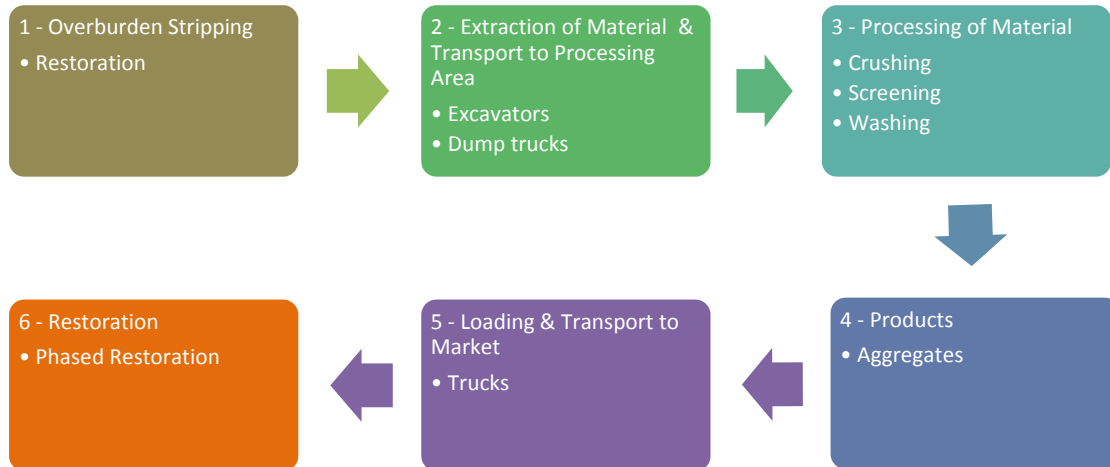




#### 4.0 Description of the Development

Plate 3 gives a summary of the activities that were undertaken within the application site and the authorised pit when it was operational and are described under each subsection.

##### Plate 3: Flowchart Describing Activities Undertaken



##### *Overburden Stripping*

Approximately 0.2m to 0.5m of topsoil and subsoil was removed in order to excavate the underlying sand and gravel material. This material was removed using an excavator and loaded onto dump trucks. The material was stored on site at various locations for restoration of the pit on removal of the available sand and gravel resource.

##### *Extraction of Material & Transport to Processing Area*

Once the overburden was removed the underlying reserve was excavated, loaded onto dump trucks and transported to the processing plant located close to the southern boundary of the pit.

##### *Processing of Material*

Material was processed using a fixed wet screening and crushing plant. The material was unloaded into the feed hopper which consists of a scalping screen to remove boulders. The material which passes through the scalping screen was crushed, screened and washed and directed to individual stockpiles around the plant via conveyors. Oversize material was stockpiled on site and crushed using a mobile crusher at a frequency of approximately two days every quarter.

Run-off water associated with washing of aggregate was directed to a series of lagoons located adjacent to the processing plant. Suspended solids settled out of suspension as

water passed through the lagoons. Water was pumped from the final lagoon back to the washing plant and used for washing aggregate. An on-site well was used to top up water required for washing.

#### *Products*

The excavated material was graded into a range of aggregates and stockpiled on site to meet the market demand.

#### *Loading & Transporting Off-Site*

Material from stockpiles was loaded onto trucks using loading shovels and issued with a docket which accompanied the load to market.

#### *Restoration*

Continuous landscaping and restoration works were undertaken during the working life of the pit. This involved placing a layer of overburden on pit faces and the pit floor in order to stimulate growth of vegetation. This will be undertaken in the remaining areas of the pit and is discussed in more detail in Section 13.0 Landscape & Restoration.

#### *Description of On-Site Plant*

The following plant and equipment was used during past activities at the pit:

- Excavators
- Fixed wet screening and crushing plant
- Mobile crusher
- Dump trucks
- Wheel loaders
- Tractor and bowser
- Road trucks

#### *Fuel and Chemical Storage*

Fuel was delivered to site by fuel companies and dispensed directly into plant and equipment. A small volume of fuel was stored at the existing double bunded fuel tanks located in north western corner of the sand and gravel pit. This was used in the event that deliveries from fuel companies could not be met.

#### *Surface and Groundwater Management*

A closed water management system was provided for in the sand & gravel washing plant. This plant removed the fine material (clays /silts) and recycled/ reused the wash water in the washing process. It is a closed system and there was no requirement to discharge

water from the treatment process. Top-up water for the washing plant was supplied by a groundwater well on site. Precipitation falling on the sand gravel pit percolated through the underlying material or evaporated off the surface.

#### *Working Hours and Employment*

The development operated during the hours of 07:00 to 19:00 Monday to Friday, and 07:00 to 16:00 Saturday. The applicant provides employment for 8 full-time staff and 2 part-time staff associated with the subject pit and other pits operated by the applicant.

#### *Utilities and Services*

There is an existing electrical and telecommunications connection at the pit. Water for dust suppression purposes was sourced from the main lagoon located to the north of the pit with the washing plant topped up by an on-site well. A potable water supply is obtained from a well on-site.

#### *Transport and Access*

Access is from the existing site entrance which leads onto the R444 road. A lockable gate is located at the entrance to the pit. The existing sand and gravel pit development generated a number of traffic movements associated with the transport of material to and from the pit to market. The historical traffic movements associated with the development when demand for material was high during the years 2006/2007 was in the region of 35 loads/day as registered under Section 261. For the purposes of assessing the area where extraction took place post 31<sup>st</sup> December 2009, traffic was on average 5 loads per day due to the reduction in demand for material.

