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Environmental Impact Assessment Report (EIAR)
Volume 1: Non-technical Summary

For

Sancom Ltd

Pertaining to

The Development and Operation of a Material Recovery Facility at Graney West, Castledermot, Co. Kildare.

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1. Introduction

1.1 General

Sancom Ltd is a company involved in quarrying of materials for use in the construction industry. Sancom have operated a sand and gravel quarry facility at one of its sites based in Graney West, Castledermot, Co. Kildare. The quarry is no longer operational as all useful materials have been extracted.

Sancom Ltd propose on establishing and operating a Material Recovery Facility at this worked out quarry site situated in Graney West, Co. Kildare. The principal activity will involve the use of imported, uncontaminated soil and stone, sourced from construction sites, to backfill and restore the worked out quarry. It is also proposed to carry out a number of secondary waste recovery activities on-site, namely the recovery of a number of construction and demolition waste streams.

It has been determined that the proposal will need to be subject to an EIA as the proposed waste recovery activity constitutes a class of activity which requires EIA under the Environmental Impact Assessment (EIA) Directive. The purpose of the Environmental Impact Assessment (EIA) process is to identify and describe the likely, significant impacts of a project on the environment. An Environmental Impact Assessment Report (EIAR) considering the Proposed Development has been completed.

This document contains a Non-technical Summary (NTS) of the EIAR. This NTS aims to be a condensed and easily followed version of the Main Body of the EIAR. The purpose of the NTS is allow readers who do not have the appropriate technical knowledge or experience develop an understanding of the Project and its potential impact upon the environment.

2. Proposed Development

Sancom Ltd propose on establishing and operating a Material Recovery Facility at a worked out quarry situated in Graney West, Co. Kildare. The principal activity will involve the use of imported, uncontaminated soil and stone, sourced from construction sites, to backfill and restore the worked out quarry. Sancom Ltd intend on accepting a maximum of approximately 1.8 million tonnes of soil and stone material on-site for backfilling over the course of 25 years.[1]

The proposed activity above will be for the purposes of recovering said materials through land deposition, and to achieve the improvement and development of land and site restoration and will be in accordance with Condition 3 (a) of the planning permission for the existing quarry (Planning Ref. 06/2802) which requires that restoration operations shall be carried out in a progressive manner throughout the life of the proposed development to control the scale of development and in the interests of visual and residential amenity and the proper planning and sustainable development of the area.

The material accepted on-site for backfilling will be inert and will comprise subsoil, clay, gravels, topsoil, stone and mixtures of such. These materials will be sourced from construction sites in the Greater Dublin Area. The exact sites of sourcing are not yet known.

The proposed activity will include the placement of cover soils and seeding and return to use as agricultural grassland as prescribed for in the existing planning permission for the site (Planning Ref. 06/2802 Condition 12).

In addition to the principal waste activity described above, it is proposed to carry out the following Construction and Demolition waste recovery activities on-site:

- Intake of top-soil, screening at existing screening plant and resale of such material,
- Intake of gravel and sands, washing at existing washing plant and resale of such materials,
- Intake of concrete, concrete crushing using concrete crushing equipment, mixing with sand and gravel before being fed to the washing plant to form aggregate, and resale of such material, and;
- Intake of garden waste, shredding and composting of this waste for use for agricultural land spreading.

A maximum of 99,500 tonnes of construction and demolition related waste material will be accepted on-site per annum. The total area of the application site is 19.2 hectares inclusive of site access roads. The fill area is 13.65 hectares in size. The Construction and Demolition Material Recovery Area is 4.4 hectares in size. A Waste Licence will be obtained for the proposed waste recovery activities under the Waste Management Act, as amended.

[1] Considering a fill area volume of ca. 1,054,949 m3 and assuming an average imported soil density of 1.8 t/m3.

As part of the Proposed Development it is proposed to construct a new site access road running south of the site to the L4015 Castledermot to Baltinglass Road and a new site entrance onto this road designed to appropriate standards. It is also proposed to install/develop the following on-site: a weighbridge, a wheel wash, a stockpile and sorting area, the appropriate material recovery plant and equipment, a waste inspection and quarantine area, surface water treatment infrastructure and external lighting. Existing plant, equipment, site infrastructure and settlement ponds situated on-site will be utilized for proposed site activities. A Bunded Fuel Storage area currently present on-site will be upgraded.

The location and spatial extent of the proposed development is shown in Site Layout Plans which adjoin the Planning Application (Drawing Ref: DWG Nos. 002/C1-C4). Proposed contours of the fill area are shown in proposed contours drawings which adjoin the Planning Application (Drawing Ref: 002/E2-E3). Details of the proposed landscaping works and the Landscape Restoration Plan for site adjoin the Planning Application (Drawing Ref: 1467-002). Further details on site infrastructure, site preparation works and operations and processes are shown in Sections 5.3, 5.4 and 5.5. of the Main Body of the EIAR.

3. Effects on the Environment

This EIAR considered the following environmental topics when assessing environmental impacts:

- Population and Human Health
- Biodiversity
- Land and Soils
- Water
- Air and Climate
- Noise
- Material Assets
- Traffic and Transport
- Cultural Heritage
- Landscape
- Indirect Impacts, Cumulative Impacts and Interactions

Each of the above was considered in detail, having regard to the receiving, baseline environment, the likely impacts of the proposed activity, and the means of reducing the impacts of the proposed activity. The interaction of the above and cumulative impacts was also considered.

3.1 Population and Human Health

The proposed activity has the potential to impact human beings in a number of ways and may have impacts upon population, health and safety, tourism, recreation, air quality, noise, traffic and economic activity.

