



Bay Lane Soil Recovery Facility

EPA waste licence application Non-technical summary

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1 SECTION A NON-TECHNICAL SUMMARY

The following Non-Technical summary has been provided in accordance with the requirements of Article 12 (1) (u) of the Waste Management (Licensing) Regulations, S.I. 395 of 2004, as amended.

1.1 INTRODUCTION

The development will comprise a soil and stone recovery facility that will allow for the full restoration of the lands that currently constitute a disused quarry; access via the already established existing site entrance; a new temporary administration building; a new temporary welfare facility; a new temporary weighbridge office; the relocation of the existing weighbridge; a new temporary internal access road; a new temporary storage facility; a new wheel wash facility; removal of the existing fuel storage; car parking; temporary lighting; associated infrastructure; landscaping; and all ancillary site works. An Environmental Impact Assessment Report (EIAR) accompanies this application. The proposed development will require planning approval from Fingal County Council in order to operate, and this planning approval has been sought.

1.2 APPLICANT DETAILS AND ADDRESS FOR CORRESPONDANCE

The address for the proposed development is:

- Bay Lane Quarry, St Margaret's, County Dublin

Applicant's Details are

- Applicant Company Name: GLV Bay Lane Limited
- Company Address: Block B, Maynooth Business Campus, Straffan Road, Maynooth, County Kildare
- Company Directors: Stephen Garvey, Michael Rice and Justin Bickle
- Company Registration No. 626428
- Phone: +353 (0)1 963 0102

The addressee for correspondence, on behalf of the applicant, is

- Conor McGovern
- RPS, West Pier Business Campus, Dun Laoghaire, County Dublin.
- +353 (0) 1 488 2900
- conor.mcgovern@rpsgroup.com

1.3 PLANNING AUTHORITY

The proposed development is situated in the functional area of Fingal County Council.

1.4 SITE LOCATION

The application site (a rock quarry) is located approximately 1km southwest off Exit 2 on the M2 motorway, approximately 6km NNW of Exit 5 on the M50 motorway.

The site address is at Bay Lane, St. Margaret's, County Dublin¹.

- Location: 53°25'33.2"N 6°21'15.7"W
- Grid coordinates latitude 53.425899 and longitude -6.354347
- Google Maps link: <https://goo.gl/maps/gpd9a6n9MYP2>

The site area is approximately 13.67ha in total and the quarry void extends over 8.59 hectares.

The site is located close to a good transport network including the N2/M2, M50, M1 and the N3, while also being accessible to the Dublin Port Tunnel and to Dublin City Centre.

The Ordnance Survey of Ireland historical maps were consulted. The 1888-1913 OS 25" 1-inch Mapping indicates that the site was a previously greenfield with no evidence of high-risk historic land use.

Ortho-photography of the site in 1995, 2000 and 2005 available from the OSI Public Map Viewer showing the sequence of change from greenfield to quarry in c2000.

The site falls under the Fingal County Development Plan 2017 – 2023 and the associated lands are zoned GE – General Employment 'Provide opportunities for general enterprise and employment', while also being subject to the Cherryhound Local Area Plan.

¹ Address per FCC planning decision 1694 reference F00A/0862 of 20 April 2001

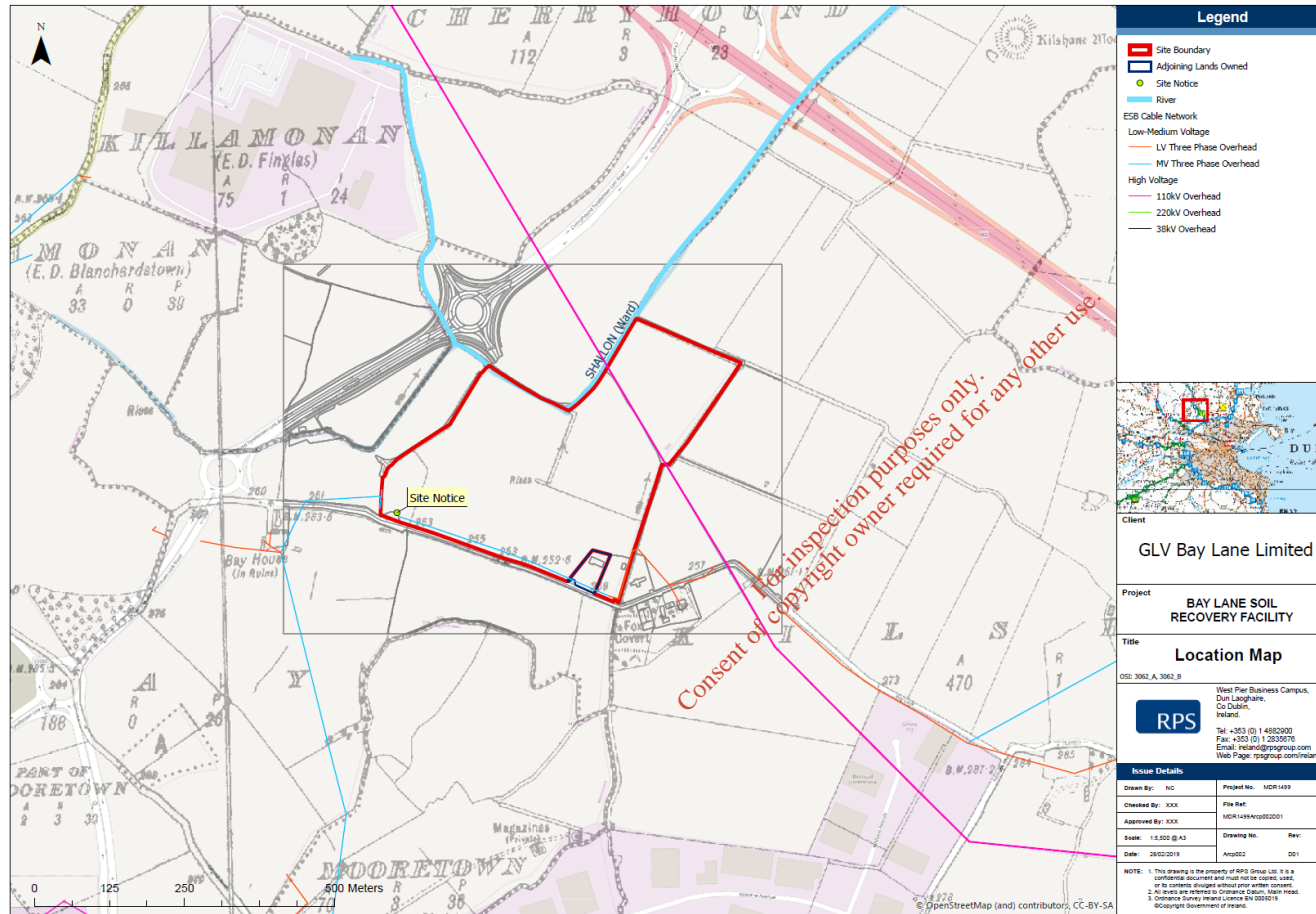


Figure 1-1: Site Location – see also Map 1

1.5 NATURE OF THE PROPOSED DEVELOPMENT

The proposal is to restore a rock quarry to previous, pre-quarry, condition and topography. The proposed input is 296,000 m³ per annum, over a 2.5-year lifetime (approx. 740,000 m³ total void capacity - 712,129 m³ usable void plus 27,918 m³ soil covering). Proposed input materials are soil and stones for restoration works, and these may be subject to temporary stockpiling of materials as required.

Site plant will include a bulldozer/excavator, weighbridge, wheel-wash and temporary site offices.

1.5.1 Quantity and nature of wastes to be accepted

Proposed input waste types, by EWC, are listed in Table A.1.

Table 1.1: Proposed input waste types, by EWC

EWC Code	Waste Type	Volume
17 05 04	Soil and stones other than those mentioned in 17 05 03	712,129 m ³ usable void plus 27,918 m ³ soil covering to be imported over facility lifetime to fill void space, excluding capping material to restore contour profile appropriately
20 02 02	Soil and stones	

1.6 NORMAL OPERATING HOURS AND DAYS PER WEEK OF THE ACTIVITY

It is proposed that the on-site operations associated with the proposed development shall be carried out only between the hours of 08:00 hours and 18:00 hours on Mondays to Fridays inclusive and 08:00 hours to 13:00 hours on Saturdays. No operations shall be carried out on Sundays or Bank Holidays.

The proposed normal operating hours and days per week of the activity are as follows:

	Hours of operation
Monday to Friday, inclusive	08:00 – 18:00
Saturday	08:00 – 13:00
Sundays or Bank Holidays	No operations

1.7 THE RELEVANT CLASSES OF ACTIVITY BEING SOUGHT

The relevant class or classes of activity in the First Schedule of the EPA Act 1992 as amended or Third and Fourth Schedule of the Waste Management Act 1996 as amended are described below

The principal activity is Class R 5 of the Fourth Schedule of the Waste Management Act 1996, as amended (recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials).

The second activity is Class R 13 of the Fourth Schedule (Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced)

Third Schedule Waste Disposal Operations	Yes/No	Fourth Schedule Waste Recovery Operations	Yes/No
D1	No	R1	No
D2	No	R2	No
D3	No	R3	No
D4	No	R4	No
D5	No	R5 Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.	Principal activity
D6	No	R6	No
D7	No	R7	No
D8	No	R8	No
D9	No	R9	No
D10	No	R10	No
D11	No	R11	No
D12	No	R12	No
D13	No	R13 Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).	Yes
D14	No		
D15	No		

1.8 RESOURCE AND ENERGY USE

Input materials for site restoration will be as described in **Section 1.5** above. Full details with respect to energy usage (i.e. electricity & fuel) are provided in Attachment 4.6.1- Water and Energy Use.

Electric power, lighting and heating will be provided at the temporary site office near the entrance to the site.

Mains water is available on site and will be used for any basic sanitary functions.

Records of electricity and water usage will be retained.

Fuel for site plant and equipment undertaking the site restoration works will be brought to the facility as required and vehicles refuelled on the hardstanding area.

No re-fuelling of haulage vehicles will take place on site.

