Planning and Environmental Consultants

Operational Report

Noel Lawler Sand & Gravel Ltd, Portersize, Ballitore, Co. Kildare

DOCUMENT DETAILS

Client:	**Noel Lawler Sand & Gravel Ltd**
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Planning and Environmental Consultants

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Table of Contents

TABLE OF FIGURES

TABLE OF TABLES

1. INTRODUCTION

1.1 General

McCarthy Keville O'Sullivan Ltd (MKO) has been commissioned by Noel Lawler Sand and Gravel Limited (Lawler Ltd) to prepare an Operational Report (OR) for their soil recovery facility located at Portersize, Ballitore, Co. Kildare.

1.1.1 Statement of Authority

This OR has been prepared by Eoin O'Sullivan and Michael Watson, both of MKO. Eoin is an experienced geo-environmental scientist and has over ten years' experience in the assessment of a wide range of energy and infrastructure related projects and working in the fields of environmental and human health risk assessment, waste management, waste policy and permitting. Eoin has wide experience in the project management of large-scale infrastructural projects and brownfield developments and has routinely undertaken detailed quantitative risk assessment for the protection of controlled waters and ground gas risk assessments. Eoin holds an MSc in Environmental Engineering and is a Chartered Member of the Chartered Institute of Water and Environmental Management (CWEM) and Chartered Environmentalist (CEnv) with the Society of Environment.

Michael has over seventeen years' experience in the environmental sector and has been involved in the preparation of environmental risk assessments for Waste Licensed and other EPA licensed facilities since 2001. Michael completed an MA in Environmental Management at NUI, Maynooth in 1999. Michael is a professional geologist (PGeo) and full member of IEMA (MIEMA) as well as a Chartered Environmentalist (CEnv). Michael is also a Chartered Member of the Institution of Waste Management (MCIWM) and has over 17 years' experience working in the waste management sector.

1.2 Background

The site currently comprises an existing operational quarry permitted under Kildare County Council planning reference no. 07/723 and An Bord Pleanála reference no. 09.226857. The planning permission for the quarry extraction was extended by four years to 31st December 2021 under planning reference no. 17/1107 (extension of duration).

A planning application for the infilling of the quarry void at the existing Lawler quarry site was submitted to Kildare County Council in November 2020. The application included an Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS).

A request for further information was made by Kildare County Council in January 2021 which was complied with. In response, Planning permission was subsequently granted by Kildare County Council on 14th July 2021 (Pl. Ref 20/1329), subject to 29 conditions, the majority of which relate to protection of the environment. A full copy of the planning permission notification from Kildare County Council is included as Appendix 1-1 to this report.

It is proposed to import approximately 1,299,791m^3 or 2,339,624 tonnes of inert soil and stone material for the infilling and restoration of an existing and future quarry void with inert soil and stone over an area of approximately 18.95 hectares. It is proposed to return the land to a beneficial use (agriculture).

The proposed infilling of the quarry void with inert soil and stone will require a Waste Management Licence (WML) in accordance with the Fourth Schedule of the Waste Management Act 1996 (Office of the Attorney General 1996), as amended.

This OR has been prepared in support of the waste management licence application (Application ID: LA007210). The OR describes the site operation, management of site operations and nuisance control measures.

2. SITE SETTING

2.1 Site Location

The site is located in the townland of Portersize, which is approximately 1.5km to the southeast of Ballitore, Co. Kildare. The site comprises a quarry void area which has been used for sand and gravel extraction since at least 1964. The Irish Grid Reference co-ordinates for the approximate centre of the site is E281145, N195234. The site is accessed from an existing entrance off the R747 Regional Road. The R747 travels between Baltinglass, Co. Wicklow to the southeast and the M9 Motorway, which is approximately 3.25km to the west of the site. The site location is shown in Figure 2-1.

2.1.1 Site Description

The proposed development being applied for under this waste licence application includes for the infilling and restoration of the existing and future quarry void over an area of approximately 18.95 ha (extent of current permitted extraction boundary). The site topography ranges from 110m ordnance datum (mOD) at its lowest point in the quarry void to a high point of 135mOD at the southern site perimeter.

The site currently comprises a worked-out sand and gravel pit which has been partially re-colonised with vegetation. The northern perimeter of the site is dominated by mixed conifer woodland which screens the quarry void from surrounding residential receptors. The eastern and southwestern site boundaries contain areas of improved agricultural grassland and scrub.

The proposed development will utilise the existing quarry infrastructure including internal roads, site office (portacabin), weighbridge, wheel-wash, welfare facilities and other ancillaries to complete the works. The construction of a soil quarantine area comprising an inspection shed (with floor area of approximately 180m^2 and 15m in height) and concrete hardstand is proposed for the west of the site. In addition, a designated refuelling area will be provided on the hardstand with an appropriately sized fuel/oil interceptor and associated surface drainage.

