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Environmental Impact Assessment Report Non-Technical Summary

Additional Soil Intake and Extension of Planning Permission for Existing Recovery Facility at Halverstown, Kilcullen, Co. Kildare

Prepared for:

Kilsaran Concrete Unlimited Company

Kilcullen, Co. Kildare

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Acronyms and Abbreviations

ABP	An Bord Pleanála
C&D	Construction and Demolition
ED	Electoral District
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
GSI	Geological Survey of Ireland
HGV	Heavy Goods Vehicle
IGH	Irish Geological Heritage
ITM	Irish Transverse Mercator
KCC	Kildare County Council
LCA	Landscape Character Area
LoW	List of Waste
NPWS	National Parks and Wildlife Service
NIS	Natura Impact Statement
NTS	Non-Technical Summary
(p)NHA	(proposed) Natural Heritage Area
SAC	Special Area of Conservation
SPA	Special Protection Area
SRF	Soil Recovery Facility
WFD	Waste Framework Directive
WFP	Waste Facility Permit

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1.0 INTRODUCTION

1.1 Development Overview

This Environmental Impact Assessment Report (EIAR) Non-Technical Summary (NTS) provides summary detail in respect of an EIAR prepared in support of a Planning Application to Kildare County Council and a Waste Licence Review Application to the Environmental Protection Agency (EPA) by Kilsaran Concrete Unlimited Company (hereafter 'Kilsaran') which provides for

- (i) an increase in the total permitted intake of soil and stone and broken rock to its existing soil recovery facility at Halverstown, Kilcullen, Co. Kildare (Planning Ref: 18/453), from 1.2 million tonnes to 2.06 million tonnes, and
- (ii) an extension to the life of the existing facility of 3 years (to December 2029) to accommodate the additional soil and stone intake.

The proposed works will implement a revised backfilling and restoration scheme at the site of a former sand and gravel pit. The revised scheme was developed to optimise soil intake and recovery capacity at the existing soil backfilling and recovery facility in view of a continued sustained high level of demand for such capacity across County Kildare and the surrounding Eastern region.

In view of recent policy change in respect of the circular economy which seek to promote

- the re-purposing of waste as a resource which remains in circulation and/or in productive use for longer,
- an increase in waste avoidance and prevention (the most favourable option or outcome at the top of the waste hierarchy);
- an increase in the re-use of excess or previously unwanted materials for productive purposes, preferably at earlier stages in the production cycle;

and more specifically,

- the recent publication by the EPA of criteria which permit excess soil and stone from greenfield construction and development sites to be re-classified and managed as a non-waste resource (or 'by-product'),

the proposed additional soil and stone (and broken rock) intake to the facility will comprise a mix of materials managed as both waste (as heretofore) and as non-waste (by-product).

1.2 Site Location and Ownership

The application site is located in the townland of Halverstown, Co. Kildare, at approximate ITM grid co-ordinates 682513 E 705519 N. It is located immediately west of the R448 Regional Road (the former N9 National Primary Road), approximately 800m west of the M9 motorway between Kilcullen and Waterford, approximately 4.5 km south of Kilcullen and just over 2km northeast of Calverstown village.

The site location is shown on an extract from the 1:50,00 Discovery Series Map of the area reproduced in Figure NTS-1 and on a 1:2,500 scale Ordnance Survey map of the area in Figure NTS-2.

The overall Kilsaran land ownership area at Halverstown extends to c.26.3 ha (65.0 acres), while the planning application site covers approximately 18.0 ha (44.5 acres). The Applicant's freehold land ownership is shown edged blue on Figure NTS-2, while the extent of the planning application site is shown edged red on the same figure. The application site for the proposed future / further development, is the same as that of the existing soil recovery facility.

1.3 Site Description

Sand and gravel extraction was first established at Halverstown in the early 1940s, prior to the implementation of the Planning Act in 1964. This pre-1964 authorised area has been fully exhausted of sand and gravel reserves since the late 1980's. The existing concrete block manufacturing plant located immediately to the north of the application site (and within the Applicant's landholding) has been operating continuously since that time.

The application site at Halverstown comprises lands which were originally developed as a sand and gravel pit and some lands in the north-eastern corner previously only ever used for agricultural use, principally grassland. The former pit area included extraction areas and areas previously used for aggregate storage and settling out of silt fines (in a settlement pond). These lands have been developed as a soil waste recovery facility under Planning Ref. 18/453 in recent years in order to facilitate backfilling and restoration of the pit to surrounding ground levels.

The application site also includes pre-existing offices and infrastructure which will continue to be shared with the co-located concrete block plant, including the site office, staff welfare facilities, weighbridge, wheelwash, hardstand areas, fuel storage tanks and an area of the concrete block curing shed which is designated as a waste inspection and quarantine area.

Imported topsoil is also temporarily stockpiled within the application site pending its later re-use as cover material in final restoration works.

1.4 Site Access

The application site is accessed by way of an established junction on the western side of the R448 Regional Road (the old N9 National Primary Road) which leads into the permitted soil recovery facility (SRF) and Kilsaran's concrete block manufacturing plant.

The M9 motorway runs to the east of the application site between Kilcullen and Waterford. A grade separated interchange (Junction 2) providing full access to, and egress from, the M9 motorway to the regional road network is located approximately 3 km to the north of the application site.

The R448 Regional Road connects Naas to Waterford City. In the vicinity of the application site, the road has a carriageway width of approximately 9.0m and hard shoulders on both sides which are approximately 1.5m wide. It has good horizontal and vertical alignment and is sufficiently wide to allow two HGV's pass comfortably, without impediment. The road pavement is in good condition and is well maintained in the vicinity of the application site.

1.5 Surrounding Land Use

The application site is located in a rural area with residential development generally consisting of isolated rural housing and other intermittent development along the local road network. Land-use in the area is tied to a range of agricultural activities and enterprises, primarily dairy, tillage and horse breeding. The application site adjoins the Applicant's existing concrete manufacturing facility, located immediately to the north, within the same landholding.

A restored sand and gravel pit, previously operated by Kilsaran, is located to the north-west of the application site. There is a scattering of historic and/or active sand and gravel pits located at a greater distance, particularly to the south-east of the site.

In the immediate vicinity of the site, St Joseph's National School is located approximately 300m to the east (at its closest point), on the eastern side of the R448 Regional Road. The M9 Kilcullen Service Area is located approximately 700m to the east of the site, on the western side of the M9 motorway. Casey Group operates a construction plant / equipment sales and hire business from a premises located in Hacklow townland, approximately 800m north-west of the application site.

At a greater distance, the ancient ceremonial site at Dun Ailline is located approximately 2km to the north of the site, while there are a number of stud farms in Giltown and New Abbey townlands, approximately 3km to 4km to the north-east. The Curragh Camp army base and military college is located approximately 5.5km to the north-west. Existing land use in the area immediately surrounding the existing facility is indicated in Figure NTS-3.

1.6 The Applicant

Kilsaran was founded in 1964 and is a wholly Irish-owned company, whose principal business is the production of materials for the construction industry. The company manufactures paving and walling, pre-mixed dry products, ready-mix concrete, concrete blocks, trowel-ready mortar, aggregates, asphalt and macadam, hard core and fill materials for the Irish and UK markets. It also undertakes surfacing contracts for road construction, building and civil engineering works.

The company employs over 900 people directly. It operates twelve hard rock quarries and a similar number of sand and gravel pits. Kilsaran manufactures concrete construction products at 20 locations, principally in the east, midlands and south of the country. The company also has three asphalt plants, strategically located at quarry sites throughout its operational area.

Although Kilsaran's principal business interest is in mineral extraction and manufacture of building materials and products, in recent years, it has made beneficial use of excess soil and stone waste generated by construction and development activity to backfill and restore a number of its larger worked-out pits and quarries under the EPA waste licencing regime. The company has also established a number of construction and demolition (C&D) waste recycling facilities, principally to manage concrete wastes, under the Local Authority waste facility permitting regime.

At the present time, in addition to the existing EPA licensed soil waste recovery facility at Halverstown, (Waste Licence Ref. No. W0300-01), Kilsaran also operates another EPA licenced soil waste recovery facility at Kilmessan in Co. Meath (Waste Licence Ref. No W0296-01).

1.7 EIA Screening

The existing approved development at Halverstown provides for the importation and placement of excess soil and stone managed specifically as **waste**. In view of imminent policy changes which permit excess soil and stone from undeveloped ('greenfield') sites to be classified as (non-waste) **by-product**, this proposal for further soil and stone intake to backfill and restore the former pit makes specific provision for the importation and placement of materials managed as both waste and (non-waste) by-product.

In future years, the intake of additional soil and stone managed as waste to the existing facility will not exceed 95,000 tonnes in any one year. The balance of any intake will comprise (non-waste) soil and stone from greenfield sites which is managed as by-product. The combined future intake of soil and stone managed as waste or by-product will not exceed 300,000 tonnes per annum (as at the present time).

Part 1 and Part 2 of Schedule 5 of the Planning and Development Regulations 2001 (as amended) set out the forms of development that require an Environmental Impact Assessment Report (EIAR). Paragraph 11 of Part 2 of Schedule 5 states that the following form of development requires an EIAR to accompany a planning application

- (b) *Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule.*

As the annual rate of waste intake rate (at 95,000 tonnes / annum) will continue to exceed the 25,000 tonnes / annum threshold limit for EIA, there is therefore a requirement for an EIAR to accompany the planning application in respect of this development under Part 2 of Schedule 5.

1.8 Need for the Development

Within a short time of commencing backfilling and recovery activities under EPA licence at Halverstown in late 2020 and early 2021, it became apparent that there was a sustained high level of demand for soil waste intake / recovery capacity from hauliers, contractors and developers. It is likely that much of this demand is tied to the level of construction and development activity locally and across the wider Eastern region, as well as the facility's strategic location along the R448 Regional Road (the former N9 National Primary Road) and the wider national road network.

The level of demand for soil backfilling / recovery capacity has been such that the total soil intake to the existing facility at Halverstown has been at, or close to, the maximum permitted intake level (300,000 tonnes per annum) in each full year of operation to date. This level of demand has continued throughout the early part of 2024 and clearly evidences the need for the additional soil backfilling / recovery capacity in the area / region.

The Waste Action Plan for a Circular Economy references (in Chapter 11) the major construction projects envisaged under Project Ireland 2040, the huge potential they provide in terms of the prevention and recycling of construction and demolition waste and the challenge in ensuring there is capacity to manage the waste generated. The policy document specifically states that *'it is vital that there is sufficient capacity for the recovery and/or disposal of the envisaged increased construction and demolition waste'*.

Aside from any projected future increase in demand from construction activity, there are a number of other contributory factors which have led to the increase in demand for soil waste recovery capacity across the Eastern and Midland region which are also likely to influence future demand in the years immediately ahead. These include:

- a reduction in demand for soil cover at municipal / industrial landfill facilities;
- an increase in enforcement activity around unauthorised waste disposal activity;
- effective cessation of soil intake at another licenced facility in Kildare in recent years which has reduced the intake capacity available in the local market by 344,000 tonnes / year;
- the reduction in soil waste intake capacity provided at the licensed recovery facility at Huntstown in North Dublin (Licence Ref. W0277-03), from 1,500,000 tonnes per annum to 750,000 tonnes per annum (assuming a waste licence review application currently under consideration by the EPA is ultimately approved);
- the reduction in waste recovery capacity at existing smaller scale facilities operated under Local Authority permits and certificates or registration as a result of enhanced regulation and the policy objectives in waste management plans to preferentially support the development of larger capacity waste facilities rather than a myriad of smaller ones.

In light of the foregoing, it is considered that the proposal to provide additional soil intake capacity at the existing facility at Halverstown can be justified on the basis that:

- it complies with stated policy objectives to support the development of a circular economy;
- the facility will provide additional soil backfilling / recovery capacity within the Eastern and Midland region over the short-to-medium term (for the next 3 to 5 years); and
- the Applicant has a proven track record over recent years in providing significant soil recovery capacity at large scale, well managed backfilling / recovery facilities at strategically located sites.

2.0 PROPOSED DEVELOPMENT

2.1 Existing Site Development

As previously noted, planning permission for the ongoing backfill and restoration of the former pit and some adjoining land at Halverstown was granted by Kildare County Council in December 2018 (by way of Planning Ref. 18/453). That permission provides for the importation and recovery of naturally occurring materials which are managed as waste, principally excess soil, stones and/or broken rock from construction and development sites, to restore ground levels at the site to surrounding ground levels.

Restoration of quarry voids by backfilling with imported waste materials is a designated waste recovery activity under national and European waste management legislation. The activity is technically classed as 'recovery through deposition on land' and in a waste management context, quarry backfill locations are typically identified as 'soil recovery facilities'.