A desktop study and site walkover was carried out in order to assess the effects of the proposed development on population and human health. Other environmental topic chapters were cross referenced when developing this chapter (Noise and Vibration, Air and Climate, Landscape.

The application site is situated in the townland of Graney West approximately 2 km south east of the town of Castledermot, Co. Kildare. The L4015 Castledermot to Baltinglass Road runs approximately 650 metres south of the site. The site is surrounded on all sides by agricultural land with sparse one off housing interspersed. A number of one off residential dwellings are situated in close proximity to the proposed development site. A total of 12 residential properties are situated within 500 metres of the application site boundary.

The restoration of quarry voids on-site and the use of restored land for agricultural benefit will have a long term, positive impact on the local environment in terms of landscape character and visual amenity.

Proposed development activities may have an adverse impact upon surrounding residential receptors. In particular, proposed site activities may result in excessive noise and dust affecting residential amenity, visual impacts upon sensitive receptors and impacts upon traffic in the local area. Various Mitigation Measures relating to Dust, Noise, Landscape and Visual Impacts and traffic and Transport will be implemented to prevent and control potential impacts upon surrounding residential receptors. It is not anticipated that the proposed development will have any significant, negative impact on residential amenity, local amenity, traffic or human health following the adoption and implementation of the mitigation measures proposed.

It is anticipated the proposed development, namely the restoration of the existing quarry will have a long-term, slight to moderate positive impact on visual amenity in the local area. It is anticipated that the proposed development will have a minor but very positive impact on employment levels in the locality given that a small number of jobs will be secured in the long term.

3.2 Biodiversity

The chapter on Biodiversity assessed potential impacts on sensitive receptors within the site of the worked-out quarry in Graney West, Co. Kildare and its immediate surroundings. The proposed site is located approximately 2km from the Natura 2000 site - River Barrow and River Nore SAC, via surface water connectivity with River Graney which connects to the SAC by feeding into River Lerr at Castledermot Town. Qualifying Interests of River Barrow and River Nore SAC that are within the zone of influence include: Alluvial Forests [91E0], Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260], White-clawed Crayfish (Austropotamobius pallipes) [1092], Sea Lamprey (Petromyzon marinus) [1095], Brook Lamprey (Lampetra planeri) [1096], River Lamprey (Lampetra fluviatilis) [1099], Atlantic Salmon (Salmo salar) [1106], Otter (Lutra lutra) [1355] and Freshwater Pearl Mussel (Margaritifera margaritifera) [1029].

A further two Natura 2000 sites were identified as within 15km of the proposed site: Slaney River Valley SAC and Holdenstown Bog SAC. The potential impacts on these three Natura 2000 sites are discussed further in the Natura Impact Statement.

There are two proposed Natural Heritage Areas within the zone of influence of the proposed site, namely Corballis Hill pNHA and Oakpark pNHA. However, due to distance from the site and their location, these pNHAs are not anticipated to be significantly impacted by the proposed works.

Other habitats and species which could be impacted by the proposed works include treelines, scrub, exposed sand, gravel or till, reed and large sedge swamps, depositing/lowland rivers, aquatic fauna, otter, badger, small mammals, bats and breeding birds (in particular Sand Martin).

Impacts at a local and regional level include:

- Potential pollutants and sedimentation impacting on water quality could impact on aquatic fauna and otter
- Fragmentation of otter habitat due to the construction of a new access road crossing River Graney
- Loss of foraging habitat for small mammals and dust deposition may impact on their food sources (plants and invertebrates)
- Disturbance to badgers caused by increased human activity at the site.
- Loss of nesting habitat for Sand Martin due to loss of vertical sand and gravel banks and potential loss of individuals
- Lighting during hours of darkness would reduce the quality of foraging and roosting habitat for bats and small nocturnal mammals

Mitigation measures for prevention of pollutions and sediment to enter the watercourses and dust control are included for both the construction and operation phase which will protect aquatic fauna and sensitive habitats.

Mitigation for otter will include the incorporation of mammal ledges under the bridge for the proposed access road where it crosses River Graney. A mammal resistant fence will be installed along this section of the road to prevent otters and other mammals from crossing the road.

A dense hedgerow of native species will be planted between the active badger sett and the site of works before the works start, to ensure a 30m buffer to the badger sett where no works are taking place and mitigate for potential disturbance.

Removal of Sand Martin nesting habitat will take place during the non-breeding season (i.e. October to February) to avoid any potential risk of direct mortality of individuals. Replacement habitat consisting of an artificial bank with burrows will be created in the south-west of the site, along the western boundary.

The lighting design will incorporate bat-friendly measures and will thus alleviate the impact on bats and other nocturnal mammals.

Planting of native trees and plants along the boundaries, as detailed in the planting plan, will provide additional habitat for birds and small mammals. The site will be restored on a phased basis and returned to grassland; similar to habitats in adjacent areas.

In conclusion, it is considered that through the implementation of appropriate mitigation, the proposed development is not predicted to have a significant impact on the species and habitats present. However, during construction and operation, there will be a slight negative residual impact on Sand Martin. In the long-term, the final restoration of the site would have an ecological value similar to surrounding agricultural grasslands.

3.3 Soils and Geology

The study area for the Soils and Geology chapter of the EIAR includes the proposed inert waste recovery facility, the existing site layout and the immediate surrounding area within approximately 1km of the site boundary.