Oil and lubricant changes for wheeled or tracked site plant will be undertaken onsite at the hardstanding area.

Records of fuel usage and waste oil removal offsite will be retained.

1.9 PREVENTION, MINIMISATION AND RECOVERY OF WASTE

Suitable stone material will be used for the construction of internal haul roads. Any non-inert waste separated from incoming loads will be segregated, stored and transported off-site for recovered insofar as practicable.

Waste oils generated on site will be segregated and immediately transported off-site by the recovery technician – no onsite storage is proposed in the normal course of business.

Office and on-site waste will be segregated for (off-site) recycling.

Registered Waste Collection Permit-holders, who hold the relevant permissions for collections in Co. Fingal and are permitted for the appropriate EWC codes and destination facilities will be engaged. The off-site facilities used for disposal/recovery, will be appropriately licensed/permitted by the EPA Local Authority.

1.10 PLANT, METHODS, PROCESSES, ABATEMENT, RECOVERY AND TREATMENT SYSTEMS AND OPERATING PROCEDURES AND SOURCES, LOCATION, NATURE, COMPOSITION, QUANTITY, LEVEL AND RATE OF EMISSIONS FROM THE INSTALLATION/FACILITY

Commented [CM1]: Too short

The facility will operate in accordance with a Waste Acceptance Procedure, to be agreed with the EPA. Attachment 4-3-5-Waste acceptance outlines the GLV Bay Lane Limited proposal.

After being weighed in at the weighbridge, incoming materials will be tipped directly at the active restoration area (clean soil and stones), or at the inspection area (at the direction of site staff).

The critical item of plant on site will be 1 No. bulldozer. The bulldozer will 'push in' a tipped load, level it and compact it at the active restoration area. A loader will be employed on site to move materials as required.

No direct emissions to atmosphere are proposed. Potential fugitive dust emissions have been considered and mitigation measures are outlined.

Noise emissions will be associated with incoming/outgoing haulage vehicles and mobile quarry/restoration plant and machinery. Noise mitigation measures are outlined. The EIAR concludes that, during normal operation of the facility, there should be a negligible noise impact at all nearby residents.

No emissions to sewer are proposed.

No emissions to groundwater are proposed.

Emissions to surface water are described in the following section.

1.10.1 Drainage proposals

GLV Bay Lane Limited will wish to pump standing water from the quarry floor into a settlement tank, and then to discharge the water into the stream with peak flow restricted to greenfield run-off rate prior to backfilling of the pit. This proposed drainage will also be utilised during Phase 1 of the filling of the pit.

Following the emptying of the pit of standing water, approval will be sought from the EPA via the waste licence to maintain surface water drainage from the pit during the operational period of the quarry restoration. The proposed drainage arrangement for the open pit during operation will consist of varying drainage arrangements for three phases of the backfill operation. All discharges from the site will be sent to the settlement and separator tank, prior to discharge to adjacent unnamed stream with peak flow restricted to greenfield run-off rate (45.74 l/s).

The first phase of the operational period will consist of contouring the backfill in the south west area of the pit towards surface water channels adjacent to the proposed access directing the flow of standing water and surface water runoff to discharge to the existing sump located in the north west

of the pit, where it will be pumped (rate - 0.05 m³/s) to the settlement and separator tank at the south-east corner of the site. Other surface water channels will be contoured around the edge of the pit to direct flow towards the sump. The flow from the pond is to be pumped to the settlement and separator tank for treatment. The final effluent from the tank is to discharge to nearby stream through an outfall pipe with peak flow restricted to greenfield run-off rate.

The second phase consists of additional surface water channel constructed along the access track to convey combined surface water run-off and groundwater discharge to a sump at the south-east corner of the open pit. The backfilling will take place in the north east of the pit and backfill the existing sump (which will be emptied prior to being backfilled) The access track will need to be partially backfilled to slope towards to secondary sump in the south east corner. During this phase both sumps may need to be used during the transition period of the access track to slope to the south eastern sump. The flow from the second sump is to be pumped to the settlement and separator tank for treatment prior to discharge to nearby stream. The final effluent from the tank is to discharge to nearby stream (mean flow rate 48 l/s) through an outfall pipe with peak flow restricted to greenfield run-off rate (45.74 l/s).

The final phase will consist of backfilling the access road and the second sump. As the land is raised it will be sloped towards the existing drainage ditches along the boundary of the site. This also allow surface water and groundwater to begin to discharge back into the existing ditches to replicate the drainage of the site prior to the excavation of the quarry.

As the pit is backed filled it will be compacted during all phases to limit the infiltration of the surface water to allow the groundwater to rebound to its natural state. The pit will not be lined and dewatering of the pit will continue during the backfill period to ensure slope stability and prevent ponding of surface water.

The surface water run-off for the site compound will discharge to a proposed plastic pipe which will be treated by a petrol interceptor prior to discharge to the sumps via a surface water channel.

Sizing attenuation storage

The Frequency Duration Depth (FDD) table supplied by Met Eireann for the site location was used to predict surface water run-off within the open pit during storm events. The design return period has been taken at 1 in 50 years. For the purpose of estimating design storm run-off, the site has been divided into two areas, the open pit itself and the surrounding non-excavated ground to account for the variation with infiltration from the site.

The infiltration rates have been attributed for the two areas based on the results of the rising head tests undertaken on site previously and the resulting run-off calculated for different duration storms. The peak total run-off occurs after 4 hours, although run-off rates are greater for smaller duration events. The maximum total run-off for the site has been estimated to be 3,098 m³ for a 4-hour event.

The settlement and separator tank provide 500m³ storage hence the storage requirement for the site and the sumps temporary is 2598 m³. This storage volume can be distributed between both sumps during the phasing of the backfill. During the final phases of the backfilling operation as the fill material itself will be able to retain some storage volume. However, as the material will be compacted to raise the water table the estimated 30-year storage volume (2103 m³) will be

maintained during the backfilling duration as a conservative mitigation measure. The invert level of the sump will be raised as the backfilling takes place during Phase 2 and Phase 3.

1.11 WHERE AN EIAR IS SUBMITTED AS PART OF THE LICENCE APPLICATION, SUMMARISE THE LIKELY SIGNIFICANT EFFECTS OF THE ACTIVITY IN A TABLE

The likely significant effects of the activity and proposed mitigation measures are summarised in Table A.2 below.

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Table 1.2: Effects summary table

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Human Beings	The junction assessment shows that the 'Do-Something – Soil Recovery Works' will have a negligible impact on the operating performance of Bay Lane Roundabout in the 2024 PM peak hour.	The proposed soil recovery works will comprise the placement of c.740,000 m ³ of fill soil and stone material (712,129 m ³ usable void plus 27,918 m ³ soil covering) to be imported to the site over a 30 month works programme. Based on a volume per truck of 11m ³ and a 30-month work programme it is considered that typically the soil importation works will generate circa 2,160 trucks to the site per month. Based on an average 22 working days per month this equates to an average of circa 98 trucks arriving to the quarry per day (196 truck movements in total). It is expected that the profile of movements over the 30 months will not be consistent and it is considered there will be short term peak surges within the duration of the works which will be compensated then by times where the truck numbers drop below average. It is unknown for how long any peak profiles would occur, but it could be for six summer months within a year (with no truck movements then for the remaining six months of the year). For this assessment it is proposed to also undertake a worst-case analysis of the potential peak profiles where it is assumed that double the average amount of trucks will arrive on site. This equates to a potential peak of circa 196 trucks arriving to the quarry per day (392 truck movements in total).	<p>Road Signage</p> <p>It is proposed to provide warning signage along Bay Lane at 50m distances in both directions.</p> <p>Booking System</p> <p>To streamline and manage the arrival/departure of trucks over a working day along the Bay Lane, a booking and scheduling system will be implemented to avoid the scenario of the development related trucks meeting on the sections of Bay Lane with reduced road width.</p> <p>Operating Traffic Management Plan (TMP) Development and Implementation</p> <p>GLV Bay Lane Limited will prepare a full Operating Traffic Management Plan. The characteristics of the Operating Traffic Management Plan will be agreed with the Local Authority.</p> <p>The sightlines on Bay Lane to the southeast will be improved by cutting back to vegetation growth, to optimise visibility.</p>

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Human Beings	Likely effects due to noise emission sources from the proposed development include the use of plant/machinery on site during backfilling operations.	Noise is fully described in the respective EIA Section under Air.	<p>The following mitigation measures are proposed to reduce noise levels from plant and machinery at the subject site, as well as from HGVs travelling on the N2-R121 dual carriageway link road and on Bay Lane.</p> <ul style="list-style-type: none"> • HGVs will only be allowed to import material to the site during the proposed operational hours; • To streamline and manage the arrival/departure of trucks over a working day along the Bay Lane, a booking and scheduling system will be implemented to avoid the scenario of the development related trucks meeting on the sections of Bay Lane with reduced road width; • All vehicle engines will be switched off when not in use and there should be no unnecessary revving of engines; • Care should be taken when unloading vehicles to reduce or minimise potential disturbance to residents; • All equipment will be regularly maintained to ensure that they are operating effectively and not producing additional noise emissions or potential tonal sources; • Where practicable the number of machines in simultaneous operation will be minimised; • Plant and machinery used on-site will comply with the EC (Construction Plant and Equipment) Permissible, Noise Levels Regulations, 1988 (S.I. No. 320 of 1988); and • All contractors will employ the best practicable means to minimise noise emissions and will be obliged to comply with the general recommendations of BS 5228-1:2009+A1:2014 and "Environmental Good Practice Site Guide" 2005 compiled by CIRIA and the UK Environmental Agency.

