NON-TECHNICAL SUMMARY

Environmental Impact Assessment Report

Proposed Sand & Gravel Pit Development at

Naul Townland, Ford-de-Fine, Naul, County Meath

Prepared for: Kilsaran Concrete Unlimited Company

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1.0 Introduction

1.1 Overview

This Environmental Impact Assessment Report (EIAR) Non-Technical Summary has been prepared in support of a Section 34 planning application in respect of a new sand and gravel extraction operation at Naul townland, Ford-de-Fine, Naul, County Meath. Processing of the extracted materials will be carried out on-site to produce a range of aggregates for use by the applicant in the manufacture of concrete at its existing concrete batching plant located c. 700m east of the proposed extraction area on the opposite side of the R108 regional road.

The proposed development being applied for under this planning application will consist of:

- Extraction and processing on site, to include washing (with associated closed recycled washing plant and lagoon system), screening and crushing plant; storage; stockpiling and haulage of sand and gravel to service the existing readymix concrete plant operated by Kilsaran on the eastern side of the R108 regional road and permitted under P. Ref. 80/572 & 22/153 (ABP-314881-22);
- The total extraction proposal extends to an area of c. 6.2 hectares and will be worked (extracted and restored) on a phased basis for a period of 11 years plus 1 year to complete final restoration works (total duration of 12 years);
- Phased stripping and storage of topsoil and overburden materials for reuse in the restoration works. Restoration of the site will be to a beneficial agricultural after-use;
- Access to the site will be through the existing agricultural enterprise site entrance onto the R108 regional road with upgrade of same to consist of setting-back of the existing boundary wall to the north of the site access, and provision for the upgrade of the existing internal access track and sections of a new access track which will include a new weighbridge; and
- All associated site ancillary works within an overall application area of c. 14.9 hectares.

1.2 The Applicant

The application has been prepared by SLR Consulting Ireland (SLR) on behalf of Kilsaran Concrete Unlimited Company (hereafter referred to as 'Kilsaran').

Founded in 1964, Kilsaran is a wholly Irish-owned company, whose business is primarily in the production of materials for the construction industry.

The company manufactures paving and walling, pre-mixed dry products, pre-cast concrete, ready-mix concrete, concrete blocks, trowel-ready mortar, aggregates, asphalt and macadam, hard core and fill materials for the Irish and UK markets as required. The company also undertakes surfacing contracts for road construction, building and civil engineering works.

The company now employs over 1,000 people directly; it operates twelve hard rock quarries and a similar number of sand and gravel pits. Kilsaran manufactures various concrete products from 20 locations, mainly in the east, midlands and south of the country. The company also has three asphalt plants located strategically within extractive sites throughout its operational area.

The company's intention in preparing and submitting an application to extract sand and gravel at this location is to provide a local source of aggregates to supply the existing concrete plant and eliminate the need to transport the aggregates from other Kilsaran sites in County Meath, located at Annagor (c. 20km north) and Ballynamona, near Summerhill (c. 40km southwest). The proposed development has the benefit of removing an average of 18

HGV trips or 36 HGV movements per day from the greater road network including traffic travelling through Naul Village, over the life of the proposed development.

1.3 Site Location

The overall land interest is located c. 750m northwest from the centre of Naul village on the northern side of the Delvin River. The Delvin River provides the county boundary between Meath and Dublin, with the village of Naul located within Dublin (Fingal administrative area) and the planning application site located in County Meath, refer to **Figure NTS-1**.

The R108 regional road passes to the east of the application site and runs from Dublin city centre to Drogheda, passing through Santry, Ballyboughal and Naul. The R122 passes to the south of the application site and runs from Balbriggan to the east, through Naul before turning south and meeting up with the R108 at St Margaret's to the west of Dublin airport.

Access to the national road network is via the local road network and the R122 regional road which provides access to both the M1 and M2 motorways. The plan extent of the lands owned by Kilsaran is shown on a 1:10,000 scale map on **Figure NTS-2**. Within blue line area, the lands owned by Kilsaran at their existing concrete plant are shaded cyan / light blue (c. 1.4 hectares) with the remainder of the freehold lands held jointly as tenants in common with a third party (PPW (Naul) Limited).

The site, to which this planning application refers, lies entirely within Naul townland. The plan extent of the application site is also outlined in red on **Figures NTS-2** and **NTS-3**.

2.0 Description of the Development

2.1 Surrounding Land-Use

The application site is located within a rolling farmed landscape, featuring a mixture of pasture and arable farmland. The field pattern is mostly irregular, variable in scale and generally defined by mature dense hedgerow vegetation. Occasional pockets of coniferous woodland and tree groups are dispersed throughout, and most noticeably to the immediate north of the proposed extraction site and northeast at Harbourstown.

The proposed extraction site is located along the southern flank of a local high point (155mOD). The high point forms the eastern end of an elevated ridge which extends westwards for a distance of approximately 5km to Ardcath.

The river Delvin which forms the southern site boundary is also the boundary between counties Meath and Dublin and it flows in an easterly direction from its source north of Garristown until it enters the Irish Sea at Gormanston. To the south of the river, the lands rise again towards a high point at 176mOD at Knockbrack, c. 3.3km to the southwest of the application site. Other noticeable high points are located directly south of the site at Flacketstown (137mOD) and Cabinhill (143mOD).

The M1 motorway crosses this landscape in a north south direction, c.5km east of the site. The N2 national primary road runs c.9km to the southwest at its closest point. The R108 and R122 are the main regional roads that cross the landscape to the east and south of the site respectively. Minor roads cross the area and are lined with individual and groups of dwellings.

2.2 Site Access

The site is accessed from the R108 regional road by an existing gated entrance, off the western side of the road. The existing site entrance serves as an access for the landowner's existing agricultural business. The site entrance is c. 240m north of the road junction between the R108/R122, and approximately 400m from the centre of Naul village.

The site entrance to the existing Kilsaran Concrete Batching facility is located c. 70m to the north on the opposite (eastern) side of the R108 regional road.

2.3 Site Description and Land Ownership

The application area covers a total area of approximately 14.9 hectares (c. 36.8 acres) and comprises all or part of three adjoining agricultural fields, currently under crop.

The general site layout is shown on **Figure NTS-4** and consists of the proposed extraction development lands (west of R108 regional road), which is a sloping landform from north to south, extending towards the Delvin River. The river forms the boundary between counties Meath and Dublin, and it flows in an easterly direction from its source north of Garristown until it enters the Irish Sea at Gormanston.

A coniferous woodland plantation is located to the northeast of the extraction application area, measuring approximately 5 hectares. Sections of this northern boundary along with the western site boundary contain a mature hedgerow and individual trees. The eastern site boundary is formed by a hedgerow along which runs a hard-core farm access track linking the landowner's farm facility to the east of the site with the forestry plantation to the north.

The internal field boundary running northwest to southeast between the two lower fields also consists of mature hedgerows and intermittent mature trees. The application area includes an extensive deposit of sand and gravel which is proposed to be extracted and processed on site.

There is an area of dense vegetation to the southeast of the site along the lower slope of the adjacent to the river. To the southwest of the site is a former sand and gravel pit which is not operational and which has had its slopes regraded and vegetated. Some stockpiles of aggregates and concrete foundations of former plant remain but the site has for the most part become vegetated with a combination of grass, shrub and tree species.

2.4 Previous Planning Application

Planning permission (applied for under planning ref. AA/191263 ABP-308009-20) was sought in 2019 for development, similar to that being applied for in this planning application. Meath County Council issued a notification to grant planning permission in July 2020 which was subsequently overturned by An Bord Pleanála on appeal in April 2021.

The Board refused permission for the 2 no. reasons as set out below. This new planning application seeks permission for similar development to that of planning ref. AA/191263 while addressing the reasons for refusal.

Reason 1

The proposed development is dependent on the operation of the existing concrete batching plant to the east of the R108. In the absence of baseline information on the operation of the existing plant, the Board is not satisfied that the proposed development would not give rise to additional traffic movements on the public roads in the vicinity of the site, endanger public safety by reason of traffic hazard and obstruction of road users or seriously injure the residential and visual amenities of the area. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

Response

The new planning application proposes a lower extraction rate per annum, with 100% of aggregate output being transported to Kilsaran's adjacent concrete batching plant (previously 90% was proposed to be sent there with the remainder to be dispatched to other external Kilsaran facilities). The traffic movements associated with the concrete batching plant have been included as part of a robust traffic impact assessment for the proposed development. The traffic impact assessment is supported by recent traffic survey data.

Reason 2

Having regard to the nature of the proposed development and its location alongside the River Delvin, and deficiencies in the information contained within the Environmental Impact Assessment Report, and associated documents, in relation to ground water, the Board is not satisfied that the proposed development would not have significant effects on the quality of ground water and surface water in the vicinity of the site and flows within the River leading to the risk of increased flooding downstream. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

Response

The main water related reasons for refusal was the Board's view that the proposed development may result in significant effects on groundwater and surface water quality in the vicinity of the site and may impact flows within the Delvin River which could lead to an increased downstream flood risk.

The key concerns raised in relation to **surface water** included:

- Potential effects on surface water quality associated with the migration of contaminants through the sand and gravel deposits to the Delvin River;
- Concerns relating to the uncertainties associated with the proposed cut-off drain and the previously proposed settlement ponds (revised settlement ponds form part of the current application);

- Potential effects on surface water quantity associated with a risk of increased baseflow to the River Delvin and an associated increase in the downstream flood risk; and
- Potential effects associated with the proposed internal haul road.

The key concerns raised in relation to **groundwater** included:

- Potential effects on groundwater quality in the bedrock aquifer from suspended solids and accidental spills of contaminants;
- Potential effects on groundwater in the bedrock aquifer due to the removal of protective surface and subsurface layers (i.e. low permeability layers); and
- Potential effects on local groundwater well supplies due to the absence of a comprehensive information on the likely movement of water and its connectivity to/relationship with wells in the area of the site.

The primary 3rd party concerns raised in relation to the previous application included:

- Potential effects on the underlying bedrock aquifer;
- Potential effects on local groundwater well supplies in the absence of an adequate well survey;
- Potential effects on the Delvin River; and
- Potential effects on the WFD status of downstream surface waterbodies and the WFD status of the underlying groundwater bodies.

The above concerns raised in respect of the previous planning application have been comprehensively addressed in Chapter 7 Water of this EIAR. In response to the Board's previous reasons for refusal, Kilsaran have amended the proposed development and have prescribed detailed mitigation measures for the protection of water environment (surface water and groundwater) by way of the following below design amendments:

- The final floor level of the proposed pit has been amended to reflect the local hydrogeological regime and to reduce the works below the water table;
- The proposed development includes a phased operational phase whereby each of the 3 no. proposed extraction areas will be restored upon completion of the extraction in these areas (thereby reducing the area of exposed sand and gravels at any one time); and
- The proposed development includes an aggregate washing plant with a high rate thickener which removes the requirement for large settlement ponds.

The assessment completed for the EIAR water chapter builds upon the EIAR submitted for the previous application, and the associated response to the further information request, and addresses all water related issues raised previously by the Board, and 3rd parties.

3.0 Proposed Development

The proposals being applied for under this planning application are shown on **Figure NTS-5**.