At Halverstown, the scale of the ongoing backfilling and recovery activities using soil and stone managed as waste (approximately 1.2million tonnes) is such that it also required a waste licence from the Environmental Protection Agency (EPA). A soil waste recovery licence issued was issued in respect of the existing facility by the EPA in July 2020 (Licence Ref. W0300-01) and licenced recovery activities commenced at Halverstown sometime thereafter in late 2020.

Since that time, the level of demand for recovery capacity generated by ongoing construction and development activity in the surrounding region has been such that the rate of soil waste intake at Halverstown has been at or close to the maximum permitted rate of 300,000 tonnes per annum between 2021 and 2023.

Total soil and stone intake to the end of 2023 is estimated to be approximately 820,000 tonnes, meaning that the permitted remaining intake at the start of 2024 was around 380,000 tonnes. It is currently envisaged that the remaining soil and stone will be imported at a rate of approximately 190,000 tonnes per annum over each of 2024 and 2025. Total intake in either year could however be higher in the event of an early grant of planning permission for additional soil intake.

The site layout at the existing, permitted soil recovery facility is shown in Figure NTS-4.

2.2 Operational Phase

In view of the existing sustained high level of demand for soil recovery capacity at the existing SRF at Halverstown, the backfilling and restoration scheme has been revised to optimise soil intake and recovery capacity at the existing facility. The revised scheme provides for

- (i) an increase the permitted total intake of soil and stone and broken rock intake to its existing licensed soil recovery facility at Halverstown, Kilcullen, Co. Kildare (Planning Ref: 18/453), from 1.2 million tonnes to 2.06 million tonnes and
- (ii) an extension to the life of the existing facility of 3 years (to December 2029) in order to accommodate the additional soil and stone intake.

The works to implement the revised backfilling and restoration scheme at the former pit also provide for:

- (i) continued shared use of existing, co-located site facilities, structures and infrastructure (including the site office, staff welfare facilities, weighbridge (with dedicated office), wheelwash, hardstand areas, fuel storage tanks and site access road);
- (ii) continued soil and stone intake at a rate of up to 300,000 tonnes per annum, of which no more than 95,000 tonnes (per annum) will be managed as waste;
- (iii) continued separation of any construction and demolition waste (principally concrete, metal, timber, PVC pipework and plastic) inadvertently imported to the facility, prior to removal off-site to authorised waste disposal or recovery facilities;

- (iv) continued use of a section of the existing concrete block curing shed as a waste inspection and quarantine facility;
- (v) continued environmental monitoring of noise, dust and groundwater for the duration of the site recovery and restoration activities and for a short period thereafter (and in accordance with current EPA waste licence requirements);
- (vi) continued temporary stockpiling of topsoil pending its re-use as cover material for final restoration of the site; and
- (vii) ultimate restoration of the modified final landform (entailing harrowing, topsoiling and seeding) to establish a native woodland and grassland habitats.

The additional capacity provided by the revised backfilling and restoration scheme is readily achieved by

- (i) increasing the overall height of backfilling by 1m on the southern side of the access road and steepening of side slopes to approximately 1v:6h (9.5°);
- (ii) creating a 3m high, 20m wide screening berm along the northern side of the access road and steepening side slopes to the site boundary to 1v:4v (14°) (which will provide screening and noise attenuation of traffic movements along the access road leading to the concrete block plant); and
- (iii) allowing for the fact that the density of imported soil placed in-situ is approximately 20% greater than was assumed at the time the planning application was submitted. Site records indicate the soil density achieved in-situ is 1.8t/m³ as against 1.5t/m³ (which was initially assumed at the outset) and as a result, there is a shortfall of approximately 240,000 tonnes in the soil intake required to complete the currently approved landform.

The proposed final site layout is shown in Figure NTS-5, while cross-sections showing the existing approved landform and proposed amended final landform are shown in Figure NTS-6. As will be noted, provision is made for future installation of electrical vehicle (EV) recharging points and a covered bicycle rack at the existing car parking area to the side of the block curing shed.

As at the present time, imported materials will continue to comprise uncontaminated ('inert') naturally occurring materials, principally excess soil, stone and/or broken rock generated by construction and development activity in the surrounding county and surrounding Eastern region (and managed as either waste or (non-waste) by-product).

The additional soil waste imported to the facility for recovery through deposition on land will have the following LoW waste codes and will continue to be managed in line with the provisions of the existing waste licence (EPA Licence Ref. W0300-01);

- 17 05 04 Soil and stones other than those mentioned in 17 05 03;
- 17 05 06 Dredging spoil other than those mentioned in 17 05 05;
- 20 02 02 Soil and stone from municipal facilities.

No peat, contaminated soils or non-hazardous waste will be accepted at the recovery facility.

The importation, placement and recovery of these excess soils will facilitate creation of a modified final restoration landform at the former sand and gravel pit and its restoration to native woodland and grassland, as indicated in Figure NTS 7.

The proposed increase in the total quantity of soil intake

- (i) will not give rise to any increase in the rate of soil importation to the existing licenced recovery facility - the maximum intake rate will remain at 300,000 tonnes / year (in line with the current development permitted by Planning Ref. 18/453);
- (ii) will not require any new or replacement site infrastructure, as all existing facilities (permitted by Planning Ref. 18/453) will remain in service.

Assuming the established importation limit of 300,000 tonnes per annum remains in place for the extended life of the facility (as provided for by this application) and that the facility accepts soil and

stone intake at the maximum permitted rate, this would correspond to an average of 45 return trips to the facility per day (assuming 46 working weeks / year and 5.5 working days / week) or 5 return trips per hour (assuming a 10-hour working day).

In due course, it will be necessary to submit a waste licence review application to the EPA to accommodate the proposed increase in total soil waste intake and recovery capacity at the existing Halverstown facility.

2.3 Site Infrastructure

No new site infrastructure is required to facilitate the proposed increase in soil and stone intake or the required extension to the life or the current planning permission (irrespective of whether that intake is managed as by-product or as waste).

All pre-existing site infrastructure including weighbridges, wheelwash, site offices, welfare facilities, access / egress routes, fuel storage, parking and refuelling facilities, workshop / maintenance shed, waste inspection and quarantine area, environmental control / monitoring infrastructure and existing site utilities will all remain in service as backfilling and recovery activities at Halverstown continue for a further 3 years, out to the end of 2029..

Details of the layout and configuration of site infrastructure for the duration of the backfilling and soil recovery activities at the application site are shown on the site layout plans in Figure NTS-4 and Figure NTS-5.

2.4 Preparatory Works

All of the site infrastructure required to service the proposed development is already in place, there is no construction or development phase associated with it. The only works required to facilitate the additional intake to the existing backfilling / recovery facility is the ongoing maintenance of haul roads and hardstanding areas necessary to facilitate routing of HGV / trucks across the site.

2.5 Surface Water Management / Drainage

In general, all rain which falls across the application site at the present time infiltrates into the backfilled materials or the naturally permeable ground which occurs beneath or around the application site and ultimately recharges the underlying groundwater table. There are also no surface watercourses or surface water bodies within the site (or in the immediate vicinity thereof) and no surface water discharge off-site.

In the course of backfilling and recovery operations at Halverstown, the upper surface of the backfilled soil is graded so as to ensure that any surface water run-off which may arise falls to minor sumps (or closed depressions) at localised low points, either within the backfilled materials, against the former pit sidewalls or on the former pit floor.

Experience in operating the recovery facility to date is that groundwater recharge is largely diffuse (i.e. distributed) and there is no concentrated or point recharge of rainwater run-off to the underlying groundwater table. As such, the volume of any surface water run-off (in the form of overground rills or minor gullies) is relatively small and any localised ponding which does arise at low points or minor temporary sumps across the site generally infiltrates to ground within a short time period.

As a consequence, to date there has been no requirement for extensive surface water management at the existing facility. It is expected that this will continue to be the case if the intake capacity is further increased, and the operational life of the facility is extended as proposed.

Notwithstanding this, and to ensure that there will be no long-term impact associated with surface water run-off from backfilled areas once on-site activities have ceased and restoration works have been completed, perimeter drainage channels will be installed around the backfilled areas to

- (i) capture any overground run-off which may arise following extended or intense rainfall events;

- (ii) effectively act as swales and facilitate infiltration and recharge to ground through their base and sides (particularly where they are in contact with any more permeable in-situ sand and gravel deposits around the facility); and
- (iii) channel any excess run-off to collect at ephemeral ponds / closed depressions developed at low points at the end of the channel run, whereon it will infiltrate slowly to ground.

2.6 Phasing of Works

The phasing of the original restoration plan will be modified to prioritise the importation and placement of imported soil and stone over the area on the northern side of site access road leading into the facility.

This area, identified as Area 1 on the amended site restoration plan in Figure NTS-5, provides for the construction of a 3m high, 20m wide screening berm along the site access road. This berm is intended to provide noise attenuation and visual screening of traffic movements (in and out of the recovery facility and adjoining concrete block plant) for surrounding residential receptors, principally those located to the north of the facility.

The early completion and restoration of the proposed landform in this area to native woodland will deliver these environmental benefits at an earlier stage in the project life cycle.

2.7 Capacity and Lifespan

The additional soil intake volumes, in excess of that currently permitted, are approximately 105,000m³ to the north of the existing site access road and approximately 240,000m³ to south of it. These volumes equate to approximately 190,000 tonnes of additional intake to the north of the access road and an additional 430,000 tonnes to the south of it.

Because in-situ density of compacted soil is higher than assumed at the time of the most recent (2018) planning application, there is also a shortfall of c. 240,000 tonnes in the permitted soil and stone intake required to complete the landform approved by the resulting permission (Ref. 18/453).

The duration of backfilling and recovery activities at the application site and existing facility will be dictated by the rate at which the remaining permitted intake (and any future increase therein) is imported to the site. Intake rates to the existing recovery facility have been at a sustained high level, close to the maximum permitted annual intake rate of 300,000 tonnes per annum since the facility commenced under licence in late 2020 and, although desirable, it is not certain this will be sustained in the years ahead.

In light of the above and to provide some operational flexibility and additional time for final site restoration and planting, application is made to extend the operating life of the existing facility by a further 3 years from its currently permitted end date. Assuming planning permission to increase the soil intake capacity at this facility is achieved in good time, that would extend its operational life out to December 2029.

2.8 Site Operations and Procedures

There are operating procedures in place at the existing soil waste recovery facility to ensure that all excess soil and stone forwarded for backfilling and recovery purposes is pre-sorted at source, is uncontaminated (inert) and free of construction or demolition waste or any non-hazardous / hazardous domestic, commercial or industrial wastes.

Procedures have also been developed and implemented at the facility in respect of soil waste acceptance (or rejection), waste inspection, waste handling and waste testing. These existing procedures will continue to be applied to all future intake (irrespective of whether classified as by-product or waste) over the extended life of the facility. Details of these procedures are provided in Chapter 2 of the EIAR.

There are also extensive environmental control procedures and environmental monitoring arrangements in place, around both the existing backfilling / recovery facility and in the surrounding

local area at Halverstown to ensure any noise, dust or emissions are within permitted limits. No additional monitoring locations are proposed in respect of the proposed development. Records of environmental monitoring and testing are maintained on-site and will continue to be forwarded to the EPA / Kildare County Council as required.

2.9 Working Hours

The recovery facility will continue to operate in line with conditions attaching to both the existing planning permission and waste licence, between 08:00 hours and 18:00 hours Monday to Friday, and on Saturday, from 08:00 hours to 13:00 hours (Condition No. 5 of Planning Ref. No. 18/453 and Condition 1.7 of EPA Waste Licence W0300-01). No site activities will be undertaken outside of these times, on Sundays or Public Holidays.

2.10 Employment

At the current time, there is currently one-part time manager and two full time employees based at the soil recovery facility. The increase in soil intake capacity and 3-year extension to the permitted lifespan of the existing development will sustain existing direct employment over the short-to-medium term. It will also continue to support indirect employment of hauliers, sub-contractors and maintenance contractors who use the facility or supply support services to it.

2.11 Final Restoration

Topsoil will be imported to the recovery facility on an ongoing basis and will not be used immediately in backfilling the former pit. Imported topsoil will be stockpiled separately pending re-use toward the latter stages of backfilling works at separate fill areas. It is envisaged that topsoil will be stockpiled at the northern end of Area 2, at the location indicated in Figure NTS-4 and away from active ongoing backfilling or recovery activities. These stockpiles will be managed to minimise any temporary adverse visual impacts or dust nuisance.

Once backfilling is complete and the level of the filled materials approaches final surface levels, lands will be progressively restored by placing a cover layer comprising 150mm of topsoil (and approximately 150mm of subsoil) over the imported soil and stone fill. The topsoil will initially be seeded with a suitable grass and/or wildflower mix to promote stability, minimise soil erosion and dust generation, pending final site restoration works.

Thereafter the application site will be restored to the final landform indicated in Figure NTS-5 and cross-sections shown in Figure NTS-6. These works will effectively see the site restored to former / surrounding ground level to the south and west of the main access road and the construction of a 3m high screening berm to the north and east of it.