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Human Beings	<p>The operational phase is likely to generate onsite emissions of dust. The site topography and associated vegetation and site management systems are to be employed to reduce impacts of dust deposition upon sensitive receptors.</p>	<p>The extent of dust generation is dependent on the nature of the material (soils, peat, sands, gravels, silts etc.) and the location of the activity. In addition, the potential for dust dispersion depends on the local meteorological factors.</p> <p>It is predicted that there will be no significant negative impacts upon air quality caused by the operation of the proposed development.</p> <p>The proposed development (i.e. restoration of the pit) will have a net positive impact by replacing the existing area of bare exposed rock with vegetated surfaces.</p> <p>Dust is more fully described in the respective EIAR Section under Air.</p>	<p>Mitigation measures for dust, are described in the respective EIAR sections.</p> <p>The physical characteristics of the site, this is the overriding dust mitigation method. As most of the site is below ground level, this acts as a natural barrier, containing the dust within the void and preventing nuisance to the surrounding landscape;</p> <p>Monitoring and reporting to the EPA will be carried out, as per licence requirements;</p> <p>Concrete surfaces will be used at the site entrance to minimise dust generation in these areas;</p> <p>Dust control equipment to be used to control dust levels;</p> <p>The active tipping area will be restricted in location and area;</p> <p>Site roads will be regularly cleaned and maintained as appropriate. Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic only;</p> <p>Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential), a mobile water bowser is on site for deployment during dry weather periods;</p> <p>Concrete surfaces will be used at the site entrance to minimise dust generation in these areas;</p> <p>Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential);</p>

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
			<p>All vehicles exiting the site will make use of a wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads. Wheel washes will be self-contained systems that do not require discharge of the wastewater to water bodies;</p> <p>Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary;</p> <p>A road sweeper will be used on internal haul roads and on intermediate approach roads to the facility; A road sweeper will be used on site to mitigate against dust on and around the site;</p> <p>Material handling systems will be designed and laid out to minimise exposure to wind;</p> <p>The transport of very fine soils should be undertaken in covered vehicles;</p> <p>Water misting, or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods;</p> <p>All vehicles which present a risk of spillage of materials, while either delivering or removing materials, will be loaded in such a way as to prevent spillage onto the public road;</p> <p>All vehicles suitably maintained to ensure that emissions of engine generated pollutants are kept to a minimum.</p>

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Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
<p>Flora and fauna</p>	<p>Potential impacts are outlined for in detail in section 8.7 of the accompanying EIAR.</p> <p>It is considered unlikely that there will be any residual impacts as a result of the Proposed Development. The operations if carried out in accordance with standard protective measures and implementation of ecological mitigation measures described should ensure that the ecology should not greatly alter.</p>	<p>The reinstatement of the pit will result in the infilling of most of the site.</p> <p>During the filling process much of the site is likely to be covered by open vegetation similar to what occurs on the north-eastern side of the site currently. This will support invertebrate fauna which will in turn allow feeding by sand martins and swallows. The eventual restoration of the site will be to agricultural condition suitable for grass or tillage crops.</p> <p>Restoration will include the removal of all machinery and structures and the smoothing of the contours</p>	<p>Mitigation measures are outlined for in detail in section 8.8 of the accompanying EIAR.</p>

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Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Soil	Uncontrolled emission of oil or mud/soil from a vehicle or storage tank	<p>In the event of an uncontrolled oil emission from a vehicle or storage tank, there will be potential for a localised impact on soil quality as a result of potential emissions.</p> <p>This impact is likely to be short term since the contaminant sources will be removed or be attenuated by natural effects.</p>	<ul style="list-style-type: none"> Fuel and lubricant will be stored in appropriately protected containers. Regular monitoring of discharged water (levels and chemical parameters) will confirm the effectiveness of protection provided. There is a former fuel tank and mobile plant filling area located along the internal access road located on concrete hardstand. This area is no longer in use, but the infrastructure remains in place. This will be decommissioned and removed. A mobile fuel bowser will be employed on site for fuelling mobile plant. No potentially polluting liquids (principally fuel) will be stored onsite. They will be transported onsite in mobile bowsers constructed to the appropriate Irish, British or International Standard, meeting the requirements of the Local Government (Water Pollution) Acts 1977 to 1990 and associated regulations. Potentially polluting liquids such as lubricating oils, waste oils derived from vehicle maintenance, pesticides etc, will be not be stored onsite longer than necessary during their use. Waste oils and fuels generated will be transported offsite immediately by the service provider generating them. Any necessary temporary storage will be in containers located on sealed ground. All solid wastes arising on site and other solid potentially polluting materials will be segregated according to category, stored within containers which are designed to ensure the contents do not spill or escape and covered as necessary.

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
			<ul style="list-style-type: none"> • Spill kits with a supply of materials suitable for absorbing and containing any minor spillage will be available on site at all times. Staff will be appropriately trained in their use. • Materials suitable for containing spills including sealing devices and substances for damaged containers, drain seals and booms, and overdrums will be maintained at the site. Staff will be appropriately trained in their use. • All plant and equipment will be subject to maintenance in accordance with the suppliers / manufacturer's recommendations to avoid the failure of items of plant and equipment giving rise to potential emissions to the environment. • Surface water channels and drains will be subject to visual inspection by the Facility Manager. Action will be taken to remove any obstructions to flow. • In the event of spillage of polluting materials, immediate action will be taken to contain the spillage. The spillage will be reported to the Facility Manager, who will assess the situation and decide on the most appropriate course of action. The action taken will depend upon the size of the spillage, the location of the spillage in relation to sensitive receptors and the chemical and physical nature of the spilled material. • Action taken may include: <ul style="list-style-type: none"> • if possible, the leak will be stopped; • if it safe to do so, the cause of the spill or leak will be isolated;

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Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
			<ul style="list-style-type: none"> • if the spillage is small, spill granules will be used immediately if necessary to prevent the spill spreading. The area will be cleared, and all contaminated material will be sent offsite for appropriate management; • for large spills, clay or sand will be used to make a containment and specialist help will be sought to clean up; • in the event of a potentially serious spillage, immediate action will be taken to prevent the spread of the spill. The Environment Protection Agency will be informed immediately, and remedial action agreed; if the spillage cannot be contained using approved materials, the Environment Protection Agency and senior management will be contacted immediately, and specialist help obtained; • if a vehicle is found to be leaking, it will be moved to a position where the spillage can be contained i.e. hard surfaced area, if it is safe to do so; and • all personnel will follow instructions provided by managers or other competent persons. • Appropriate precautions will be taken depending upon the nature of the spilled material to • prevent any harm to human health, and all personnel involved in clean-up will wear protective clothing appropriate for the nature of the spilled material. • All spillage incidents, site inspections, and remedial actions will be recorded in the site records

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Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Visual, landscape and use	<p>The reinstatement of the quarry will restore the site to original condition and will have a positive impact.</p> <p>The final land restoration scheme will ultimately allow the site to be returned to a condition whereby there will be negligible residual impact on the surrounding environment. The restoration works, and backfilling activities in particular, are expected to have only limited temporary visual impact. The phasing of the restoration scheme will minimise the area being actively restored and</p>	<p>The nature of the proposed restoration of the site involves the importation and placement of inert soil and stone as backfill in the quarry void.</p> <p>Due to the lack of significant views into the site, the landscape impact of the proposed development will be minimal.</p> <p>It is planned to minimise, eliminate or decrease long-term ecological and visual impacts on the environment through the implementation of the final restoration scheme.</p> <p>As the site is a scarred element on the landscape in its present unrestored state, the proposed restoration of the pit improves any views onto the site once completed. Therefore, no significant impacts from a landscape viewpoint are envisaged.</p>	<p>In order to maximise the future potential of the restored land, a layer of topsoil and subsoil will be placed over the backfilled soils. The final landform will be graded so as to facilitate over-ground run-off of surface water and avoid ponding of surface water.</p> <p>Retain all hedgerows along the site boundary.</p> <p>Enabling landscape works to provide enhanced screening through hedge plantings, woodland maintenance and berms</p> <p>Any minor existing views into the site will be screened by internal site earthworks and boundary tree and hedge planting.</p> <p>Ensure the final restored landform is graded at a shallow angle so as to merge in with the surrounding landscape.</p>

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
	<p>open to public view at any time.</p> <p>There will be no significant visibility of the existing or future landform from any of the viewpoints identified by the County Development Plan.</p> <p>The restoration scheme will not have significant impacts on designated scenic roads and viewpoints, or on designated tourism routes and viewpoints.</p>		<p style="color: red; text-align: center; font-size: 1.2em;">For inspection purposes only. Consent of copyright owner required for any other use.</p>

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Water	Groundwater Quality	There would be a reduction in groundwater quality downgradient of the site in the event that un-controlled, and un-mitigated hydrocarbon emission occurs from a vehicle to ground or from imported materials that are contaminated.	<ul style="list-style-type: none"> • Fuel and lubricant will not be stored onsite, being brought onsite for filling into plant as-needed. • Regular monitoring of water (levels and chemical parameters) will confirm the effectiveness of protection provided. • Provision of wheel wash will remove mud/soil from wheels during the period of filling to prevent loose material being carried onto the public road. There will be no escape of run-off as water will accumulate internally and will drain naturally. • Traffic management system and site speed limit to risk of a collision • A double-skinned mobile fuel bowser is used to refuel plant and machinery. Spill trays and spill kits will be provided at all times; • Refuelling of vehicles would only be undertaken in the hardstand area from a mobile fuel tank(s) that • Maintenance of plant and machinery would be undertaken within a site compound area or offsite • Oil spill kits will be maintained in the stock-piling areas of the site and in site vehicles • Attachment 4-3-5-Waste acceptance describes the waste acceptance procedure in detail. It can be summarised as: • Before waste is accepted at the site, it will be confirmed to meet the waste licence conditions, the waste acceptance procedures and waste acceptance criteria. • Visual inspection of all tipped loads by operators. • All incoming waste tonnages will be recorded and reported to EPA annually.