The natural sand and gravel material has been extracted at the site previously and there is a former settlement pond in the central and southern regions of the site. The historical extraction at the site was a tied land use activity, being dependant on the available reserves of Sand & Gravel material. The land use at the site comprises a former worked out sand and gravel pit, settlement ponds and agricultural sheds and a fuel storage facilities.

The site is underlain by gravels derived from limestone which extend to the west, north and the east and a narrow band of alluvium along the southwestern site boundary (in the area of the settlement lagoons) which is separate from the River Graney alluvium. Other sediments in the area include Tills derived from limestone and granites and the alluvium along the route of the River Graney. There are no bedrock exposures at the site.

The bedrock geology beneath the site is mapped as Tullow Type 2 Granite, a microcline porphyritic granite with microcline phenocrysts. The depth to granite bedrock was recorded at the site ranging between 9.15 and 12.3m during the drilling of deep groundwater boreholes on-site in 2019. There are no sites designated County Geological Status within, or immediately adjacent to, the proposed development at Castledermot.

In terms of land, soils and geology baseline considered here the sensitive receptors are both land and soils, which are both of agricultural value and there is a potential impact on these. There will be no impact on subsoils or the bedrock geology.

With the restoration of the site to agriculture landuse the long term or residual impact, on the loss of agricultural land is considered to be low. The recovery of the inert waste material at the site and the restoration of the former landform will facilitate the restoration of soils across the site and the beneficial landuse in terms of agriculture and ecological habitats. Therefore, the residual impact of the proposed recovery facility will be both positive and beneficial for the land.

3.4 Water

This section provides a description of the existing hydrological (surface water) and hydrogeological
(groundwater) setting at the regional and local scale, and an assessment of the impact of the proposed development on surface water and groundwater.

Rainfall across the site percolates naturally to the ground and there is limited discharge of water from the site to any surface water course. The vast majority of storm runoff from the placed inert material will infiltrate naturally to the ground.

There is no public water supply to the site. The water requirement for site activities would be mainly for the washing of sand and gravels. Water for these purposes would be sourced from a groundwater abstraction point and a reuse of water from the settlement lagoons on-site.
If any imported waste is, or is suspected of being, non-compliant with the waste acceptance criteria then the material will be taken to a quarantine facility for examination and/or testing. The quarantine waste inspection facility comprises an existing covered shed over a sealed concrete slab; material in the shed will not come into contact with incident rainfall. And therefore, there will be no runoff from it.
Four (4 no.) Shell and Auger boreholes were drilled and installed as groundwater monitoring wells in 2017 around the perimeter of the site to a depth. The ground conditions were reported to comprise firm brown sandy gravelly clay overlying fine sand and dense medium gravels with large cobbles. The borehole logs did not record any groundwater strikes during drilling operations.

The scope of this section of the report includes an assessment of the existing surface water and groundwater conditions within the overall site, an assessment of the potential impact that the proposed development in the application area could have on surface water and groundwater and proposes any mitigation measures.

The site is located in within the River Barrow catchment, located in the South Eastern River Basin District. The River Graney flows to the south of the site from east to west within 100m of the southern site at its closest point. The River Graney is a stream which rises near Knockpatrick Hill and Corballis Hill and flows into the River Lerr at Castledermot. The River Graney and the River Lerr are tributaries of the River Barrow.

The site is located overlying the New Ross Groundwater Body (GWB) which is comprised of both moderately productive and unproductive aquifers. The site is underlain by granite bedrock, classified as a poor aquifer which is generally unproductive except for local zones (Pl).
Groundwater vulnerability maps indicate that the groundwater vulnerability beneath the overall site is classified as being High (H), with a significant thickness (>3m) of unsaturated sand and gravel material above the groundwater table.

Groundwater levels recorded in July 2007 within the shallow monitoring wells BH1 to BH4 indicate that groundwater is flowing in westerly direction across the site towards the Graney River and following the topographical relief of the area.

There are no source protection areas or public water supply (PWS) schemes within 3km of the site.

Groundwater quality results from three wells indicate that the groundwater is generally of good quality with levels generally below the relevant groundwater quality threshold values, except for Nitrate , Ammoniacal Nitrogen and hydrocarbons. The Nitrate and Ammoniacal Nitrogen levels were primarily recorded in upgradient wells and are attributed to surrounding agricultural activities to the site. The positive, albeit at relatively minor levels, of hydrocarbons detected in GW2 is potentially attributed to the historical fuel storage and refuelling activities on the site, located upgradient of this well.

Proposed discharges to surface water from a dedicated settlement pond will be temporary only and will only occur during periods of sustained and elevated rainfall events. Water within these ponds will be recycled within the washing plant to minimise the abstraction of groundwater and any overflows to surface water from the ponds. It is envisaged that as the site is infilled over time, the settlement ponds will be infilled there increasing ground levels in the area and reducing the requirement for settlement ponds with overflows to the river.

The proposed infilling operations will be above the groundwater level; the infilling will increase the thickness of unsaturated material above the water table at the site and this is considered positive as it offers the groundwater beneath the site additional protection.

There is no dewatering associated with the proposed development and therefore there will be no impact on groundwater quantity.

The proposed restoration will use inert material only. However, in the event of the unintentional importation of non-inert material there is the potential to impact on groundwater quality.

Mitigation measures are proposed to protect groundwater quality. With these mitigation measures in place it has been assessed that there will be no residual negative impacts on the receiving water environment.

A programme of groundwater level, surface water and groundwater quality monitoring is proposed at the site.