Long term drainage measures, as described previously and shown in Figure NTS-7, will be implemented thereafter. Native woodland planting will then be established across the entire area to the north of the access road, as well as on sloping ground around the perimeter of the area to the south of it. Grassland will be established atop the backfilled area south of the access road.

Once the modified restoration scheme provided for in this application is in place, the application site will be restored (in phases) to a landform which will ultimately merge into the surrounding natural landscape and screen ongoing traffic movements to and from the adjoining concrete block plant from the view of properties to the north of the site. The long-term restoration planting for the site is shown on the site restoration plan in Figure NTS-7.

Following completion of the restoration works, and closure of the facility, some establishment maintenance will be carried out for 3 years thereafter and will include weed control, replacement planting where required and the adjustment / removal of tree ties and spiral guards. The grassland area will either be let to a local farmer for grazing purposes or will otherwise be left unattended, to be naturally recolonised by native vegetation.

3.0 EXISTING ENVIRONMENT, EFFECTS AND MITIGATION

3.1 Population and Human Health

The Environmental Protection Agency guidelines in relation to environmental impact assessment (2017) 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 is located in the townland of Halverstown, in the Electoral Division (ED) of Kilcullen in the County of Kildare. The population centre closest to the site are Kilcullen, approximately 4.5km to the north and Calverstown, just over 2km to the south-west.

The application site is located in a rural area in which dispersed residential housing is located along the local road network. Land-use in the area is tied to a range of agricultural activities (primarily dairy, tillage and horse breeding), with some occasional rural-based enterprise (including sand and gravel extraction). St Joseph's National School is located approximately 300m to the east of the application site (at its closest point), on the eastern side of the R448 Regional Road. Existing land-use and residential development in the immediate vicinity of the application site is shown on Figure NTS-3.

3.1.1 Employment

According to the 2022 census results, the ED of Kilcullen has a total population of 3,674, of whom 2,799 ((76%) are people aged 15 years or older and 1,721 (47%) were at work. A total of 22 people were recorded as looking for their first job, 49 were short-term and 52 were long-term unemployed. The 2022 census figures indicate that the patten of employment in Kilcullen ED is broadly in line with that of the wider county.

The continuation of backfilling and recovery activities at Halverstown will support continued employment at the existing facility. These activities require at least two full time site operatives to be present at the site while backfilling and recovery operations are undertaken, principally to operate a dozer and excavator and to monitor and inspect the quality and suitability / acceptability of the soil and stone by-product / waste materials being imported and placed at the facility. A part-time site manager is also employed at the facility. The proposed development will also continue to indirectly support hauliers, sub-contractors, and maintenance contractors and will also contribute indirectly to sustaining and developing the local and regional economy through the provision of a suitable outlet for backfilling and recovery of excess soil and stone generated by construction and development activity.

3.1.2 Human Health

The main potential pathways for effects on human health are noise, dust and soil / groundwater. Mitigation measures and environmental controls which are currently in place to prevent the spread of dust, to mitigate noise and to prevent spillages for fuel or the placement of material that would affect soil and groundwater, will remain in place for the extended duration of backfilling and recovery activities.

Following cessation of site activities, effects on noise and air would largely cease and the implementation of mitigation measures during the operational phase would prevent long-term effects on soil and groundwater.

In terms of human health, the sensitivity of the population is considered to be low, given the low and dispersed nature of receptors as set out within the population assessment. The technical assessments presented in the EIAR Chapters have concluded that the predicted pollutant levels are well within statutory threshold limits and World Health Organisation (WHO) guidelines.

Overall, in view of the EIAR assessments and recent environmental performance at the facility, it is considered that following mitigation, there would be no likely significant effects (either temporary or permanent) on human health during any stage of the planned further / future development at Halverstown.

3.1.3 Residential Amenity

The modified backfilling / recovery scheme at the application site is not likely to have significant effects on local residential amenity. The main potential pathways for effects on amenity are noise, dust, traffic and landscape.

In order to minimise potential effects, the mitigation measures and environmental controls which are currently in place will continue to be implemented / applied to reduce potential environmental effects. These include the following:

- measures to suppress dust, such the use of a mobile water bowser and a road sweeper;
- measures to reduce noise, such as the working behind existing faces or temporary stockpiles / mounds and the ongoing maintenance of plant and machinery;
- measures to protect groundwater, such as the careful management of machinery refuelling and strict controls and oversight of soil intake;
- measures to protect the landscape, such as the protection of trees and hedgerows and the long-term restoration of the application site to native woodland / grassland.

The landscape and visual impact assessment presented in the EIAR concludes that there will be no landscape change as a result of the proposed development and that any visual impacts during the operational stage will be of a minor, temporary nature.

Access to the application site will continue to be via the established site entrance along a regional road (the former N9 National Primary Road) and the traffic assessment presented in the EIAR concludes that no significant adverse effects will arise in respect of the capacity or safety of the existing road network.

It is considered that following the implementation of mitigation measures, the effect of the proposed further / future development on residential amenity will continue to be low.

Environmental emissions will continue to be monitored and results submitted to Kildare County Council and the EPA, in line with current planning permission and waste licence conditions.

3.2 Biodiversity

An Ecological Impact Assessment was undertaken to inform the EIA process in respect of the planned continuation of backfilling and recovery activities at Halverstown Pit. The assessment was undertaken in accordance with guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM) and comprised:

- an initial desk-based study to collate any available ecological information in respect of the licence site and proposed extension thereto;
- an ecological walkover survey of the licence extension area by SLR personnel in September 2023; and
- an evaluation of the ecological value of the application site and an assessment of likely impacts of continued activities on biodiversity, habitats and species.

The existing backfilling and recovery facility and application site covers 18.0 hectares within an overall landholding area of 26.3 hectares. Although much of the application site was previously excavated for sand and gravel, the backfill area in the north-eastern corner was not previously developed and was only ever used as agricultural grassland.

3.2.1 Designated Sites

The existing facility at Halverstown is not subject to any statutory or non-statutory nature conservation designations (SAC, SPA, NHA / pNHA or Nature Reserve), nor is it located adjacent to any designated for nature conservation site or site subject to nature conservation measures.

The closest natural heritage sites are Dunlavin Marshes pNHA (Site Code 001772), located 2.4km to the south-southeast and the Curragh pNHA (Site Code 000392), located 3.4km to the north-northwest at its closest point.

The Natura 2000 sites which are closest to the application site which are identified as having potential source-pathway-receptor links are

- River Barrow and River Nore SAC (Side Code 002162), located 9.2km to the west, and
- Pollardstown Fen SAC (Site Code 000396), located 9.7km to the north-east

An Appropriate Assessment Screening Report and Natura Impact Statement (NIS) prepared in support of the planning application concluded that with application of mitigation measures, the planned future / further development at Halverstown will not result in any likely significant effects from habitat loss or groundwater pollution nor will they undermine the conservation objectives of either the River Barrow and River Nore SAC or the Poulaphouca Reservoir SPA (either alone or in combination with other projects or plans).

3.2.2 Habitats and Species

The proposed further / future backfilling and recovery activities will be located entirely within the existing permitted recovery facility which principally comprises spoil and bare ground (ED2) and recolonising bare ground (ED3) habitats and relatively small areas of other sub-habitat types including the following

- WS1 – Scrub
- WL2 – Treelines
- GS2 – Dry meadows and grassy verges
- G42 – Wet grassland
- BL3 – Buildings and artificial surfaces
- FL4 – Drainage ditch

The habitats within the application site are commonly occurring, widespread and resilient, and all of these were assessed as important at the 'local lower or 'local higher' levels.

A review of published data and ecological site surveys identified a number of ecological features with the potential to be affected by continued activities / planned further development at the application site including a number of habitats (grasslands, treelines, scrub and drainage ditch) and several species (wall cotoneaster, Japanese knotweed, badger, roosting bats, commuting and foraging bats, hedgehog, birds, common frog, common lizard, smooth newt and invertebrates).

In the absence of any mitigation these habits and/or species could be vulnerable to

- habitat loss, damage and fragmentation
- excessive dust deposition
- potential spread of non-invasive species
- disturbance from human activity, noise and vibration

A range of mitigation measures which are currently in place to avoid and minimise the potential for such impacts will continue to be implemented at the backfilling / recovery facility for the extended duration of on-site activities. These measures include but are not limited to

- continued implementation of biosecurity measures to prevent spread of invasive species (in line with the invasive species management plan) including prior screening procedures in respect of soils imported for backfilling purposes and operation of wheelwash facility;
- establishment of root protection zones and / or installation of temporary fencing around treelines as required to provide protection from accidental damage during backfilling / recovery activities;
- retention of existing treelines and scrub which are of the most valuable habitats for hedgehog and commuting / foraging bats;
- restricting felling or removal of trees or shrubs (if any) to period outside the bird breeding season to avoid destruction of nests (such work will only be undertaken between months of September and February);
- maintaining vigilance for potential (albeit unlikely) presence of badgers and implementation of contingency measures if detected;
- continued implementation of dust emission control measures;
- installing fencing around retained habitats to prevent unintentional damage which could potentially be caused by vehicles crossing these areas;
- continued implementation of procedures providing for safe management and handling of hazardous substances (including fuel, lubricants, greases etc.);
- maintaining spill kits on the site to prevent and minimise the potential spread of pollutants in the event of accidental spills or leaks;
- maintaining vigilance for potential (albeit unlikely) presence of badgers and implementation of contingency measures if detected;
- re-location of amphibians to appropriate safe area under a derogation licence issued by NPWS, prior to any scrub clearance or soil stripping in advance of soil placement.

With the application of these measures, the impact of the proposed development on local biodiversity is assessed as not significant. Provided appropriate mitigation measures are implemented for the protection of breeding birds, common frog and smooth newt, there are no legal implications for any protected species.

Further details in respect of ecological management measures implemented at the application site are provided in Chapter 5 (Biodiversity) of the EIAR.

3.3 Land, Soils and Geology

The assessment of the likely environmental impact of the planned future / further activities at the existing backfilling / recovery facility at Halverstown on land, soil and geology is based on a desk study of the application site and surrounding area using published geological data, a site walkover of the lands and available ground investigation information, including well installation records.

3.3.1 Land Use

Uncontaminated (inert) soil and stone material has been, and continues to be, imported to restore much of the application site to surrounding ground level as part of the existing permitted development (under planning Ref 18/453). The additional backfilling / recovery activities will be entirely confined within the existing development footprint at Halverstown and will not result in any increased land take or any change in existing land-use on surrounding lands. In the long term, once the former pit has been backfilled to it's the proposed final (pre-extraction) ground levels, the lands will be restored to native woodland and grassland with consequential benefits for local biodiversity and visual impact.

3.3.2 Soil and Bedrock Geology

Across much of the application site, topsoil (the original, upper layer of soil capable of sustaining vegetation and crop growth) and the underlying subsoil cover have previously been stripped and removed to facilitate the extraction of the underlying sand and gravel for production of aggregate and construction materials.

Published soil mapping indicate that the near-surface soils which occur(ed) at and around the application site are part of the Elton Soil Association which is characterised as '*fine loamy drift with limestone*'. The Elton Series soils are one of the most extensive soil types found across the limestone lowlands of Ireland. These soils have a wide use-range and are suitable for a wide range of farm and vegetable crops but are mainly used for grassland. The series are identified as first-class grassland soils as they are free draining but have a good moisture holding capacity.

Published subsoil mapping indicates that the underlying, natural subsoils at the application site comprise glaciofluvial sands and gravels derived from carboniferous limestone. Much of the original subsoil deposits above the groundwater table have been removed to produce construction aggregate and no significant extractable reserves remain at the site.

At the present time, the original subsoils at the application site are overlaid by soil and stone materials which has been imported for backfilling and recovery purposes, in line with the existing planning permission and waste licence.

Bedrock mapping indicates that the application site is underlain by the Carrighill Formation which is described as fine-grained greywacke siltstones and shale. No bedrock is exposed at the application site and the proposed development does not necessitate excavation or exposure of any of the underlying bedrock. Some minor bedrock outcrops (at the ground surface) are recorded approximately 700m to the south-east of the site. The karst database maintained by the Geological Survey of Ireland (GSI) indicates that there are no karst features (e.g. caves or sinkholes) within the application site or locally in the area surrounding it.

The progressive re-establishment of soil as a growth medium and carbon sink and the restoration of its original environmental functions across the restored landform at Halverstown will provide a minor, positive long-term impact.

Continued movement of site traffic across the application and the importation, handling and placement of additional soil and stone (whether managed as by-product or as waste) will create a potential ongoing risk of fuel / oil spillage or leakage across the existing backfilling / recovery facility. There is also a risk that contaminated soil material could be imported and backfilled, thereby introducing potential risk of ground contamination across the application site.