#### *Offices and Facilities*

A porta-cabin facility is located within the pit for staff usage and this will remain at the pit during the restoration works which are ongoing.

#### *Waste Management*

Waste produced at the development was minimal. Almost all material arising from sand and gravel extraction and processing had commercial value or was used for restoration of the site. All other waste was collected by licensed waste collectors and brought to appropriately licensed facilities for recycling or disposal.

#### *Safety and Security*

Stock proof post and wire fencing is in place around the boundary of the landholding which will be upgraded where required. There is a gate located at the entrance to the pit which was locked outside operating hours.

*Resource*

The extraction of material from the 0.97 hectare area resulted in the removal of approximately 100,000 m<sup>3</sup> or 200,000 tonnes (2 tonnes/m<sup>3</sup>) of sand and gravel material which was processed on-site and transported off-site to market.

*Dust Generation and Control*

During the operation of the pit, the extraction and processing of material and vehicle movement would have had the potential to create wind-blown dust if it was not managed effectively. Dust generation and control are dealt with within Chapter 10.0 (Air) of the rEIAR. All necessary precautions would have been put in place to ensure that the operations at the pit did not impact significantly on the local environment.

*Noise Generation and Control*

Sources of noise as a result of day to day activities being undertaken at the site were associated with extraction and processing of material and vehicle movement. All necessary precautions were put in place to ensure that the operations at the pit did not impact significantly on the local environment. Noise is dealt with under Chapter 11.0 of the rEIAR.

*Landscape, Restoration, Decommissioning and Aftercare*

As the excavation of material at the existing pit has resulted in the creation of a void, it is important that the area is restored to an appropriate end use. A landscape and restoration plan for the site is drafted and included in Chapter 13.0. Landscape & Restoration and consists of the following:

1. Any stockpiled aggregate material and plant and machinery will be removed from the application site.
2. All site boundaries will be secured.
3. The pit excavation area will be levelled out, covered with a layer of overburden, seeded with grass-seed and restored to agricultural grassland.

## 5.0 Population & Human Health

This chapter of the rEIA Report considers the potential effects of the previous activity of the development on human beings living, working and visiting the are.

The sand and gravel pit is located in the townland of Clonfinlough, Co. Offaly which is situated in the Clonmacnoise District Electoral Division (DEDs). The study area has been identified having regard to both the location of the subject site and data availability. Firstly, DEDs are the lowest level of geography definition at which detailed demographic data is available. Small Area Population Statistics (SAPS) published by the Central Statistics Office are also available for rural areas. The nearest urban centres are Ballinahown (6.3km), Ferbane (8.7km) and Shannonbridge (8.7km).

The assessment of impacts on human beings considers the impact of the development on population and settlement, land use, employment and other impacts of a social and economic nature. The likely significant effects on Population & Human Health associated with the development relate to the issues of socio-economic activity, human health, safety and nuisance relating to emissions from the pit, specifically in relation to dust, noise, water etc.. The various assessments undertaken indicated that there were no significant negative impacts arising from the previous activities undertaken at the development on Population & Human Health.

## 6.0 Biodiversity

A review of the biodiversity of the pit and the surrounding areas was carried out by Ecologist Seán Meehan, and this included a study of the existing information from the area and a site survey. The site survey was carried out in May 2019 which is an appropriate time of year to carry out habitat and vegetation surveys as it is within the peak growing season for most species of Irish flora. It is also within the season to survey for breeding birds.

The site is not under any national or international designation. The Clonfinlough Esker pNHA is located adjacent to the site but has not been impacted upon by activities in the pit. No plants or animal species listed as rare or of a high conservation value were recorded from the study area. No European Union Annex I habitats (habitats of high conservation importance) occur on the site or adjacent to it. No plants listed as alien invasives as per schedule 3 of SI No 477 of 2011 were recorded during the survey. No evidence of badgers using the site was recorded and no suitable trees or buildings for bat roosts are located in the site.

The pit has been operating for over fifty years and most of the habitats occurring are of low ecological value due to disturbance associated with pit works. Good site practices and no wastewater discharge from the pit have resulted in no impacts upon two nearby sites of international importance, Mongan Bog SAC and SPA and Fin Lough SAC. A closed water recycling system has been in place in the pit, minimising extraction of groundwater and not impacting the hydrology of surrounding areas.

Landscaping and restoration works are proposed which will create agricultural fields and wildlife habitats. Native flora will be planted, and areas of the pit and will be left to re-vegetate naturally. This will enhance biodiversity in both the pit and surrounding areas.

### **7.0 Land, Soils and Geology**

The existing pit is situated on a broad east – west trending ridgeline formed by fluvio-glacial sand and gravel deposits. The land to the north and south of the site slopes away from the ridgeline. Based on the Ordnance Survey 1:50,000 scale mapping contours, the ground elevation of the site prior to extraction varied between approximately 55 and 80m OD. The current elevation of the sand and gravel pit floor is between approximately 44.5 and 53m OD.

The study area is relatively flat and consists of peatlands which are subject to peat extraction and agricultural land predominantly under permanent pasture interspersed by hedgerows with livestock grazing being the predominant sector practiced. The area is populated with low density housing along the R444 Regional Road which runs along the north-western boundary of the site.

The area is generally flat lying but the thicker sand and gravel areas are characterised by elevated well drained belts of farmland which have a west to east trend, sub-parallel to the Clonmacnoise / Ballinahown road. Within these areas of sand and gravel more steeply sided narrow ridges define individual eskers.