Land-use in the wider landscape comprises a mix of agricultural land (pasture and crop land) and residential (one-off housing). The nearest surface water feature to the quarry void is the Upper Crookstown Stream which is located approximately 100m to the northwest of the site, separated from the site by an embankment and woodland. Two settlement ponds (to be infilled) and three smaller ponds (to be maintained for aquatic habitat) are located in the northwest of the site.

There are nineteen houses located within 500 metres of the proposed development site. The closest occupied dwelling is located at the southwest site boundary, on the west side of the existing site access road, off the R747.

The site is surrounded by a secure boundary fence, trees and lockable access gates to prevent unauthorized access. A site layout plan is included as Figure 2-2.

Map Legend

Site boundary

Ballitore

Béal Átha an Tuair

Ballitore Br.

PO

Burial Ground

Portersize

elhall

ss Rds

100

110

120

130

140

150

160

169

White

R747

R747

Timolin

141

Portersize Cross Rds

Ballycore

Kno

Burial Groun

Motte

120

N

Drawing Title: Site Location

Project Title: Lawler Quarry Restoration

Drawn By	Checked By
Eoin Hurst	Eoin O'Sullivan
Project No.	Drawing No.
191115	Fig 2-1
Scale: 1:10000	Date: 04.02.20

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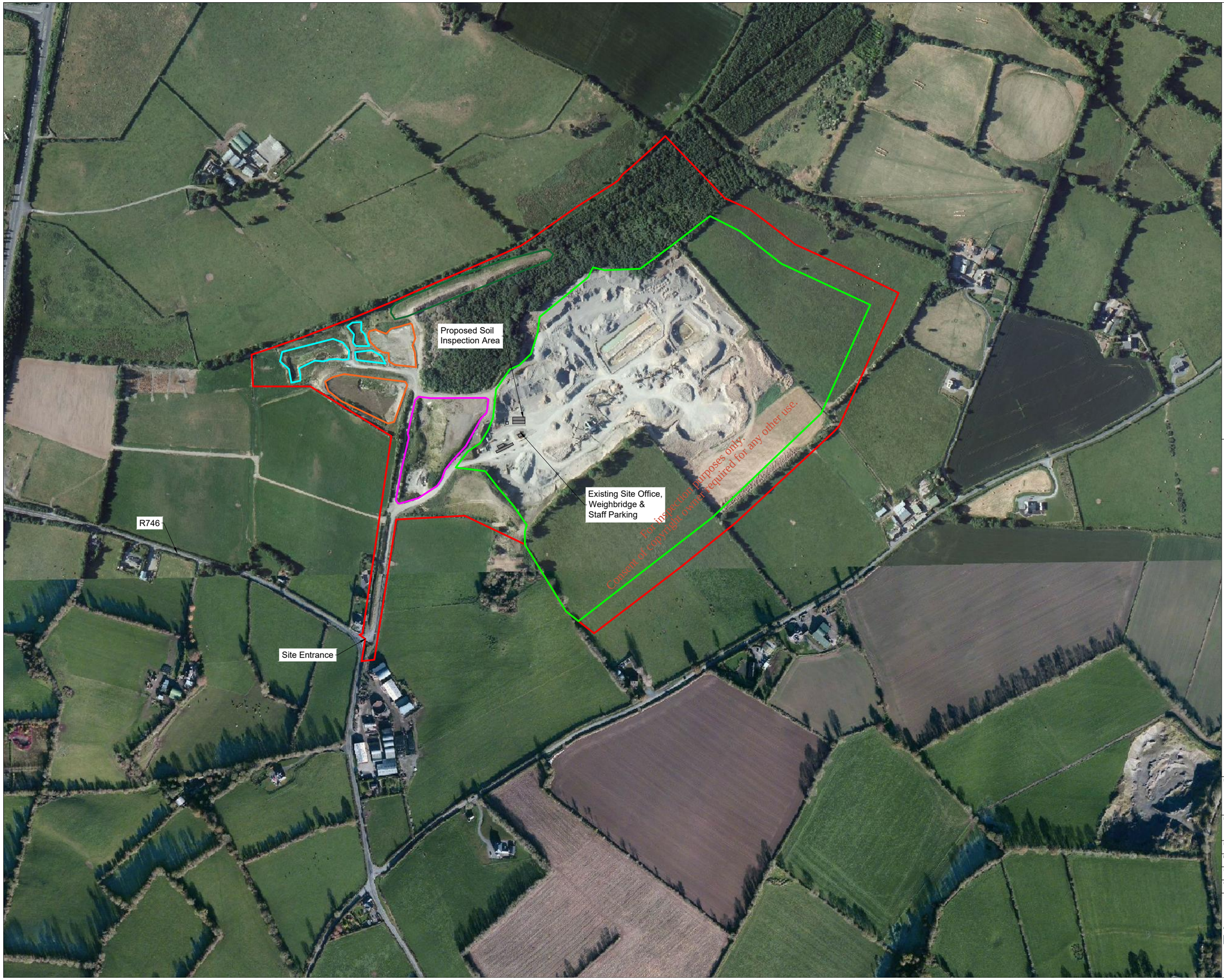