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
			<ul style="list-style-type: none"> Monitoring of water will commence for the duration of the restoration works and for a short aftercare period.
Climate	Emissions of Oxides of nitrogen, Sulphur dioxide, Carbon monoxide and Carbon dioxide from internal combustion engines.	It is difficult to assess the scale and significance of any adverse (increased) changes in CO2 emissions resulting from the proposed development in a similar way to other impacts. The effect, the term used to describe an environmental response resulting from an impact or series of impacts, is not possible to assess for individual CO2 emissions. However, commentary and context to the calculated CO2 emissions reported is provided with reference to historic and projected national emissions in Ireland. Waste is currently one of Irelands largest individual contributors of GHG emissions at 1% (which consists of landfill, incineration and open burning of waste, mechanical & biological treatment and wastewater treatment). Emissions in the waste sector are primarily attributed to methane emissions from landfills, not soil recovery facilities.	Mitigated by using efficient construction vehicles, appropriate scheduling of construction activities to minimise duration, the shutting off of equipment during periods of inactivity if they do occur, and a transport management plan as part of the CEMP
Material Assets	<p>Dust, Noise, traffic, Landscape.</p> <p>There may be some short-term impacts at residences proximate to the site with the most noticeable short-term impacts will be increased ambient</p>	<p>As the application site functioned as a quarry for 8 years, there are likely to be few additional short-term impacts arising from its closure.</p> <p>Dust, noise and landscape are more fully described in their respective EIAR Sections.</p> <p>Traffic: The types of vehicles attracted to the site will be similar to what has been previously experienced at the site.</p>	<p>Mitigation measures for dust, noise and landscape are described in the respective EIAR sections.</p> <p>Traffic: None as trip numbers will diminish upon the cessation of filling operations.</p> <p>The road network, fossil fuels, power, telecoms and water supply will be used.</p> <p>Other material assets and natural resources will not be consumed.</p>

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
	<p>noise and dust levels.</p> <p>No impacts are anticipated on established activities or housing nearby, commercial operations, local tourism.</p>	<p>The number of vehicle movements will be larger than previously experienced, over a shorter duration – envisaged as 30 months.</p> <p>There is a new large capacity road network serving the site. Vehicles will only access the site via this route, with no site traffic accessing from Bay Lane south.</p> <p>The likely impacts on the existing road network and local residents are expected to be insignificant.</p>	<p>The applicant will seek to meet with local residents and interest groups regularly to ensure issues relating to nuisances that may affect their material assets do not arise.</p>
Cultural Heritage	None	<p>The proposed development will involve the importation rather than the excavation of material, no new or virgin ground will be disturbed by this proposal. It is unlikely therefore that there will be any impacts on archaeology within the area proposed for restoration, with the proposed operational measures proposed.</p>	None Required

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1.12 SECTION 40(4) OF THE WASTE MANAGEMENT ACT

The Waste Licence Application details how the applicant meets with the requirements of Section 40(4) of the Waste Management Act.

GLV Bay Lane Limited has considered the requirements of Section 40(4) [(a) to (g)] of the Waste Management Act 1996, as amended during preparation of the Waste Management Licence Application.

1.12.1 Emissions will not contravene of any relevant standard

Consideration has been given to control and abatement measures to ensure the facility will operate within accepted emission limit values for this type of operation. Any emissions from the activity in question at the soil recovery facility will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment.

The proposed development is entirely consistent with the aims and objectives of both National Regional and Local Government Policy, including the Eastern Region Waste Management Plan.

1.12.2 The activity will not cause environmental pollution and the best available technology not entailing excessive costs will be used

The facility will operate in compliance with the conditions of the EPA waste licence. The facility will have place an Environmental Management System (EMS) which will dictate compliance with best practice, including best available technology not entailing excessive costs to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned.

The facility will be operated in accordance with such conditions as may be attached to the licence and it will not cause environmental pollution. The Environmental Monitoring locations (Water, Dust and Noise) are shown on Drawing 16 which is attached to this application in attachment 3.2 - book of drawings. These illustrate the points at which measures will be applied.

Details with respect to control and abatement, accepted emission limit values and monitoring requirements are provided in the waste licence application. The measures proposed will ensure that emissions from the facility activities will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value.

The measures proposed with respect to the nature, scale, operation, impact, control and abatement, monitoring, closure and aftercare are considered adequate to ensure that the facility will be operated in accordance with any conditions attached to the licence and in appropriate legislation or guidance so as not to cause environmental pollution.

A site-specific BAT Assessment has been prepared. The only waste to be accepted at the facility for restoration of the lands will comprise inert soils and stone. The material will not undergo

complicated treatment other than inspection prior to recovery and placement. As such there is no requirement to apply Best Available Technology (BAT) to the operations.

1.12.3 GLV Bay Lane Limited is a fit and proper person to hold a waste licence

GLV Bay Lane Limited is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to subsection (8). GLV Bay Lane Limited not been convicted under the Waste Management Act 1996, as amended, the EPA Act 1992, as amended, the Local Government (Water Pollution) Acts 1977 and 1990 or the Air Pollution Act 1987. GLV Bay Lane Limited is a fit and proper person to hold a waste licence.

1.12.4 GLV Bay Lane Limited will comply with any requirements under section 53

GLV Bay Lane Limited will comply with any requirements under section 53 requested by the Agency.

GLV Bay Lane Limited confirms that it will be in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out that activity.

GLV Bay Lane Limited acknowledges that the Agency may amend the licence at any time in certain circumstances in accordance with section 42B of the Waste Management Act 1996 as amended, to require, or not require as the case may be, the putting in place of a financial provision to incorporate costings for CRAMP and/or Environmental Liabilities Risk Assessment. This amendment may be implemented by the Agency in the event of an incident that creates a significant residual environmental liability or where the environmental risk profile changes on site.

GLV Bay Lane Limited will if deemed necessary will put in place a fund, and/or and on demand performance bond of a form and value subject to EPA agreement.

1.13 FINANCIAL PROVISION

Appropriate Financial provision for site closure/environmental liabilities will be put in place by GLV Bay Lane Limited to address requirements.

1.14 INCLUSION OF EIAR AND PLANNING PERMISSION DOCUMENTS

Environmental Impact Assessment Report documentation is included with this application.

Planning permission application FW19A/0054 is lodged with Fingal County Council. the application is under consideration, so documentation is not yet available and is therefore not included with this application.

1.15 MONITORING AND SAMPLING POINTS

Dust monitoring is proposed at 2 No. locations (see Drawing 16).

Noise monitoring is proposed at 2 No. locations (see Drawing 16).

Water monitoring is proposed at 1 No. locations (see Drawing 16), continuous for certain parameters.

1.16 MEASURES, INCLUDING EMERGENCY PROCEDURES, TO PREVENT UNAUTHORISED OR UNEXPECTED EMISSIONS

The proposed activity is of low environmental risk. By placing significant emphasis on control and abatement measures GLV Bay Lane Limited intends to ensure there is no risk to surface and /or groundwater.

GLV Bay Lane Limited will document and maintain an Environmental Management System (EMS) which will address Emergency Preparedness and Response in dealing with accident and emergencies that could arise.

The facility notice board (which will be positioned at the site entrance) will include contact details, including out-of-hours contact information, for the appropriate nominated person, who will respond to emergency situations.

The primary accident and emergency situation that would result in effects on the environment is an emission to water in the event of a fuel spillage. GLV Bay Lane Limited will implement an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation. The spills response is elaborated in the following section

1.16.1 Spills

To prevent spillages and leaks of potentially polluting materials and minimise the impact of any spillages that do occur, the following measures will be implemented at the site.

- No potentially polluting liquids (including oil or fuel) will be stored onsite. Oil or fuel will be transported onsite in mobile bowlers constructed to the appropriate Irish, British or International Standard, meeting the requirements of the Local Government (Water Pollution) Acts 1977 to 1990 and associated regulations.
- Potentially polluting liquids such as lubricating oils, waste oils derived from vehicle maintenance, pesticides etc, will be not be stored onsite longer than necessary during their use and generation. Waste oils and fuels generated will be transported offsite immediately by the service provider generating them. Any necessary temporary storage will be in containers located on sealed ground.
- All solid wastes arising on site and other solid potentially polluting materials will be segregated according to category, stored within containers which are designed to ensure the contents do not spill or escape and covered as necessary.

- Spill kits with a supply of materials suitable for absorbing and containing any minor spillage will be available on site at all times. Staff will be appropriately trained in their use.
- Materials suitable for containing spills including sealing devices and substances for damaged containers, drain seals and booms, and overdrums will be maintained at the site. Staff will be appropriately trained in their use.
- All plant and equipment will be subject to maintenance in accordance with the suppliers / manufacturer's recommendations to avoid the failure of items of plant and equipment giving rise to potential emissions to the environment.
- Surface water channels and drains will be subject to visual inspection by the Facility Manager. Action will be taken to remove any obstructions to flow.
- In the event of spillage of polluting materials, immediate action will be taken to contain the spillage. The spillage will be reported to the Facility Manager, who will assess the situation and decide on the most appropriate course of action. The action taken will depend upon the size of the spillage, the location of the spillage in relation to sensitive receptors and the chemical and physical nature of the spilled material.

Action taken may include:

- if possible, the leak will be stopped;
- if it safe to do so, the cause of the spill or leak will be isolated;
- if the spillage is small, spill granules will be used immediately if necessary to prevent the spill spreading. The area will be cleared, and all contaminated material will be sent offsite for appropriate management;
- for large spills, clay or sand will be used to make a containment and specialist help will be sought to clean up;
- in the event of a potentially serious spillage, immediate action will be taken to prevent the spread of the spill. The Environment Protection Agency will be informed immediately, and remedial action agreed; if the spillage cannot be contained using approved materials, the Environment Protection Agency and senior management will be contacted immediately, and specialist help obtained;
- if a vehicle is found to be leaking, it will be moved to a position where the spillage can be contained i.e. quarantine facility, or other hard surfaced area, if it is safe to do so; and
- all personnel will follow instructions provided by managers or other competent persons.

Appropriate precautions will be taken depending upon the nature of the spilled material to

- prevent any harm to human health, and all personnel involved in clean-up will wear protective clothing appropriate for the nature of the spilled material.
- All spillage incidents, site inspections, and remedial actions will be recorded in the site records.

1.17 MAJOR ACCIDENT HAZARDS INVOLVING DANGEROUS SUBSTANCES

The European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2000 (S.I. No. 476 of 2000) does not apply to the proposed development as the facility will accept only inert material for recovery.