3.1 Construction Phase (Entrance Upgrades and Ancillary Facilities)

The construction stage works are expected to be carried out within a 6-month period and will be carried out in tandem with the operational works.

Existing Agricultural Entrance Upgrade Works on Western Side of R108 Regional – to service the Sand & Gravel Extraction Area

Improvement, overlay and road strengthening works will be required to accommodate the proposed development as follows:

- improve the development access where the access accommodates the left turn for HGVs whilst permitting the passage of southbound vehicles (including HGV) on the R108;
- proposed new carriageway construction along development road frontage to achieve consistent road width and verge along development boundary;
- road edge strengthening works adjacent to new carriageway construction;
- road edge strengthening works along the eastern edge of the R108 carriageway;
- localised carriageway repair;
- carriageway overlay 40mm HRA.

The visibility sightlines will not be impacted by these works, visibility sightlines in the order of 90m are still achieved in both directions at the upgraded development access.

In addition to the proposed works outlined above, a dedicated weighbridge for HGV traffic serving the extraction area will be installed along the internal access track.

3.2 Operational Phase (Sand and Gravel Extraction and Processing)

The volume, lateral extent and depth of overburden / sands and gravels for the site have been determined from site investigations. The proposed extraction and processing tasks and activities to be implemented at the site within an overall application area of c. 14.9 hectares consist of:

- extraction and processing on site, to include washing (with associated closed recycled washing plant and lagoon system), screening and crushing plant; storage; stockpiling and haulage of sand and gravel to service the existing readymix concrete plant operated by Kilsaran on the eastern side of the R108 regional road and permitted under P. Ref. 80/572 & 22/153 (ABP-314881-22);
- the total extraction proposal extends to an area of c. 6.2 hectares and will be worked (extracted and restored) on a phased basis for a period of 11 years plus 1 year to complete final restoration works (total duration of 12 years);
- phased stripping and storage of topsoil and overburden materials for reuse in the restoration works. Restoration of the site will be to a beneficial agricultural after-use; and
- access to the site will be through the existing agricultural enterprise site entrance onto the R108 regional road with upgrade of same to consist of setting-back of the existing boundary wall to the north of the site access, and provision for the upgrade of the existing internal access track and section of a new access track which will include a new weighbridge.

3.2.1 Aggregate Reserve Assessment

The total recoverable reserve of sand and gravel from within the proposed extraction area is assessed at c. 1.3 million tonnes. This is based on a final extraction design to a depth of c. 100m AOD along the northern extraction limit of Phase 1 to c. 70mAOD along the southern extraction boundary of Phases 2 and 3 (details provided on phasing of works below).

3.2.2 Duration of Extraction

A term of 11 years is sought for the extraction and processing period and a further one year to complete final restoration of the site giving a total planning permission term of 12 years. It is anticipated that extraction would be carried out at a rate of up to 120,000 tonnes per annum. This annual output is considered relatively small in comparison to typical mineral extraction developments.

3.2.3 Sand & Gravel Extraction Operations

There will be no blasting associated with the proposed sand and gravel extraction process. It is proposed that a load, haul, dump method of extraction system will be used. A wheeled front-end loader will be used to excavate the in-situ sand and gravel deposit. The material from the working face will then be directly fed into the processing plant by the same loader.

The advance stripping of topsoil and overburden followed by sand and gravel extraction will take c. 11 years to complete. Final site restoration will be achieved over the subsequent year giving a development term of 12 years.

3.2.4 Extraction Phasing

The site layout plan shown on **Figure NTS-5**, illustrates the proposed phasing of the extraction operations. For Phase 1 the general working direction is from south to north. For Phases 2 and 3 the general working direction is from north to south and east to west respectively.

To minimise the visual impact and help mitigate noise it was decided that the deposit itself could provide maximum protection to outside views and adjoining land uses from the working area. The centre of the development area retains the existing internal hedgerows for the maximum time period to provide natural screening. Phasing of the extraction along with progressive restoration has the benefit of minimising the extent of land stripped and exposed at any one time along with allowing for restoration to be completed at the earliest opportunity and returned to the farmer for recommencement of agricultural activities.

Phase 1 - Extraction

Phase 1 extraction will commence at the centre of the application area and covers an area of c. 2.7 hectares. It is estimated that extraction within this phase will last approximately 4 years. Phase 1 is further sub-divided into three smaller phases; 1A, 1B and 1C.

Topsoil and overburden material stripped from Phase 1A will be stored to the east of the extraction area. The materials will be placed to a height of no more than 2m, with gently graded side slopes and seeded at the earliest opportunity to blend in with the agricultural field. These stripped materials from Phase 1A will be stockpiled for the duration of all extraction operations and will be used to restore Phase 1A during the final year of restoration operations due to the positioning of the processing plant.

Sand and gravel extraction will be carried out in Phase 1A in a northerly direction with positioning of the processing plant on the pit floor at the earliest opportunity. This provides for visual screening along with noise and dust attenuation from the processing plant to the nearest residences to the west by the intervening ground. Further to this, the processing plant will be screened in views from the R122 to the south for the duration of the development by the retention of the land within the buffer zone for the archaeological feature MH034-031.

Following completion and set-up of the processing and ancillary facilities, extraction of the sand and gravel will continue in a northerly direction.

Topsoil material will be stripped from Phases 1B & 1C in tandem and will be stored to the east of the Phase 1C area for a period of approximately 2 years.

Overburden material will be stripped from Phase 1B and stored in Phase 1C to allow the underlying sand and gravel material from Phase 1B to be extracted.

Following extraction within Phase 1B, the stored overburden material in Phase 1C will be moved to Phase 1B in tandem with extraction of the underlying sand and gravel in Phase 1C.

Following extraction within Phase 1C, the overburden material will be returned to Phase 1C followed by capping with the topsoil over both Phases 1B and 1C to restore these areas to a beneficial agricultural use.

Phase 2 – Extraction and Restoration

Phase 2 extraction will commence in approximately Year 5 in tandem with the restoration works being carried out in Phase 1C. Phase 2 covers an area of c. 1.8 hectares and it is estimated that extraction within this phase will last c. 2 years. Phase 2 is further sub-divided into two smaller phases; 2A and 2B .

Topsoil material will be stripped from Phases 2A & 2B in tandem and will be stored to the east of the Phase 2 area for a period of approximately 3-4 years. The material will be placed to a height of no more than 2m to maintain the integrity of the soils, with gently graded side slopes and seeded at the earliest opportunity to minimise any surface-water runoff from the site.

Overburden material will be stripped from Phase 2A and stored in Phase 2B to allow the underlying sand and gravel material from Phase 2A to be extracted.

Following sand and gravel extraction within Phase 2A, the stored overburden material in Phase 2B will be moved to Phase 2A in tandem with extraction of the underlying sand and gravel in Phase 2B.

Following extraction within Phase 2B, the overburden material will be returned to Phase 2B followed by capping with the topsoil over both Phases 2A and 2B to restore these areas to a beneficial agricultural use.

There is a requirement to remove a section of hedgerow (c. 70m) between Phases 1 and 2.

Phase 3 – Extraction and Restoration

Phase 3 will be the final phase of extraction and will commence in approximately Year 9 in tandem with the restoration works being carried out in Phase 2B. Phase 3 covers an area of c. 1.9 hectares and it is estimated that extraction within this phase will last c. 3 years. Phase 3 is further sub-divided into two smaller phases; 3A and 3B.

Topsoil material will be stripped from Phases 3A & 3B in tandem and will be stored to the south of the Phase 3 area for a period of approximately 2-3 years. The material will be placed to a height of no more than 2m to maintain the integrity of the soils, with gently graded side slopes and seeded at the earliest opportunity to minimise any surface-water runoff from the site.

Overburden material will be stripped from Phase 3A and stored in Phase 3B to allow the underlying sand and gravel material from Phase 3A to be extracted.

Following sand and gravel extraction within Phase 3A, the stored overburden material in Phase 3B will be moved to Phase 3A in tandem with extraction of the underlying sand and gravel in Phase 3B.

There is a requirement to remove a section of hedgerow (c. 110m) between Phases 2 and 3.

Phase 4 – Final Year Restoration

Following extraction within Phase 3B, part of the overburden material will be returned to Phase 3B followed by capping with some of the topsoil to restore the Phase 3B areas to a beneficial agricultural use.

The processing plant will be removed from Phase 1A and the overburden and topsoil materials returned to this area.

3.3 Restoration (Reinstatement to Agricultural Use)

Where feasible, restoration of exhausted areas will be carried out at the earliest opportunity in tandem with extraction operations with the final restoration proposals being carried out after extraction operations at the site have ceased.

It is proposed to return the worked lands to an agricultural use, including re-instatement of hedgerows in locations similar to those which will be removed, to facilitate the development.

The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site over the application area and which will be temporarily stored separately for the duration of extraction operations before being used in the restoration works.

Redundant structures, plant equipment and stockpiles will be removed from the site on permanent cessation of extraction activity. Machinery and structures will either be utilised by Kilsaran on other sites or be sold as working machinery or scrap.

The existing concrete batching plant and all ancillary site facilities on the eastern side of the R108 regional road will be retained indefinitely. Once extraction has been completed, the continued operation of the concrete batching plant will be facilitated by using aggregates sourced from external Kilsaran and third party supplies, as is the case currently.

3.4 Site Development Works

Topsoil in advance of the extraction working area will be stripped (in phases as described below) using a hydraulic excavator and moved to the designated location of temporary topsoil storage.

Similarly, overburden stripped to obtain access to the sand and gravel resource will also be moved to the designated location of temporary overburden storage.

These materials in turn will be used in the restoration of this area.

3.4.1 Hedgerow / Treeline (Removal / Reinstatement)

In order to compensate the loss of approximately 180m of native hedgerows within the proposed sand and gravel extraction area, as well as to provide screening of the upper pit slope along the north-western boundary, a total of 430m of native hedge will be planted within the site (230m as part of Restoration Phase 1, i.e. by year 5 and 200m as part of Restoration Phase 3, i.e. by year 12), refer to **Figure NTS-6**.

3.5 Processing Methods

3.5.1 Sand and Gravel Processing Method

The sand and gravel processing methods will be: crushing, washing and screening, using a modern processing plant, to produce a range of aggregates primarily for use by the company in their adjacent concrete product manufacture facility located on the eastern side of the R108 regional road. The modern plant will operate in a

closed circuit with the processes water recycling unit to minimise the need for excessive take of groundwater and to eliminate the need to discharge process water from the site.

3.5.2 Dispatch of Aggregate Product

Processed aggregate from the stockpiles will be loaded by means of a mechanical loading shovel directly to incoming road trucks. Trucks will then leave the stockpile area and travel to the weighbridge where loads dispatched off-site will be weighed and recorded. The dispatch office will monitor the movement of incoming and outgoing road trucks and will also be responsible for the issuing of dispatch dockets.

3.6 Aggregate Processing Plant

Within the proposed sand and gravel extraction area, an aggregate processing plant for the crushing, washing and screening of the extracted sand and gravels will be erected for the duration of the proposed extraction life (c. 11 years). The location of the plant is provided in **Figure NTS-5**, and design detail (plan and elevations) is provided in SLR Planning **Drawing 10**.