Drawing Legend

- Planning Application Boundary
- Quarry Void Boundary
- Existing Ponds to be Restored (Aquatic Habitat)
- Raised Mound to be Graded
- Raised Bund to be Planted
- Old Settlement Pond to be Infilled

N

DRAWING TITLE:
Site Layout - Aerial Photograph

PROJECT TITLE:
Lawler Quarry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Eoin O Sullivan
PROJECT No.: 191115	DRAWING No.: Fig 2-2
SCALE: 1:5,000 @ A3	DATE: 29.10.2020
OS SHEET No.: N/A	

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3. SITE OPERATION

3.1 Site Layout

3.1.1 Existing Layout

The site currently comprises a worked-out sand and gravel pit which has been partially re-colonised with vegetation. The northern perimeter of the site is dominated by mixed conifer woodland which screens the quarry void from surrounding residential receptors. The eastern and southwestern site boundaries contain areas of improved agricultural grassland and scrub.

An asphalt site access road via the R747 is located on the western site perimeter. This leads to a compacted gravel road which traverses the site in a northeast direction. Existing site infrastructure is mainly situated on the western boundary, adjacent to the entrance road. The existing site buildings and permanent equipment includes one site office (portacabin), a weighbridge, wheel-wash, welfare facilities and a number of small equipment storage sheds. There is also a staff parking area adjacent to the site office. Mobile heavy plant and machinery currently in use at the site includes one no. CAT 345 excavator, one no. CAT D6 dozer and one no. tractor and water bowser.

The site is still active as pre-existing sand and gravel stockpiles (mainly located in the centre and southeast of the void) are exported by loading onto trucks and removed for use in the construction sector locally. No material is brought onto the site and no significant alterations to the existing layout are planned prior to the expiration of the current planning permission on 31st December 2021.

3.1.2 Proposed Layout

The proposed development will utilise the existing quarry infrastructure including internal roads, site office (portacabin), weighbridge, wheel-wash, welfare facilities and other ancillaries to complete the works. These facilities are currently located on the west of the site, adjacent to the main site entrance. These facilities will undergo refurbishment and minor upgrades/repairs are required.

Minor alterations (widening, resurfacing and addition of passing bay) are planned to the site entrance road from the R747 to the western perimeter of the quarry void, adjacent to the site office.

The construction of a soil quarantine area comprising a covered inspection shed with storage bays, and concrete hardstanding area, is proposed for the west of the site, to be situated approximately 25m northeast of the existing facilities. A designated refuelling area will be provided on the hardstand with an appropriately sized fuel/oil interceptor and associated surface drainage.

No other significant alterations or upgrades to the existing site layout or infrastructure are required in order to accommodate the proposed infill and restoration works. The current proposal is for the acceptance of up to 100,000 tonnes of inert soil/stone (non-hazardous) recovered from construction and demolition sites in the region. No processing, grading or alteration of this material is proposed, other than spreading and compaction in the existing quarry void.

Detailed site layout drawings including cross sections of the existing quarry void and elevations of buildings are included in Section 3.2 Site Geographical Location, of the Waste Management Licence Application Form. The total application area including the site infrastructure covers an area of 18.95 hectares. Kildare County Council issued notification of decision to grant planning permission (PI. Ref 20/1329) for the above development on the 14th July 2021.

3.2 Site Activities

3.2.1 Overburden Removal

Prior to any infilling works commencing on-site, any existing vegetation cover will be removed from the working area. This will typically be done by means of mechanical excavator. The material will be mulched and stockpiled for future use on-site.

3.2.2 Material Types and Quantities

It is proposed to infill the existing and future void space with inert soil and stone, converting the operation to a soil recovery facility, and hence requiring a waste management licence. The quantity of soil and stone material required for restoration has been estimated to be approximately 1,299,791 m^3 (or 2,339,624 tonnes).

The List of Waste (LoW) types and codes for material to be imported to fill the void is presented in Table 3-1 below.