According to the GSI the subsoil geology of the pit and surrounding area consists of glaciofluvial sands and gravels derived from limestones (GLs). This material has been excavated from the sand and gravel pit and processed into a saleable aggregate. An Esker located along the southern boundary of the pit runs from east to west along the boundary and consists of basic esker sands and gravels (BasEsk). An inspection of the Geological Survey of Ireland (GSI) records shows that the bedrock geology beneath the sand and gravel pit consists of dark muddy limestone shale of the Ballysteen formation. No bedrock was extracted from the site.

Extraction activities to date have resulted in the change in land use from what was more than likely agricultural use to resource extraction. The change in land use has not resulted in a significant loss of the previous land use as the area the subject of this application is minor in comparison to the availability of land which is available for agricultural use. The proposed restoration plan will result in the application site being restored to agricultural land which will offset extraction activities to date.

The extraction of material from the pit was authorised by way of the Pre-63 authorisation and two planning permissions. In granting both planning permissions, Offaly Co. Co. would have taken into consideration the compatibility of the planning proposals with regards to the Clonfinlough Esker pNHA located along the southern boundary and the Area of High Amenity which traverses the site. Although a limited portion of the 0.97 Ha. area is located within the AHA boundary, this area was disturbed and subject to extraction as part of the previous planning permission attached to the area of the pit.

There are a number of designated Natura 2000 sites in the vicinity of the pit. The past development has not impacted on the integrity of these sites as concluded in the rNIS which accompanies this application.

The sand and gravel previously extracted was used as a raw aggregate for the construction and agricultural sectors. This activity has had a beneficial impact to the local and regional economy in this regard. Extractive operations were undertaken in accordance with “best practice” and appropriate guidelines for example EPA’s Environmental Management in the Extractive Industry guidelines and Irish Concrete Federation (ICF) Environmental Code.

## **8.0 Water**

Hydro-Environmental Services (HES) were retained to compile the water chapter of the rEIAR. A desk study of the sand and gravel pit and surrounding area was completed prior to the undertaking of field mapping, walkover assessments and hydrogeological data collection. The desk study involved collecting all relevant geological, hydrological, hydrogeological and meteorological data for the study area. The following surveys and investigations were carried out:

- Desk study of the site area and review of available geological, meteorological, hydrological / hydrogeological and ecological data for the area;
- A review of existing pit data was undertaken which included daily water usage volumes and existing groundwater and surface water quality data;
- Completed a detailed site walkover survey, water features survey, geological mapping of exposures of bedrock and subsoils, including inspection and mapping

- of all relevant hydrological features, such as on-site lagoons, local streams and drains etc (where present);
- A survey of wells within the pit and in the local area (off-site to the north, and also the GWS well to the southwest) was undertaken whereby groundwater levels were measured and surveyed to a common datum (m OD) using a differential GPS. Contemporary water levels were also recorded in May and June 2019; and,
  - Review of surface water and groundwater flowpaths in the area of the pit in respect of the two Natura 2000 sites (Mongan Bog SAC & SPA and Fin Lough SAC).

The site is located in the River Shannon surface catchment within Hydrometric Area 26 of Shannon International River Basin District (SHIRBD). The Shannon River flows in a south-westerly direction approximately 2km northwest of the site.

In terms of local hydrology, the majority of the pit is mapped to exist within the Gowlan River surface water catchment which drains into the River Shannon (via the River Blackwater) approximately 9km southwest of the site. Fin Lough, which exists approximately 850m to the southwest of the site is also located within the Gowlan River surface water catchment. A small section on the east of the pit is mapped to be located in the Curraghboy River surface water catchment. The Curraghboy River drains into the River Shannon approximately 2.5km north of the site.

The closest mapped surface water feature to the site is an unnamed stream which flows in a westerly direction approximately 650m to the south of the site. This stream flows into Fin Lough. OPW's Flood Hazard map was consulted to identify areas as being at risk of flooding and it was concluded that there is no potential risk of fluvial flooding at the development site, and there is no apparent flood risk in downstream watercourses. Exposed groundwater occurs on the pit floor as the extraction in this area went below the water table. This is not a flooding issue and is fully contained within the site.

EPA Q-rating data are available for the Blackwater River (downstream of the Gowlan) at station RS25B270200. Long term water quality data records (1971 - 2017) show that this EPA monitoring point was typically given a Q rating of 3 or 3/4. No Q-rating data are available for the Gowlan River catchment.

The Dinantian Limestones which are mapped to underlie the site and surrounding area are classified by the GSI as being a Locally Important Aquifer (LI), an aquifer which is moderately productive in local zones only.



The fluvial glacial sands and gravels which are mapped to directly underlie the pit are not classified as an aquifer by the GSI as they are not laterally extensive enough to meet the criteria. However, the sands and gravels in this area are likely to be saturated to some extent and typically will have moderate to high permeabilities (depending on clay and silt content) along with the capacity to store significant amounts of groundwater.

Based on the topography of the area, any recharge that occurs along the sand and gravel deposit ridgeline is expected to flow in both a northerly and southerly direction away from the deposits depending on which aspect the rainfall lands (i.e. northern or southern slopes). The groundwater flow direction on the northern slopes of the sand and gravel deposits is expected to be in a north-westerly direction towards the Shannon River, while on the southern slopes flow is either expected to be in a south-westerly direction towards the Gowlan River or south-easterly towards the River Blackwater. In relation to the area of the pit, the southern slopes of sand and gravel deposits are expected to flow in a south-westerly direction towards the Gowlan River.

In order to establish groundwater levels and the groundwater flow regime in the local area of the pit, a private well survey was undertaken. The wells were surveyed to a common datum (m OD, using a dGPS) and the groundwater levels were measured using a handheld dip meter. These data are presented in Table 8.4 below. The locations of each of the wells is shown on Figure 8.12.