3.5 Air and Climate

This chapter of the Environmental Impact Assessment Report, prepared by Environmental Efficiency Consultants, describes and characterizes the existing air environment in the vicinity of the application site and assesses the impact proposed development activities will have upon the receiving air environment. Proposed development activities will have the potential to generate fugitive dust emissions which may impact upon local air quality and nearby sensitive receptors. As such, this chapter primarily addresses potential dust related impacts associated with the proposed development.

The site is situated in rural location dominated by agriculture and interspersed with one off housing. There are a small number of residential developments in the vicinity of the site, mainly to the east, north and south of the application site.

Generally, low levels of air pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, Co, O_3) have been recorded at EPA Monitoring Stations in the region. This is to be expected in a region that is predominantly rural in nature. Baseline Dust Monitoring using the Bergerhoff method was carried out at the application site over the month of May 2019 going into June 2019. Dust monitoring took place at three site boundary locations around the application site. Baseline dust levels recorded at the site were relatively low. The results of the dust monitoring undertaken are presented in the table below.

Location	Start Monitoring	End Monitoring	Date Analysed	Results ($mg/m^2/day$)
D1	01/05/2019	06/06/2019	14/06/2019	0.7
D2	01/05/2019	06/06/2019	14/06/2019	60.4
D3	01/05/2019	06/06/2019	14/06/2019	41

Note: The EPA Conventional Limit for Dustfall is 350 $mg/m^2/day$.

Give the small-scale magnitude of construction activities and the temporary nature of the site preparation works phase, and given the low number of receptors in proximity to the site, the distance these receptors are away from the site and the generally the low sensitivity of the local area, it is anticipated that construction dust and emission impacts will be negligible.

A total of 12 dust sensitive receptors within 500 metres of the site have been identified. A Dust Impact Assessment was carried out considering the Operational Phase of the Proposed Development in accordance with *Guidance on the Assessment of Mineral Dust Impacts for Planning* (May 2016 (v1.1)) which has been prepared by the Institute of Air Quality Management (IAQM). A qualitative risk-based approach using the Source-Pathway-Receptor concept defined in the Guidance Document has been adopted. Generally, there is a negligible to low risk the proposed development may adversely affect sensitive receptors surrounding the development site, given the proximity of sensitive receptors to dust generating activities.

The Dust Impact Assessment concluded however that a number of receptors in the receiving environment are likely to be subject to slight adverse dust effects as a result of dust generating activities associated with the proposed development. It is important to note however that this assessment does not take into account proposed mitigation measures.

Mitigation Measures have been developed in order to reduce the potential impact of dust upon the closest receptors. These are as follows:

- Tall trees will be planted along the northern, eastern and south western boundaries of the site prior to the commencement of the development in order to minimize dust impacts on the nearest sensitive receptors to the site (Receptors B, E & F). The presence of these trees will also serve to minimize the generation of wind-blown dust on-site. These trees will be maintained at a height of 14 metres. Tall trees planted at the northern and eastern perimeters of the fill area will be placed on 2 metre high screening mounds. Existing vegetation along the western boundary of the site will also be retained. These trees will remain in place for the duration of the operational phase and will remain a part of the restored site as semi-mature trees.
- Dusty plant, namely the Soil Screening Plant and Concrete Crushing Plant, will be situated towards the centre of the site and a good distance away from the site boundary. This will ensure that there is a significant separation distance between dusty plant and sensitive receptors off-site. The aforementioned plant will also be situated in a sheltered location behind stockpiles in order to minimize the potential for wind-blown dust affecting off-site receptors.
- The following good housekeeping measures will be employed to minimize the generation of dust and dust impacts on sensitive receptors.
- All waste collected and accepted on-site and all materials being transported off-site will be in sealed or covered vehicles only to prevent dust emissions on local roads and internally on-site associated with dustfall from waste contained on vehicles.
- Roadsweeping will be carried out to ensure the access road to the site and internal haul roads are kept clean from dusty materials.
- Water spraying using water bowzers will take place on haul roads and stockpiles during dry and windy days to dampen dust and prevent airborne dust generation.
- A speed limit of 10 kph will be strictly enforced on-site to prevent the turning up of dust associated with traffic movements on-site.
- Long term exposed surfaces e.g. top soil and overburden storage mounds will be vegetated/planted to reduce dust emissions.
- Soil handling will be minimized during adverse weather.
- The timing of operations will be optimized having regard to meteorological conditions.
- Imported soil will be compacted in-situ immediately after being unloaded to minimize wind-blown dust.
- Drop heights will be minimized to minimize dust generation.
- Site access roads and internal haul routes will be regularly re-gravelled in order to prevent deterioration of road conditions and consequent dust generation due to traffic movement.
- Plant operatives will avoid working in windy locations insofar as practicable. Operations will be carried out primarily in more sheltered locations.
- Training on dust mitigation measures will be provided to plant operatives. Plant operatives will be made aware of the nearest sensitive receptors to the site and the good housekeeping practices that should be implemented to prevent dust impacting upon these receptors.
- The slopes and the crest of the fill areas will be reseeded on a phased basis as the project progresses in order to bind the soil and prevent dust blow off.

It is proposed to carry out Bergerhoff dust monitoring at the three dust monitoring locations situated at the site boundary on a monthly basis. Dust monitoring results will be compared with the EPA's conventional limit value of 350 mg/m2/day in order to ensure dust is not having a negative effect on any off-site receptor.

With the adoption of the above mitigation measures is deemed that dust generating activities associated with the proposed development will not have a significant impact upon sensitive receptors in the baseline environment.

It is deemed that there will be no significant climate or odour impacts associated with the proposed development.