Table 3-1 List of Waste Types and Codes for Imported Material

List of Waste Code	Description	Quantity	
		(m^3/annum)	(t/annum)
17 Construction and Demolition Wastes			
17 05 04	Soil and stones - excluding topsoil, peat; excluding soil and stones from contaminated sites.	63,000	100,000

The Class(es) of Activity at the void, as specified in the Third and Fourth Schedule of the Waste Management Act, 1996 (as amended), are as follows:

Table 3-2 Class(es) of Activity Fourth Schedule of WMA Act, 1996

Fourth Schedule	
Class	**Description**
R5 (Principle Activity)	Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.
R13	Storage of waste pending any of the operations numbered R1 to R12

The material will be sourced from construction projects in the region, including the Athy N78 Bypass, several proposed housing schemes, and other such similar projects.

3.2.3 Duration of Permission

The quantity of soil and stone material required for restoration has been estimated to be approximately 1,299,791 m^3 (or 2,339,624 t). It is considered that the rate of infilling and restoration will be subject to market conditions and therefore planning permission was sought (and granted) for a 20-year operation.

3.2.4 Material Acceptance Procedure

3.2.4.1 Inert Soil and Stone

The applicant plans to operate the site at Portersize, Co. Kildare, as a soil recovery facility under an EPA waste licence which will grant permission to accept inert soil and stones (EWC 17 05 04) only.

The following procedures will be established by Lawler Ltd. to ensure that only suitable material is accepted and deposited in the quarry void, in accordance with both the planning permission and waste licence, together with any conditions attached to either.

3.2.4.1.1 *Waste Site Pre-Approval Procedure*

All hauliers must hold a valid waste collection permit which shall be presented to the facility prior to transportation of material onto site. Appropriate competent persons shall carry out invasive species risk assessments and waste characterisation. Waste Acceptance Criteria (WAC) results and all site investigation and laboratory reports (samples taken as per procedure below) shall be presented to the facility for review prior to material acceptance.

For sources of material, if WAC testing results are not provided; Lawler Ltd. personnel will undertake a site visit to the donor site and take soil samples for WAC testing.

If the material is deemed suitable for acceptance, then the customer will be informed in writing and notification will be given for presentation at on-site verification. Additionally, a Lawler Ltd. New Site Notification sheet must be completed by a competent person and reviewed by Lawler Ltd. A Lawler Ltd. chain of custody booklet shall also be issued to the site.

3.2.4.1.2 *Waste Intake Sampling Procedure*

An invasive species risk assessment will be carried out by appropriately skilled persons, visual and olfactory analysis and site visits carried out to donor sites if necessary. Representative spot samples are taken at the rate of 1 sample per 2,000 tonnes of waste accepted and sent to laboratories if necessary, for further analysis.

3.2.4.1.3 *Waste Inspection Procedure*

This procedure describes the inspection process of all material imported to the site for deposition in the quarry void. It provides a list of visual and olfactory signals for refusal such as material with a strong decomposing odour or containing hydrocarbons indicated by iridescence sheen on water, odour, or discolouration.

3.2.4.1.4 *Waste Acceptance and Rejection Procedure*

Each consignment arriving at the facility will be inspected to ensure it complies with what was agreed in the pre-approval stage. All loads in and out of the facility shall be weighed and issued with a docket providing the type of waste and customer details, this information shall also be stored in a Daily Waste Log together with all other relevant information on each load.

Material is inspected before it is recovered according to the above 2 no. procedures. Any material which does not comply at the pre-approval stage will be rejected. Any loads which have been tipped and subsequently found to be unsuitable will be reloaded and directed off site or to the quarantine area pending collection by the customer. This shall be recorded in the Quarantine Folder and the EPA informed as appropriate.

If ongoing testing of material returns concentrations above specified parameter concentrations, the consignment containing the elevated parameter will be excavated and returned to the customer. Intake of the material will only resume if both the site and 'B' sample are within the acceptance limits and sampling will increase if necessary. If a second sample exceeds any parameter, then acceptance will permanently cease from that site.

3.2.4.1.5 *Waste Intake Log Sheet*

A Waste Intake Log Sheet shall be filled out by the weighbridge clerk and signed by the driver for all loads in and out. It shall include details such as the date and time, waste permit no., vehicle registration no., name of haulier, net weight, comments, certificate of conformity no. and signatures of both the driver and clerk.

The site-specific procedures listed above will ensure the material deposited is safe and suitable for importation. In summary however, it is noted that all imported material shall be subject to waste acceptance criteria to be agreed with the EPA. Imported waste shall not be processed in any capacity on site. If material arrives to site and is deemed to be unsuitable for depositing in the quarry void it will be refused, or if necessary to retain that material at a quarantine area until such a time that it is ready to be transported elsewhere for disposal as appropriate.