By continuing to implement existing soil intake acceptance procedures and best-practice waste / environmental management procedures to manage and control future backfilling and recovery activities, the potential risk of soil contamination from imported material or from potential fuel leaks or spills is considered low.

The implementation of mitigation measures to ensure that imported restoration soils are uncontaminated, appropriately placed and prepared for planting post facility closure, will ensure that any long-term impact on soils at the application site (including erosion) will be low to imperceptible.

3.3.3 Geological Heritage

An audit of County Geological Sites in County Kildare was completed by the Geological Survey of Ireland's (GSI) Irish Geological Heritage (IGH) Programme in September 2005. The review established that there are no designated County Geological Sites within, or in the immediate of the existing soil recovery facility in Halverstown. Separately, no sites of geological heritage interest or value are identified by the current Kildare County Development Plan (2023-2029) in the surrounding local area.

3.4 Water

The application site at Halverstown site falls within the boundaries of the Water Framework Directive (WFD) Barrow Catchment and Barrow Sub-Catchment. The closest surface water body to the application site within the Barrow Sub-Catchment is the Kildoon River, which flows approximately 1.5 kilometres south of the site. The Kilcullen Stream flows approximately 1.2 kilometres east of the application site, but it is within a separate catchment (the Liffey and Dublin Bay catchment). The Kildoon River is classified as being of moderate quality status based on its physio-chemical and biological quality.

As previously noted, all rainfall across the application site infiltrates into the backfilled materials or the naturally permeable ground which lies beneath the application site and surrounding area, and ultimately recharges the underlying groundwater table. There are no surface watercourses or surface water bodies within the site (or in the immediate vicinity thereof) and no surface water discharge off-site.

There have been no recorded flood events at or near the application site, and the potential for river flooding in the vicinity of the site is negligible. There are no streams or rivers in the immediate vicinity of the site.

Published groundwater vulnerability maps indicate that the groundwater vulnerability beneath the application site is classified as High (H), with a significant thickness (>3m) of unsaturated sand and gravel material above the groundwater table. However, with the placement of approximately 3m to 5m of lower permeability inert soil material above the former pit floor, the groundwater vulnerability at the site is re-assessed as Moderate or High.

The groundwater in the sand and gravel deposits at the application site is not classified by the GSI as a gravel aquifer. The site is underlain by a poorly productive bedrock aquifer (Pu) and the bedrock comprises calcareous greywacke siltstone and shale. The Calverston gravel aquifer (Lg) is located to the south of the site. Groundwater in the sand and gravel deposits underlying the application site is likely to be flow laterally through the ground toward the Calverston gravel aquifer.

The groundwater levels and quality in the subsoils underlying the Halverstown facility are monitored on an ongoing basis at four boreholes. Groundwater level data from the site suggests that the groundwater flow direction in the vicinity of the application site is likely to follow ground surface topography and fall to the south-southwest.

Groundwater quality results between March 2021 and October 2023 recorded exceedances of environmental limit values for ammoniacal nitrogen, nitrate and metals, with very occasional exceedances in pH and conductivity. Most of the exceedances were recorded in upgradient boreholes GW1 and GW2, as well as at downgradient boreholes GW3 and GW4, with the exception of occasionally elevated cadmium and a single exceedance of magnesium in the downgradient boreholes.

The water supply at the existing facility is provided by an onsite groundwater borehole. All wastewater at the facility is treated at an existing septic tank and effluent discharged to ground via a percolation area. Local residences are connected to a public (mains) water supply and maintain individual septic tanks for wastewater treatment.

There are no surface water courses on or in the immediate vicinity of the application site, and there is no discharge from the site to surface watercourses. There are therefore no existing or potential future impacts on surface water quality or surface water flow quantities associated with the proposed development.

Potential impacts of the continued backfilling / recovery activities at the existing facility have been assessed and it is considered that in the absence of mitigation measures, the proposed development could have the potential to negatively impact groundwater quality beneath the site and/or in the nearby Calverston gravel aquifer, specifically as a result of

- contaminated soils being imported and placed within the former pit void; or

- accidental leakage or spillage of fuels and other petroleum-based products (lubricating oils, greases etc.) during refuelling or maintenance of plant and machinery.

There is no groundwater dewatering required at the application site and the additional intake and backfilling activity will have no adverse long-term impact on the local groundwater flow regime.

In order to control potential emissions to groundwater and protect existing water quality, a range of mitigation measures which are currently being implemented at the existing backfilling / recovery facility will continue to be implemented for the extended duration of on-site activity. These measures include:

- implementation of established storage and handling procedures for fuels and other hazardous substances / materials;
- implementation of established protocols in respect of plant refuelling and maintenance activities;
- maintaining a spill kit on site and developing an emergency response / contingency plan to be implemented in the event of a fuel spill or leak; and
- implementation of detailed soil acceptance and handling procedures, in line with a waste acceptance plan approved by the EPA as per the current waste licence requirements (and/or that of any future licence review).

The backfilling of the application site with imported soil and stone materials has increased the thickness of unsaturated material above the underlying groundwater table. This has and will continue to afford an additional level of protection to groundwater from potential pollutant leaks or spills associated with human activities at the ground surface, thereby reducing the groundwater vulnerability at the application site.

Once on-site activities have ceased and restoration works have been completed, perimeter drainage channels will be installed around the backfilled areas to

- capture any overground run-off which may arise following extended or intense rainfall events;
- effectively act as swales and facilitate infiltration and recharge to ground through their base and sides (particularly where they are in contact with any more permeable in-situ sand and gravel deposits); and
- channel any excess run-off to collect at ephemeral ponds / closed depressions developed at low points at the end of the channel run, whereon it will infiltrate slowly to ground.

Taken together, it is considered that the mitigation measures identified above reduce to 'low', the potential impacts of site activities on groundwater quality within underlying sand and gravel deposits and bedrock aquifer or at the gravel aquifer beyond the application site.

The pre-existing groundwater monitoring regime around the existing facility will remain in place for the duration of future backfilling / recovery activities. Monitoring will be undertaken in accordance with requirements of the current EPA waste licence (or any future review thereof) and reported to the Agency as required.

3.5 Air Quality

The principal air quality impact associated with the ongoing and planned future backfilling and recovery activity at the former pit at Halverstown is a risk of fugitive dust emissions. Emissions are likely to arise during drier weather periods as a result of:

- (i) trafficking by HGVs over unpaved soil surfaces;
- (ii) end-tipping of inert soil and stone; and
- (iii) handling / compaction of inert soil.

A detailed air quality assessment was undertaken in respect of ongoing / future backfilling and recovery activities at the application site. A total of 23 sensitive receptors were identified within 500 metres of the application site boundary and assessed for potential risk of dust related impact.

In the absence of any mitigation measures, the risk of impact from dust emissions was assessed as insignificant to acceptable at most of these receptors, principally on account of existing separation distance. Potential impacts were assessed as slight adverse at 4 properties and as moderate adverse at 1 property located close to the existing site access junction.

In order to control potential dust rise and dust emissions, mitigation measures and environmental controls currently being implemented at the existing facility (which are successful in maintaining dust emissions below prescribed threshold limits set by the current planning permission and waste licence) will continue to be applied for the extended duration of on-site activities.

The key emission control measures comprise the following:

- (i) dampening of unpaved haul roads, stockpile and/or exposed soil surfaces by spraying water from a tractor drawn bowser, particularly during windy periods and/or dry spells;
- (ii) placing and compacting soils immediately after being unloaded, minimising soil drop heights when tipping and minimising the amount of soil being stockpiled;
- (iii) early planting / seeding of the final restored surface or soils being stockpiled for extended periods in order to bind them and minimise wind blow / erosion;
- (iv) routing all HGVs leaving the facility through the existing wheelwash to remove any dust or mud attached to their wheels or undercarriage and to prevent transport of fine particulates off-site, onto the local road network;
- (v) controlling / reducing HGV speeds within the facility and locating haul routes away from site boundaries to the fullest extent practicable;
- (vi) maintaining the access road to prevent any structural defects (i.e. potholes) arising and minimise shearing and break-up of road materials; and
- (vii) construction of internal haul roads across backfilled ground using minor quantities of imported aggregate.

The amount of dust or fines carried onto the public road network will be further reduced by use of a road sweeper along paved internal paved roads and around the access junction with the R448 Regional Road as and when required. Further dust control measures can be implemented if required to achieve compliance with prescribed emission limit values.

With the continued implementation of dust mitigation measures at Halverstown, the risk of dust impact at assessed sensitive receptors was determined to be insignificant or acceptable at all locations. There will be no dust impact on any designated ecological site or surrounding habitats.

Notwithstanding this, dust emissions levels will continue to be monitored at the recovery facility. Dust emissions are ultimately to be controlled by way of the existing (or any future) planning permission and the current EPA waste licence (or any future review version thereof).

3.6 Climate

Ireland has a typical maritime climate with relatively mild and moist winters and cool, cloudy summers. The prevailing winds are south westerly in direction. The climate is influenced by warm maritime air associated with the Gulf Stream which has the effect of moderating the climate, and results in high average annual humidity across the country.

An assessment of potential climate impact has been undertaken for the planned further / future backfilling and recovery activities at Halverstown having regard to the evolving baseline, climate hazards, project vulnerability and greenhouse gas (principally carbon dioxide, CO₂) emissions.

The assessment identified climate change concerns in relation to the development, assessed effects and identified mitigation measures where possible. It also had regard to the likelihood and

exposure / vulnerability of activities to climate hazards, both now and in the future, and included a climate hazard impact analysis.

The ongoing / continued recovery activities are not considered to be particularly vulnerable to climate change events, although some consideration will be given to reducing vulnerability and improving resilience to extreme rainfall events, storms and high winds.

Based on the scale and extent of the existing (and future) activities at Halverstown, the associated greenhouse gas emissions are assessed as not significant in the context of existing national emission levels. Measures will be implemented to assess and/or monitor greenhouse gas emissions and to reduce these wherever practically possible.

3.7 Noise and Vibration

Noise prediction assessments were undertaken in respect of the planned further / future development at the existing backfilling / recovery facility at Halverstown. A total of 23 sensitive receptors were identified within 500 metres of the application site boundary and assessed for potential risk of noise related impact. This assessment was based on modelling of development impact overlaid on a baseline noise environment from 2015, which pre-dates the establishment and operation of the existing facility.

The assessment indicated that there will be minimal increase in noise levels at nearby residences when plant / equipment and HGVs are generating noise simultaneously at active backfill areas within the application site. The predicted cumulative noise impact from the (continued) operation at the backfilling / recovery facility at all receptors and all other local noise sources is determined to be negligible at most receptors and minor at 7 receptors closest to the facility.

In view of this finding, it is highly unlikely that any adverse noise impacts will be noticed or experienced by nearby residents. It is therefore considered that mitigation measures to reduce noise impacts from continued / future activities at the existing facility are not strictly necessary.

Notwithstanding this, and in line with accepted best environmental practice, a number of measures will continue to be implemented at the facility to mitigate potential future noise impacts. These include use of existing pit faces, stockpiled materials, berms and screen planting around the existing facility to act as acoustic barriers, regular maintenance of site plant and equipment, fitting of plant silencers, maintenance of road surfaces and control of traffic speed and unloading activities within the facility.

Monitoring of noise levels around the existing backfilling / recovery facility in recent years indicates that noise generated by ongoing site activities at surrounding noise sensitive receptors (properties) in daytime hours is largely within the noise threshold limit of 55 dB(A) set by the existing planning permission and EPA waste licence. Where exceedances of noise levels are recorded, principally at monitoring locations adjacent to trafficked roads, analysis of noise patterns indicates that exceedances arise primarily as a result of the intermittent traffic noise along the nearby road.

Noise levels around the Halverstown facility and surrounding local area will continue to be monitored on a regular basis and reported to Kildare County Council and EPA, in line with conditions attaching to the grant of planning permission and waste licence issued by the EPA.

3.8 Cultural Heritage

The archaeological component of the EIA for the proposed further development at the existing Halverstown soil recovery facility comprised a desk-based review and fieldwork study.

The application site is located within a void created by previous sand and gravel extraction. The existing soil recovery facility at the site provides for the backfilling / recovery of imported soil and stone and the restoration of the site to former ground level.

The application site extends into the zones of notification of two Recorded Monuments that no longer exist. Monument KD028-054 was the site of three crouched inhumation burials found and was removed during quarrying in 1939. Monument KD028-055 was the site of a Bronze Age cist burial found and was removed during quarrying in 1938. Field inspection of the part of the zones of notification of the sites of KD028-054 and KD028-055 within the application site indicates that these areas have been quarried to subsoil levels. There are no other known items of cultural heritage, archaeological sites or monuments or any buildings of heritage interest within the application site or in the immediate vicinity thereof.