The well survey was focused in the area to the west, southwest and northwest of the pit as Fin Lough (cSAC) and Mongan Bog (cSAC) are both located in a westerly direction from the pit.

A water level was also measured in Fin Lough (refer to Table 8.4) as the water level in the lake is expected to reflect the elevation of the local groundwater table given that the lake is reported to have a significant groundwater input.

Based on the collected data, all the pit groundwater levels are higher than the groundwater levels in the local wells. This demonstrates that the pit had no impact on local groundwater levels (outside the pit) as there is no significant reduction in the groundwater levels at the site as a result of the previous operations. This is what would be expected as there was no dewatering occurring at the pit at any point. Also, the groundwater volumes extracted for the purpose of washing were very small.

The water level recorded in Fin Lough on the day of the survey was at 38.127m OD. Therefore, the level in the lake is 5.89m lower than the lowest recorded pit groundwater

level of 44.017m OD (Sump/well 1). The closest surveyed local private well to Mongan Bog (i.e. 350m southeast of the bog) had a groundwater elevation of 40.77m OD which is 3.25m lower than the lowest pit site groundwater level.

Groundwater quality data for samples taken from the main northern lagoon. The sampling was undertaken by BHP who are commissioned directly by Nally Stone. The lagoon is an open water feature at the site but the water level within the lagoon reflects the local groundwater table.

BOD and COD, which are good indicators of organic contamination (i.e. wastewater/slurry etc) are low and give no reason for concern. Suspended solids, which is typically a surface water parameter, is also low. The pH range is typical of groundwater in limestone derived sand and gravels. Hydrocarbons, which is one of the most common potential pollutants on a pit site, were below the laboratory detection limit in both samples.

The sand and gravel pit was operated as a dry pit except where dredging below the groundwater table was completed. No significant dewatering ever occurred. Therefore, there was no potential to impact on local groundwater levels in the area of the site (Note: small volumes of groundwater were abstracted from on-site wells for washing purposes and this is discussed further below).

No impacts on groundwater levels in any of the local wells has or will occur as the water use within the site was small and our water balance demonstrates there was sufficient recharge within the site to supply all pumping needs. As such there was no water level (water quantity) impact on any local well, local designated site, or the local GWS well.

The primary potential on-site pollutant was fuels, oils and greases. As stated above in the report fuels were rarely stored on-site as fuel delivery trucks were used to refuel plant and machinery. Other onsite controls were used to manage these pollutant risks as outlined above.

The restoration plan involves spreading a layer of overburden on areas where extraction has ceased. These areas will be seeded and returned to agricultural use. A layer of overburden will be spread on side slopes and will be allowed to vegetate naturally. No impacts on groundwater quality or quantity (flows or levels) are anticipated during or after these works.

## 9.0 Climate

The Irish climate is subject to strong maritime influences, the effects decreasing with increasing distance from the Atlantic coast. The climate of the study area is typical of the Irish climate, which is temperate maritime.

The movement of vehicles and particularly heavy commercial vehicles and operation of plant such as excavators and processing plant would have generated exhaust emissions (e.g. CO<sub>2</sub> and N<sub>2</sub>O) which could not be eliminated as, in order for material to be extracted and processed, plant and vehicles need to operate. Due to the low level of activity and traffic movements, emissions associated with the development when operational are assessed as having a slight impact over a long term period.

The application area must also be considered in association with other developments located within or close to the application site. Other contributors of CO<sub>2</sub> emissions within the study area would have been associated with road traffic using national, regional and local roads in the vicinity. Another main contributor of emissions to the atmosphere in the region would have been likely to have been associated with the agricultural sector with livestock farming being practiced.

It is unlikely that there was a cumulative impact on the local climate as a result of activities associated with the subject development and other activities of the study area due to the low level of activity in the area which is unlikely to have generated significant emissions.

## 10.0 Air Quality

Day to day activities undertaken at the pit had the potential to give rise to elevated dust levels if activities associated with extraction, processing and transportation of product to market were not managed correctly. The action of wind over dry ground can lead to particles being carried in the air. This can occur in most environments where particles are present.

Overburden stripping was undertaken prior to excavating the underlying sand/gravel and transported to areas for storage pending restoration or for construction of berms. The material was stripped using an excavator and loaded onto dump trucks which transported the material to storage areas where the material was unloaded and shaped or graded using an excavator. This activity would have resulted in an imperceptible impact which would have been temporary in duration.

Once the overburden was removed, the sand and gravel material was excavated and loaded directly into a dump truck and transported to the processing plant for washing and grading. Dust emissions from excavation of material would have generally been relatively low and would not have travelled far from the source. This activity would have been undertaken on a daily basis and would have resulted in an imperceptible impact.

Material was washed and graded on site into a number of grades depending on the market requirements. Feed areas and aggregate stockpiled at the end of each conveyor would have also been a potential source of dust blow during dry windy conditions.

Fugitive dust emissions generated during the aggregate processing, screening and stockpiling of material would have been confined to the zone close to the plant. The elevated ridges to the south and south east would have provided shelter from wind. It is unlikely that this activity would have led to an impact on air quality within the surrounding environment in the past with the impact assessed as been a slight affect within the confines of the pit when operational.

Vehicle movements on the internal access/haul road would have been a source of dust blow as emissions can increase rapidly in proportion to vehicle speed and traffic volume. The majority of dust particles, typically produced from un-surfaced roads, deposit rapidly within the immediate vicinity of the source. This activity is assessed to have been a slight, localised impact; however, given that mitigation measures, such as dust suppression were implemented, the impact would have been imperceptible.