Trucks will be weighed upon arrival at the site at the proposed onsite weighbridge. Following inspection of documentation in line with the acceptance procedures, the material will be visually inspected and sampled if necessary, as per the procedures outlined above.

The imported material shall be deposited in such a manner as to achieve the proposed final profile as per the Restoration Plan. The majority of site boundaries such as hedgerows and woodland shall be retained.

In accordance with the EPA document *'Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities'* published February 2020, no liner or engineered cap are proposed at the subject site (EPA 2020). All imported material will be subject to routine inspection as set out above.

3.2.5 Infilling of Void

There will be a phased restoration of the quarry void working from the base of the void vertically building up soil and stone. The material will be spread in layers, each of approximately 1 to 2 m depth, up to the required ground contour level. If required, the layers will be compacted using the dozer which is spreading the material.

The temporary side slopes will be engineered to form slopes in the order of 1:1.5 (vertical : horizontal). Temporary access ramps into and out of active backfilling areas will be at a gradient of approximately 1:10 (vertical : horizontal).

During site restoration works the upper surface of the backfilled materials will be graded to ensure surface water run-off falls to drains and swales located around the perimeter of the infill area as it is being backfilled.

Following completion of the infilling works, topsoil will be placed (approximately 300 mm depth) and the soils will be rolled and reseeded with grasses to bring the site into agricultural use.

3.2.6 Environmental Monitoring

It is proposed that dust, groundwater, surface water and noise monitoring be carried out in line with the revised monitoring requirements as set out in the current Kildare County Council (KCC) Planning Permission (Pl. Ref. 20/1329) Conditions (Condition 3, 9, 10 and 11)

, and with any further conditions as per the EPA Waste Licence. An environmental monitoring programme will be established prior to the start of infill / restoration works with any additional requirements, including groundwater / surface water / dust monitoring locations, proposed as part of subsequent waste licence conditions. The monitoring programme will be agreed with KCC and EPA as necessary.

3.2.7 Water Management

Management of surface water runoff/groundwater ingress will be undertaken as follows:

- A natural buffer exists of approximately 100m between the Crookstown Stream and the proposed infill area. The permeability within this region will remain high, with a recharge coefficient of approximately 80%. This provides a soakage area for surface waters which may arise.
- Runoff from the infilled quarry void will be directed into newly constructed drains and swales situated along the perimeter of the infill areas.
- Settlement ponds will be constructed down-gradient of the drainage routes. These ponds will not be lined, the low permeability subsoil currently at the site will allow any surface water to recharge to groundwater.
- Any sediment which settles at the base of the ponds will be removed at regular intervals to maintain the permeability of the ponds.
- There will be no net change in runoff/recharge rates from the site.

Management of surface water from the site entrance road, inspection area, the wheel-wash area, the car park and ancillary buildings will be directed through silt traps, an oil interceptor and constructed wetland soakaway, which will provide a buffer zone for suspended sediment. Runoff from the refuelling area will also be drained via a full hydrocarbon interceptor and then routed to the soakaway via the wetland area. During any restoration works the upper surface of the backfilled materials will be graded to ensure surface water run-off falls to drains/swales situated around the perimeter of the site.

Proposed site drainage plans are included as Appendix 1-2 to this Operational Report.

3.2.8 Wastewater Treatment

Sanitary wastewater from the existing quarry site is currently treated in an on-site septic tank treatment unit and percolation area. The treatment of sanitary wastewater is to be upgraded as follows:

It is proposed to manage wastewater from the staff welfare facilities in the site office building by means of a sealed storage tank, with all wastewater being tankered off-site by a permitted waste collector to a licensed wastewater treatment plant. It is not proposed to treat wastewater on-site, and therefore the EPA's 2009 'Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. 10)' does not apply. Similarly, the EPA's 1999 manual on 'Treatment Systems for Small Communities, Business, Leisure Centres and Hotels' also does not apply, as it too deals with scenarios where it is proposed to treat wastewater on-site.

The proposed wastewater storage tank will be fitted with an automated alarm system that will provide sufficient notice that the tank requires emptying. The quarry manager will have overall responsibility for monitoring and servicing of the storage tank. Only waste collectors holding valid waste collection permits under the Waste Management (Collection Permit) Regulations, 2007 (as amended), will be employed to transport wastewater away from the site to a licensed facility. Such a proposal for managing the wastewater arising on site is a standard practice on quarry sites, which are often proposed in areas where finding the necessary percolation requirements for on-site treatment would be

challenging and has been accepted by numerous Planning Authorities and An Bord Pleanála as an acceptable proposal.

The waste recovery operations (infill with inert soil and stone) do not generate a trade effluent.