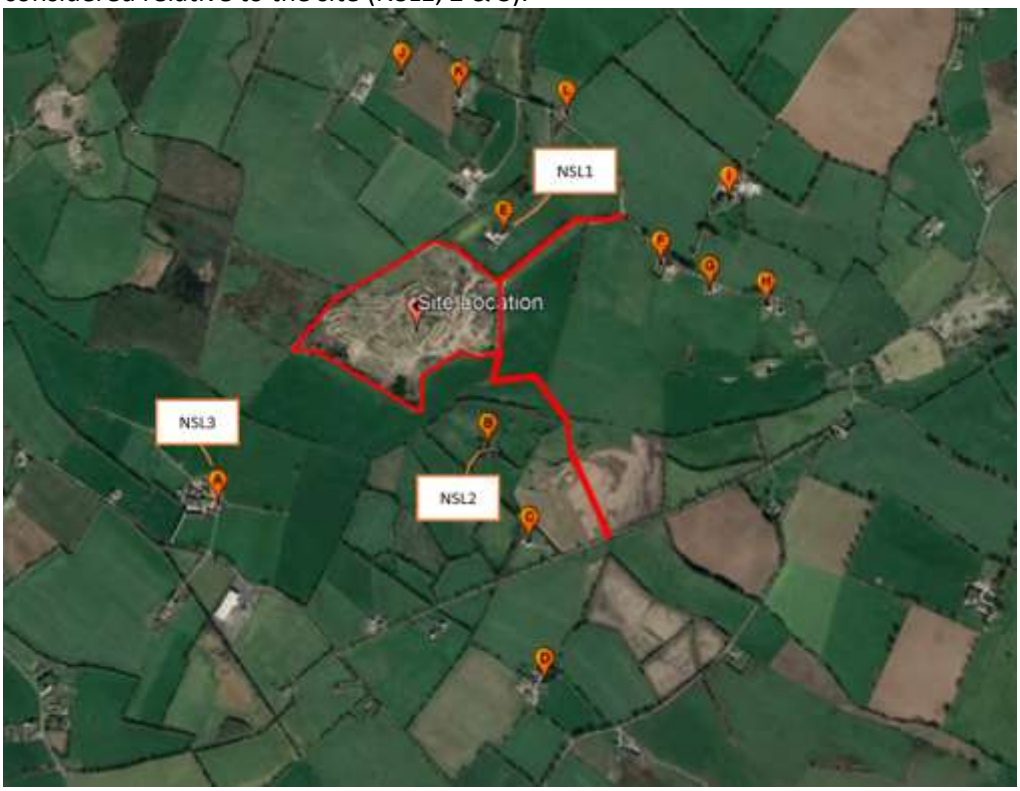
3.6 Noise

The purpose of this assessment was to determine the impact proposed operations associated with the proposed development would have on the surrounding noise environment, and in particular, sensitive receptors surrounding the site.

The site is situated in rural location dominated by agriculture and interspersed with one off housing. There are a small number of residential developments in the vicinity of the site, mainly to the east, north and south of the application site. These receptors are considered to be Noise Sensitive Locations (NSL's).

There are a number of noise sensitive locations in the vicinity of the site. Noise sensitive locations within 500 metres of the site have been identified. The prediction of noise impacts associated with the proposed development on three NSL's which are in the closest proximity to the site in varying cardinal directions has been carried out.

A Baseline Noise Survey took place on the 25th of August 2019 in order to assess current noise levels in the locality at each identified NSL. Noise monitoring runs took place during the morning, midday and evening. Noise Monitoring took place at one monitoring location labelled as NSL1. It can be assumed that the noise measurement readings at this location would be closely similar for all the closest NSL's in the vicinity of the site in each cardinal direction given the rural nature of the site. The figure below shows the location of each NSL considered relative to the site (NSL1, 2 & 3).



Given that proposed site preparation works will be small-scale and limited in nature, scale and duration, it is envisaged that there will be Not Significant to Slight, temporary noise impacts upon the character of the local area and nearby NSL's surrounding the site during this stage of the development. The following Mitigation Measures will be adopted during site preparation works in order to reduce noise associated with this phase of the proposed development:

- Construction operating hours shall be between 7am to 6pm Monday to Friday, and from 8am to 2pm on Saturdays. No construction activities shall take place outside of these operating hours.
- At the commencement of works all site staff are to be briefed on their responsibilities to the application of mitigation measures to minimise construction noise and the content of any planning permission.
- Brief all site staff regarding the complaints procedure and mitigation requirements and their responsibilities to register and escalate complaints received.
- Display contact details of responsible site manager as well as working hours and other site information at both site entrances.
- Limit material loading and unloading to normal working hours.
- Reduce loading / unloading heights for muck away and material movement to mitigate impact noise.
- Ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC.
- Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- Follow manufacturer's guidance and measures to operate plant and equipment and use it in a manner which minimises noise.
- Use all plant and equipment only for tasks for which it has been designed for.
- Shut down all plant and equipment in intermittent use in the intervening periods between works or throttle it down to a minimum.
- Locate and orientate fixed or semi-static plant away from noise sensitive receptors.
- Consider concrete pour sizes and plan the start of concrete pours as early as possible within normal working hours to avoid overruns.

A Noise Prediction Modelling Assessment was conducted to assess the noise impact operational phase activities will have at Noise Sensitive Locations (NSL's) in the vicinity of the site. This modelling assessment assumed a worst-case scenario (I.e. all plant operating at the same time at a point at the site boundary which is closest to each NSL)

The following noise sources will be present on-site during the operational phase of the Proposed Development.

