1 INTRODUCTION

1.1 Proposed Development

Bord na Móna proposes to intensify and extend the already permitted Drehid Waste Management Facility. This facility was granted permission by Kildare County Council (KCC) in April 2005, under KCC Reg. Ref No. 04/371 subject to a number of conditions. In November 2005 An Bord Pleanála (ABP) upheld that planning decision with revised conditions (ABP Ref No. PL.09.212059), following an appeal and an Oral Hearing. The Environmental Protection Agency (EPA) issued a Waste Licence for the facility in August 2005 (EPA Ref No. W0201-1).

Under that planning permission and in accordance with that Waste Licence, 120,000 TPA of waste can be disposed of to the engineered landfill site with an additional 25,000 TPA permitted for disposal at a composting facility. The operational life of this facility is 20 years. That permission also provides for all associated site development works including the development of an access road from the R403 Regional Road to the site.

Construction of the facility commenced in August 2006 and the facility commenced accepting waste in February 2008. This proposal would enable an additional 240,000 TPA of waste (over and above that already permitted) to be disposed of for 7 years. After 7 years the development will revert back to receiving the permitted 120,000 TPA for the remaining permitted operational life of the facility. The proposed development necessitates additional physical works namely:

- The extension of the permitted landfill footprint on immediately adjoining lands;
- The development of additional ancillary facilities- such as surface water lagoons, site roads etc.

No modifications to permitted facilities such as general administration areas, access roads, site entrance, composting facility etc. are proposed. The proposed development will be entirely located within the landholdings of Bord na Móna.

1.2 Need for Environmental Impact Statement (EIS)

The consequences of any major engineering project are required to be presented in the form of an Environmental Impact Statement (EIS). The EIS as prepared contains a description of the existing environment, information on the scale and nature of the proposed development, an impact assessment of the proposed development and mitigation measures to reduce the impact on the receiving environment. This document provides a non-technical summary of the overall EIS describing the existing environment, the proposed development and potential impacts and mitigation measures.

1.3 Consultation

A very comprehensive consultation process has been followed to date in respect of the proposed facility. The consultation process consisted of consultation with the competent bodies, statutory bodies and other interested parties. The primary objectives of the consultation process followed were to aid the scoping of the Environmental Impact Assessment (EIA) and to fully brief all those listed above of Bord na Móna's proposal and to ascertain their observations.

1.4 Planning Process

The provisions of the Planning and Development (Strategic Infrastructure) Act 2006 (the 2006 Act) came into effect on 31st January 2007. The 2006 Act, which amends the Planning and Development Act 2000, provides generally for applications for permission/approval for specified private and public strategic infrastructure developments to be made directly to An Bord Pleanála.

Part 18 of the Planning and Development Regulations 2006 (S.I. No. 685 of 2006) (the 2006 Regulations) relating to strategic infrastructure development also came into effect on 31st January 2007. The 2006 Regulations amend the Planning and Development Regulations 2001.

Private strategic infrastructure developments, to which the 2006 Act and Regulations apply, are listed in a new 7th Schedule to the 2000 Planning Act (inserted by section 5 of the 2006 Act). These generally refer to projects classified as major energy, transport and environmental infrastructure, the applications for which are to be made to An Bord Pleanála instead of to local planning authorities.

An initial submission was lodged with An Bord Pleanála on the 2nd July 2007. Following this the first pre-application consultation took place on the 11th September 2007. A second submission was sent to An Bord Pleanála prior to this first consultation. A second pre-application consultation took place on the 27th November 2007.

In the context of detailed pre-application discussions with An Bord Pleanála as required under the relevant legislation, it is noted that this application is:

- For development classified within the 7th Schedule of the Principal Act (ref. Para. 3) namely:
  "3. – *Development comprising or for the purposes of any of the following: an installation for the disposal, treatment or recovery of waste with a capacity for an annual intake greater than 100,000 tonnes."*
- For development within the functional area of Kildare County Council.

An Bord Pleanála has determined that the proposed extension and intensification of the Drehid Waste Management Facility is regarded as Strategic Infrastructure and therefore subject to the provisions of the Planning and Development (Strategic Infrastructure) Act, 2006, with the planning application made directly to An Bord Pleanála.

2 BACKGROUND

2.1 Site Location

The site, as shown on Figure 1 *(General Site Location Map - extract from Discovery Series Sheet No. 49),* is located approximately 3 kilometres (km) north of Allenwood and 9 km south of Enfield, County Kildare.

The facility is located within the confines of the Timahoe Bog, which is owned by Bord na Móna and which comprises approximately 2,544 hectares (ha). The activity boundary of the facility is outlined in red on Figure 2 and comprises 179 hectares (ha).

The site is accessible via a network of regional routes which in turn link with the National Primary Road / Motorway network. The R403 lies south, and southwest and west of the site: the R403 joins the R402 at Carbury to the northwest of the site. The R402 connects to the N4/M4 while the R403 connects to central and south County Kildare. The N4/M4 (Dublin to Sligo/Galway) National Primary road / Motorway is located some 8km to the north of the proposed facility, while the N7 /M7 (Dublin to Limerick/Cork) National Primary road / Motorway is located some 14km to the south of the proposed facility.