3.2.9 Fuel Storage

The existing fuel storage on the site consists of two above-ground steel diesel fuel storage tanks; one 3,600 litre (L) tank and one 1,800 L tank, located to the north of the wheel-wash in the west of the site. These tanks are constructed on sealed concrete surfaces and bunded to provide a storage volume equivalent to 110% of the tank storage volume. As part of the proposed development, the existing fuel storage tanks will be removed, and no permanent storage of hydrocarbons will take place on the site. It is proposed that plant and machinery will be refuelled by truck on an as-needed basis.

A dedicated re-fuelling area is proposed to be constructed on the new concrete hardstanding, adjacent to the soil inspection area. An oil/fuel interceptor and catch-drains will be included in the hardstand construction, and appropriate bunding provided around the fuel tanks. All vehicle re-fuelling operations will take place in this designated area.

3.3 Site Drainage

Management of surface water runoff/groundwater ingress will be undertaken as follows:

- A natural buffer exists of approximately 100m between the Crookstown Stream and the proposed infill area. The permeability within this region will remain high, with a recharge coefficient of approximately 80%. This provides a soakage area for surface waters which may arise.
- Runoff from the infilled quarry void will be directed into newly constructed drains and swales situated along the perimeter of the infill areas.
- Settlement ponds will be constructed down-gradient of the drainage routes. These ponds will not be lined, the low permeability subsoil currently at the site will allow any surface water to recharge to groundwater.
- Any sediment which settles at the base of the ponds will be removed at regular intervals to maintain the permeability of the ponds.
- There will be no net change in runoff/recharge rates from the site.

Management of surface water from the site entrance road, inspection area, the wheel-wash area, the car park and ancillary buildings will be directed through silts traps, an oil interceptor and constructed wetland soakaway, which will provide a buffer zone for suspended sediment. Runoff from the refuelling area will also be drained via a full hydrocarbon interceptor and then routed to the soakaway via the wetland area.

During the restoration works the upper surface of the backfilled materials will be graded to ensure surface water run-off falls to drains/swales situated around the perimeter of the site.

3.3.1 Drainage Upgrade Works at Site Entrance

Details of the existing and proposed drainage for the site entrance road leading out to the R747 are provided on the site drainage plans (Appendix 1-2).

There is an existing french drain which runs along the eastern side (upslope side) of the site entrance road (refer to Figure 1). The drain runs from the site entrance on the R747 as far as the internal entrance leading into the sand and gravel pit itself.

Proposed drainage upgrade works for the site entrance and site entrance road are as follows:

- Excavate/removal of the existing 40mm drainage stone within the French drain and replace with clean 40mm stone;
- Install 2 no. soakaways along the drain to facilitate percolation of drainage water; and,
- Installation of an ACO drain at the site entrance on the R747 which will feed into the entrance road french drain.

4. SITE MANAGEMENT

4.1 Management of Site Operations

4.1.1 Environmental Management System

An Environmental Management System (EMS) will be established by Lawler Ltd. for the restoration works, in line with the requirements of ISO 14001:2015, an internationally recognised EMS standard.

The key objectives of the EMS shall be:

- Compliance with all relevant legislation, regulations and operation to the International Standard ISO 14001:2015.
- The continuous improvement of environmental performance and practices.
- Maintaining good relationships with neighbouring landowners and the surrounding community.
- Management of visual impact of operations on the surrounding landscape.
- Managing efficiently the generation and disposal of waste and ensuring the prevention of pollution at the site.

The proposed development will be carried out in accordance with the requirements of the EMS. The EMS includes an Environmental Monitoring Programme (EMP) for the monitoring of dust, groundwater, and noise. The EMP will be revised based upon conditions attached to a WML for the proposed soil recovery facility.

4.1.2 Facility Management and Staffing

A competent management structure is already in place on site with the Facility Manager - Mr. Noel Lawler, responsible for the overall management of the facility. There are currently 8 no. full-time staff working at the Lawler Quarry site, including management, administration, general operatives, drivers and maintenance staff.

All personnel employed on the site are adequately trained in their own personal discipline and will be familiar with the operating conditions relating to the quarry site. The facility manager will have overall responsibility for the infilling and restoration works.

Lawler Ltd. will continually assess the training needs of all involved in the operation of the quarry and carry out such training as required by regulation. Records of staff training will be regularly updated and stored securely on site.

4.1.3 Site Access and Security

The site is accessed from an existing entrance off the R747 Regional Road. The R747 travels between Baltinglass, Co. Wicklow to the southeast and the M9 Motorway, which is approximately 3.25 km to the west of the site.

All vehicular traffic accessing the site will be controlled by a security barrier at the site office before gaining access to the site.