3.7 Weighbridge

In order to track and record the amount of material leaving the site, all HGV traffic will be directed across a dedicated new weighbridge associated with the extraction operations to be located c. 100m from the site entrance and adjacent to the existing agricultural weighbridge office and toilet facility as shown on **Figure NTS-5**.

3.8 Offices and Ancillary Welfare Facilities

There is no requirement for the provision of any new office or ancillary welfare facilities at the proposed development.

The existing agricultural weighbridge office and toilet facility will be used by site staff for the duration of the proposed development in connection with the sand and gravel extraction element of the development. Existing office, welfare and toilet facilities are in place for staff at the concrete batching facility.

3.9 Wheelwash

There is no proposal to install a wheelwash at the proposed development. HGV traffic will travel over a paved internal access road from the proposed extraction area to the site entrance over a distance of c. 950m. It is anticipated that travelling over this distance will not drag mud or other materials onto the public road. In addition, the public road between and in the vicinity of the site entrances will be regularly cleaned with a road sweeper.

In the event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner, as soon as they notice or are notified that a spillage has arisen.

3.10 Site Drainage & Water Management

The Delvin River flows along the southern boundary of the site in an easterly direction. The Fourknocks River flows c. 300m east of the site in a southerly direction initially then in an easterly direction into the Delvin River. There are two open drainage ditches within the site along existing field boundaries which direct surface water run-off in a southerly direction into the Delvin River. It is not proposed to discharge any site waters to rivers in the vicinity of the proposed application site.

A hydrological / hydrogeological assessment has been carried out to determine what the requirements are for the proposed development, with regard to a water regime. It addresses mitigation measures to eliminate and/or

minimise the potential impacts, if any, on surface water and groundwater. These measures will be incorporated into the pit design and operation.

3.10.1 Surface Water Runoff

Rainfall across the extraction areas will percolate naturally to the ground as diffuse groundwater recharge and this is a standard water management measure in Sand and Gravel Pits. The rainfall percolates naturally to the groundwater as is the current situation at the existing greenfield site. The storm runoff will be contained within the working areas and the water may be used for site operations as required.

During extreme storm events surface water runoff across the working areas will be managed before the water infiltrates to the ground; storm water management measure during extreme weather events is a standard requirement in the operation of Sand and Gravel Pits. Kilsaran operate numerous Sand and Gravel Pits across the country and have many years of experience in the management of storm water at their sites.

Storm water runoff may pond on the pit floor on a temporary basis prior to the water infiltrating naturally to the ground; however, no specific site measures or infrastructure are required for the management of this storm water within the pit prior to infiltration to the ground.

The management of storm water within the pit during extreme storm events will be a site operational matter for Kilsaran. No potential impacts are envisaged from the management of the storm water or from the temporary ponding of storm water within the pit working area on any receptors outside of the extraction areas; and potential impacts from storm water runoff will only be on the operation of the site by Kilsaran and will be temporary in nature before the water infiltrates naturally to the ground.

3.10.2 Drainage Ditches

A surface water drainage ditch runs through the site, along the existing hedgerow boundary to the west of Phase 1 where it turns 90 degrees to the east before turning 90 degrees south and runs along the field boundary between Phases 2 and 3, and discharges into the Delvin River. A smaller section of ditch runs between Phases 1 and 2 and joins the ditch that runs north to south to the river.

The drainage ditches provide a route for surface water runoff from the agricultural lands and are normally dry and only respond to high rainfall events.

Two sections of the drainage ditches will require removal over the course of the development. Firstly, a section of ditch will be removed as extraction advances from Phase 1 to Phase 2. The main drainage ditch running from north to south through the centre of the site will remain in place for the duration of extraction operations in Phases 1 and 2 and a portion of this drainage ditch will only be removed as extraction advances from Phase 2 to Phase 3. During Phase 3 extraction operations and following final restoration, the ditch will be directed to the pit floor where water will percolate to ground.

A shallow drainage channel will be dug along the southern application boundary to prevent any run-off from the topsoil storage berm leaving the site or entering the river. A silt fence will also be installed along the outer boundary of the of the drainage channel to further ensure no runoff from the site reaches the river. Details of the proposed shallow cut-off drain and silt fence are provided in Planning Drawing 12. The proposed cut-off drain will be isolated from the existing surface field drains and any water entering the cut-off drain will percolate to ground. Where the cut-off drain intersects with an existing drainage ditch, then they will be separated by a clay plug.

3.10.3 Aggregate Washing

The proposed development will use a CDE Aquacycle Thickener Unit or similar type of unit to recycle process water from the aggregate washing process for re-use and thus eliminate the need for large-scale surface settlement lagoons at the site.

The Aquacycle system is a high-rate thickener, recycling up to 90% of the process water for immediate re-use in the washing system. It is a single, compact, and user-friendly unit that can be applied to high and low tonnages. It is a highly efficient water management solution that minimises costly water consumption by ensuring the process water is recycled for immediate recirculation. After feed material has been washed and classified, waste is sent to the thickener tank. The clean water on the top overflows the weir and is stored in a water tank before being re-circulated around the plant. The result is a highly efficient water recycling system that requires only a 10% supply of top-up water. The thickened sludge (comprising the washed fines from the sand and gravel) is periodically pumped from the unit to an adjacent lagoon to allow the material to solidify further. Water released from the sludge will be pumped back to the plant for top-up, further conserving water. The proposed lagoon is not the same as a traditional silt disposal lagoon system that rely on the sediment falling out of suspension over a given retention time, because the settlement has already taken place in the Aquacycle thickener. The resultant dewatered fines are periodically dug out of the lagoon and will be used as a restoration material for use in regrading excavation slopes.

3.11 Site Roads, Parking and Hardstanding Areas

Internal farm access roads are already provided within the application site, running from the site entrance to the existing agricultural weighbridge/office facility and onto the proposed application sand and gravel extraction area. The section of the existing internal access road from the existing agricultural weighbridge to the public road is already a concrete hard-paved surface.

The internal farm access road will be upgraded, and two new sections of hardcore roadway will be constructed, one in an east-west direction from where the existing agricultural track ends into the Phase 1A extraction area (c. 140m length) and the second (c. 100m length) in the vicinity of the proposed new weighbridge, refer to **Figure NTS-5**. Access track drainage works will be carried out along the northern edge of the track to provide a linear filter drain with the access track cambered towards the filter drain to allow any surface water runoff percolate to the ground. This will prevent any surface water run-off from the access road in a southerly direction towards the Delvin river. Details of the access track drainage are provided in Planning Drawing 12.

A designated car parking area is provided for employees and for visitors adjacent to the existing agricultural weighbridge office.

Within the existing concrete batching facility, the site is hard surfaced with provision for both HGV and car parking already in place.

3.12 Site Access

There is an existing agricultural site access located at the western side of the R108 regional road. The existing access is located within a 50km/h speed limit zone. The transition to the 60km/h speed zone is location just north of the access between it and the access into the concrete batching facility on the eastern side of the R108 road.

Access to the proposed sand and gravel extraction area will be through the existing agricultural commercial site entrance onto the R108 regional road which this application seeks to upgrade and improve to provide suitable geometry to accommodate manoeuvring of quarry vehicles. The proposed improvements will include upgrade of the farm access geometry including the provision of tapered access bellmouth, setting back of boundary wall to farm and road edge strengthening. The improvement works to the entrances will provide for improved visibility sightlines.

There will be no net increase in traffic on the receiving road in the immediate vicinity of the site entrance as HGV traffic from the proposed development will effectively replace the existing HGV traffic hauling aggregates to the concrete batching facility from outside the area.

The proposed development will benefit the wider road network as it will eliminate (bar the c. 70m distance from the site entrance to the concrete batching facility) all associated aggregates supply HGV traffic travelling in both directions on the R108 which import materials to the concrete batching facility from other Kilsaran supply sites currently at Annagor and Ballynamona. Eliminating the requirement to transport materials from Ballynamona will also have the added benefit of eliminating those HGV truck movements passing through Naul village towards the concrete batching facility for the duration of the development life.

Existing haulage from Annagor to Naul (via the M1) is c. 20km one-way and from Ballynamona to Naul (via the R122) is c. 40km one-way. Based on the average annual HGV one-way movements from Annagor (c. 5,333) and Ballynamona (c. 3,555) which represents a 60:40 split, this equates to annual travel distances from the two locations being 106,660km (one-way) and 142,200km (one-way) respectively.

The proposed development will therefore result in a total annual road distance saving of 248,860km with a consequential and beneficial reduction in carbon emissions of c. 177,353 kg CO_2eq.

3.13 Site Screening

The existing site of the proposed extraction area is bounded to the north, east and west by mature boundary hedgerows which restrict views from public roads to the east and west of the site. Owing to the site sloping down from north to south and the lack of continuous vegetation along the southern site boundary (Delvin river), there are some open views towards the site from the R122 road to the south, albeit broken up by intermittent hedgerows and trees along the R122 road itself.

Phased extraction and operational arrangements have been designed to minimise visibility from the south. Further to this, sections of the existing topography within the site will be retained for as long a duration as possible to further minimise the extent of lands being disturbed at any one time.

Retention of the archaeological buffer zone associated with MH034-031 within the centre of the site will further mitigate visibility of the processing plant to be located on the southern end of Phase 1.

Photomontages are provided in the EIAR to demonstrate the predicted visibility of the extraction area from the R122.

3.14 Operational Hours

The proposed hours for operations (extraction, processing and haulage) at the site will be 08.00 hours to 18.00 hours Monday to Friday only. Operations will be carried out on Saturday between 08.00 and 14.00 hours with no operations on Sunday or Public Holidays.

3.15 Employment

The proposed sand and gravel extraction development will provide employment for 3 people (one technical/operations manager and two general operative) directly on-site, with additional Kilsaran employee truck drivers also being utilised.

Therefore, the proposal will secure direct employment of up to 3 people for the duration of the proposed development i.e. 12 years.

3.16 Utilities and Services

A new connection to the Electricity Supply Board's National Grid will be used to supply electrical power to the processing plant.

Lighting will be provided locally around the processing plant area for winter time operations and when darkness has fallen within the permitted site operating hours. The site will operate until 6pm and so there will be a period where lighting will be required for up to 2 hours during the height of winter.

As the processing plant is to be provided on the pit floor it will be below the surrounding ground level and therefore no lighting will be directed outside of the site.

3.17 Fuel and Oil Storage

No fuel and oils will be stored at the sand and gravel extraction site. Any refuelling and maintenance will be carried out at the existing concrete batching facility where fuels and oils are currently stored in bunded fuel tanks.

Notwithstanding this, a spill kit will be stored at the sand and gravel extraction site in case of any accidental leaks from vehicles or machinery at the application site.

3.18 Site Security

The boundaries of the land interest site consist of a combination of stock-proof fencing and mature hedgerows. The site boundary will be inspected on a regular basis and maintained as required under the Mines and Quarries Legislation. Where the application area does not bound an existing hedgerow and instead crosses an open field, a post and wire boundary fence will be erected along the planning application area to define the limits of the site from the surrounding agricultural lands. The fencing will be such that it will also allow wildlife to pass through freely.