There are a number of human receptors in the vicinity of the application site in the form of occupied dwellings. Vegetation, berms and the natural topography acted as breaks between a source and a receptor. Tree lines can also act as an efficient dust filter and can be a useful dust control safeguard. Dust deposition monitoring results for monitoring undertaken at the pit were below the recommended guideline value of 350 mg/m<sup>2</sup>/day.

It is not anticipated that there was an adverse impact on air quality in the vicinity of the application site associated with the development and this is anticipated to be the case going during restoration works and post restoration works.

## 11.0 Noise

Quarrying activity by its nature will generate noise and vibration on an ongoing basis, the level of emissions will depend on the nature of activity being undertaken. Day to day activities associated with the removal of overburden, extraction, processing and transport of material have the potential to contribute to background noise levels in the area.

Overburden was removed and stockpiled on site for restoration purposes or used for berm construction. This activity would have been short term in duration and led to an imperceptible impact. This activity would have been short term in duration and led to an imperceptible impact. The construction of berms served to reduce the noise level in the longer term.

Once the overburden was removed, the sand and gravel material was excavated and loaded directly onto a dump truck and transported to the processing plant for washing and grading. This activity would have been undertaken on a daily basis and would have resulted in an imperceptible impact. This activity would have been undertaken during noise monitoring and noise levels were below the levels recommended by the EPAs Environmental Management Guidelines for Quarries and the conditioned noise level (LAeq 55dB).

Material was washed and graded on site into a number of grades depending on the market requirements. The loading of material into the plant and crushing of rock would have the potential to increase noise levels resulting in a slight impact when being undertaken. This activity would have been undertaken during noise monitoring and noise levels were below the levels recommended by the EPAs Environmental Management Guidelines for Quarries and the conditioned noise level (LAeq 55dB).

Vehicle movement on internal roads and off-site associated with the transport of material to market was also a source of noise emissions which can increase rapidly in proportion to vehicle speed and traffic volume. Vehicle movement within the application site would have led to an imperceptible impact with vehicle movement on public roads having the potential to lead to slight momentary impact on sensitive receptors.

Two noise monitoring surveys were undertaken in recent years at various locations around the pit. Results of noise monitoring were below the recommended guideline values on the majority of occasions. Where exceedances occurred these were due to traffic on adjoining roads or of-site activity not related to the pit. Therefore activity

associated with the previous operation of the pit is unlikely to have impacted on noise levels at nearest sensitive receptors.

## **12.0 Traffic**

The sand and gravel pit is located in the townland of Clonfinlough, Co. Offaly which is located approximately 8.7km north west of Ferbane and 8.6km north east of Shannonbridge. Access to the pit is gained via an existing entrance off the R444 Regional Road which links Shannonbridge to the N62 south of Ballinahown village. The access consists of a gated entrance which was closed and locked outside operation hours.

Vehicles used to transport product to market predominantly consisted of articulated and 8/10 wheel road trucks owned by the operator and contract hauliers.

Vehicles exiting the site and transporting material to market would have used the R444 Regional Road which the pit gains access from. According to the applicant, the majority of vehicles would have turned right at the entrance and travelled towards the N62 which is the main transport route to Athlone the main market for material.

A previous planning application submitted in 2003 (P03192) for an area to the south of the pit was accompanied by an Environmental Impact Statement (EIS). The traffic section of the EIS which accompanied the application stated that the traffic generated by the development will be approximately 125 lorry loads per week or approximately 6 vehicle movements per hour (3 loads per hour) which is in the region of 22 loads/day.

The Section 261 file and conditions state that the traffic levels at the pit at the time of registration in 2005 were 30 to 35 loads per day. This would have coincided with peak demand for construction material associated Ireland's housing boom.

Traffic levels would have reduced dramatically post 2008 due to the downturn in the construction industry and demand for quarry product with the average loads per day in the region 5 loads per day. Therefore the traffic levels post 31st December 2009 were in the region of 5 loads/day.

An investigation of road collision data from the Road Safety Authority website (source: <http://www.rsa.ie/RSA/Road-Safety/Our-Research/Ireland-Road-Collisions/>) indicates that there was no collisions in the vicinity of the pit. One fatal collision occurred at the junction of the R444 and the N82 in 2008. This was a single vehicle collision which occurred between 0300 and 0700 on a Saturday which was outside the operating hours of the pit.

The development would have generated a number of traffic movements based on the transport of material to market and staff travelling to and from work. As stated above, the average loads/day at peak production would have been in region of 30 to 35 loads/day as conditioned under Section 261. This would have dramatically reduced in response to the economic downturn and the knock on impact on the construction industry.

The traffic levels post 31st December 2009 associated with the development were in the region of 5 loads/day which was significantly lower than that associated with peak production. At this low level, it is not anticipated that traffic associated with the development would have impacted on the carry capacity of the local road infrastructure. Staff to travelling to and from site would have also generated a minor source of traffic.

No further future extraction is proposed at the pit and the applicant is submitting this application in order to regularise the pit and to restore in line with the landscape and restoration plan.

### **13.0 Landscape & Restoration**

A detailed landscaping assessment was undertaken to assess the impact of the existing and proposed development on the surrounding landscape. This involved undertaking a visual impact assessment of the area and a desk-based study to gather information on the existing landscape, visual resource, planning context and landscape designations.

The majority of the application site is located in an area which is classified as having 'High' sensitivity with part of the existing development located in a 'Low' sensitivity area. The 'High' sensitivity is due to the presence of Esker features in the area.