In view of past and more recent development history at the application site, and specifically in the absence of any existing undisturbed and/or undeveloped ground, there are (and will be) no direct or indirect impacts on known items of cultural heritage, archaeology or buildings of heritage interest, either at the site or in the immediate vicinity thereof, as a consequence of ongoing (and planned future) development / site activities.

3.9 Material Assets

The EIA Guidelines (2022) published by the EPA indicate that the consideration of material assets should address potential impacts on built services (such as electricity, gas, water supply, sewerage and telecommunications), roads and traffic and waste management. Cultural heritage and archaeology is also identified as a material asset by the current planning regulations. For the purposes of this EIA, this chapter considers built services and waste management. Roads and Traffic and Cultural Heritage are assessed separately in dedicated EIAR Chapters.

3.9.1 Services Infrastructure

The application site at Halverstown has an existing power / electricity supply and this will continue to provide the principal energy source for the overall site. There are overhead electrical powerlines along the eastern site boundary, running parallel to the R448 Regional Road. Telecommunications (including email / internet) are provided by mobile (5G) phone network.

A potable drinking water supply is provided via a pre-existing groundwater supply well in the block yard located immediately north of the application site. This source also supplies water for washing and sanitation at on-site welfare facilities and for processing / production activities at the adjoining concrete block plant.

An existing septic tank, located to the rear of the existing site offices, is used to treat wastewater at the site and will continue in service for the extended life of the current development. Effluent from the tank is discharged to ground via a percolation area.

Ongoing and continued future management of works at the existing facility will proceed with careful consideration given to the protection of above and below ground utilities infrastructure.

Planned future development will not conflict with any built services already present at the site in Halverstown. The water supply well and septic tank are remote from the backfilling / recovery operations. The effects of future development on site services are considered to be temporary, short term and slight in effect.

3.9.2 Waste Management

There are management systems in place at the application site / existing soil recovery facility to control and manage all potential waste streams, to avoid waste generation where possible and to maximise re-use or re-cycling opportunities thereafter. There are also arrangements for collection and off-site disposal / recovery of general (domestic / commercial) waste streams.

Waste oils, batteries, domestic waste and scrap metal are stored in designated (bunded) storage areas at the existing workshop and are collected and recycled or disposed of at authorised off-site waste facilities by authorised waste contractors. Environmental management systems and contingency plans are also in place to address the release of potentially polluting liquids, such as fuels and oils, to groundwater.

The ongoing (and planned future) activities at the application site will continue to comply with all waste management responsibilities prescribed by existing and/or revised conditions attached to any new grant of planning permission and/or EPA waste licence review. All imported soil and stone will be the subject of a pre-clearance / acceptance procedure and any unsuitable material will be quarantined at the waste inspection and quarantine facility prior to removal off site by a licenced contractor.

Continued adherence to established best practice in waste management will ensure that any environmental effects related to these activities are negligible.

3.10 Landscape and Visual Impact

Effects on landscape and landscape character and effects on visual amenity, although related, are summarised separately below. The assessment approach was informed by the Guidelines for Landscape and Visual Impact Assessment, Landscape Institute and Institute of Environmental Management & Assessment, Third Edition, 2013.

The planned future / further development comprises modification of a previously approved backfilling and restoration scheme for a former sand and gravel pit at Halverstown. The modified scheme provides for importation, backfilling and recovery of an additional 860,000 tonnes of soil and stone and extends the life of the existing facility by 3 years. When these activities are complete, the application site will be restored to native woodland and grassland habitat.

3.10.1 Landscape Impact

Effects on landscape character were considered in the context of the published landscape character areas taken from the Kildare County Development Plan 2023-2029, specifically those located within the 2km study area.

The application site and existing recovery facility are located within the Eastern Transition Lands Landscape Character Area (LCA). Although the proposed increased soil intake at the application site / existing facility will result in a slightly taller landform to the south of the access road and a 3m high screening berm along the northern side of it, there will minimal (if any) impact on landscape character due to

- (i) continuation of established land-use (and no change thereto) ;
- (ii) the rounded nature of the proposed final landform and the proposed long-term restoration of the site to native woodland and grassland;
- (iii) retention of existing vegetation / hedgerows along the site boundary and within the intervening landscape.

There will also be no significant impact on any landscape elements, any views or prospects or overall landscape character types / areas.

In view of the assessed absence of landscape effects, no specific landscape mitigation measures are required over the extended life of the existing backfilling / recovery facility.

3.10.2 Visual Impact

The visibility of ongoing and planned future activities would be generally quite restricted due to the screening afforded by intervening topography and vegetation and impacts will only arise at small number of specific viewpoint locations beyond the application site boundary, principally to the north of it.

Residents of nearby properties and road users along the local road which runs to the north of the application site will have partial views of the backfill and recovery activities from a distance. As a result, local residents are expected to experience only minor to negligible visual effects.

Road users on the R448 Regional Road to the east of the application site will continue to see the site entrance along with any backfilling / recovery activities which may be taking place on the

northern side of the site access road. As a result, road uses are expected to experience only minor to negligible visual effects.

On completion of site works, the application site will be restored to native woodland over all sloping ground and all lands to the north of the access road. Grassland habitat will be established atop the landform to the south of the access road. Over time, this planting will mature, provide enhancement of local biodiversity and help integrate the on-site landform with surrounding lands.

The screening berm along the northern side of the access road will permanently screen HGV traffic running to and from the concrete block plant from the view of properties located to the north and east of the application site. Ultimately, the visual effects on all receptors will reduce to negligible following cessation of on-site activities.

In view of the limited (low) visual impact, no specific mitigation measures are required to reduce or mitigate potential visual impacts over the current and/or extended life of the existing backfilling / recovery facility.

3.11 Traffic

Trafficwise Ltd. prepared the Roads and Traffic Chapter of the EIAR which provides an assessment of the traffic generation characteristics and likely traffic impact arising from the planned additional soil intake and extended life of the existing recovery facility at Halverstown.

The traffic assessment study is based on records of existing site traffic generation, detailed turning count surveys at the existing site access and estimates of the likely traffic characteristics of traffic generated by continued site activity.

The existing concrete block plant and soil backfilling / recovery facility at Halverstown are accessed directly from the R448 Regional Road (the former N9 National Primary Road) which runs from Naas in the north to Carlow and Waterford City in the south. The existing site access is located on the eastern side of the R448, approximately 4km south of the M9 Junction 2 interchange to the south of Kilcullen village.

3.11.1 Road Infrastructure

The R448 is subject to a speed limit of 100km/h and is a wide single carriageway road with hard shoulders on both sides. The existing site access is a stop controlled, simple priority arrangement, augmented with ahead and right turn arrows on the southbound approach. The R448 in the vicinity of the site access was observed to be in good condition when inspected in November 2023, with no signs of road structure failure and no evidence of significant distress to the upper wearing course.

The R448 alignment is straight or nearly straight to the south of the site access junction. There is a large radius left-handed bend for southbound traffic approaching the junction from the north. The standard requirement for a sightline of 215m is exceeded in both directions at, and on the approaches to, the existing site access. This access is permitted development and was previously approved by way of planning permission for the existing recovery facility (Planning Ref. 18/453).

As required by Conditions No. 16 and 17 of the current planning permission, the Applicant will continue to carry out works to the front boundary to cut back and maintain the existing verge and hedgerow either side of the existing access junction on an ongoing basis to allow for the maintenance of unobstructed lines of sight at the existing entrance. Advance warning signs on the approaches to the site access have been erected as required by Condition 15 of the current planning permission and will remain in place for the duration of backfilling / recovery activities.

There is (and will be) no queuing of HGVs / trucks entering the application site along the R448 Regional Road as suitable provision exists for vehicle queuing within the application site.

3.11.2 Traffic Assessment

The existing development access and the receiving road are relatively lightly trafficked in the context of a strategically significant regional road and former national primary road and does not give rise to capacity issues at local junctions.

The planned further / future development will continue to generate HGV traffic amounting to an average of 45 HGVs per (working) day when importing soil and stone at the maximum permitted rate of 300,000 tonnes per annum.

The traffic assessment presented in the EIAR shows that the proposed future development has the same potential to generate traffic as the existing permitted facility. The network capacity assessments confirm that the R448 Regional Road will continue to operate satisfactorily if the existing facility were to continue to operate for 3 additional years out to the end of 2029. The level of service and operation of the R448 will be comparable to the current operation and the proposed development will not have any significant effect.

There will also be no capacity issues arising at the existing site access or junctions along the haul route over the extended operating period.

Similarly, the traffic volumes described above and associated with the proposed continuance of soil and stone intake to the application site would continue using the same established haul route and predominantly head north along the R448, toward its junction with the M9 Motorway at Kilcullen (Junction 2).

Upon cessation of backfilling and recovery operations, the application site will be restored to native woodland and grassland and any dedicated on-site plant or infrastructure decommissioned. The potential effects of any restoration or decommissioning works at the site on the capacity and operation of the receiving road network are not considered to be significant.

Analyses, conclusions and recommendations are presented in the Roads and Traffic EIAR Chapter to provide the Planning Authority with a satisfactory level of traffic assessment upon which to evaluate and determine this planning application. Any assumptions made in undertaking the assessment and the basis for any calculations presented are clearly set out and detailed therein.

Overall, the proposed development at Halverstown will generate similar levels of traffic as currently arise. In practice the proposed future rate of intake of materials will be comparable to that recorded in 2023 and would likely be experienced at the present time. It follows that in practice, the current proposal insofar as it relates to traffic generation is equivalent to a continuance of operations at the current levels and in practice there will be no change in the current volumes of traffic generated on a day-to-day basis.

3.12 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.

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FIGURES

**Figure NTS-1
Site Location Map**

**Figure NTS-2
Application Site and Land Interest Boundary**

**Figure NTS-3
Surrounding Land Use**

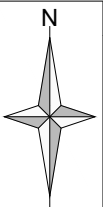
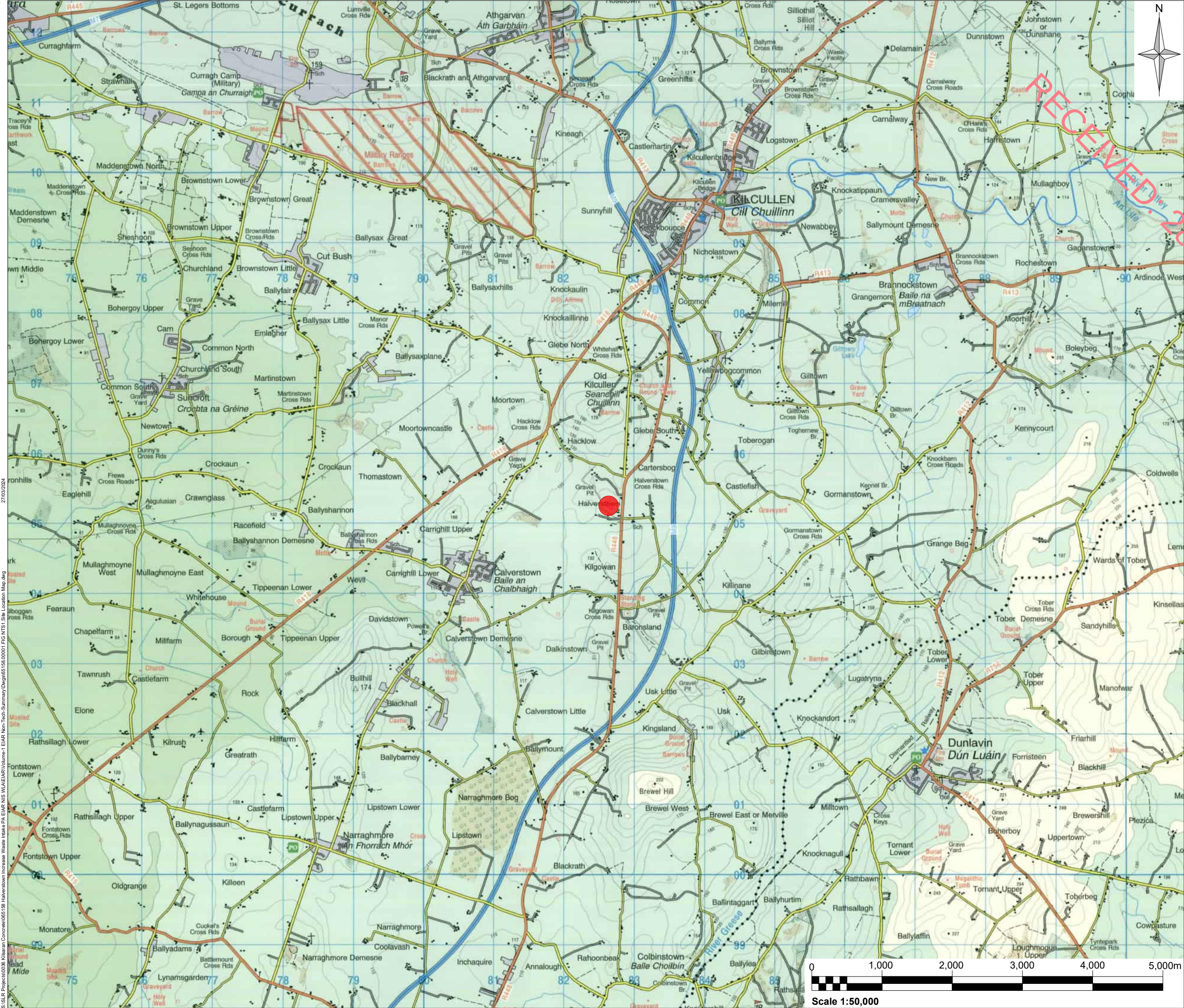
**Figure NTS-4
Existing Site Layout**

**Figure NTS-5
Proposed / Final Site Layout**

**Figure NTS-6
Existing Approved and Proposed Final Cross-Sections**

**Figure NTS-7
Proposed Final Restoration Plan**

**Figure NTS-8
Environmental Monitoring Plan**



Notes:

1. EXTRACT FROM OSI DISCOVERY SERIES MAPPING NO. 55 & 56.

Legend:

● LOCATION OF WASTE RECOVERY FACILITY

Rev	Amendments	Date	By	Chk	Auth
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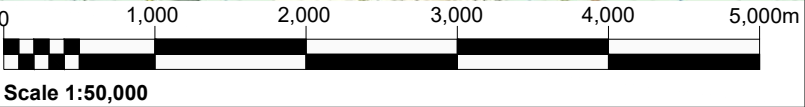
Project
INCREASED INTAKE TO EXISTING
SOIL RECOVERY FACILITY
HALVERSTOWN, KILCULLEN, CO. KILDARE.