Appropriate warning signs will be displayed at visible locations along the boundary at appropriate intervals.

The existing entrance to the site has an electric and lockable gate with security cameras to prevent unauthorised access outside of the working hours.

3.19 Waste Management

3.19.1 Extractive Waste Management

Almost all products and by-products arising from the aggregate processing have commercial value. Any waste materials from the site are stored, collected, recycled and/or disposed of in accordance with any requirements of Meath County Council.

3.19.2 General Waste Management

Kilsaran Concrete as a member of the Irish Concrete Federation commits themselves to the principles of the Federations Environmental Code. The code states:-

"*ICF members will minimise production of waste and where appropriate consider its beneficial use including recycling. They will deal with all waste in accordance with the relevant legislation and other controls in place, including using waste contractors with valid Waste Collection Permits*"

Potential waste produced and the measures used to control it are described as follows:-

- **Scrap metal** – these materials are chiefly produced from the maintenance of the possessing plants and can cause a nuisance if allowed to build up in an uncontrolled manner. A designated scrap metal area will be demarcated on site and the build-up of scrap will be controlled by the regular removal by licensed scrap metal dealers.

- **Used Oil and Oil Filters** – any waste oil/oil filters that may arise from servicing of plant will be removed from the site by a licensed waste contractor.
- **Used Batteries** – similarly, all used batteries will be removed from site for collection and recycling by a licensed waste contractor in accordance with the Waste Management Regulations.
- **Domestic Style Waste** (Canteen Waste) – domestic waste generated at the offices and employee's facility will be collected by a licensed waste collection contractor.
- Note: overburden stripped from above the sand and gravel and silt produced during the washing process are not considered waste. They are an essential component of the restoration programme. These materials are required for the reshaping and landscaping of the worked out area to make it more suitable for an agricultural after-use.

4.0 The Existing Environment, Effects and Mitigation Measures

4.1 Population and Human Health

The Environmental Protection Agency guidelines in relation to environmental impact assessment (2022) indicate that the consideration of human health and population relates to employment, human health and amenity. For the purposes of environmental impact assessment, human health is considered in the light of the relevant topics or 'pathways' addressed by the EIAR, such as noise, air and water, and in the light of established, acceptable limits for exposure.

The application site comprises existing agricultural lands located in the townland of Naul, in County Meath and is located to the northwest of the Naul village, Co. Dublin. There is no existing extractive activity at the application site but there has historically been sand and gravel extraction in the general area. The applicant currently operates a concrete batching facility on the opposite side of the R108 regional road from the application site with the raw aggregate materials used in the concrete manufacturing process currently imported to the site from external locations (Annagor near Drogheda c. 20km north and Ballynamona near Summerhill c. 40km southwest).

The application site is located within a predominantly rural landscape. Within the surrounding area, land use is primarily agricultural, comprising a mix of grassland and tillage uses, together with some isolated and one-off housing and ribbon development, principally along the local road network.

The nearest properties are located to the west of the proposed extraction area along a local road and adjacent to the site entrance, to the east along the regional road R108. Given the size and nature of the proposals, it is not considered likely that any additional pressure will be placed on community services such as schools and health facilities.

It is considered that the proposed development will have a positive effect on employment. During the construction and operational phases, the development will provide employment for a workforce of c. 3 people. In addition, the proposed development will contribute indirectly to sustaining and developing the local and regional economy through the provision of aggregates and building products to the construction industry and through providing supporting support in general for the local economy and service providers. On restoration, the site will be returned to the Whyte Bros Farm for tillage use, thus ensuring continued employment to their staff.

It is considered that the proposed development is not likely to have significant effects on human health. The main potential pathways for effects on human health during the construction and operational phase are noise, dust and groundwater. Measures will be in place to minimise the spread of dust, to mitigate noise and to prevent spillages for fuel that would affect groundwater. It is considered, therefore, that the potential effects are unlikely to occur. During the post-operational phase, effects on noise and air would largely cease and the implementation of mitigation measures during the operational phase would prevent effects on groundwater during the post-operational phase.

It is considered that the proposed development is not likely to have significant effects on residential or tourist amenity. The main potential pathways for effects on amenity are noise, dust, traffic and landscape. Measures will be in place to prevent the spread of dust and to mitigate noise. The access to the application site will be via an existing but upgraded entrance onto the public road and the traffic assessment shows that no significant adverse effects are predicted in relation to the capacity or safety of the road network.

As part of the proposed development, monitoring will be undertaken in relation to noise, dust, surface water and groundwater. This will measure the actual impact of the development during the construction and operational phases.

4.2 Biodiversity

SLR Consulting Ireland conducted both desk and field assessments from 2019 to 2024 to assess the potential for the application site and immediate surrounds for ecological importance. An Appropriate Assessment Screening report was also undertaken to assess the potential for the proposed development to have any impacts on European designated sites of ecological importance and this also was considered in the overall assessment of potential impacts on biodiversity.

The application site consists of a mixture of pastural and arable agricultural land bounded by hedgerows / treelines and the Delvin River to the south. Drainage ditches are present within the centre and along the eastern boundary of the Site.

No potential effects on sites designated for nature conservation are predicted as a result of the proposed development, and there was no evidence of invasive species recorded during field surveys. There will be a loss of arable crop and hedgerow within the site although these will be returned as part of the restoration plan of the proposed project. The restoration plan will result in a net increase in the amount of hedgerow in comparison to the current quantity.

Patches of mixed broadleaved woodland adjacent to the Site are located outside the proposed sand and gravel excavation area and will not be directly impacted as a result of the proposed development. The treelines located along the Site boundary will also be retained during the proposed development and, therefore, will not be directly impacted. A temporary loss of approximately 180m of native hedgerow is required to facilitate the proposals, however, there will be an overall increase of 290 m of native hedgerow and, therefore, an increase in the biodiversity value of hedgerows.

Approximately 400m of the drainage ditches on-site will require removal over the course of the development. This would result in the loss of potential breeding habitat for common frog within the Site. It is recommended that the ditches are removed between September-January. During this time there is unlikely to be any frogspawn, or tadpoles present within the drainage ditches and, as such, there will not be any direct impacts on any potential common frog population on-site. Additional mitigation measures are identified and should be implemented if the drainage ditches must be removed between February-August.

The red listed bird species yellowhammer was recorded within the Site. This species is of conservation concern as is strongly associated to arable crop. Vegetation clearance will be carried out outside of the bird nesting season and crop cultivation will continue in the surrounding fields during the sand and gravel pit excavation. This will ensure that there will not be a complete loss of foraging habitat for yellowhammer during the project. There was some historical evidence of badger foraging activity at the site in 2019. Mitigation measures to prevent any potential for disturbing breeding badgers or badger habitat underlying the site are recommended to be implemented during works.

No species will be significantly affected beyond Site Level (i.e. the lowest level) as part of the proposed development.

4.3 Land, Soils and Geology

This assessment in the EIAR is based is based on a desk study of the site / surrounding lands using published geological data, site photographs, groundwater borehole logs and site visits previously carried out by SLR.

The proposed development comprises the stripping and storage of soil material and the excavation of the underlying sand and gravel material within the proposed extraction area. Restoration works are proposed to be carried out on phased basis to final return of overall application site to an agricultural afteruse.

Five boreholes were drilled at the site in March 2019 to provide information on the sand and gravel at the site and also provide information on the overlying soils. The exposures at a previously operated pit immediately adjacent to the site also provide an indication of the local soils and subsoils at the site.

The soil association at the site is classified as the Elton Soil Association and is described as comprising Luvisols and Surface Water Gleys. The soil combination is considered to be relatively wet.

The IFS mapping also indicates glaciofluvial sands and gravels subsoils derived from lower Palaezoic parent material.

Site investigation surveys comprising geophysics and boreholes indicate sand & gravel material is present at the site. The boreholes indicate gravel material as well as sand material.

There is no Irish Geological Heritage (IGH) Programme or designated County Geological Interest sites at or in the immediate vicinity of the site.

In terms of land, soils and geology the sensitive receptor identified is the agricultural landuse and agricultural soils at the site.

The ongoing restoration works will be managed and monitored throughout the life of the development including the one-year proposed final restoration period to ensure that the restored soils and land use is successful and to confirm that the restored final pit faces are stable. A specific Soil Management Plan will be developed in line with best practice for the stripping, storage and reuse of the soils in restoration at the site. Soils stripped will be stored in screening berms adjacent to the proposed extraction area in such a manner that they can be reused in restoration works for the pit.

Both the current (agricultural) and proposed (mineral extraction) land use activities may be considered to be tied activities; tied to the resource present at the site while the type/nature of agricultural activity is also related to the suitability of the soils present.

In terms of land take, the proposed development will result in a loss of the in-situ sand and gravel resource at the application area. The soils at the proposed application area will be stripped and stored on site during the extraction process, before being replaced following extraction as part of the restoration operations; this will result in a land take for agricultural land use during the operational extraction life at the site.

Restoration works are proposed to be carried out on phased basis with final restoration stage on the permanent completion of the extraction operations which will include return of overall application site to an agricultural afteruse and for the most part will merge back into the surrounding pastoral landscape.

Operations at the pit will adhere to the appropriate Health and Safety Authority guidelines in and this will limit the potential for unplanned events such as instability of pit faces or instability in adjacent lands. This is a mitigation measure.

4.4 Water

The site slopes gently upward in a northerly direction, it is located on the lower part of a gently sloping valley trending east-west. Land-use at the site comprises of agricultural farmland, surrounding is mainly agricultural farmland, dispersed residential housing, and Naul Village to the south-east.

There are no surface water features on the site. The Delvin River flows along the southern boundary in an easterly direction towards the Irish Sea. The Fourknocks River flows east of the site in a southerly direction into the Delvin River. Rainfall will percolate naturally to the ground and it is not proposed to discharge any site waters to rivers in the vicinity of the proposed application site.

The OPW indicates there are no recorded flood events at the site, nor is there any potential flooding. There is potential flooding south-west and south-east of the site.

The sand and gravel at the site is not a classified aquifer. The bedrock underlying the north of the site is mudstones and siltstones from the Clashford House Formation, this bedrock is classified as a poor aquifer which is generally unproductive except for local zones. This aquifer is within the Duleek Groundwater Body. The bedrock underlying the south of the site is limestone from the Naul Formation, this bedrock is classified as a locally important aquifer which is generally moderately productive. This aquifer is within the Lusk Groundwater Body.

The Duleek and Lusk Groundwater Bodies are good quality. Under current conditions, prior to any extraction, the aquifer vulnerability across the site ranges from high vulnerability to rock at/ near the surface.

Groundwater levels in the sand and gravel were monitored manually several times in 2019 and ranged from 62m AOD to 93m AOD. Continuous groundwater level monitoring has been completed at 4 of the on-site boreholes (BH1, BH2, BH3 and BH4) from January/February 2022 to May 2024. 2 no. dataloggers were installed in BH1 and BH4 in January 2022 with an additional 2 no. dataloggers installed in BH3 and BH4 in February 2022. The installation of these dataloggers allowed for the continuous monitoring (15-minute intervals) of the groundwater levels at the site. These data are comprehensive and overcome one of the issues raised by the Board on the previous application (i.e. the apparent lack of water level data to underpin the hydrogeological understanding of the site).