The site is surrounded by dense vegetation and woodland, secure boundary fencing and lockable access gates to prevent unauthorized access. The proposed development will not alter the existing boundary fence or gates. The site gates will be locked and secured outside operating hours. Warning

signs are placed and will be maintained at the quarry entrance and perimeter fencing. It is also proposed to install closed-circuit television (CCTV) security cameras (subject to planning permission) at the site, to monitor site operations.

4.1.4 Opening Hours

It is expected that the infilling and restoration works will occur during the following working hours in line with the existing operational conditions of the quarry:

- 07:00 – 18:00 Monday to Friday; and 07:00 - 14:00 Saturdays.
- Closed Sundays, Bank Holidays and other Public Holidays.

4.1.5 Car Parking

Car parking space will be provided in the existing car parking area which is adjacent to the site office and weighbridge.

4.1.6 Services

The arrangements for services will be the same as for the existing quarry site, apart from sanitary wastewater, described below:

- The site is serviced by electrical mains and telecommunications networks.
- Drinking water and the water supply for the toilets is obtained from an existing on-site private well.
- It is proposed to manage wastewater from the staff welfare facilities in the site office building by means of a sealed storage tank, with all wastewater being tankered off-site by a permitted waste collector to a licensed wastewater treatment plant. See Section 3.2.8 above.

4.1.7 Refuelling

A dedicated re-fuelling area is proposed to be constructed on the new concrete hardstanding, adjacent to the soil inspection area. Both existing above-ground diesel fuel tanks (one 3,600 L and one 1,800 L) will be removed off-site. No fuel storage will take place on the site. An oil/fuel interceptor and catch-drains will be included in the hardstand construction design, and appropriate bunding provided around the fuel tanks. All vehicle re-fuelling operations will take place in this designated area and fuel storage tanks and bunds will be inspected on a routine basis for integrity.

Spill kits will be in place at the re-fuelling area. Only designated, trained, and competent operatives will be authorised to refuel plant. All plant and machinery will be serviced before being mobilised to site, and regular leak inspections will be completed during the site operations. No plant maintenance will be completed on-site, and any broken-down plant will be removed from site to be fixed.

4.1.8 Plant Maintenance and Breakdown

The plant and equipment will be subject to a preventative maintenance programme and critical spares will be retained at the site. All plant and machinery will be serviced annually off-site. Regular leak inspections will be completed during the restoration works.

4.1.9 Emergencies

An emergency is an accident/incident that has the potential to result in environmental pollution and harm to human health & safety.

Lawler Ltd has completed an assessment of the environmental effects of any accidents that may occur. Based on the types of waste that are and will be accepted and the activities carried out, the only accidents that present a significant risk of environmental pollution are accidental spillage of hydrocarbons during refuelling of plant.

4.1.9.1 Potential Release of Hydrocarbons

An EMS will be established by Lawler Ltd. for the restoration works, in line with the requirements of ISO 14001:2015, an internationally recognised EMS standard. As part of the EMS a procedure to deal with accidental spillages will be implemented as follows:

- Procedures and contingency plans will be set up to deal with emergency accidents or spills. The following steps provide the procedure to be followed in the event of oil/fuel spill or leak:
- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers;
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill;
- If possible, clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited;
- Notify the Site Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action; and,
- The Site Manager will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.

4.2 Nuisance Control

4.2.1 Pest and Vermin Control

Proactive measures will be undertaken in conjunction with a professional pest control company and in accordance with existing company procedure to ensure vermin are never allowed to become prevalent on site. This will include the provision of bait stations at all perimeter points to prevent intrusion.

4.2.2 Litter Control

It is proposed to fill the quarry void with inert soil and stone. Therefore, it is not anticipated that the activities on site will give rise to litter problems. In the unlikely event that litter is observed on site, hand-picking will be carried out within 24 hours of the incident and any litter removed.

4.2.3 Odour Control

The material accepted at the site will be inert soil and stone which will be free of biodegradable material and/or organic contamination. Given the absence of organic/biodegradable material, the activities at the Lawler facility are unlikely to give rise to odour nuisance and therefore there is no requirement to implement any specific odour control measures at the facility.

4.2.4 Dust and Emission Control

The following measures will be taken by Lawler Ltd. to mitigate dust generation at the site:

- The hardstanding/roads adjacent the site will continue to be regularly inspected by the Facility/Site Manager for cleanliness and cleaned as necessary.
- Any hardstanding areas/site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions. Water bowser movements will be carefully monitored, as the application of too much water may lead to increased runoff.
- The transport of material, which has significant potential to cause dust, will be undertaken in tarpaulin-covered vehicles.
- A wheel wash facility is installed on site and all vehicles will be required to pass through the wheel wash on exiting the site.
- Following reinstatement, the area will be reseeded to facilitate immediate revegetation of the site and prevent dust generation.
- All plant and machinery will be maintained in good operational order while on-site.
- All plant and materials vehicles shall be stored in the dedicated compound area.
- Monitoring of dust will continue as per the operational conditions of the quarry.