- Fixed plant used for processing C&D Waste material
- Mobile Plant used for hauling and backfilling material on-site
- Heavy Good Vehicles used for hauling materials to and from the site

Noise Prediction modelling has determined that the assumed worst-case noise scenario will have a negligible impact on NSL1, NSL2 & NSL3 during all time periods.

Ambient Noise levels predicted at NSL's do not breach the EPA's prescribed day-time noise limit of 55 dB at any NSL (the facility does not operate during evening or night-time as defined by the EPA).

Mitigation measures for controlling and attenuating noise emanating from the site during operations are defined below. It is considered that the adoption and implementation of these mitigation measures will ensure noise will be controlled and maintained at an acceptable level.

The primary Mitigation Measures that will be implemented during the operational phase of the proposed development to attenuate noise emissions emanating from plant, equipment and processes on-site are as follows:

- Site operations will be restricted to between 07:00 - 18:00 Monday to Friday and 08:00 - 16:00 Saturday. No activity will take place outside these hours. The facility will operate under an EPA Waste Licence which will prescribe noise limit values to adhere to.
- A 2 metre high screening mound will be developed along the northern, eastern and southern site boundaries in order to attenuate noise emissions emanating from on-site plant and processes. These mounds will attenuate noise being directed from onsite activities toward NSL1 & NSL2 in particular.
- The Soil and Stone Screening Plant will be situated behind a 7 metre high proposed material stockpile. The presence of this stockpile will serve to impede and attenuate noise emanating from the Soil and Stone Screening Plant toward NSL1 and NSL2 in particular.
- The proposed Concrete Crusher will be located behind a 7 metre high proposed material stockpile. The presence of this stockpile will serve to impede and attenuate noise emanating from the Concrete Crushing Plant toward NSL1 & NSL2 in particular. The concrete crushing plant will be further enclosed by cantilever walls to minimize noise emanating from the operation of this plant.

In addition to the above, the following good practice mitigation measures for noise control on-site during the operational phase will be adopted and implemented in order to ensure operational phase noise levels are kept at an acceptable level:

- Chutes and hoppers will be lined with a damping layer (rubber lining) to minimize noise output from plant, where practicable. Manufacturers will be consulted in order to determine whether this is practicable.
- Drop heights will be kept to a minimum to minimize noise arising due to material handling.
- Plant and equipment will be serviced and maintained regularly and in line with manufacturer specification (e.g. lubrication of equipment, fixing loose parts, proper balancing)
- Silencers will be used on engines present on-site, where practicable. Manufacturers will be consulted in order to determine whether this is practicable.
- The unnecessary revving of engines and the idling of mobile plant and HGV's will be avoided.

- Backfilling and C&D Processing activities will only take place during the designated day-time operating hours (07:00 - 18:00 Monday to Friday and 08:00 - 16:00 Saturday).
- Plant will be orientated in such a manner that noise is directed away from NSL's, in particular NSL1 and NSL2 which are nearest to the site.

It is proposed to carry out day-time Environmental Noise Monitoring at NSL1, NSL2 and NSL3 during the operational phase of the proposed development on an annual basis to ensure the EPA prescribed day-time noise limits for mineral sites is not breached at these NSL's.

With the adoption of the above Mitigation Measures, it is deemed that noise impacts upon NSL's as a result of Proposed Development activities will be negligible.

3.7 Material Assets

The purpose of the assessment is to ensure that the impact of the proposed development on these material assets is assessed and mitigation measures are developed to control any likely significant adverse impacts on material assets as a result of the proposed development.

The effects of the proposed activity on material assets within the locality have been assessed under the following headings:

- Housing and Settlement
- Built Services
- Waste Management

The site is situated in rural location dominated by agriculture and interspersed with one off housing. A number of one off residential dwellings are situated in close proximity to the proposed development site. A total of 11 residential properties are situated within 500 metres of the application site boundary either of the L4015 Castledermot to Baltinglass Road or the L8100 situated to the east of the site. The nearest sensitive receptor is a one off house and is approximately 110 metres north east of the main site boundary. There are no other property types situated in the local area surrounding the site apart from these residences and their associated curtilages. There are no significant tourism and recreational sites or areas in the local area surrounding the site. There is no commercial or industrial development in the vicinity of the site. There are no plans to develop any sites in the local area surrounding the site.

Mitigation measures proposed to control noise and dust emissions thereby minimizing impacts upon nearby properties are detailed in the Noise and Vibration and Air and Climate Chapters respectively.

Mitigation measures to minimize and control impacts on material assets in the form of nature, soil, groundwater, surface water and landscape are detailed in the following relevant EIAR Chapters.

- Chapter 7 – Biodiversity
- Chapter 8 – Land and Soils
- Chapter 9 – Water
- Chapter 15 – Landscape

The following measures are proposed in order to minimize light pollution which may affect nearby properties:

- Visors will be provided on exterior lighting in order to minimize light spill in sensitive areas. Flat glass type luminaires with full cut off will be provided. There will be no tilt on the luminaires.
- The site lighting will be switched off doing non-operational hours.
- Sensor controlled lighting will be provided. Each lighting pole will be fitted with a movement detector and only activated when it detects a hum approaching.
- Luminaires will be lower intensity LED. A warm white spectrum (less than 2700K) will be used to reduce the blue light component.
- Lighting on the access road and at the site entrances/junctions with public roads will be dimmable. All fittings will be mounted on poles 6 m or less.

Finally, exclusion zones and no-tip zones will be maintained around low voltage overhead lines crossing site access roads during any construction or road resurfacing works to prevent line strikes in accordance with the minimum safety controls defined in the ESB's Code of Practice for Avoiding Danger from Overhead Lines.