The groundwater levels recorded during this 29-month monitoring period demonstrate a minimum and maximum and minimum water level range between c. 63.6m AOD to 96.5m AOD with the greatest water levels recorded in BH3 in the north of the site. The elevation of the groundwater table falls to the south/southeast towards the Delvin River. The recorded range in water levels is <2m in BH1, BH2 and BH4. A greater range in water levels of c. 6m was recorded in BH3 in the north of the site. The maximum recorded water levels occurred during the spring of 2024 (noting that the winter of 2023/2024 was one of the wettest on record).

As noted previously, no active dewatering (i.e. pumping of groundwater) is proposed as part of the proposed development. It is expected that the deposits will drain through gravity to the south.

The GSI online database shows the presence of over 30 groundwater wells within a 5km radius of the site. The majority of the boreholes in the Duleek Groundwater Body are poor yield, whereas the majority in the Lusk Groundwater Body are excellent yield. The boreholes are used for domestic and agricultural purposes, and also for public water supply.

The site is not located within a drinking water protection area. However, the Bog of the Ring Public Water Supply source protection area is nearby. The supply boreholes have excellent yields.

Based on the baseline description of the receiving environment in terms of geology, hydrology and hydrogeology, the following receptors have been identified: Locally important bedrock aquifer (Lusk Groundwater Body); Poorly productive aquifer beneath the site.; Domestic groundwater well supplies; Bog of the Ring PWS; and the Delvin River. There will be no impacts to protected areas, all areas have been screened out in Chapter 5 Biodiversity.

Potential impacts to the identified receptors are: accidental fuel leakage / spillage from plant and/or machinery, increase in recharge and vulnerability of groundwater due to the removal of soil and subsoil, increase in suspended solids due to extraction and increased recharge and vulnerability.

Mitigation measures will be put in place at the site to prevent any reduction in the quality of the local aquatic environment. Measures include but are not limited to: fuel will not be stored on-site, all plant will be regularly maintained, an emergency spill response kit will be available, there will be a traffic management system, soil stripping and restoration will be carried out on a progressive basis.

The identified potential impacts have been considered with mitigation measures in place and it is considered that with these measures in place the potential adverse impacts on groundwater quality will not be considered significant.

Post-operation the lands will be restored to agricultural use, plant and machinery will be removed, hence no direct impacts are anticipated from this stage.

A monitoring programme is proposed to assess/ monitor the implementation of the mitigation measures and to ensure the development does not have an adverse effect on the water environment. It is not purposed to discharge any site waters to the rivers however, surface water will be samples at a location upstream and downstream of the site on a bi-annual basis. Groundwater levels will be recorded in on-site boreholes on a bi-monthly basis.

4.5 Air Quality

An assessment of potential fugitive dust emissions from the proposed pit has been undertaken. The assessment takes into consideration the potential sources, surrounding receptors, and the pathway between source and receptor in order to assess the magnitude of risk of impact without mitigation measures in place.

The main focus of the assessment is the potential impact on sensitive receptors from fugitive dust emissions from the following activities:

- trafficking by onsite machinery and heavy goods vehicles (HGVs) over paved / unpaved surfaces;
- end-tipping, handling and processing of sand and gravel;
- stockpiling of aggregates;
- soil stripping, earthworks and stockpiling of topsoil pending final surface restoration works; and
- landscaping and final restoration activities.

There are c. 47 sensitive receptors (residence and non-residence) identified within 500m of the proposed sand and gravel extraction area (red line application area) and the existing permitted Kilsaran concrete batching facility to which the sand and gravel will supply.

The risk of impact associated with dust deposition is highest at receptors located to the north of the application area or within proximity to the west. Four receptors were evaluated as experiencing slight adverse effects in the absence of mitigation measures. All other receptors evaluated in both assessments are expected to have either an acceptable or insignificant of deposited dust impacts.

A number of mitigation measures are proposed to minimise the generation / migration of fugitive dust and to ensure that the extraction, processing and restoration operations comply with the threshold values. These mitigation measures are in accordance with the 'best practice / mitigation' measures for the sector.

With the range of mitigation measures to be implemented at the site, the risk of dust impact at receptors is reduced to insignificant to acceptable.

A comprehensive monitoring programme (using the five monitoring locations used for baseline measurements) will be implemented at the application site to confirm that the pit will operate within the recommended dust deposition emission limit values set out in best practice guidelines for the sector.

The dust monitoring gauges will be located close to emission sources or potentially sensitive receptors located beyond the site boundary. It is proposed that the dust monitoring stations will remain in place for the duration of extraction and processing operations at the site and be monitored on a monthly basis similar to Condition No. 4 of the planning permission ABP-314881-22 (P. Ref. 22/153) in relation to the existing Kilsaran concrete batching plant. Recording of any complaints shall also be carried out to take appropriate measures to reduce emissions in a timely manner.

Dust monitoring locations shall be reviewed and revised where and as/when necessary. The results of the dust monitoring shall be submitted to Meath County Council on an annual basis for review and record purposes.

4.6 Climate

An assessment of Climate has been undertaken. The assessment takes into consideration the evolving baseline, climate hazards, project vulnerability, and GHG emissions.

The following issues are addressed separately:

- climate change legislative framework/policy context;
- analysis of evolving environmental baseline trends;
- identifying climate change concerns in relation to proposed development;
- assessing effects;
- identifying mitigation measures;
- identifying monitoring and adaptive management.

The following analysis was carried out:

- likelihood analysis of a climate hazards;
- climate hazard impact analysis;
- sensitivity of project to climate hazards;
- exposure of the project to current and future climate hazards;
- vulnerability analysis of project to climate hazards.

Based on the vulnerability assessment undertaken, measures are identified for ongoing incorporation to the project to improve the resilience of the project to extreme rainfall, flash flood, storms, and winds.

Based on the scale and extend of the proposed development at Naul, GHG emissions are assessed as not significant as considerable contribution to the global atmosphere.

Mitigation measures in the context of climate change shall include increasing the adaptive capacity of the development on an ongoing basis with a view to reducing vulnerability and increase resilience of the development.

In terms of GHG emissions Kilsaran shall adopt a GHG monitoring programme and energy management plan at the proposed development.

4.7 Noise

This chapter of the EIAR addresses the potential noise and vibration impacts that may arise from the proposed development at Naul. No blasting is proposed to be carried out as part of this planning application.

The noise impact assessment describes and assesses the existing noise characteristics of the application site. The effects of the proposed activities within the application site are then described as resulting noise impacts. Mitigation measures are identified to, insofar as practical, eliminate, or minimise these impacts.

The principal noise source within the pit will be machinery (loading shovel), the processing plant, soil stripping, and ancillary processes / facilities.

Excavation of aggregates will be carried out by removing material with a loading shovel. Then the material will be placed into the processing plant on the pit floor.

To determine the noise impact from the proposed activities, SLR Consulting Ireland carried out a noise prediction assessment, whereby the levels of noise were calculated at the nearest noise sensitive receptors to the application site. Noise attenuation increases with distance; thus, noise impacts at any receptors located further away from the overall site boundary would be further reduced.

Without implementation of mitigation measures the predicted long term impacts at all but one of the 47 receptors considered within the study area were negligible, with one predicted as 'minor' impact. With the addition of standard best practice mitigation measures, predicted impacts are reduced to 'negligible' for all receptors. The operations at Naul, with the range of mitigation measures implemented will not have a significant noise impact.

Noise monitoring shall be undertaken around the application site. Noise monitoring locations shall be reviewed and revised where and as/when necessary. The results of the noise monitoring shall be submitted to the Meath County Council on a regular basis for review and record purposes.

4.8 Material Assets

The application site is located within a predominantly rural landscape. Within the surrounding area, land use is primarily agricultural, comprising a mix of grassland and tillage uses, together with some isolated and one-off housing and ribbon development, principally along the local road network.

A number of existing residential properties are located close to the application site. The nearest properties are located to the west of the proposed extraction area along a local road and adjacent to the site entrance, to the east along the regional road R108.

There are no high voltage electrical transmission lines either running through the application site or in the immediate vicinity thereof. The closest line runs in a north-south direction from east of Ashbourne northwards to the Irish Cement plant at Platin and north again to western side of Drogheda. There is an existing electrical power line running from the R108 serving the existing agricultural enterprise adjacent to the proposed development. Any electrical power supply required at the proposed site for the processing plant will be stepped down at a transformer and supplied as required.

Conventional fixed telephone lines run along the side of the R108 regional road leading to / from the application site. There is no natural gas pipeline running within or in close proximity to the application site. There will be no requirement to introduce gas or telephone services to the site. Gas will not be used and it is intended that site workers will rely on mobile phone usage for telecommunications.

There is an existing municipal wastewater treatment plant serving Naul village with a catchment which extends from the Delvin river southwards along the R108 regional road for a distance of c. 2km. The Naul Sewage Treatment Works (STW) is situated to the north of the village on the banks of the Delvin River. It was designed for 400pe and is currently operating at approximately 347pe[1] based on house counts. It is a conventional aeration plant. The Naul agglomeration flows by gravity to the treatment works. There is a manhole at the head of the works with a weir. In the event of a major rainfall event, the diluted influent overtops this weir, flows through a screen and discharges to the primary discharge outfall pipe.

All wastewater generated at existing properties and farm enterprises outside of the Naul wastewater catchment area are managed privately by way of septic tanks and effluent discharge to ground via percolation areas (for domestic wastewater) or by land spreading (for agricultural wastes).

The principal economic activity and rural enterprise in the area surrounding the application site is associated with family farms and related agricultural / food production activities. Although there is a history of extractive activity in the area, tied to the underlying deposits of sand and gravel, there is currently no pit or quarry actively

[1] EPA Naul Waste Water Discharge Certificate Application (2013)

working in the area. Kilsaran Concrete currently operates a concrete batching plant on the opposite side of the R108 road to the application site which is currently served by imported aggregates from other extraction sites at Annagor and Ballynamona, both in County Meath.

There is a C&D recovery facility, Clashford Recovery, operating adjacent to the applicant's concrete batching plant which was permitted in September 2019 and has an annual capacity of 170,000 tonnes. It is located within a previous sand and gravel pit which is undergoing restoration.

There are also a number of small local enterprises and other high street services in and around the Naul, including a shop, café and arts centre, pharmacy, hairdresser, bridal shop, car garage, pub, B&B's etc.

There will be no requirement for a new water connection to the mains supply as the existing agricultural weighbridge office and toilet facility will continue to be used by site staff for the duration of the proposed extraction development. Existing office, welfare and toilet facilities are also in place for staff at the adjacent concrete batching facility.

Standard construction safety practices for working close to the overhead power lines around the facility will be implemented for all site-based operations in order to safeguard the health and safety of employees, hauliers and visitors, in line with statutory obligations under health and safety legislation. Such measures will also serve to protect overhead lines from any damage by site-based plant and activities.

The proposed operations at the site, with the range of mitigation measures proposed will not have a significant effect on material assets of the surrounding area.

4.9 Cultural Heritage

The archaeological and cultural heritage component of an environmental impact assessment report of the proposed sand and gravel pit consisting of a paper and fieldwork study was carried out in August – September 2019. There have been two geophysical surveys (2008 and 2019) and two archaeological test excavations (2008 and 2020) carried out within the study area that have informed an updated desk assessment in 2024.