Based on the field survey and reference to the current Offaly County Development Plan, the landscape value of the study area has been given a rating of 'High'. While previous sand and gravel extraction operations at the pit have altered the landform and vegetation cover, the magnitude of change in the landscape as a result of previous development has been assessed as 'Medium'. The significance of landscape impacts of the development as a result of previous extraction is assessed as 'Moderate/Substantial'. The losses of existing vegetation as a result of extraction of sand and gravel will be offset by the proposed landscape and restoration plan for the pit

The visual assessment shows that the application site is well screened due to existing hedgerows, field boundaries and the topography of the study area. The assessment of the significance of visual impacts on the vantage points is based on a combination of the visual sensitivity and magnitude of visual changes to the viewpoint. While sand and gravel

extraction has altered the landscape to date, the assessment of the existing visual environment and the impact of extraction and its various component parts on visual receptors have been assessed. The historic sand and gravel extraction did not result in an increase in visibility of the pit. Therefore the magnitude of visual impact is assessed as 'Low'.

Landscape and restoration works have been undertaken in areas of the pit and it is proposed to restore the remaining areas in line with the proposed landscape and restoration plan. This involves spreading overburden material on extracted areas and grading to a final level. Grass seed will be spread on the overburden and allowed to vegetate. The restored areas will be returned to agricultural land.

If proposed landscaping and restoration works are undertaken, minor residual visual impacts are anticipated. The proposed restoration plan will increase the diversity of the site when completed.

#### **14.0 Material Assets**

Material assets comprise the physical resources in the environment, which may be of human or natural origin. The material assets that have been identified within the application site and in the surrounding landscape are listed below:

- Residential Buildings
- Geological Resource
- Land Resource
- Roads & Traffic
- Public Utilities
- Groundwater and Water Supplies
- Scenic Routes
- Tourism
- Archaeology
- Waste

The potential impacts on residences associated with past development of the pit are in relation to landscape, noise, vibration, dust and traffic as a result of the past day to day activities and are assessed under various chapters of the rEIAR. The development of the pit has resulted in the loss of agricultural land. However, agricultural land is the dominant land resource in the area therefore it is not deemed to be a significant loss. The deposits, however, were used in the construction industry and this is considered an acceptable use of the resources.



## 15.0 Cultural Heritage

The archaeological and cultural heritage component of a remedial Environmental Impact Assessment Report of the development at Clonfinlough, Co. Offaly consisting of a paper and fieldwork study was carried out. There are no items of cultural heritage, monuments or buildings of heritage interest known from the application site. There are no direct or indirect impacts on any known items of cultural heritage, archaeology or buildings of heritage interest in the application site or the near vicinity and no remedial measures are required.

## 16.0 Interactions

In examining the interactions of the impacts for the development one must investigate the combined physical, environment, visual and socio-economic impacts of the development on the receiving environment. Table 1 below illustrates the interaction of impacts assessed for the development.

**Table 1: Interactions Table**

Factors	Pop. and Human Health	Biodiversity	Land, Soils and Geology	Water	Climate	Air	Noise	Traffic	Landscape and Restoration	Material Assets	Cultural Heritage
Pop. and Human Health											
Biodiversity											
Land, Soils and Geology		x									
Water	x	x	x								
Climate	x										
Air	x	x		x	x						
Noise	x	x									
Traffic	x					x	x				
Landscape and Restoration	x	x	x								
Material Assets	x		x				x	x	x		
Cultural Heritage											

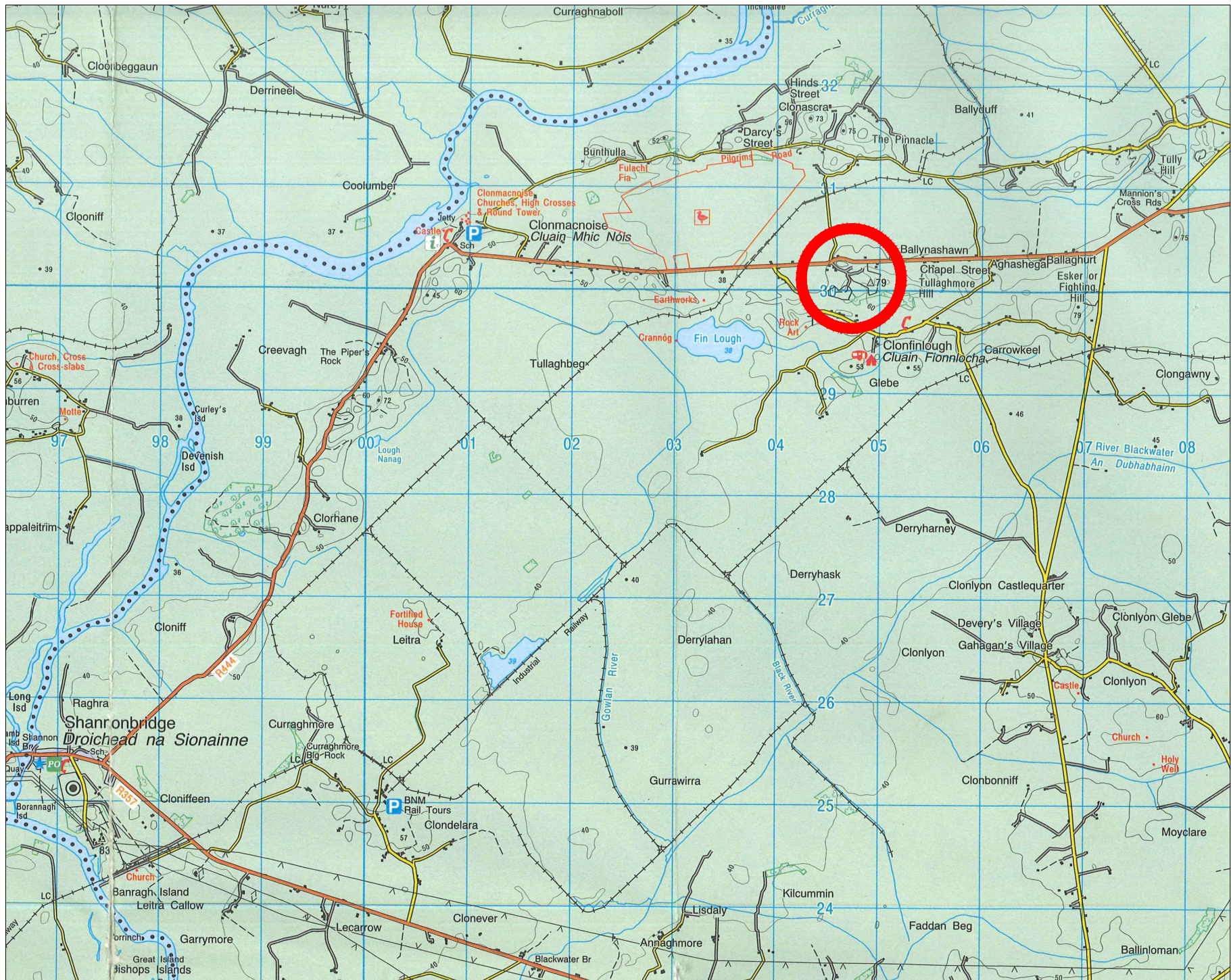
## 17.0 Mitigation Measures and Monitoring Summary