It is considered unlikely that the proposed development will have any significant adverse impact on material assets in the surrounding, receiving environment given the mitigation measures proposed.

The development of this sizable soil and C&D waste facility will have a long-term, significant, positive impact on regional waste infrastructure, increasing soil and C&D waste recovery capacity in the region.

3.8 Traffic and Transport

Introduction

Transport Insights has been commissioned by Sancom Limited to prepare an Environmental Impact Assessment Report (EIAR) Traffic and Transport Chapter in relation to a proposed development at Graney West, Castledermot, County Kildare. This non-technical summary provides a summary of the traffic chapter of the EIAR.

Overview of Proposed Development

The proposed development consists of a waste recovery facility which will be operated within an existing quarry site, which is not currently operational. The principal waste activity will involve the use of imported sub-soil and overburden, sourced from construction sites, to backfill and restore an existing void within the site created by previous extraction of materials. The total application area is 19.2 hectares, and Sancom Ltd intends accepting a maximum of approximately 1.8 million tonnes of soil and stone material on-site for backfilling over the course of 10 to 25 years, depending on market demand for disposal services.

In addition to the principal waste activity (soil for backfilling) outlined above, it is anticipated that 12,500 tonnes of sand and gravel, 12,500 tonnes of concrete, 1,500 tonnes of topsoil and 1,000 tonnes of organic waste will be accepted on-site per annum over the lifetime of the development i.e., 27,500 tonnes in total per annum over the 10-year period for resale (concrete) and land spreading (organic waste).

Access to the site will be via a proposed new priority-controlled site access junction with L4015.

Potential Impact of the Proposed Development

Construction Phase

Construction phase impacts will be short term in duration, with a construction programme of 6 months envisaged.

It is anticipated that on average 10 construction workers will be employed on the site, with peak numbers rising to 12 over a limited period of time. As part of the construction phase, it is also envisaged that there will be an average of 10 heavy goods vehicle (HGV) movements to and from the site per day, with peak HGV movements rising to 12 per day for a limited period of time. It is not envisaged that there will be any abnormal load movements. It is intended that all construction staff vehicles and HGVs will be fully contained within the proposed development site.

Working hours will be 08:00hrs to 18:00hrs Monday to Friday. Therefore, construction personnel will generally arrive before the AM network peak and depart after the PM network peak hours. Working hours on Saturdays and public holidays will be 08:00hrs to 13:00hrs with no extended working outside of this period.

Operational Phase

For the operation phase impact assessment, the do-nothing scenario reflects the background traffic factored up to reflect forecast growth over time with no development.

The do-something scenario reflects the do-nothing scenario in addition to the proposed development associated traffic. This would result in 4 light vehicle (LV) and 50 HGV two-way trips generated by the site each day.

In the '*do something*' scenario, traffic on L4015 (to the west of the proposed site access junction, which shall accommodate the majority of traffic movements) is anticipated to increase by 3.4% in 2020, 3.0% in 2025 and 2.7% in 2030 compared to the '*do nothing*' scenario, representing a small increase in traffic on the road.

Furthermore, the theorical capacity of this road for level of service D is 5,000 AADT and the projected traffic for 2030 is 3,045 AADT (includes background traffic and total development traffic). As a result of the proposed development's low traffic generation potential, L4015 is anticipated to continue to operate in a satisfactory manner in all analysed future assessment years.

Mitigation Measures

Two mitigation measures have been proposed in relation to the proposed development, namely a new site access junction along the L4015 to accommodate all HGV traffic accessing and egressing the site, and a site signage plan providing advance warning of HGV turning movements in the vicinity of the new site access junction.

Predicted Residual Impacts

The predicted residual impact of the proposed development in terms of traffic and transportation is that there will be a slight increase in both LVs and HGVs on the adjoining road network due to the operation of the proposed development.

3.9 Cultural Heritage

Irish Archaeological Consultancy Ltd has prepared this assessment on behalf of Sancom Ltd to study the impact, if any, on the archaeological and cultural heritage resource of the proposed development, which is located at Graney West, Castledermot, Co. Kildare within the townlands of Coltstown and Graney West (ITM 680376/684201). The assessment was undertaken by Faith Bailey of IAC Ltd.

There are five recorded monuments located within the vicinity of the proposed development that provide evidence of activity from the Bronze Age through to the medieval period. A recorded ringfort (KD040-012) is located to the immediate east of the proposed access route associated with the proposed works at the former quarry.

The existing quarry and access road have been in use for a considerable amount of time. It is likely that ground disturbances were the establishment and working of same has led to the removal of any archaeological remains. No potential impacts are predicted upon the archaeological or cultural heritage resource as a result of any proposed activities in this portion of the site.

It is proposed to upgrade the current access road to the main parcel of land from a regional road to the south. This road passes in close proximity to a recorded ringfort (KD040-012). It is possible that ground disturbances associated with the construction of the road may have a direct and negative impact on previously unrecorded archaeological remains that have the potential to survive beneath the current ground level, with no surface expression.

The vernacular cottage and range of outbuildings will remain in-situ are part of the proposed works. As such no negative impacts are predicted upon these structures.

It is recommended that all topsoil stripping associated with the proposed development within greenfield areas be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht.

It is the developer's responsibility to ensure full provision is made available for the resolution of any archaeological remains, both on site and during the post excavation process, should that be deemed the appropriate manner in which to proceed.

Please note that all recommendations are subject to approval by the National Monuments Service of the Heritage and Planning Division, Department of Culture, Heritage and the Gaeltacht.