4.2.5 Noise Control

It is anticipated that there will be no significant noise effects from the plant and HGV movements associated with the proposed restoration works. Noise emissions from the site will be inaudible or slightly audible due to masking by road traffic noise. Notwithstanding this, the following general mitigation measures will be in operation at the site:

- All plant on-site will be maintained in accordance with manufacturer's recommendations. In particular, exhaust and silencer systems will be maintained in a satisfactory condition.
- All restoration plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations.
- Any plant introduced to the site will not be excessively noisy. Where possible, noise data provided by suppliers will be consulted.
- Keeping site access and haul roads level and in good repair to reduce the potential for vibration from lorries.
- Tailgate slap during tipping events will be prevented by using rubber stops or powered tailgates.
- Communication through plant horns will be prohibited.
- Unnecessary revving of truck engines will be prohibited.
- Monitoring of noise may form part of the restoration environmental management system, as per planning conditions.

4.2.6 Site Traffic

All traffic accessing and egressing the site will utilise the existing site entrance and established haul routes. Traffic on site will be controlled by the Facility Manager. Signs on site will indicate maximum permissible speeds and directional information. The weighbridge operator will provide the primary means of marshalling traffic. Traffic control at the site will involve restricting the number of vehicles entering the infill areas at any one time. No queuing of vehicles will be allowed outside the entrance to the site on the R747 Regional Road.

The following mitigation measures are currently employed at the site and will be employed in the future operation of the site, to ensure traffic associated with the development does not impact negatively on the environment:

- Adequate on-site parking is provided for employees and visitors cars;
- Provision of on-speed restrictions;
- Routing of vehicles with sensitive regard to local communities;
- Ensuring that HGVs transporting material to the site are not overloaded; and,
- Checking public roads in the vicinity of the site for signs of spillages. A road sweeper is also available for use on site and adjacent sections of the R747 at least on a weekly basis and/or if a spillage occurs.

4.3 Health and Safety

Health and Safety (H&S) will be a priority on-site at all times and will be undertaken in accordance with the existing Lawler Ltd. H&S procedures. Lawler Ltd. shall at all times take such precautions as are necessary to protect its own employees, other employees and all other persons including members of the public, and shall comply with the requirements of the Safety, Health and Welfare at Work Act 2005 (as amended).

4.4 Reasonable Alternatives

4.4.1 Alternative Locations

There is no alternative to the current location as the proposed development in this instance is site specific, is located within an active quarry setting and will also bring previously quarried land back into use. The site is also well placed to serve local markets and the needs of local construction markets and those of neighbouring authorities.

It should also be noted that given that the proposed development site is located adjacent to the existing quarry operation, the restoration works will make use of the existing access road, equipment/machinery, site office, weighbridge and wheel wash for the site operations.

Further to this, the environmental assessments undertaken as part of this EIAR have proved that there will be no demonstratable harm to the environment, built or archaeological heritage or human health that cannot be prevented or controlled by mitigation measures. The selection of the existing site for the proposed development minimises the environmental impact associated with developing a new facility on a new site. Developing on a new site would require the acquisition of new land, potentially constructing supporting infrastructure and the provision of new services.

In conclusion, the proposed development location is the preferred/optimum site based on the following considerations:

4.4.1.1 Environmental

- Avoidance of the use of a greenfield site;
- Capacity to minimize visual impact of the infrastructure;
- Capacity to minimize potential impacts to sensitive receptors; and,
- Existing ground conditions.

4.4.1.2 Development

- Good site access and local and regional road network capacity;

- Located within a quarry setting.

4.4.1.3 Infrastructure

- Access to quarry infrastructure;
- Existing site services that can accommodate proposed development; and,
- Proximity to local markets.

4.4.2 Alternative Site Layout and Project Design

The area of the proposed development comprises a quarry void currently used for sand and gravel extraction. It is intended to restore the quarry to original land contours and land use. Therefore, there are no possible alternatives to this. In respect of the project design, a specific and considered restoration programme has been designed to protect environmental receptors.

There will be a phased restoration of the quarry voids working from the base of the void vertically building up soil and stone.

APPENDIX 1-1

KILDARE COUNTY COUNCIL PLANNING PERMISSION NOTIFICATION (REF 20/1329)

APPENDIX 1-2

SITE DRAINAGE PLANS