1.18 RELEVANT BAT GUIDANCE DOCUMENTS OR BAT CONCLUSIONS DECISIONS, WHERE APPLICABLE

The only waste to be accepted at the facility for restoration of the lands will comprise clean soils and stone. As such the material does not undergo any complicated process other than inspection prior to recovery and placement. As such there is little or no requirement to apply Best Available Technology (BAT) with respect to the recovery operations. [BAT Guidance Note - Waste Sector \(Landfill\) - Dec 2011](#) does not apply to soil recovery facilities.

1.18.1 The title of the relevant BREF document, where applicable,

There is no BREF addressing soil recovery facility. JRC document 'Best Available Techniques (BAT) Reference Document for Waste Treatment' addresses contaminated soils only.

1.18.2 Information on how the emission levels have been determined

Information on how the emission levels have been determined is provided in the attachments for section 7 of this waste licence application.

1.18.3 If a derogation under Section 86A (6) is being sought

Derogation under Section 86A (6) is not being sought.

2 DESCRIPTIONS

2.1 THE INSTALLATION/FACILITY (PLANT, METHODS, PROCESSES, ABATEMENT, RECOVERY AND TREATMENT SYSTEMS AND OPERATING PROCEDURES FOR THE ACTIVITY), WITH EMPHASIS ON THE MAIN MEASURES TO AVOID, REDUCE AND, IF POSSIBLE OFFSET THE MAJOR ADVERSE EFFECTS ON THE ENVIRONMENT.

This application seeks permission for restoration of a 740,000m³ void (712,129 m³ usable void plus 27,918 m³ soil covering) that requires backfilling to restore the quarry to natural ground levels. This will fill the quarry with soil and stone waste and then cover with a soil layer.

2.2 THE RAW AND AUXILIARY MATERIALS, SUBSTANCES, PREPARATIONS, FUELS AND ENERGY WHICH WILL BE PRODUCED BY OR UTILIZED IN THE ACTIVITY

The facility will accept only clean, inert soil and stone for restoration. The materials will not undergo any form of processing involving the use of chemicals or additives.

The potable water supply for the site welfare facilities will be from the local mains, while the wheel wash will be supplied by surface water from the quarry lagoon system. Water used for dust suppression, and to supply the wheel wash, will be sourced from the quarry lagoon.

Diesel fuel, hydraulic oil and engine oil for mobile plant will be the primary raw materials used on site.

Electricity will be used for lighting, office and water heating and operation of the weighbridge.

2.3 THE SOURCES OF EMISSIONS FROM THE INSTALLATION/FACILITY

The potential sources of emissions from the facility are:

- Surface water and ground water and storm water which will be treated and discharged to surface water, ultimately to the Ward Shallon River
- Noise emissions from the movement of plant and machinery onsite including placing and grading of material and from vehicular traffic travelling onsite on internal haul roads tipping of material and the movement of trucks offsite.
- Fugitive dust emissions

2.4 ENVIRONMENTAL CONDITIONS OF THE SITE OF THE INSTALLATION/FACILITY (E.G. SOIL AND GROUNDWATER, AIR, NOISE, SURFACE WATER)

The area is generally rural in character. Much of the land immediately surrounding the site is undeveloped and is utilised for various agricultural practices. There are several commercial and industrial developments in the local area of the Bay Lane Quarry. Some share the same access road as the site including a cement company (Halton Concrete) located 200m to the west of the site and a commercial bus yard (Butlers Bus Tours) located approximately 250m to the east of the site. A food (Pallas Foods) wholesale supplier's foodservice centre is located approximately 350m north northwest of the site. Several business parks are located to the south of the site including Northwest Business Park, which is located approximately 600m to the south east of the quarry site.

There is a small amount of low-density residential housing in the local area. The immediate area is rural, and housing consists mainly of one-off detached residential properties located along Bay Lane.

There are approximately four occupied residential properties near the site boundary. A vacant bungalow, which is owned by the applicant, is located at the south east corner of the site boundary. Other residential properties located along, or Just off Bay Lane are at least 500m away from the quarry's eastern boundary.

2.4.1 Soil and groundwater

The surficial soil is classified as 'Straffan' described as 'Fine loamy drift with limestones' according to the Irish Soil Information System (SIS). The drainage is classified as 'Poor' (Environmental Protection Agency, 2018). The Teagasc Soil classification at the site is 'BminPD – Mineral poorly drained (Mainly basic)' (Department of Communications, Climate Action and Environment, 2018). The bulk soil that would have been originally present on site would have been incorporated in the stockpile, along with the subsoils.

The groundwater levels measured in the September 1999 boreholes were within the overburden and displayed limited fluctuation. This indicates that in this area the groundwater is typically discharging from the bedrock into the overburden and the groundwater levels are controlled by flow into the overburden (Frank L. Benson and Partners, 2000). Groundwater flow to the overburden will discharge through surface water drainage systems described in Chapter 10 of the EIAR. Details of how this will affect ecology are included in the EIAR.

During the site visit in late November 2018, the groundwater level was observed to be near the base of the pit. The comparatively low groundwater level may be due to the unusually dry, hot weather experienced in 2017 and 2018.

Regionally, the bedrock is likely being recharged from topographic highs where the groundwater level in superficial is high and downward vertical flow can occur. Discharge of groundwater is into surface water drainage systems in low-lying areas (Frank L. Benson and Partners, 2000). Regional groundwater flow direction may not be consistent and the potential for flow to occur in any direction has been considered.

The site is located within the Swords Groundwater Body and the Eastern River Basin District. The flow regime in this body is classified as 'Poorly productive bedrock' (Department of Communications, Climate Action and Environment, 2018).

The Ground Waterbody Water Framework Directive (WFD) Status (2007 to 2012 and 2010 to 2015) is 'Good'. This is based on an assessment of groundwater chemical and quantitative figures drawn from representative monitoring points selected specifically for this assessment (Environmental Protection Agency, 2018). The WFD Ground Waterbody Approved Risk is 'Not at risk' (Environmental Protection Agency, 2018).

The 2008 Groundwater Waterbody Score 2008 is 2a 'Expected to achieve good status', calculated as part of the Article 5 characterisation and risk assessment report carried out to identify waterbodies at risk of failing the objectives of the WFD 2000/60/EC, Water Policy Regulations 2003 (SI no. 722/2003) (Environmental Protection Agency, 2018).

The nearest groundwater monitoring location on the EPA WFD Groundwater Monitoring Network is the Curragha PW1 Station. The following measurements were recorded (Environmental Protection Agency, 2018):

- Ammonium concentration (2007-2009) – 0.113mg/l
- Ammonium concentration (2014) – 0.107mg/l
- Nitrate concentration (2007-2009) – 1.4mg/l
- Nitrate concentration (2014) – 0.45mg/l
- Phosphate concentration (2007-2009) – 0.012mg/l
- Phosphate concentration (2014) – 0.0093mg/l
- Maximum Faecal Coliforms (2007-2009 and 2014) – 0 per 100ml

The site is located within an area where the WFD Ground Waterbodies intersect with designated Nutrient Sensitive Areas waterbodies in accordance with the Urban Waste Water Treatment (UWWT) Directive 91/271/EEC on Urban Waste Water Treatment and S.I. 254 / 2001, S.I. 440/2004 and S.I. 48/2010 (Environmental Protection Agency, 2018).

The site is mainly within an area designated as 'Extreme' groundwater vulnerability with localised areas of rock outcrops. The effective groundwater recharge is approximately 95mm/year (Department of Communications, Climate Action and Environment, 2018).

The site straddles two aquifer designations. To the north of the site, and including the north corner of the pit, is designated a 'Locally important Aquifer – Bedrock which is Moderately Productive only in Local Zones'. The bulk of the pit, and to the south of the site, is designated a 'Poor Aquifer – Bedrock which is Generally Unproductive except for Local Zones'. The boundary is at the contact between the Rush Conglomerate Formation to the north and the Tober Colleen Formation to the south. (Department of Communications, Climate Action and Environment, 2018).

The site and surrounds are within an area of groundwater that is a source of drinking water, as delineated in accordance with European Communities (Drinking Water) (No. 2) Regulations 2007 (SI no. 278/2007). The nearest Groundwater Drinking Water Protection Area is 7km to the west. (Department of Communications, Climate Action and Environment, 2018).

There are a number of groundwater wells and springs in the vicinity of the site. The wells that are within 2km of the site and are in active use as a domestic water supply are labelled DWS01 to DWS08.

There is a Section 4 Discharge Licence for Bay Lane Quarry held by Irish Asphalt Ltd, which Fingal County Council considers expired. The Licencing Authority is Fingal County Council. There are other Section 4 Discharge Licences (Environmental Protection Agency, 2018) held by businesses in the vicinity.

2.4.2 Noise

A baseline survey was conducted in general accordance with ISO 1996-1: 2003: 'Acoustics - Description, measurement and assessment of environmental noise - Part 1: Basic quantities and assessment procedures' sets out requirements for conducting a baseline survey to establish prevailing noise levels. A noise survey was conducted on the 14th and 15th of February 2019 to meet with these requirements. During the survey, 3 attended monitoring locations were monitored simultaneously.

A minimum of three sampling periods were carried out for daytime measurements. Noise levels recorded were in the range of 66 to 68dB $L_{Aeq, 30 \text{ minutes}}$ with an arithmetic average of 67dB L_{Aeq} . During the daytime, dominant noise source was passing local traffic with some aircraft passing overhead contributing to the noise environment. This is confirmed by analysis of the L_{A10} statistical noise parameter which had an arithmetic average of 70dB. Background noise levels in the range of 55 to 59dB $L_{AF90, 30 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 30 \text{ minutes}}$ was 56dB, which excludes the contribution from any intermittent noise sources such as road traffic noise and as such is more representative of the noise at this location.

The evening background noise level was measured as 52dB $L_{A90, 15 \text{ minutes}}$. Similarly, to the daytime noise measured, the dominant noise source was noted to be continuous local road traffic noise with some passing aircraft overhead.

A minimum of two sampling periods were carried out for night-time measurements. During the night-time period it was observed that road traffic noise was the dominant source with some noise from Pallas Foods associated with truck movements audible in the distance. Measured noise levels were 53 and 54dB $L_{Aeq, 15 \text{ minutes}}$ with background noise levels measured at 42 and 40dB $L_{AF90, 15 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 15 \text{ minutes}}$ was 41dB.