Six items of archaeological heritage have been identified through previous investigations in the application area. A Ringfort (Sites and Monuments Record ME034-031) and an associated linear ditch extending south from it are being preserved in situ within a protective 40m buffer zone.

Other features of interest identified through archaeological testing in 2008 F1, F2 and F3 (two linear deposits of silty clay and a possible tree lined feature) and 2020 (Anomalies 13, 15 and 19 (linear features and one L shaped feature) are recommended to be preserved by record in advance of development under licence from the National Monuments Service.

4.10 Landscape and Visual

A landscape and visual impact assessment (LVIA) of the proposed sand and gravel development was completed in accordance with accepted guidance. Photomontages (PM) were prepared, illustrating the proposed development at four different stages throughout its operational life, in addition to the existing views.

The application area is located approximately 700m northwest of Naul village, covering parts of three existing agricultural fields. The access road, which forms part of the application area, follows an existing farm track from the R108 in the east. The R122 is located just under 300m to the south of the site.

The application area is located on the northern slopes of the Delvin River valley, within an undulating landscape, consisting of a mix of fields under pasture and tillage fields. These fields bound by generally low-cut hedgerows, which are often lined with mature trees. Small pockets of deciduous woodlands are present in a number of locations, typically associated with former estate lands. Also, an elevated small mixed conifer and deciduous plantation just northeast of the application area is prominent in the local landscape.

Levels within the main body of the application area range from 70m ordnance datum (OD) near the River Delvin, up to 107m OD in the northernmost corner of the site. The topography of the wider area is shaped by the Delvin River Valley and the adjoining upland areas. The river runs in a southwest-northeast direction through the centre of the study area. Levels along the Delvin River are around 65m OD in the vicinity of the study area. To the north of the river the land rises to a highpoint of 155m AOD within 1km of the river and to the south to 143m AOD within 1.3km.

Based on a zone of theoretical visibility (ZTV) assessment, the study area for the LVIA was identified as an area of 2km surrounding the application area and extending up to 4km to the southwest and northeast. However, all of these fall within a low range of visibility and are therefore likely to have no or very little actual visibility, due to intervening vegetation.

The application site is fully located within the County Meath Landscape Character Area (LCA 9) – Bellewstown Hills, which is described as a "a large remote area of steeply rolling hills to the south east of Duleek, which is intensively managed with well wooded hedgerows". Immediately to the south of the River Delvin, which forms the county boundary, the application site this area is adjoined by the Fingal High Lying Agricultural Landscape Character Type (LCT). The sensitivity of the two main landscape receptors, i.e. the Meath LCA 9 and Fingal High Lying Agricultural LCT was assessed as medium, mainly as it is considered that the local fields and hedgerows can accommodate some small scale and low rise development, such as the sand and gravel extraction activities proposed.

The site will be extracted and restored in a phased manner, which will ensure that the area of disturbance will be kept to a minimum at any one time. It is proposed to restore the application area to an agricultural land use and compensate the loss of hedgerows by planting and increased length of hedgerow, both of which will ensure that the site will merge with the surrounding landscape on completion of all works. In addition, the proposed diverse native hedgerows will provide biodiversity interest. The changes to the landscape will be perceived within a relatively small area, the underlying landscape character will not be altered, and the duration of the development is limited to 12 years. Combining these factors with the medium sensitivity, the impact on the Meath LCA 9 and Fingal High Lying Agricultural LCT, during the operational stage of the sand and gravel pit, was assessed as minor. This will reduce to negligible on completion of the extraction works and with the site fully restored to agricultural land, including a number of hedgerows, subdividing the site into smaller fields, similar to the existing conditions.

The application area is screened by intervening topography and vegetation in all views from publicly accessible locations to the west and north of the application area and beyond 1km to the south and east, resulting in no visual impact on the vast majority of locations within the study area.

The main views into the extraction area can be gained from the R122 to the southeast of the site. These views are designated in the Fingal County Development Plan for their amenity value. In these views the application site is visible as a horizontal strip below the skyline taking up approximately a quarter of the height of the visible ground. Due to the phasing of the extraction and restoration works, the disturbance within this area will be kept to a minimum, at all times. Also, all changes will be contained within parts of the three affected fields and the overall development will therefore be of a similar scale as the surrounding landscape. During the extraction works, the worked areas will have an appearance similar to a freshly ploughed field, which is not unusual in the local area, and will therefore not be in stark contrast to the surrounding fields. While the changes to the landform within the area will be permanently visible, the restoration to an agricultural land use and planting of native trees will ensure that the site will merge with the surrounding fields/hedgerows. The visual effects on these views were judged to be moderate during the operational stage of the development, reducing to minor following completion of all extraction/restoration works.

Partial views of the site can be gained from a small number of locations within 1km to the southwest and east of the application area. In views from the southwest only parts of the northern section of the application area are visible and the extent of the site within the views and duration of visibility is therefore reduced. In views from

the east only parts of the overburden storage areas and HGVs traveling along the access road but none of the extraction area will be visible, also resulting in reduced visibility. The visual effects on these views were judged to be negligible/minor during the operational stage of the development, reducing to none following completion of all extraction/restoration works.

There will be no landscape or visual impact on any other designated landscapes or views or outdoor recreational areas.

4.11 Traffic

The development lands are served by an existing commercial farm site access located at the western side of the R108 regional road approximately 150m north of the River Delvin. The existing access is located within a 50km/h speed limit zone associated with the village where the 50km/h speed limit signs are located 25m north of the exiting access. At a distance of 70m north of the farm access is the access serving an existing Kilsaran concrete batching facility on the opposite side of the R108. On the southbound approach to Naul the R108 is subject to a step down in speed limit from 80km/h to 60km/hr and ultimately to 50km/h closer to the village. The 60km/h speed limit commences approximately 130m north of the existing commercial farm access.

Locally the R108 is generally 5.5m in width and is wide enough for two cars to pass with ease. Between the farm access and concrete batching plant access the R108 varies in width between 5.6m and 7.6m. The edges of this road are in good order as is the road surface which shows no evidence of surface distress. There are no public footpaths on either side of the R108 and there is no public lighting.

The R108 intersects with the R122 and forms a staggered crossroad where the stagger distance is approximately 180m. The R122 has been widened and upgraded to 6m width. The R122 links to the M1 motorway at the Balbriggan Interchange (Junction 6) approximately 5km to the east of Naul. The existing commercial farm entrance has un-plastered concrete block wing walls and a single sliding gate. The recessed entrance is surfaced with bound bituminous material.

Materials extracted at the proposed development will be used as feedstock to the existing concrete batching plant located opposite on the R108.

At present aggregates are imported to the concrete batching plant from Annagor near Duleek, Co. Meath and Ballynamona near Batterjohn, Co. Meath. Materials are hauled to the batching plant along the R122 from the west in the case of materials haulage to/from Ballynamona and from a combination of the M1 and R108 in the case of materials haulage to/from Annagor. Ultimately all materials imported to the existing batching plant are hauled along the R108 in the immediate vicinity of the application site.

It is anticipated that extraction would be carried out at a rate of up to 120,000 tonnes per annum. The totality of the 120,000 tonnes of aggregate extracted at the proposed sand and gravel pit site will be used to service only the existing concrete batching plant in the local production of value added readymix concrete.

The proposed hours for operations (extraction, processing and haulage) at the site will be 08.00 hours to 18.00 hours Monday to Friday only. Operations will be carried out on Saturday between 08.00 and 14.00 hours with no operations on Sunday or Public Holidays. For the purposes of this assessment therefore it is assumed that the total number of working days equates to 249 full days, or equivalent weekdays, and with a conservative average payload of 27t per vehicle, the proposed development is calculated as likely to generate in the order of 18 HGV trips per day.

Aggregate used in the manufacturing process at the existing concrete plant is currently imported from further afield travelling via the regional road network from Annagor near Duleek, Co Meath and Ballynamona near Summerhill, Co. Meath. The proposed development has the benefit of removing an average of 18 HGV trips or 36 HGV movements from the greater road network.

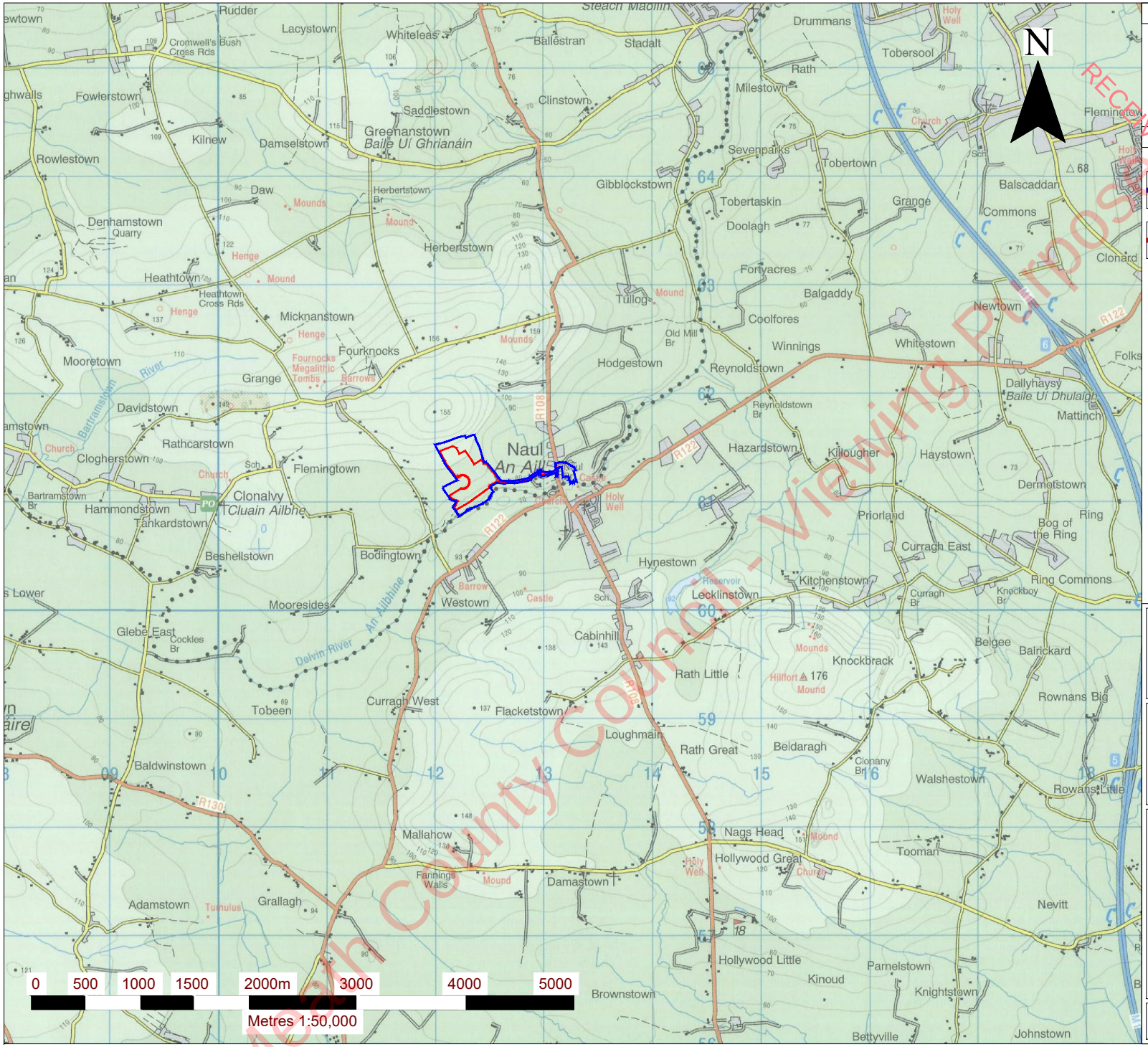
Access to the site will be through the existing agricultural commercial site entrance onto the R108 regional road which this application seeks to upgrade and improve to provide suitable geometry to accommodate manoeuvring of quarry vehicles. The proposed improvements will include upgrade of the farm access geometry including the provision of tapered access bellmouth, setting back of boundary wall to farm and road edge strengthening. The improvement works to the entrances will provide for improved visibility sightlines.