3.10 Landscape

The landscape and visual impact assessment considered the potential effects of the proposed works on the landscape and visual amenity of the site and environs. Photomontages have been produced for the proposed development and have been selected to coincide with four key viewpoints around the site, they illustrate stages of visibility from existing views, during construction, implementation of construction stage mitigation and with full mitigation.
The assessment was based on the recommendations in the Guidelines for Landscape and Visual Impact Assessment (GLVIA) as published by the Landscape Institute (UK) and the Institute of Environmental Management and Assessment (3rd Edition, 2013). The landscape and visual assessment which was carried out over 12 months between 2019 and 2020, was undertaken through a combination of desk studies and field surveys by a chartered Landscape Architect.

The landscape character was assessed by definition of a Broad landscape character area and a Detailed landscape character area. The broad landscape character area was as defined in the Landscape Character Assessment (LCA) of the Kildare County Development Plan 2017-2023 The proposed development site is included within the southernmost part of the 'Eastern Transition' character area of the LCA, it is Class 2 Medium sensitivity- 'Areas with the capacity to accommodate a range of uses without significant adverse effects on the appearance or character of the landscape having regards to localised sensitivity factors.' The proposed development is within the southernmost section of this character area. The character area is generally defined by Corballis Hill (258m OD) to the north and Knockpatrick Hill (254mOD) to the south, these two hills are approximately 2km apart. The landscape was described as gently undulating in-between the two hills, sloping downhill in a westerly direction towards the River Graney to the south of the site and River Lerr (part of the River Barrow and Nore SAC) to the west (passing through Castledermot).

The boundary of the detailed landscape character area within which the proposed development sits was defined by landform and mature tree lines within 0.5 km radius of the site boundary.

The visual assessment described that nearest residential property is located approximately 80m north of the site boundary, the majority of properties with clear visibility of the site are located between 0.5 – 1.0km to the east and west of the site boundary. Designated views for protection and preservation were identified in the LCA of the County Development Plan. These are divided in to 3 categories: Scenic Routes, Hilltop Views and Scenic Viewpoints. The nearest Scenic Route to the proposed development is View 21 which is 2.8km from proposed development, View 26 is 4km from proposed development. The nearest Hilltop view to the proposed development is on Corballis hill 2.8km from the proposed development and in a westerly direction, a further hilltop view is located to the east of View 26 and on Hughestown Hill, in an easterly direction. There are no Scenic viewpoints in the broad landscape around the site for the proposed development.

In terms of impact on Landscape character the study assessed that the impact of the proposed development on the broad landscape is a combination of sensitivity (Medium) and magnitude (Neutral) which results in an impact classified as Imperceptible and hence Not Significant. In accordance with the project methodology the impact of the proposed development on the detailed landscape character area is a combination of sensitivity (Negligible) and magnitude

(Low) which results in an impact classified as Imperceptible hence Not Significant within the detailed landscape.

The results of the visual impact prior to mitigation described that no properties would experience Significant adverse visual impacts. Moderate adverse visual impacts will be experienced by a total of seven residential properties and one business property. Additionally the site is not distinguishable from the designated scenic views and hilltop views and due to the wide, open undulating landscape within which the site sits, the proposed development will not intrude upon the view.

Mitigation measures were described; they will be put in place at the commencement of the construction phase and comprise mounding 2m high along the eastern boundary of the development site where the site is visible from residential properties; and semi mature tree planting on the northern, western and eastern (double row) boundaries to supplement retention of existing boundary hedgerow around the entire perimeter of the site. The result of the mitigation will be to reduce visibility into the site at the commencement of the construction phase. This will reduce the Moderate adverse visual impacts which is predicted to result for seven residential properties and one business property to Slight adverse impact with immediate effect.

Residual landscape and visual impacts were described. The establishment of proposed perimeter tree planting (on embankment along the eastern side) will ensure that when restoration is completed potentially 25 years after commencement of construction that the trees will fully assimilate the development into the landscape. The final contouring of the site finished ground levels will be raised from +83mOD to +90m OD in the south of the site, total increase of approx 7m and in the north the finished ground levels will be raised from +88mOD to +95m OD which is also an increase in approx 7m. The wide, undulating, wooded landscape within which the site sits has capacity to accommodate a new gentle mound surrounded by native trees resulting in a imperceptible visual impact in the long term.

3.11 Indirect Impacts, Cumulative Impacts and Interactions

The EIAR addresses indirect impacts, cumulative impacts and interaction between impacts associated with the above environmental topic headings.

Regard was has to the following guidance documents when identifying and evaluating indirect and cumulative impacts an interactions.

- EPA Guidelines on Information to be contained in EIAR's (2017) (Draft).
- EPA Advice Notes for preparing Environmental Impact Statements (2015).
- European Commission Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999).

The matrix and expert opinion approaches, as outlined in European Commission's Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, where used to identify and evaluate potential significant cumulative and indirect impacts and interactions.

The following definitions, as prescribed in European Commission Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, were referred to when completing the impact assessment.

- Indirect Impacts: Impacts on the environment, which are not a direct result of the project, often produced away from or as a result of a complex pathway. Sometimes referred to as second or third level impacts, or secondary impacts.

- Cumulative Impacts: Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.

- Impact Interactions: The reactions between impacts whether between the impacts of just one project or between the impacts of other projects in the areas.

Indirect and cumulative impacts on the environment associated with the proposed activity are addressed in the EIAR within relevant Environmental Topic Chapters under relevant 'Indirect Impacts' and 'Cumulative Impacts' headings. It has been determined that there will be no significant adverse indirect or cumulative impacts on the environment as a result of the proposed development.