Three sampling periods were carried out for daytime measurements. Noise levels recorded were 64dB $L_{Aeq, 30 \text{ minutes}}$. During the daytime, dominant noise source was distant traffic from the N2-R121 dual carriageway link road with intermittent noise from aircraft passing overhead and local passing traffic along Bay Lane. This is confirmed by analysis of the L_{A10} statistical noise parameter which had an arithmetic average of 67dB. Background noise levels in the range of 51 to 52dB $L_{AF90, 30 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 30 \text{ minutes}}$ was 51dB, which excludes the contribution from any intermittent noise sources such as road traffic noise and as such is more representative of the noise at this location. There was also some audible faint plant noise from Halton Concrete at this location.

The evening background noise level was measured as 49dB $L_{A90, 15 \text{ minutes}}$. Similarly, to the daytime noise measured, the dominant noise source was noted to be continuous distant road traffic noise from the N2-R121 dual carriageway link road.

Two sampling periods were carried out for night-time measurements. During the night-time period it was observed that distant road traffic noise was the dominant source. Measured noise levels were

55 and 45dB $L_{Aeq, 15 \text{ minutes}}$ respectively with background noise levels measured at 43 and 40dB $L_{AF90, 15 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 15 \text{ minutes}}$ was 42dB.

Three sampling periods were carried out for daytime measurements. Noise levels recorded were in the range of 64 to 66dB $L_{Aeq, 30 \text{ minutes}}$ with an arithmetic average of 65dB L_{Aeq} . During the daytime, dominant noise source was distant road traffic noise from the N2-R121 dual carriageway link road and passing local traffic with intermittent aircraft passing overhead contributing to the noise environment. This is confirmed by analysis of the L_{A10} statistical noise parameter which had an arithmetic average of 67dB. Background noise levels in the range of 46 to 50dB $L_{AF90, 30 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 30 \text{ minutes}}$ was 47dB, which excludes the contribution from any intermittent noise sources such as road traffic noise and as such is more representative of the noise at this location.

The evening background noise level was measured as 44dB $L_{A90, 15 \text{ minutes}}$. Similarly, to the daytime noise measured, the dominant noise source was noted to be road traffic noise.

Two sampling periods were carried out for night-time measurements. During the night-time period it was observed that road traffic noise was the dominant source. Measured noise levels were 48 and 45dB $L_{Aeq, 15 \text{ minutes}}$ with background noise levels measured at 41 and 37dB $L_{AF90, 15 \text{ minutes}}$. The arithmetic average of the $L_{AF90, 15 \text{ minutes}}$ was 39dB.

2.4.3 Surface water

The 30-year average annual rainfall measured at Dublin Airport is 757.9mm, for the period 1981 to 2010. The data shows that since 2016 the average rainfall has been lower than the 30-year average. Annual potential evapotranspiration has not changed significantly since 2015 and has a peak value of 584mm/year in 2018. Effective rainfall which is the amount of rainfall available to infiltrate the ground (and not evaporated or taken up by plants) has been notably low in 2017 and 2018. In 2018, dry summer months were counteracted by wet winter months.

The site area is approximately 13.67ha in total and the regional topography surrounding the site is generally flat. The pit slopes surrounding the quarry open cut that represent the land awaiting backfill are near-vertical and extend from the top of the rock to approximately 59m AOD. A berm extends around the pit within the site boundary, the top of the berm varies around the site between 76m AOD (north and east) and 80m AOD (south).

Regionally, the bedrock is likely being recharged from topographic highs where the groundwater level in superficial is high and downward vertical flow can occur. Discharge of groundwater is into surface water drainage systems in low-lying areas. The groundwater levels on site vary between near-surface approximately 75m AOD and 59m AOD. The site contains a sump in the north-north-west of the site and a settlement tank in the south-east.

Since the quarry has ceased activity in 2008/2009 it would appear that it has drained only through evaporation and/or surface water runoff. The surface water run-off that fell within the open pit remained with no direct discharge to the nearby streams hence contributing to the pooling of standing water. The ground level areas of the site either drain into the open pit or via percolation to the existing groundwater and discharge into the local drainage ditches. There was no surface water run-off discharging to the settlement tank.

When the site was an active quarry, the sump in the north-north-west section of the site was used in conjunction with a pump to control the groundwater level within the open pit. Water from the sump was pumped to a settlement tank located on south-east of the site, where water was collected, settled and discharged into a near-by stream, which is tributary of the River Ward (River Shallon on EPA mapping), on the eastern boundary of the site.

The settlement tank is constructed from reinforced concrete with 6m x 31m dimensions and a height to top water level of 5m. Accumulated settled solids are periodically removed by draining down the tank and pumping out the solids using the sludge pump. After settlement, clarified water drains by gravity to an adjacent separator tank, the discharge from the separator is piped directly to a nearby ditch.

The site was previously controlled by Irish Asphalt Ltd. Irish Asphalt undertook monitoring of surface water / surface water discharge on an annual basis and released annual analysis of the surface water quality of discharge. Grab samples were obtained from the discharge point at the site in accordance with the requirements of the Trade Effluent Licence. Irish Asphalt was licenced from Fingal County Council (FCC) (Registration number WPW/F/047) to discharge this water into the stream until 2008 which has since been inactive.

An application, by GLV Bay Lane Limited, has been made to FCC to reactivate the discharge licence in to empty the pit of standing water using the same proposed site drainage for Phase 1 of the pit backfilling. The first phase will consist of constructed surface water channels to direct the flow path of standing water and surface water runoff within the open pit to discharge to the existing sump located on the north-north west section, where it will be pumped to the settlement and separator tank at the south-east corner of the site. The flow from the pond is to be pumped to the settlement and separator tank for treatment. The final effluent from the tanks is to discharge to nearby stream through an outfall pipe with peak flow restricted to greenfield run-off rate (45.74 l/s). This arrangement is to be maintained until the standing water level is reduced to sufficiently low level to allow machinery to operate within the open pit.

2.4.4 Air

As the site is located within Air Quality Zone A (Dublin Conurbation), baseline air quality has been determined from the data available from the EPA monitoring results for the Zone A network and the Dublin Airport Authority (daa) air quality monitoring network. This data will be used to determine if air quality projections will be in line / be compliant with relevant ambient air legislation.

There are various sensitive receptors (houses, commercial operations) located in the area and these receptors vary in distance from the proposed development. These receptors may experience a change in air quality and the extent of these changes in air quality is identified in this assessment. The nearest sensitive residential receptors to the proposed development are the residential dwellings on Bay Lane.

A small number of commercial operations are within the proposed developments vicinity. The nearest commercial receptors include various operations along the Cherryhound-Tyrellstown (N2-R121) Link Road and Bay Lane. There are no other habitats or species located within the vicinity of the proposed development that may be adversely impacted by air quality emissions from the proposed development. As such, this interaction is not addressed further within this assessment.

The main existing sources of pollution near the site are from road traffic, air traffic and general dusts. The road network around the proposed development is predominantly composed of national and local roads including Bay Lane to the south that connects to Kilshane Road (L3120) to the east and the Cherryhound-Tyrellstown (N2-R121) Link Road to the west and subsequently the N2 and M50 motorways that link to Dublin city.

The local and regional roads serve HGVs and vehicles entering and leaving the N2 for the operations in the area including Northwest Business Park, Pallas Foods, Halton Concrete and local housing construction sites in the vicinity.

The on-going soil and stone transport and backfilling operations will give rise to dust dispersion and deposition around the proposed development. The dust dispersion in the area is dependent on the amount of road traffic and the HGVs used at the proposed development and the surrounding operations.

Dublin Airport is located approximately 7km from the site at Bay Lane, with the western end of the existing Runway 10/28 located approximately 3.5km from the site's eastern boundary. The site is also located beneath an existing flight path, with aircraft passing overhead on a regular basis.

Waste operations in the area can give rise to odour and dust nuisances to the receptors in the area. There are two waste facilities in the surrounding area that are licenced by the EPA:

- W0277 - Huntstown Inert Waste Recovery Facility (Roadstone Limited): Operating as a Soil Recovery Facility and circa 1.5km south east of the site.
- W0183 - Starrus Eco Holdings Limited, Cappagh Road – Materials Recovery Facility and circa 2km south of the site.

In addition, there are a further set of industrial licensed facilities in the area as follows:

- P0474 - Patrick Kelly Timber Limited (wood processing) circa 2km east of the site.
- P0993 - Huntstown Bioenergy Limited (powergen) circa 2km south east of the site.
- P0483 - Huntstown Power Company Limited (powergen) circa 2km south east of the site.
- P0777 - Viridian Power Limited (powergen) circa 1.5km south east of the site.
- P0552 - Swords Laboratories (pharmachem) circa 3km south west of the site.

Each of the above operations have potential emissions of both scheduled emissions (through stacks, at powergen) and fugitive emissions of dusts (the waste operators) as well as road traffic serving each operation.

The proposed development is located on Bay Lane, St. Margaret's, North Co. Dublin in the jurisdiction of Fingal County Council. As such, the site lies within EPA Air Quality Zone A (Dublin Conurbation). The EPA air quality monitoring network for Zone A and the Dublin Airport Authority (daa) air quality monitoring network have been reviewed and suitable representative data is presented to identify the background air quality around the proposed development.

The EPA monitoring networks in Zone A includes several monitoring locations in North Dublin. Of these Blanchardstown, Finglas and Swords monitoring stations would be most representative of the site location at Bay Lane. However, each of these monitoring locations do not record all ambient air

quality parameters outlined in the Directive on ambient air quality and cleaner air for Europe (2008/50/EC). Therefore, air quality in the receiving environment is described using the average annual mean value concentrations from all measured monitoring stations in Zone A.

The existing baseline levels of SO₂, PM₁₀, PM_{2.5}, NO₂, CO and Benzene based on data from the EPA monitoring network are currently below annual ambient air quality limit values in Zone A. The annual mean for Nitrogen Oxide (NO_x) is above the annual limit in Zone A, however, NO_x exceedances are more concerning in areas of sensitive ecosystems due to potential effects on vegetation and hence these elevated levels in the Dublin area are not considered a significant compliance issue.