A summary of mitigation and monitoring measures have been compiled and will be implemented at the development.



## Figures





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**Legend**

Site Location



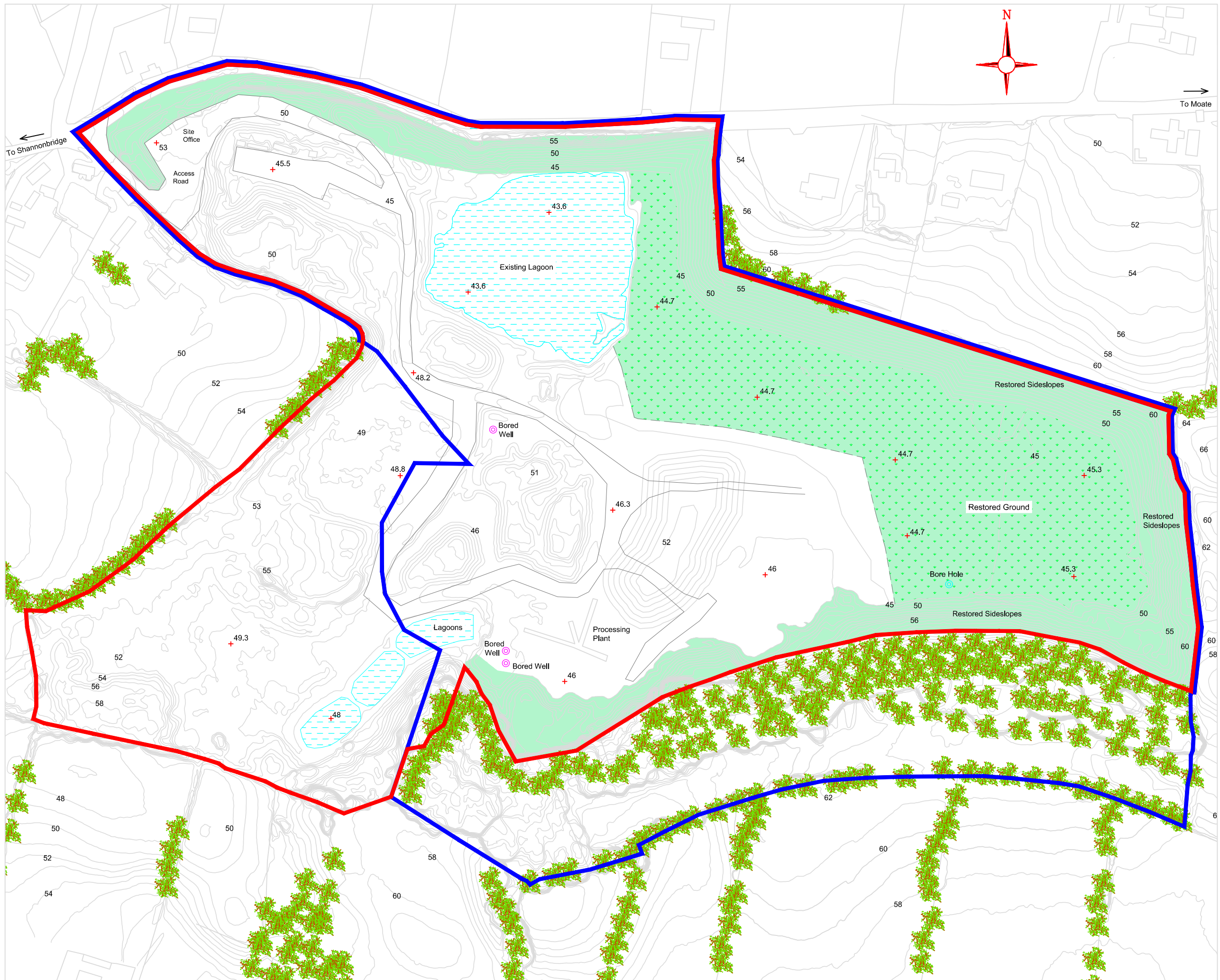
O.S. Ref No. Discovery Map 47  
ITM Coords: 604783 E, 730080 N