The existing access and the receiving road are lightly trafficked and will continue to be lightly trafficked in the context of the ultimate capacity of the simple priority access arrangement. The relatively low levels of network and development traffic can be appreciated from a site visit. The existing HGV traffic entering and exiting the existing concrete batching plant does not give rise to capacity issues at local junctions and there are unlikely to be any capacity issues arising at the existing site access. Given the net reduction in traffic on the greater receiving road network there will be no impact upon the capacity of other junctions.

4.12 Interaction of the Foregoing

The interactions of the various potential impacts and mitigation measures have been covered, where applicable, under the relevant sections within the EIAR.

FIGURES



NOTES

1. Extract from Ordnance Survey Discovery Series Map No. 43

2. Ordnance Survey Ireland Licence No. CYAL50381397 (c) Tailte Éireann - Surveying

LEGEND

LAND INTEREST AREA c.25 HECTARES (c.61.8 ACRES)

APPLICATION AREA c.14.9 HECTARES (c.36.8 ACRES)

Kilsaran
ideas taking shape

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EIAR NON-TECHNICAL SUMMARY

SAND & GRAVEL DEVELOPMENT
AT NAUL TOWNLAND, CO. MEATH

SITE LOCATION MAP

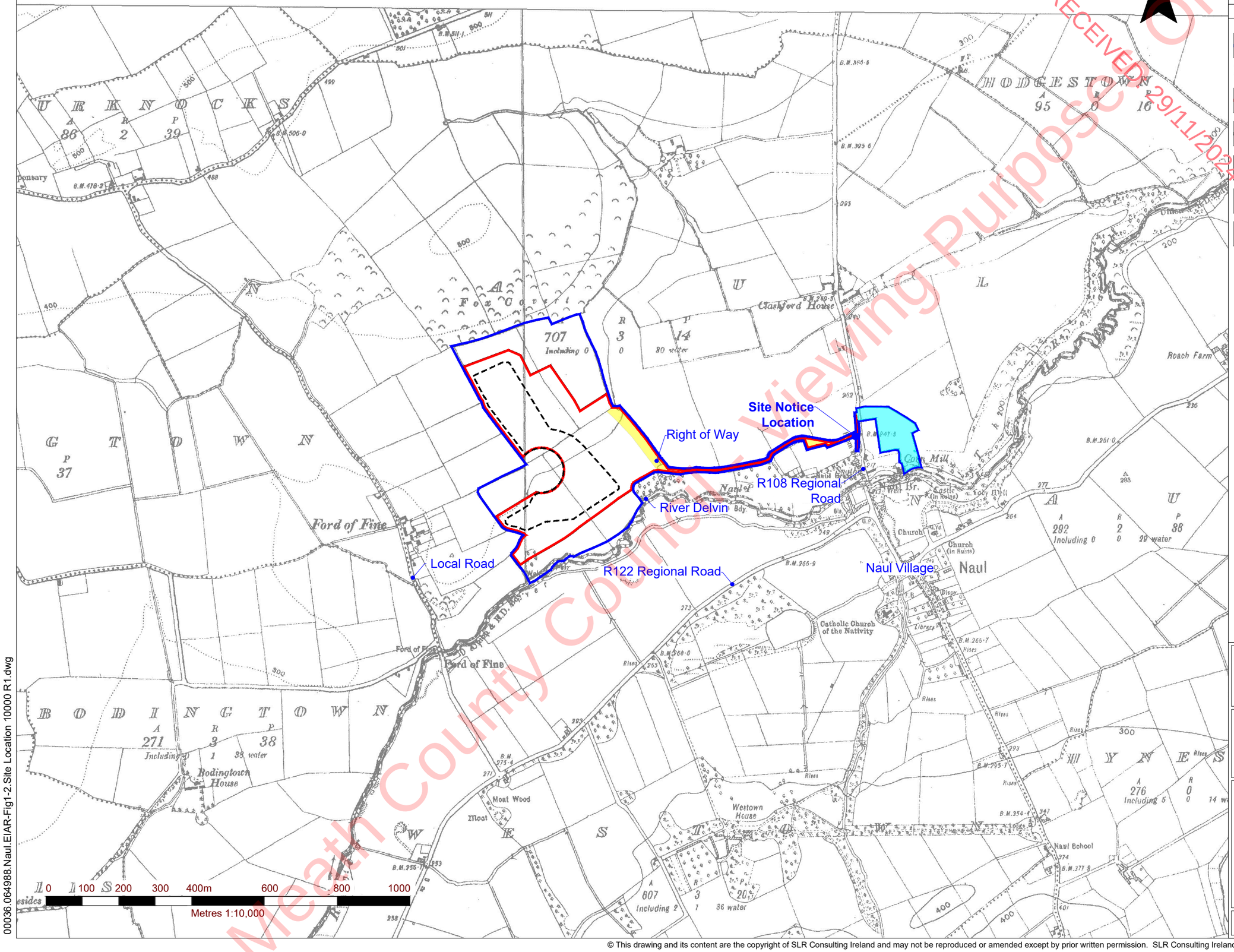
FIGURE NTS-1

Scale: 1:50,000 @ A4

Date: OCTOBER 2024

00036.064988.Naul.EIAR-Fig1-1.Site Location 50000 R1.dwg

Last Edition 6 Inch Map



NOTES

1. Extract from 6 inch scale Ordnance Survey Mapping - Raster Maps 9900-21, 9900-26, DN004, MH033, MH034

2. Ordnance Survey Ireland Licence No. CYAL50381397 (c) Tailte Éireann - Surveying

LEGEND

- LAND INTEREST AREA c.25 HECTARES (c.61.8 ACRES)
  Cyan Shaded Area = Kilsaran Ownership
  Remainder = Third Party Ownership with Lease Agreement
- APPLICATION AREA c.14.9 HECTARES (c.36.8 ACRES)
- PROPOSED EXTRACTION AREA c.6.2 HECTARES (c.15.3 ACRES)
- EXISTING KILSARAN BATCHING PLANT P.REFS. 80/572 & 22/153 (ABP-314881-22)
- SHED / COMMERCIAL STRUCTURE
- RESIDENTIAL PROPERTY

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EIAR NON-TECHNICAL SUMMARY

SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

SITE LOCATION MAP

FIGURE NTS-2

Scale	Date
1:10,000 @ A3	OCTOBER 2024

00036.064988.Naul.EIAR-Fig1-2.Site Location 10000 R1.dwg

OSi PLACE Map

N

Naul

Site Notice at Site Entrances

Right of Way

R108 Regional Road

Naul Village Boundary

An Aill Naul

Graveyard

Local Road

Quarry

Co. Meath

Co. Dublin

River Delvin (County Boundary)

R122 Regional Road

An Baile Thiar Westown

Bodingtown

Delvin River

0 50 100 150 200m 300 400 500

Metres 1:5000

NOTES

1. Extract from 1:2,500 scale Ordnance Survey Mapping - Digital Maps 2648-B & 2649-A
2. Ordnance Survey Ireland Licence No. CYAL50381397 (c) Tailte Éireann - Surveying

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EIAR NON-TECHNICAL SUMMARY

SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

SITE LOCATION / SITE NOTICES MAP

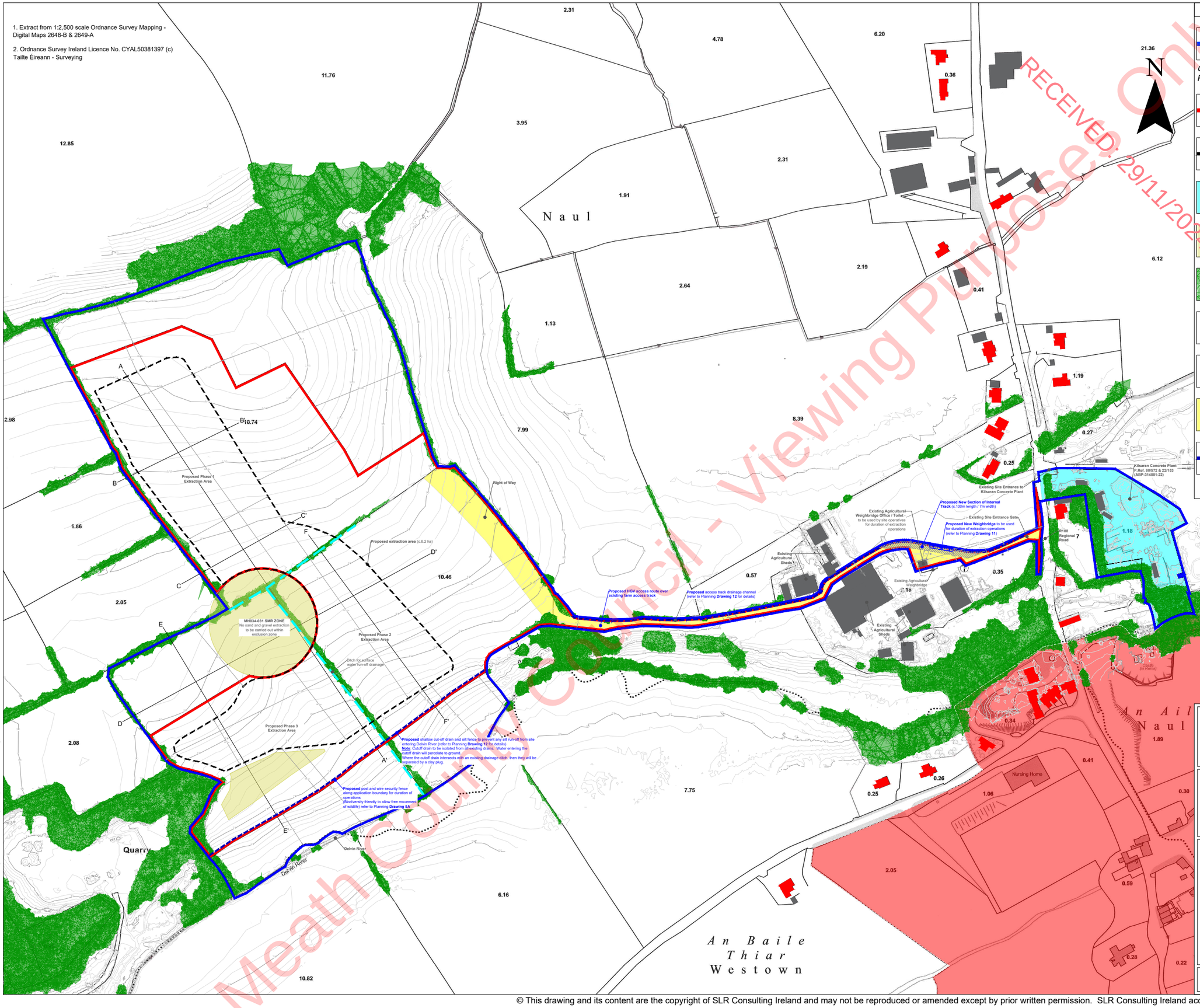
FIGURE NTS-3

Scale	Date
1:5,000 @ A3	OCTOBER 2024

00036.064988.Naul.EIAR-Fig1-3.Site Location 2500 R1.dwg

1. Extract from 1:2,500 scale Ordnance Survey Mapping - Digital Maps 2648-B & 2649-A

2. Ordnance Survey Ireland Licence No. CYAL50381397 (c) Tailte Éireann - Surveying



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- EXISTING VEGETATION / HEDGEROWS
- SHED / COMMERCIAL STRUCTURE
- RESIDENTIAL PROPERTY
- RIGHT OF WAY
- **PROPOSED** DRAINAGE DETAILS (REFER TO PLANNING DRAWING 12)