Dublin Airport is located approximately 7km east of the site at Bay Lane, with the western end of the existing Runway 10/28 located approximately 3.5km from the site's eastern boundary. The site is also located beneath an existing flight path, with aircraft passing overhead on a regular basis.

The daa monitoring network includes an on-site monitoring location which monitors NO₂ and PM₁₀ and ten off-site monitoring locations which monitor NO₂ and Benzene.

The existing baseline levels of PM₁₀, and NO₂ based on data from the daa on-site monitoring location are currently below annual limits of protection for ambient air quality limit values. The daa off-site air quality monitoring figures for NO₂ and Benzene (annual limit of 5 µg/m³) for 2016, 2017, and 2018 were all below annual limit values.

In summary, existing baseline levels of pollutants based on the data from both the EPA Zone A and daa monitoring networks are currently below ambient air quality limit values and by extension the levels near the proposed facility are also considered to be below the limit values.

2.5 THE NATURE AND QUANTITIES OF EXISTING AND PROPOSED EMISSIONS FROM THE INSTALLATION/FACILITY INTO EACH MEDIUM AS WELL AS A SUMMARY OF THE ASSESSMENT OF THE EFFECTS OF THE EMISSIONS ON THE ENVIRONMENT AS A WHOLE

No direct emissions to atmosphere are proposed. Potential fugitive dust emissions have been considered and mitigation measures are outlined.

Noise emissions will be associated with incoming/outgoing haulage vehicles and mobile quarry/restoration plant and machinery. Noise mitigation measures are outlined. The EIAR concludes that, during normal operation of the facility, there should be a negligible noise impact at all nearby residents.

No emissions to sewer are proposed.

No emissions to groundwater are proposed.

Emissions to surface water are described in the Section 1.10.1.

2.6 THE PROPOSED TECHNOLOGY AND OTHER TECHNIQUES TO PREVENT OR ELIMINATE, OR WHERE THIS IS NOT PRACTICABLE, LIMIT, REDUCE OR ABATE EMISSIONS FROM THE INSTALLATION/ FACILITY

The techniques to address spillages are addressed in section 1.16.1 and section 1.11 of this non-technical summary and can be summarised as measures to reduce or eliminate the possibility of spillages, and appropriate response procedures to manage a spillage if it did occur. Storm water first passes through a petrol interceptor, then discharges to the site sump. This sump will pump water to the settlement tank. The water settlement tank is constructed from reinforced concrete with 6m x 31m dimensions and a height to top water level of 5m. Accumulated settled solids will be periodically removed by draining down the tank and pumping out the solids using the sludge pump. After settlement, clarified water drains by gravity to an adjacent separator tank, the discharge from the separator is piped directly to a nearby ditch. All surface water discharge will operate at greenfield runoff rates.

Dust will be controlled by the measures outlined in section 1.11 of this non-technical summary.

Noise will be controlled by the measures outlined in section 1.11 of this non-technical summary.

2.7 THE NECESSARY MEASURES ARE TO BE TAKEN UNDER ABNORMAL OPERATING CONDITIONS, INCLUDING START UP, SHUTDOWN, LEAKS, MALFUNCTIONS, BREAKDOWNS AND MOMENTARY STOPPAGES

Measures related to the following are described below:

- Weather
- Offsite accidents and traffic issues
- Onsite spillages

Vulnerability of the site to extreme weather includes factors as follows:

- Extreme rain event – increased surface water run-off and requirements for attenuation and management of storm water to mitigate the potential for surface water or groundwater impact. Refer **Chapter 10** of the EIAR for details on how such an event has been mitigated through the design and operations.
- Extreme weather event (e.g. heavy snow, hurricane, etc.) – such an event would likely result in a temporary shutdown of operations on site and hence no residual impact is predicted.
- Extreme cold event – potential for freezing of standing water across the site impacting on the handling systems and stockpile management where materials are 'bound' by the extreme temperatures. No residual impact on the environment is predicted.
- Drought and/or prolonged high temperature – potential for reduced capacity to implement dust mitigation measures and fugitive dust releases causing impacts on neighbouring communities. Refer **Chapter 11** of the EIAR for details on how such an event has been mitigated through operations. No other residual impact on the environment is predicted.
- Prolonged or extreme high winds – as above, there would be potential for increased need to implement dust mitigation measures (depending on levels of associated rainfall) and fugitive dust releases causing impacts on neighbouring communities. Refer **Chapter 11** of the EIAR

for details on how such an event has been mitigated through operations. No other residual impact on the environment is predicted.

The traffic management and mitigation measures listed in **Chapter 13** of the EIAR includes specific details for emergency planning in the event of road accidents and will outline the approved and safe alternative approaches to be adopted by drivers accessing the site. Appropriate training, signage and communications will be incorporated into the site operating procedures to ensure full compliance with emergency procedures.

Measures to manage spillages are described in section 1.5.1 of this non-technical summary.

2.8 THE MAIN ALTERNATIVES TO THE PROPOSED TECHNOLOGY, TECHNIQUES AND MEASURES STUDIED BY THE APPLICANT.

Environmental considerations for the Bay Lane Quarry local environment that are related to the alternatives considered have been summarised in the following table.

Table 2.1: Main alternatives Multi-Criteria Analysis

	Population	Health	Land	Ecology	Traffic	Water	Air	Noise	Cultural heritage	Decision
Environmental considerations										
Do Nothing	-	--	--	+/-	++	+/-	+/-	+	+/-	Excluded
Article 27	+	+	++	+	++	+	+	+	+/-	Excluded
Soil recovery facility	+	+	++	+	+/-	+	+	+/-	+/-	Included
Inert landfill	+/-	+/-	+	+	+/-	-	+/-	+/-	+/-	Excluded
Non-Hazardous landfill	-	-	-	-	+/-	-	-	+/-	+/-	Excluded
Hazardous landfill	--	--	--	-	-	--	+/-	+/-	+/-	Excluded

Note: + Positive; - Negative; +/- Positives and Negatives; O Neutral

GLV Bay Lane Limited has excluded the do-nothing scenario as meeting its business needs. Having regard to the reasonable alternatives possible in relation to the current proposal the preferred project alternative is: the development of a soil recovery facility at Bay Lane Quarry. The completion of restorations at Bay Lane Quarry is considered to represent a viable option, in terms of location, availability, existing markets, technical characteristics and manageable environmental impacts.

2.9 MEASURES PLANNED TO MONITOR EMISSIONS INTO THE ENVIRONMENT

Emission will be monitored in accordance with the EPA waste licence at all times.

Dust monitoring will be carried out as per Waste Licence requirements to ensure that the dust from the activities proposed shall not give rise to deposition levels. The limits provided by the German Government under the TA Luft guidance *Technical Instructions on Air Quality Control* (TA Luft, 2002) are employed. Under this guidance the backfilling operations are required to maintain monthly dust levels below the guideline of 350mg/m²/day as an annual average at sensitive receptors using the Bergerhoff Method.

The water quality monitor will test the effluent for Total Suspended Solids, Turbidity, pH, Temperature, Dissolved Oxygen and Electrical Conductivity at regular intervals (i.e. 15mins) and the results will be checked online on a regular basis during the operational (void filling) phase. If the values for the testing exceed the prescribed limits under any Waste Licence issued by the EPA during operation it would indicate a failure with the drainage system which will be investigated, and actions taken to fix any issues. Any exceedance of the EPA waste licence limits would be recorded and reporting to the appropriate authorities.

Noise emissions generated from the site activity will be monitored and controlled to an acceptable standard as conditioned under the existing planning permissions and any further conditions under an EPA waste licence for the proposed restoration of the site. It is proposed that the recommended frequency of monitoring is on an annual basis and that any noise emission limit values as specified in the licence are applicable at the nearest noise sensitive locations and not the licence boundary. This monitoring should continue while the licensed activity remains in effect.

2.10 MEASURES TO COMPLY WITH AN ENVIRONMENTAL QUALITY STANDARD

For odour and dust, there is no legislative limit for odours in Ireland and standard industry guidelines are typically applied. The trigger warning and action levels in section 7 for all parameters have been set in accordance with appropriate guidance where standards are not available.

The Odour Impact Assessment Guidance for EPA Licensed Sites (AG5) is a procedure that offers a consistent and systematic approach to the assessment of odours on and in the local area of facilities and installations licenced by the EPA. This sensory assessment is used to determine if an odour has potential to cause nuisance.

The dust limits provided by the German Government under the TA Luft guidance *Technical Instructions on Air Quality Control* (TA Luft, 2002) are employed. Under this guidance the backfilling operations are required to maintain monthly dust levels below the guideline of 350mg/m²/day as an annual average at sensitive receptors using the Bergerhoff Method. Below this threshold, the potential for dust nuisance to impact people in the nearest residential, commercial or other structures will be minimised.

Dust monitoring will be carried out as per Waste Licence requirements to ensure that the dust from the activities proposed shall not give rise to problematic deposition levels.

The EPA Q values for the Ward River between 1988 and 2017 results indicate predominantly moderate pollution within this surface waterbody. The discharge will not contribute to a worsening of this status. The water quality monitor will test the effluent for Total Suspended Solids, Turbidity, pH, Temperature, Dissolved Oxygen and Electrical Conductivity at regular intervals (i.e. 15mins) and

the results will be checked online on a regular basis during the operational (void filling) phase. If the values for the testing exceed the prescribed limits under any Waste Licence issued by the EPA during operation it would indicate a failure with the drainage system which will be investigated, and actions taken to fix any issues. Any exceedance of the EPA waste licence limits would be recorded and reporting to the appropriate authorities.

2.11 MEASURES TO COMPLY WITH COUNCIL DIRECTIVE 80/68/EEC AND 2006/118/EC IN RELATION TO THE PROTECTION OF GROUNDWATER.

Only inert soils and stone materials will be accepted at the facility for recovery and phased restoration to a contoured landform in keeping with the surrounding landscape. Full details of the waste acceptance procedure proposed to ensure that only inert soils and stone materials will be accepted is provided in Attachment 4-3-5-Waste acceptance of this waste licence application.