Figure Title
SITE LOCATION MAP

Scale 1:50,000		@ A3		SLR Project No. 065158.00001	
Designed EW		Drawn EW		Checked DL	
Authorised DL		Date 08/23		Date 03/24	

Figure Number
FIGURE NTS 1

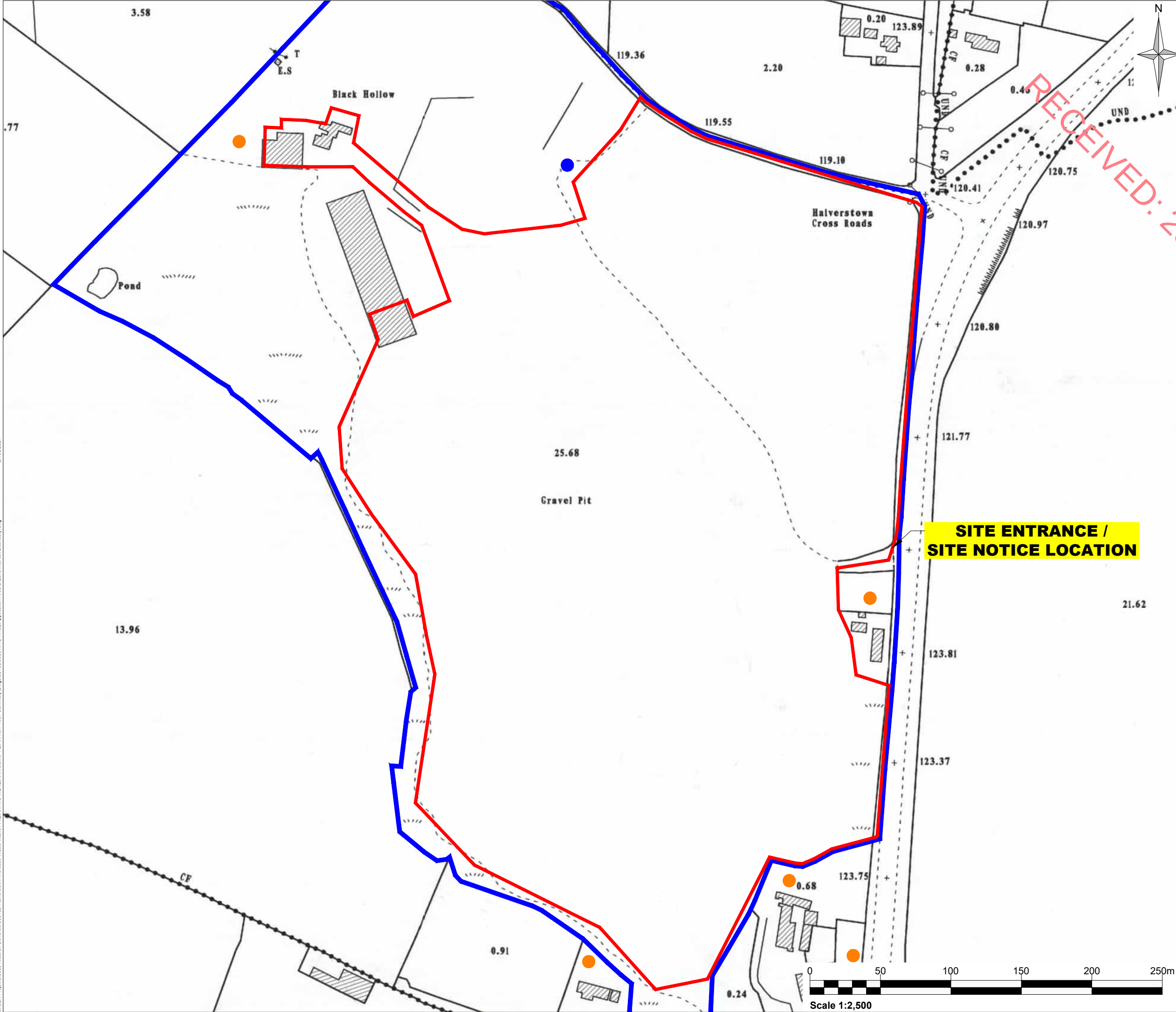
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S:\SLR Projects\0038 Kilsaran Concrete\065158 Halverstown Increase Waste Intake PA EIA\NIS WLAEIAR\Volume-1 EIA\ Non-Tech-Summary\065158.00001 FIG NTS 1 Site Location Map.dwg
27/03/2024
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S:\SLR Projects\0038 Kilsaran Concrete\065158 Halverstown Increase Waste Intake PA EIA\NIS WL\EIA\RV\Volume-1 EIA\N Non-Tech-Summary\Drawings\065158.00001 FIG NTS2 Application Area & Land Interest Boundary.dwg 27/03/2024



Notes:
1. BASED ON ORDNANCE SURVEY MAPPING :
KE028-15 (25 Inch);
3778-C; 3778-D and 3836-B (1:2,500).

Legend:

KILSARAN CONCRETE LAND INTEREST (c.26.3 Ha)

PLANNING APPLICATION AREA (c.18.0 Ha)

SEPTIC TANK LOCATION

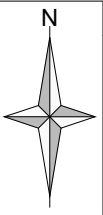
WATER SUPPLY WELL

Rev	Amendments	Date	By	Chk	Auth													
SLR www.slrconsulting.com Client KILSARAN CONCRETE Project INCREASED INTAKE TO EXISTING SOIL RECOVERY FACILITY HALVERSTOWN, KILCULLEN, CO. KILDARE. Figure Title APPLICATION AREA & LAND INTEREST BOUNDARY <table><tr><td>Scale 1:2,500</td><td>@ A3</td><td>SLR Project No. 065158.00001</td></tr><tr><td>Designed EW</td><td>Drawn EW</td><td>Checked DL</td><td>Authorised DL</td></tr><tr><td>Date 08/23</td><td>Date 08/23</td><td>Date 03/24</td><td>Date 03/24</td></tr></table> <table><tr><td>Figure Number FIGURE NTS 2</td><td>Rev. 1</td></tr></table>						Scale 1:2,500	@ A3	SLR Project No. 065158.00001	Designed EW	Drawn EW	Checked DL	Authorised DL	Date 08/23	Date 08/23	Date 03/24	Date 03/24	Figure Number FIGURE NTS 2	Rev. 1
Scale 1:2,500	@ A3	SLR Project No. 065158.00001																
Designed EW	Drawn EW	Checked DL	Authorised DL															
Date 08/23	Date 08/23	Date 03/24	Date 03/24															
Figure Number FIGURE NTS 2	Rev. 1																	

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S:\SLR Projects\0038 Kilsaran Concrete\0045188 Halverslow Increase Waste Intake PA EIA\NIS WLAE\IAR\Volume-1 EIA\N Non-Tech-Summary\Drawings\158.00001 FIG NTS3 Surrounding Land Use.dwg



Notes:

1. BASED ON ORDNANCE SURVEY MAPPING :
KE028-15 (25 Inch);
3778-C; 3778-D and 3836-B (1:2,500).

Legend:

- PLANNING APPLICATION AREA (c. 18.0 Ha.)
- RESIDENTIAL LOCATIONS
- 500 METER OFFSET
- 1 KM OFFSET

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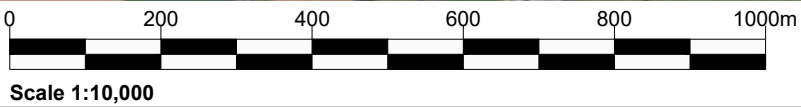
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SURROUNDING LAND USE