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EIAR Non-Technical Summary

PROPOSED SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

EXISTING SITE LAYOUT

FIGURENTS-4

Scale	Date
1:4,000 @ A3	OCTOBER 2024

00036.064988.Naul.EIAR Fig2-1 Existing Layout R2.dwg

Naul

N

RECEIVED: 29/11/2024

Viewing Purposes Only

Meath County Council

Proposed post and wire security fence along application boundary for duration of operations (Biodiversity friendly to allow free movement of wildlife) refer to Planning **Drawing 5A**

Overburden Movement

Phase **1C**
Topsoil Stripping Year 2
S&G Extraction Years 3-4
Restoration Year 5

Phase **1B**
Topsoil Stripping Year 2
S&G Extraction Years 2-3
Restoration Year 4

Phase **1A**
Topsoil Stripping Year 1
S&G Extraction Years 1-2
Restoration Year 12

Topsoil Storage Phases **1B/1C**
Stripped in Year 4 and grass seeded. Returned for reinstatement in Years 4 & 5 when extraction moves to Phase 2

Overburden Storage Phase **1A**
Grass seeded for duration of operations until final site restoration

Topsoil Storage Phase **1A**
Grass seeded for duration of operations until final site restoration

Access Track

Proposed New Section of Internal Track (c.140m length / 7m width)

Right of Way

Proposed fence surrounding the archaeological buffer zones

MH034-031 SMR ZONE
No sand and gravel extraction to be carried out within exclusion zone

Phase **2A**
Topsoil Stripping Year 5
S&G Extraction Years 5-7
Partial Restoration Year 8

Phase **2B**
Topsoil Stripping Year 5
S&G Extraction Years 7-8
Restoration Year 9

Overburden Movement

Phase **3A**
Topsoil Stripping Year 9
S&G Extraction Year 9-10
Restoration Years 10 & 11

Phase 3A *Proposed Amended*

Overburden Movement

Phase **3B**
Topsoil Stripping Year 9
S&G Extraction Year 10-11
Restoration Year 12

Archaeological Exclusion Zone

Topsoil Storage Phases **3A/3B**
Stripped in Year 9 and grass seeded. Returned for reinstatement in Years 11-12 when extraction finishes and final restoration carried out

Topsoil Storage Phases **2A/2B**
Stripped in Year 5 and grass seeded. Returned for reinstatement in Years 8 & 9 when extraction moves to Phase 3 and final restoration works

Proposed HGV access route over existing farm access track

Proposed access track drainage channel (refer to Planning **Drawing 12** for details)

Proposed shallow cut-off drain and silt fence to prevent any silt run-off from site entering Delvin River (refer to Planning **Drawing 12** for details)
Note: Cutoff drain to be isolated from all existing drains. Water entering the cutoff drain will percolate to ground.
Where the cutoff drain intersects with an existing drainage ditch, then they will be separated by a clay plug.

Proposed post and wire security fence along application boundary for duration of operations (Biodiversity friendly to allow free movement of wildlife) refer to Planning **Drawing 5A**

Existing Site Entrance to Kilsaran Concrete Plant

Existing Agricultural Weighbridge Office / Toilet - to be used by site operatives for duration of extraction operations

Proposed New Section of Internal Track (c.100m length / 7m width)

Existing Site Entrance Gate

Proposed New Weighbridge to be used for duration of extraction operations (refer to Planning **Drawing 11**)

Existing Agricultural Sheds

Existing concrete surface between entrance and existing agricultural weighbridge

Existing Agricultural Weighbridge

Existing Agricultural Sheds

Nursing Home

Delvin River

Delvin River

Delvin River

Quarry

An Baile Thiar
Westown

1.86
2.05
2.08
10.82
14.19
6.16
7.75
7.99
10.46
1.13
2.64
2.19
8.39
0.41
0.57
0.25
2.33
0.34
0.32
0.26
0.25
1.06
2.05
3.33

NOTES

1. Extract from 1:2,500 scale Ordnance Survey Mapping - Digital Maps 2648-B & 2649-A
2. Ordnance Survey Ireland Licence No. CYAL50381397 (c) Tailte Éireann - Surveying

LEGEND

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- EXISTING VEGETATION / HEDGEROWS
- SHED / COMMERCIAL STRUCTURE
- RESIDENTIAL PROPERTY
- RIGHT OF WAY
- EXISTING VEGETATION / HEDGEROWS TO BE REMOVED
- ACCESS TRACK
- DIRECTION OF WORKING / EXTRACTION
- TOPSOIL MOVEMENT
- OVERBURDEN MOVEMENT
- PROPOSED DRAINAGE DETAILS (REFER TO PLANNING DRAWING 12)

Kilsaran
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EIAR Non-Technical Summary

PROPOSED SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

PROPOSED PHASING OVERVIEW SAND & GRAVEL EXTRACTION AREA

FIGURE NTS-5

Scale: NTS @ A3

Date: OCTOBER 2024

00036.064988.NaulEIAR Fig2-2 Proposed Phasing Overview R2.dwg

RESTORATION PROPOSALS

It is proposed to restore the lands at Naul townland, Co. Meath to an agricultural land use, which is one of the beneficial afteruses recommended in the EPA Guidelines 'Environmental Management in the Extractive Industry' (2006).

The proposed restoration works will be carried on a phased basis.

The main aim of the phased restoration works is to keep the area worked at any one time to a minimum (e.g. the northern part of the site, i.e. the Restoration Phase 1 area, will be fully restored to an agricultural land use while the Restoration Phase 2 area is worked and before the south-western parts of the site, i.e. the Restoration Phase 3 area, is stripped).

The phased restoration will also keep the handling/movement of topsoil and overburden to a minimum. In effect the topsoil and overburden stripped from any one area will be used in the restoration of that area. This will provide sufficient topsoil material for each of the areas, which will then be re-used for tillage or seeded with a suitable agricultural grass seed (in case of grass seeding: prior to any seeding works surface preparation and final cultivation will be carried out in accordance with current best practice. Seeding to take place whilst suitable weather conditions prevail. The sowing specifications will be as per the manufacturer's instructions).

In order to compensate the loss of approximately 180m of native hedgerows within the proposed sand and gravel extraction area, as well as to provide screening of the upper pit slope along the north-western boundary, a total of 430m of native hedge will be planted within the site (230m as part of Restoration Phase 1, i.e. by year 5 and 200m as part of Restoration Phase 3, i.e. by year 12). Refer to the planting notes below for more detail. In addition, a section of native hedgerow (c. 40m) is proposed to be planted between the new wall and fencing along the upgraded boundary of the existing concrete batching facility with the R108 regional road.

NATIVE HEDGE PLANTING NOTES

Species: All proposed species are native and present in local vegetation.

Planting Specification (for sand and gravel extraction area only): Two rows to be planted at 40cm centres with rows 40cm apart (i.e. 2.5 plants/m; approx. 430m in total = 1,075 plants; Restoration Phase 1: 575 plants; Restoration Phase 2: 500 plants). Transplants to be planted randomly with no more than 3 plants of the same species in one group. Feathered Transplants to be planted approximately every 8m, to be single staked and to be maintained as hedgerow trees.

All plants to be protected with spiral guards or alternatively with rabbit proof fencing. All plant handling, planting and establishment works will be carried out in accordance with current best practice and will take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions. The planting will be carried out by a suitably qualified landscape contractor.

Aftercare: Establishment maintenance will be carried out for 2 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of tree ties and spiral guards.

NATIVE HEDGE MIX

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age*	*%*
Transplants/Container Grown Shrubs					
160	Corylus avellana	Hazel	60-90	1+0	15
330	Crataegus monogyna	Hawthorn	60-90	1+1	30
160	Ilex aquifolium	Holly	60-80	2L	15
215	Prunus spinosa	Blackthorn	60-90	1+0	20
160	Sambucus nigra	Elder	60-90	1+1	15
Feathered Transplants					
50	Quercus robur	Pedunculate oak	175-200	2xTR	5

NOTES

*'Orthomosaic produced from Aerial Photography flown **February 2019** by SLR Consulting Ireland (IAA Permit No. 150052) www.slrconsulting.com Tel. +353-1-2964667.*

Orthomosaic produced using Ground Control Points; Related to Irish Transverse Mercator Coordinate System and OS Malin Head Level Datum.

The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of textures, image quality, overlap, and type of terrain. Contours / 3D data relates to the surface model and not terrain levels. Typical accuracies: E: 0.05 m; N:0.05 m; Levels: 0.30 m.

All Dimensions and Levels are to be checked on site.

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LEGEND

- LAND INTEREST BOUNDARY
- APPLICATION AREA
- ARCHAEOLOGICAL BUFFER ZONE

RESTORATION PROPOSALS

- RESTORATION PHASE 1 (YEAR 5): AGRICULTURAL USE
- RESTORATION PHASE 1 (YEAR 5): NATIVE HEDGE
- RESTORATION PHASE 2 (YEAR 9): AGRICULTURAL USE
- RESTORATION PHASE 3 (YEAR 12): AGRICULTURAL USE
- RESTORATION PHASE 3 (YEAR 12): NATIVE HEDGE

NOTE: Restoration proposals shown relate only to the Sand and Gravel Extraction elment of the application and not the existing Concrete Batching Facility on the eastern side of the R108 regional road which is an existing permitted facility [P. Ref. 80/572 & 22/153 (ABP-314881-22)].

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EIAR Non-Technical Summary

PROPOSED SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

PROPOSED FINAL RESTORATION

FIGURE NTS-6

Scale	Date
1:2,500 @ A3	OCTOBER 2024

00036.064988.Naul.EIAR Fig2-6 Restoration R3.dwg