Based on the available environmental data, the overall risk to groundwater and surface water from the imported soil and stone materials will be low and they will not affect the status of the local surface water bodies – the Shallon Ward River - and groundwater.

It is not anticipated that List I and List II substances will be discharged to groundwater.

2.12 MEASURES TO MINIMISE LONG DISTANCE POLLUTION

The primary possibility for pollution to be generated that will travel over long distances or outside the territory of Ireland is via climate and potentially water.

It is difficult to assess the scale and significance of any adverse (increased) changes in CO₂ emissions resulting from the proposed development in a similar way to other impacts within the EIAR. The effect, the term used to describe an environmental response resulting from an impact or series of impacts, is not possible to assess for individual CO₂ emissions. However, commentary and context to the calculated CO₂ emissions reported is provided with reference to historic and projected national emissions in Ireland. Waste is currently one of Irelands largest individual contributors of GHG emissions at 1% (which consists of landfill, incineration and open burning of waste, mechanical & biological treatment and wastewater treatment). Emissions in the waste sector are primarily attributed to methane emissions from landfills, not soil recovery facilities.

Emissions of GHG from the proposed development may arise from the following sources:

- Embodied emissions in site materials relative to other materials;
- Direct emissions from plant machinery/equipment;
- Transport emissions from vehicles importing/exporting material to and from the site.

The total estimated GHG associated with the proposed development is calculated at 15,690 tonnes of CO_{2eq} which will result in a **“permanent slight adverse impact”** for climate.

The measures to manage water emissions from the facility are detailed in Section 1.10.1 of this non-technical summary.

2.13 ALL THE APPROPRIATE PREVENTIVE MEASURES ARE TAKEN AGAINST POLLUTION, IN PARTICULAR THROUGH APPLICATION OF THE BEST AVAILABLE TECHNIQUES (BAT) OR BAT CONCLUSIONS DECISION WHERE APPLICABLE,

The facility will not be a landfill i.e. it will be a waste recovery, not a waste disposal activity. Regardless, BAT for the activity is taken to be best represented by the guidance given in the EPA Guidance Note on Best Available Techniques for the Waste Sector: Landfill Activities (2011), insofar as it relates to the backfill activities at this facility. Where relevant, reference will also be made to BAT Guidance Note on Best Available Techniques for the Waste Sector: Waste transfer and Material Recovery, December 2011.

The only activities to be conducted at the Bay Lane Soil Recovery Facility are the acceptance and recovery of inert soil and stone, including temporary storage pending final use. No hazardous waste will be accepted at the facility. There will be no processing of the incoming waste materials other than extraction of inappropriate materials.

Waste accepted for restoration of the lands will be either

- Temporarily stored pending final recovery
- Directly recovered

The generation of wastes onsite is low. Any wastes that inadvertently enter the site will be segregated and placed in the quarantine area prior to offsite disposal or recovery at approved facilities.

Any canteen waste arising from the site activities will be appropriately segregated and stored for collection by an authorised waste collector for recycling and disposal at appropriate facilities.

There are limited opportunities to apply Best Available Technology (BAT) with respect to the proposed recovery operations. Consideration is given to control and abatement measures to ensure the facility will continue to operate within accepted emission limit values for this type of operation to prevent and minimise the risks to the environment. The consideration given to compliance with the relevant BAT guidance is presented below:

- The proposed development has been subject to the preparation of an Environmental Impact Statement. There are no issues surrounding environmental pollution.
- The facility will operate in accordance with the terms of the EPA Waste Licence and the facility's Environmental Management System.
- An Environmental Management System will be developed and implemented at the facility in line with the GLV Bay Lane Limited policy.
- The facility will offer a licensed outlet for this soil and stone waste stream for the region, supporting sustainable regional development.
- The proposed activity is a simple-technology and is low-risk.
- The facility environmental/pollution risk from the activity is low.

- The proposed approach is well proven and accepted for the restoration of other quarries/voids as outlined in the Eastern Region Waste Management Plan.
- There will be no emissions to sewer, and minimal emissions to ground via the proprietary site waste water treatment system.
- The activity will not generate landfill gas or leachate
- Incoming material will be free of biodegradable waste and will therefore not create odours or attract vermin or birds.
- Potential noise and dust emissions will be controlled via prescribed mitigation measures, which will be incorporated into the site Environmental Management System. Due regard was given to the requirements of EPA BAT notes (EPA (2011) BAT Guidance Note on Best Available Techniques for the Waste Sector: Landfill Activities; and EPA (2011) BAT Guidance Note - Waste Sector (Transfer & Materials Recovery)) in assigning mitigation measures.
- Outgoing vehicles will pass through a wheel wash to prevent soil from being carried out onto the road.
- The facility will not be an intensive energy/water-user.
- There will be controlled fuel management (vehicle fuelling using mobile fuel bowsers on designated refuelling points, no onsite fuel storage) on site, as recommended by BAT.
- Emergency response procedures will be incorporated into the Environmental Management System.
- A rigorous Waste Acceptance Procedure will be implemented. Input material will be inspected/tested, where required, prior to delivery to site, to confirm their suitability.
- All material-in and material-out will be recorded and summary data reported to the Agency as part of Annual Environmental Reporting obligations.
- The facility will be managed by a competent, experienced, qualified management team with due regard for the local community and for the public.
- An environmental monitoring programme will be implemented that will be in accordance with licence conditions.

The site will be progressively restored, on a planned and phased basis, in accordance with the site restoration/phasing plan. Final cover and planting will be implemented on the completed phases as soon as practicable.

GLV Bay Lane Limited is committed to preparing a robust environmental management system (EMS) upon receipt of a Waste Licence. The EMS will be put in place with continued environmental monitoring of noise, dust, surface and groundwater on site. GLV Bay Lane Limited commits to review the control and abatement measures employed. The measures implemented will ensure that emissions from the facility activities will not result in the breaking of any relevant standard, including any for an environmental medium, or any associated emission limit value.

The proposed GLV Bay Lane Limited restoration project will be operated in such a way that all appropriate measures are implemented to prevent pollution through the application of BAT. This will be achieved through the design of, and adherence to, a robust environmental management system that is in accordance with the conditions of the Waste licence issued for the facility.

2.14 MEASURES TO ENSURE THAT WASTE PRODUCTION IS AVOIDED, PREPARED FOR RE-USE, RECYCLED OR RECOVERED OR, WHERE THAT IS TECHNICALLY AND ECONOMICALLY IMPOSSIBLE, IT IS DISPOSED OF WHILE AVOIDING OR REDUCING ANY IMPACT ON THE ENVIRONMENT

GLV Bay Lane Limited will ensure that waste production is averted in accordance with the in the Waste Management Act 1996 (as amended).

GLV Bay Lane Limited is committed to the principles of sustainable production and to the implementation of the waste hierarchy. GLV Bay Lane Limited will employ appropriate measures to ensure that waste is managed in accordance with the waste hierarchy.

The proposed site restoration activities will fall within the 'other recovery' category of the waste hierarchy. The principal activity proposed at this facility is:

R05 - Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.

Soil and stone waste are generated in bulk at construction and demolition/development sites, where removal of material off-site is required where arisings cannot be prevented by design or cannot be reused. There may be some 'pre-treatment' to extract non-soil and stone content before soil and stone is delivered to the proposed site for recovery.

Any small amounts of non-inert material that are delivered to the application site will be removed, segregated, appropriately stored. These will be transferred off-site for recovery/disposal to an appropriately authorised facility. Where appropriate, material segregated will be directed to recovery, in preference to disposal.

The Waste Acceptance Procedure for the facility "Attachment 4.3.5 Waste Acceptance Procedure" outlines in detail how waste materials will be accepted, inspected and managed at the facility to ensure alignment with the waste hierarchy.

The details of the management of all waste managed at the facility will be recorded and reported to the EPA in the facility Annual Environmental Report to demonstrate appropriate management.

Consideration of Waste Hierarchy in Context of Waste Generated from On-site Activities

It is a core principle of GLV Bay Lane Limited to operate in an environmentally responsible manner and minimise the environmental impact and aspects of the business through the implementation of an Environmental Management System (EMS) on all Construction and Development projects as well as in the office environment.

All site staff at Bay Lane will be trained in the principles of waste hierarchy and will be encouraged to prioritise the prevention of waste. Resource efficiency and waste management training procedures will be developed, and training will be provided to all staff as part of the Environmental Management System. Treatment options high in the waste hierarchy will be prioritised for unavoidable waste generated on site.

It is intended to only accept inert soil and stone material which has been evaluated to be in accordance with waste acceptance procedures and onsite verification checks. It may be the case that some non-inert waste (metal, plastic or wood) may inadvertently be accepted in loads of otherwise inert soil and stone material. This material will be separated and placed in a skip pending removal off-site for appropriate management. This material will be segregated where practical to facilitate treatment options higher in the waste hierarchy for individual material streams.

2.15 THE NECESSARY MEASURES TO BE TAKEN ON AND FOLLOWING PERMANENT CESSATION OF ACTIVITIES TO AVOID ANY RISK OF ENVIRONMENTAL POLLUTION AND RETURN THE SITE OF THE ACTIVITY TO A SATISFACTORY STATE OR THE STATE ESTABLISHED IN THE BASELINE REPORT IF REQUIRED

Full decommissioning and restoration to pre-quarrying condition is envisaged such that all plant and equipment is safely removed for reuse or recycling and all wastes are removed off site at the time of closure for appropriate management.

The impact of the completed development will be ameliorated through a landscape restoration plan, prepared in conjunction with the engineering design which would, in time ensure integration of the proposed development into the broader environment. Given the nature of the proposals, mitigation measures shall be incorporated as part of the proposed development. A list of objectives in terms of mitigation for visual quality and landscape character shall include the following for the restoration phase;

- New hedgerow and tree planting to proposed new field boundaries to be defined by post and wire fencing;
- The restoration and reinstatement of the levels and topography within the development site boundary; and
- Removal of all site infrastructure and equipment.

After completion of the backfilling the site will be contoured and landscaped to allow for the site to drain naturally.

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