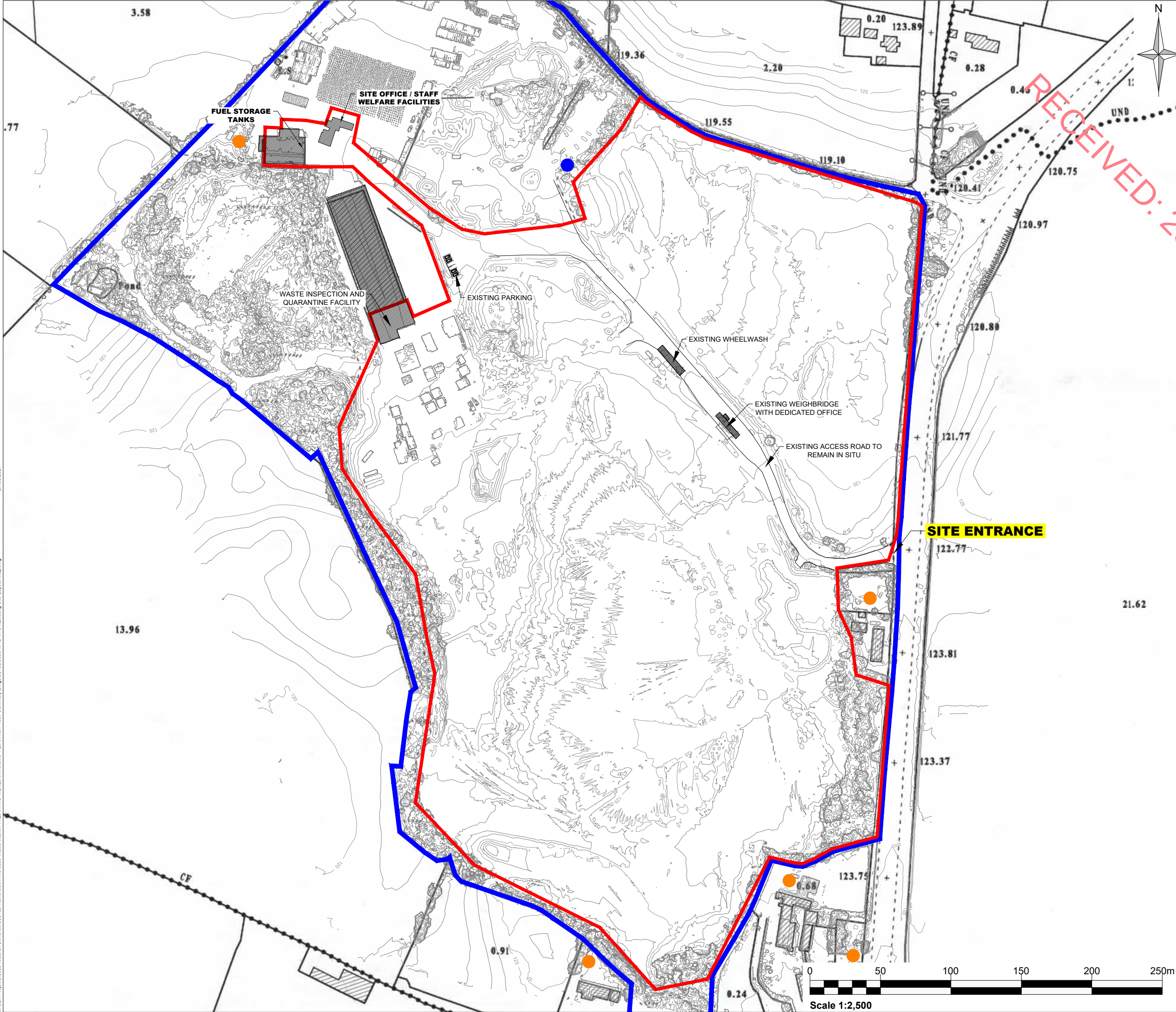
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Designed EW	Drawn EW	Checked DL	Authorised DL
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Date 08/23	Date 08/23	Date 03/24	Date 03/24
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Figure Number FIGURE NTS 3	Rev. 1
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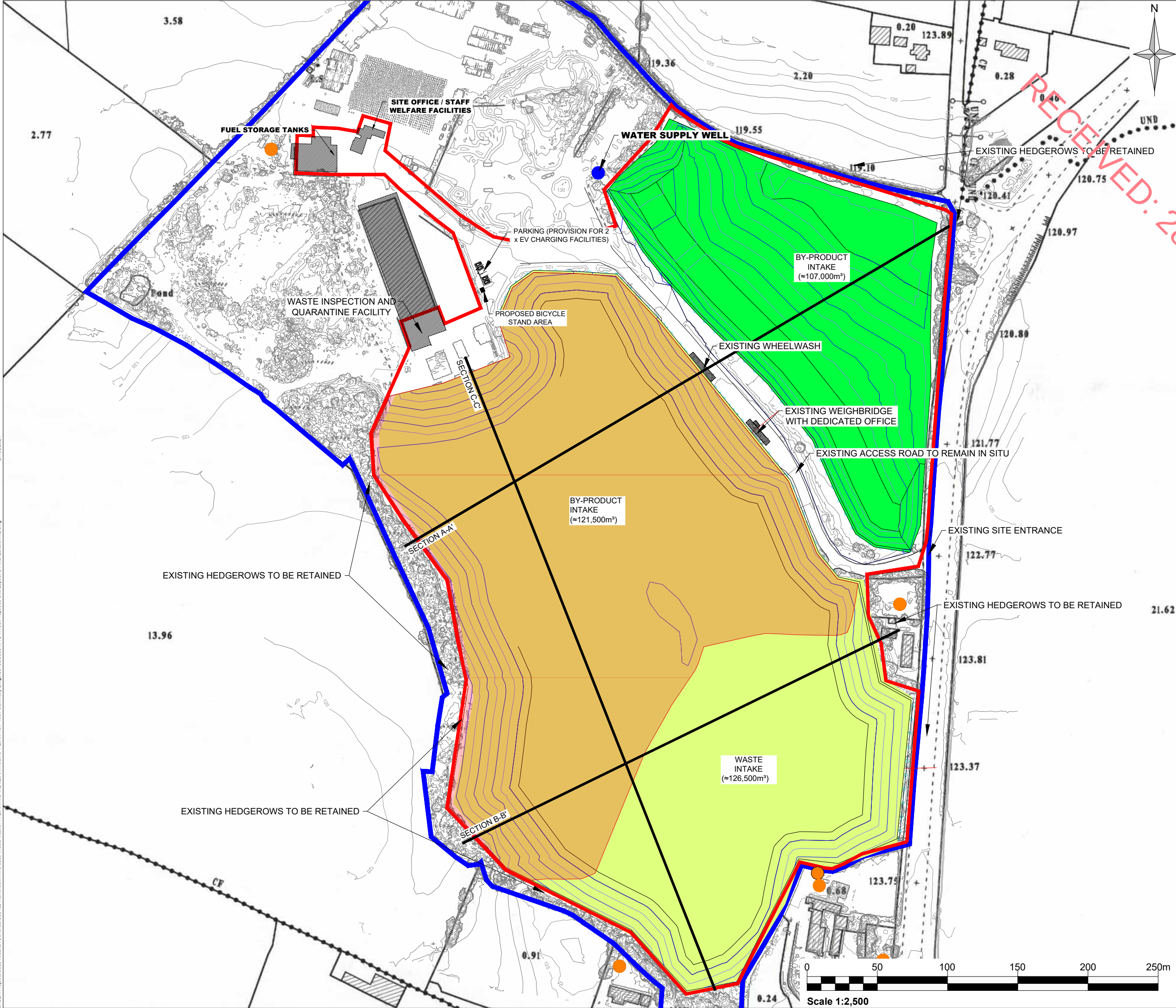
Notes:

1. BASED ON ORDNANCE SURVEY MAPPING :
KE028-15 (25 Inch);
3778-C; 3778-D and 3836-B (1:2,500).

Legend:

- KILSARAN CONCRETE LAND INTEREST (c.26.3 Ha)
- PLANNING APPLICATION AREA (c.18.0 Ha)
- SEPTIC TANK LOCATION
- WATER SUPPLY WELL

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Project INCREASED INTAKE TO EXISTING SOIL RECOVERY FACILITY HALVERSTOWN, KILCULLEN, CO. KILDARE.					
Figure Title EXISTING SITE LAYOUT MAP					
Scale 1:2,500 @ A3		SLR Project No. 065158.00001			
Designed EW	Drawn EW	Checked DL	Authorised DL		
Date 08/23	Date 08/23	Date 03/24	Date 03/24		
Figure Number FIGURE NTS 4					Rev. 1



Notes:

1. BASED ON ORDNANCE SURVEY MAPPING :
KE028-15 (25 Inch);
3778-C; 3778-D and 3836-B (1:2,500).

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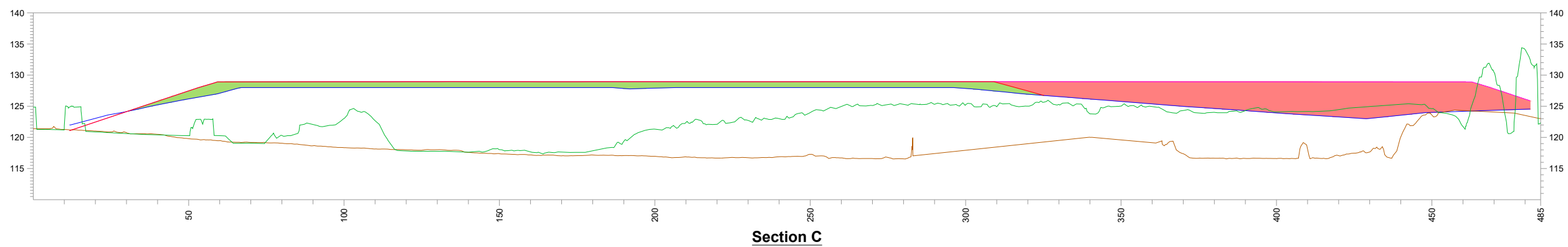
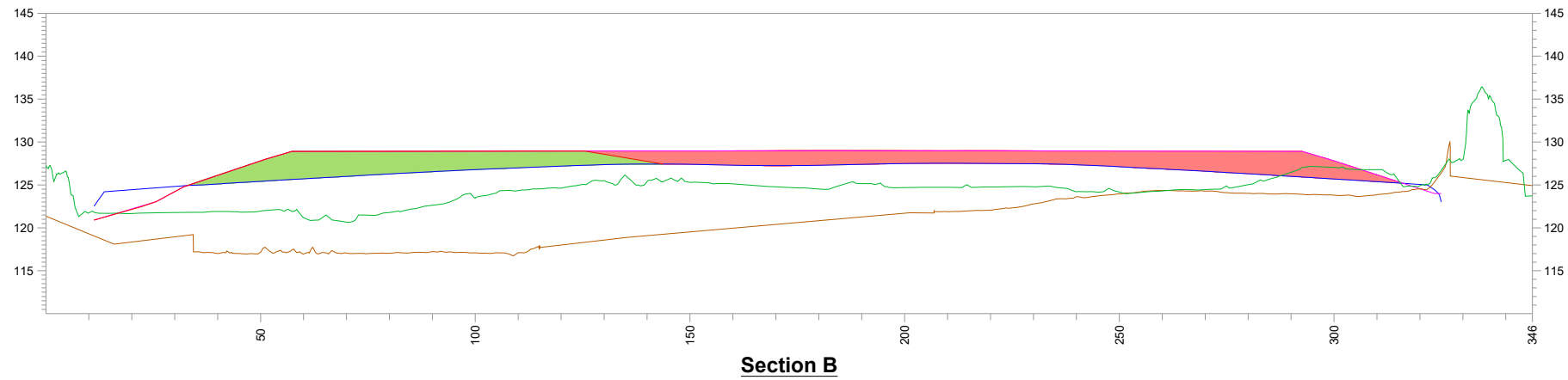
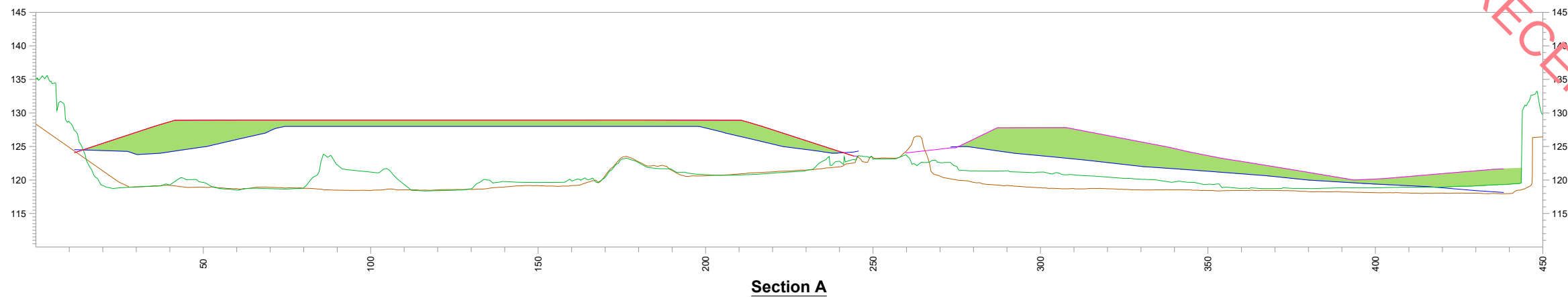
KILSARAN CONCRETE LAND INTEREST (c.26.3 Ha)

PLANNING APPLICATION AREA (c.18.0 Ha)

SEPTIC TANK LOCATION

WATER SUPPLY WELL

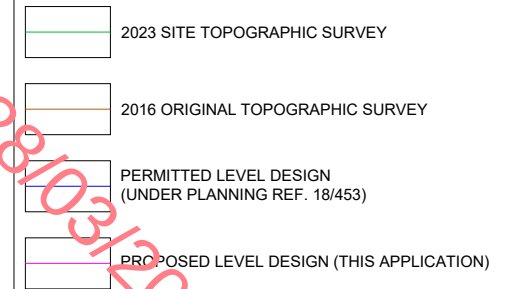
Rev	Amendments	Date	By	Chk	Auth
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Client KILSARAN CONCRETE					
Project INCREASED INTAKE TO EXISTING SOIL RECOVERY FACILITY HALVERSTOWN, KILCULLEN, CO. KILDARE.					
Figure Title PROPOSED SITE LAYOUT MAP / FINAL LANDFORM					
Scale 1:2,500 @ A3		SLR Project No. 065158.00001			
Designed EW	Drawn EW	Checked DL	Authorised DL		
Date 08/23	Date 08/23	Date 03/24	Date 03/24		
Figure Number FIGURE NTS 5					Rev. 1



Notes:

1. REFER TO FIGURE 4 FOR LOCATION OF CROSS SECTIONS
2. 2x VERTICAL EXAGGERATION APPLIED TO CROSS SECTIONS

Legend:



PROPOSED BY-PRODUCT SOIL INTAKE

PROPOSED ADDITIONAL SOIL WASTE INTAKE

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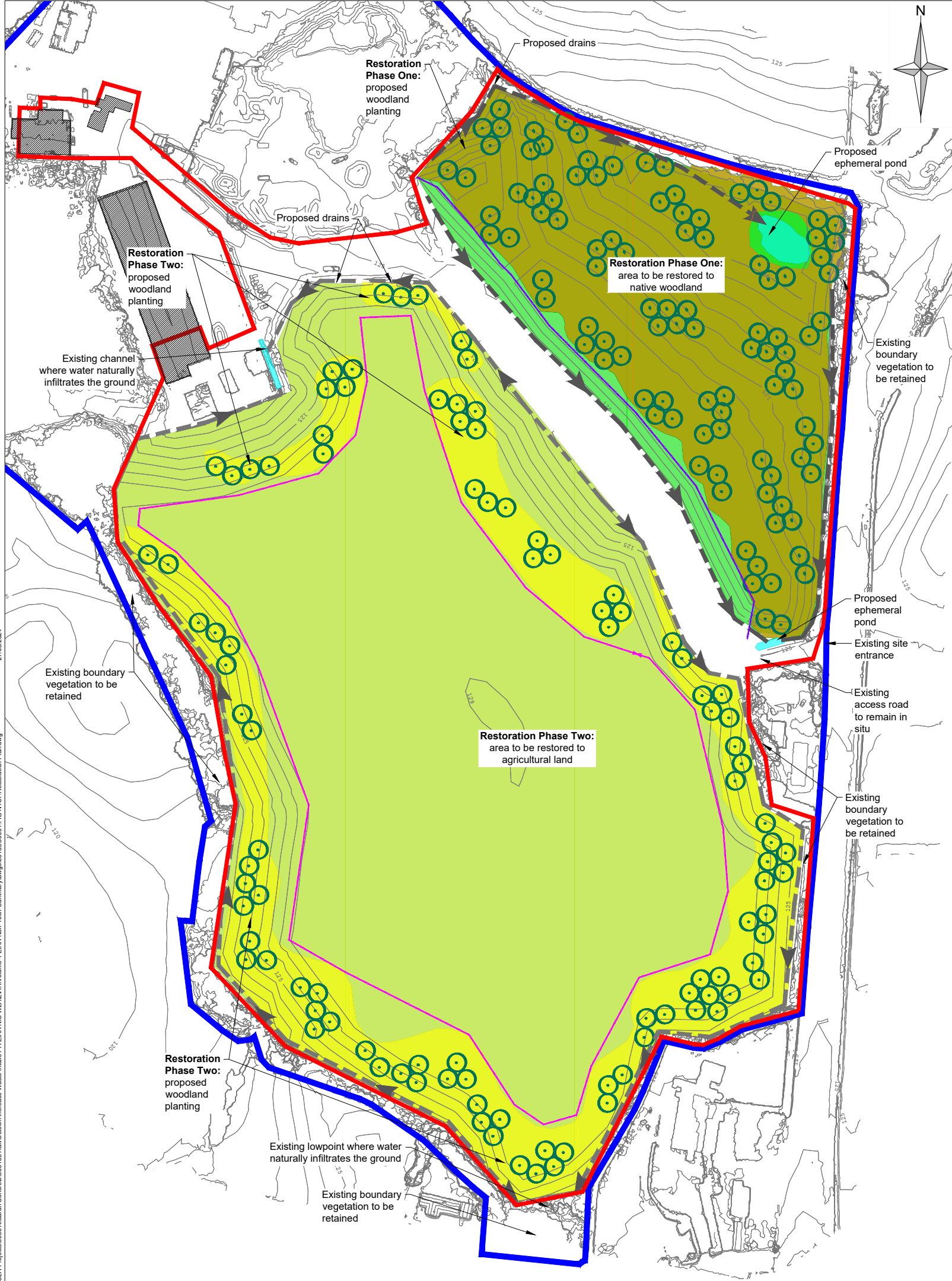
Project
INCREASED INTAKE TO EXISTING
SOIL RECOVERY FACILITY
HALVERSTOWN, KILCULLEN, CO. KILDARE.

Figure Title
PROPOSED NEW LANDFORM
CROSS SECTIONS

Scale 1:1,500		@ A3		SLR Project No. 065158.00001	
Designed AB	Drawn AB	Checked DL	Authorised DL		
Date 10/23	Date 10/23	Date 03/24	Date 03/24		

Figure Number
FIGURE NTS 6

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Landscape and Restoration proposals

The proposed restoration works at the Halverstown waste recovery site will be carried out in two phases, as described below:

Restoration Phase One - to be carried out on completion of the filling works to the north-east of the internal access road:

Drains: It is expected that the majority of rainwater will naturally percolate into the ground and that there therefore will be little run-off from the two backfill areas. However, in order to ensure that no excess water will escape from the application area, in times of high rainfall, drainage channels will be installed at the base of and surrounding the fill area with falls toward the low points surrounding the area, as indicated on the plan. At these low points, space will be allowed for ephemeral/temporary ponds to form, from where the water can slowly infiltrate the ground.

Native Woodland Planting with Shrub Understorey: The area to be planted, as indicated on the plan, will be covered with good quality topsoil (imported top soil) to a depth of ca. 20cm and planted, as per the planting mix and plant numbers in the table below. This planting will provide ecological enhancement on completion of the filling works and will compensate for the scrub vegetation lost due to the ongoing waste recovery works.

Stockproof Fencing and grass seeding: Stockproof fencing will be installed along the top edge of the fill area on the northeastern side of the internal access road, to prevent access to the slope facing the road, which will be grass seeded.

Restoration Phase Two - to be carried out on completion of all filling works:

Drains and Woodland Planting: The same works described for Restoration Phase One regarding drains will be carried out during Restoration Phase Two for the fill area to the south-west of the internal access road. Also Native Woodland Planting with Shrub understorey will be carried out. However, only around the edges of the fill area, as indicated on the plan. The central section of the fill area will be restored to agricultural land, as per the below.

Agricultural Land: The area to be restored to agricultural land, as indicated on the plan, will be covered with topsoil, from stockpiles within the site, to a depth of 15cm topsoil and grass seeded.

Stockproof Fencing: Stockproof fencing will be installed on the inside of the woodland planting surrounding the fill area, to create a field that can be used for grazing. At the same time the woodland planting will be protected from browsing and access to the outer slopes of the fill area is prevented.

General notes - landscape works:

Grass Seeding: As soon as the topsoil is placed on the fill area, the areas will be seeded with a suitable grass and/or wildflower seed mix, whilst suitable weather conditions prevail. The surface preparation and the sowing specifications will be as per the manufacturer's instructions.

Woodland Planting: The plant mix contains locally occurring native species. All stock is proposed to be supplied as transplants at the specified heights, as this type of stock is known to establish more successfully compared to larger stock.

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.

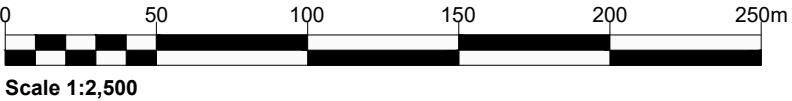
The planting will be carried out by a suitably qualified landscape contractor.

Aftercare: Establishment maintenance will be carried out for 3 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 woodland planting mix with shrub understorey

Woodland planting to be carried out at 3m centres (i.e. 1 plant every 9m²) in the areas indicated on the plan. Approximately 63,900m² (32,700m² - Phase One, 31,200m² - Phase Two) in total (i.e. 7,100 plants). Main tree species (i.e. birch, wild cherry and oak) to be planted in groups of 5-8 towards the centre of the planting blocks. Shrub/small tree species to be planted in random same species groups of 8-10. All plants to be protected with spiral guards or alternatively the entire planting block to be enclosed with stock and rabbit proof fencing.

No.	Plant Name	Common Name	Height (cm)	Age/Pot Size	%
<i>Transplants</i>					
355	Betula pendula	Silver birch	60-90	1+1	5
2485	Corylus avellana	Hazel	60-90	1+0	35
1065	Malus sylvestris	Crap Apple	60-90	1+1	15
355	Prunus avium	Wild Cherry	60-90	1+0	5
355	Quercus robur	Pedunculate oak	60-90	2+0	5
1420	Rosa canina	Dog rose	40-60	1+1	20
<i>Container Grown Shrubs</i>					
1065	Ilex aquifolium	Holly	60-80	2 Lt	15



Notes:

1. Survey dated May 2023, supplied by Kilsaran Concrete

Legend:

Kilsaran land ownership boundary

Planning application area

Restoration Phase One

Proposed drains

Proposed woodland planting

Areas to be grass seeded

Stockproof fencing

Restoration Phase Two

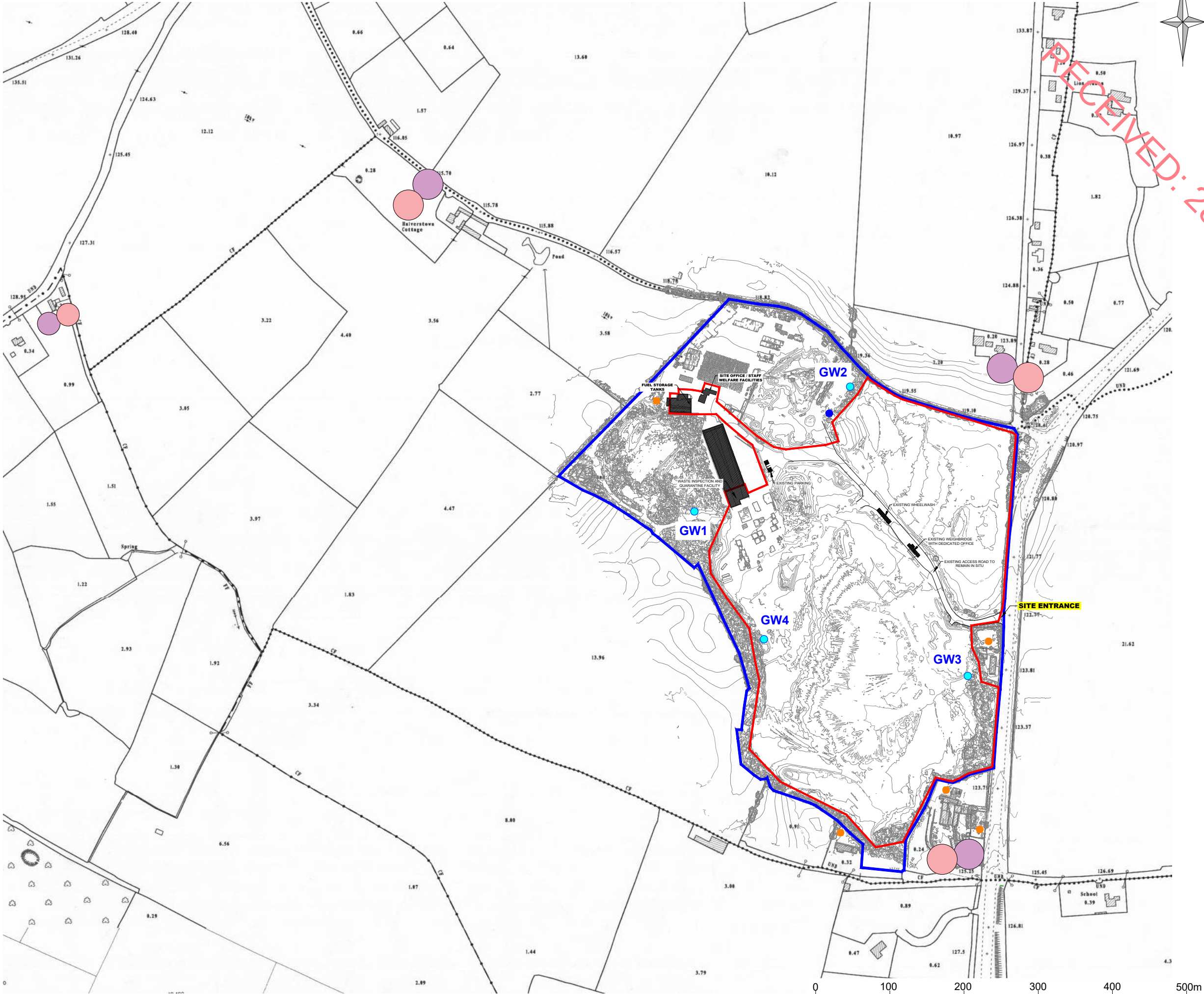
Proposed drains

Proposed woodland planting

Area to be restored to agricultural use

Stockproof fencing

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Client KILSARAN CONCRETE					
Project INCREASED INTAKE TO EXISTING SOIL RECOVERY FACILITY HALVERSTOWN, KILCULLEN, CO. KILDARE.					
Figure Title RESTORATION PLAN					
Scale 1:2,500 @ A3		SLR Project No. 065158.00001			
Designed SH	Drawn SH	Checked AM	Authorised AM		
Date 11/23	Date 11/23	Date 03/24	Date 03/24		
Figure Number FIGURE NTS 7					Rev. 1



Notes:

1. BASED ON ORDNANCE SURVEY MAPPING :
KE028-15 (25 Inch);
3778-C; 3778-D and 3836-B (1:2,500).

- Legend:**
- KILSARAN CONCRETE LAND INTEREST (c.26.3 Ha)
 - PLANNING APPLICATION AREA (c.18.0 Ha)
 - SEPTIC TANK LOCATION
 - WATER SUPPLY WELL
 - DUST MONITORING LOCATIONS
 - NOISE MONITORING LOCATIONS
 - GROUNDWATER MONITORING WELL

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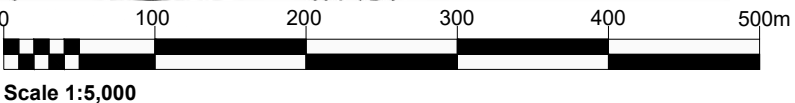
Project
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Figure Title
ENVIRONMENTAL MONITORING PLAN

Scale 1:5,000		@ A3		SLR Project No. 065158.00001	
Designed EW		Drawn EW		Checked DL	
Date 08/23		Date 08/23		Date 03/24	
				Authorised DL	
				Date 03/24	

Figure Number
FIGURE NTS 8

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