Rev.	Description	Date

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Client: Dermot Nally Stone Ltd.  
Project: Non Technical Summary to Accompany a Substitute Consent Application for a Sand & Gravel Pit Located at Clonfinlough, Co. Offaly

Title: Site Location Map  
Drawn By: Sean O' Donnell  
Checked By: Patrick O' Donnell  
Scale: 1:50,000 @ A4 Date: July 2019  
Job No: EI 171 Rev: 0



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**Legend**

Ownership Boundary

Application Area  
Area = 15.34 Ha

Borehole

Bored Well

Water

Restored Ground

Restored Sideslopes

Vegetation

All Levels Relative to Ordnance Datum

ITM Coords: 604783 E, 730080 N

Rev.	Description	Date

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Client: Dermot Nally Stone Ltd.

Project: Non Technical Summary to Accompany a Substitute Consent Application for a Sand & Gravel Pit Located at Clonfinlough, Co. Offaly

Title: Existing Site Layout Map

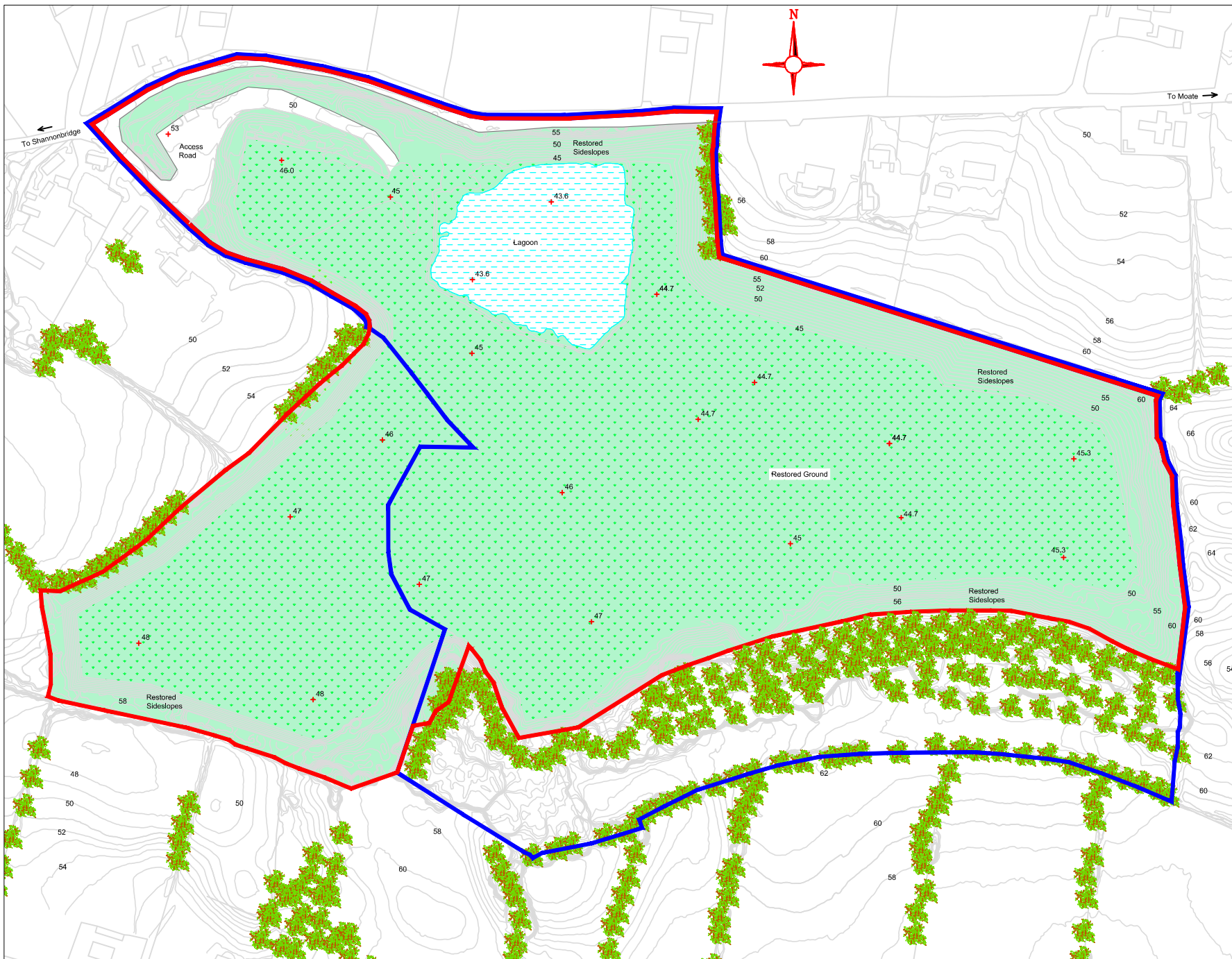
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Job No: EI 171 Rev: 0

NTS Fig 2



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**Legend**

Ownership Boundary

Application Area  
Area = 15.34 Ha

Water

Restored Ground

Restored Sideslopes

Vegetation

ITM Coords: 604783 E, 730080 N

Rev.	Description	Date

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Client: Dermot Nally Stone Ltd.

Project: Non Technical Summary to Accompany a Substitute Consent Application for a Sand & Gravel Pit Located at Clonfinlough, Co. Offaly

Title: Restored Site Layout Map

Drawn By: Sean O' Donnell

Checked By: Patrick O' Donnell

Scale: 1:3,000 @ A4 Date: July 2019

Job No: EI 171 Rev: 0