2.2 Engineered Landfill

The landfill footprint encompasses 39ha which includes the proposed extension of 17.8ha. The permitted landfill will be constructed in 8 phases and the proposed landfill extension will be constructed in 7 phases. The extent of both the proposed landfill extension footprint and the permitted landfill footprint are shown on Figure 2. Stripping of the peat layer and preparation of the ground to the formation levels required will take place prior to the development each phase. The total void space capacity of the landfill is estimated to be 5 million cubic metres.

On average the landfill will be 15-20m deep and the maximum final height, post settlement, of the landfill will be approximately 103.25 metres above Ordnance Datum (mOD). The site will be managed and landscaped to reflect the specific attributes of the surrounding landscape.

The landfill will be progressively capped on completion of each phase, with ongoing landscaping taking place throughout the lifetime of the site. On final capping, the site will be allowed to recolonise to natural species. The landfilling operation will be carried out in a planned and controlled manner,

thereby minimising potential nuisances such as odours, dust, noise, litter, vermin, etc. Environmental monitoring stations, in accordance with EPA requirements, have been established at the site and monitoring will be continued post closure of the facility.

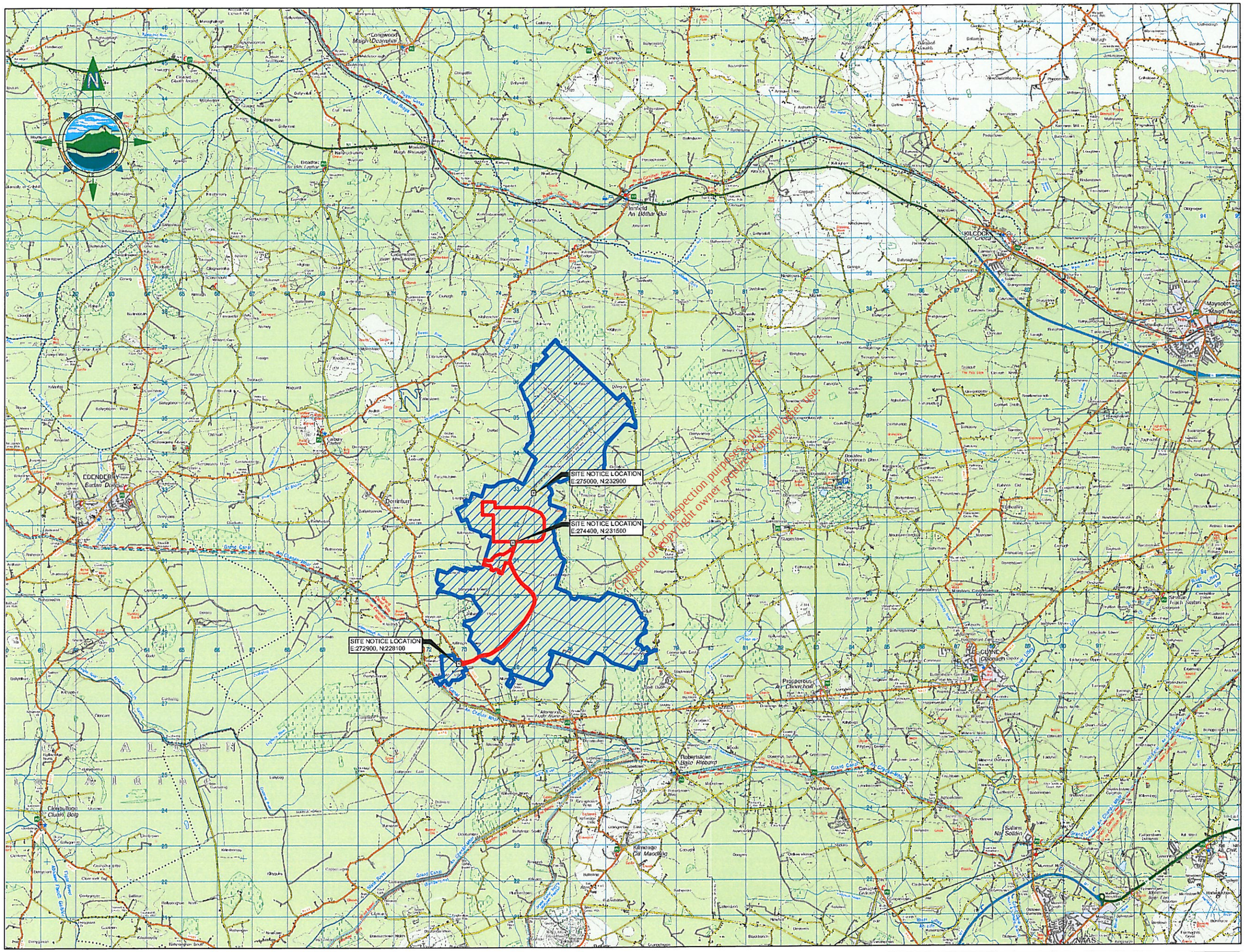
2.3 Composting Facility

Under the original permission, a biowaste composting facility forms part of the overall waste management facility at Drehid, County Kildare. Once operational, this facility will deal primarily with separately collected biowaste from household, commercial and industrial sources. The biowaste will include a source separated organic fraction from household waste, food waste from the service industry and retail outlets and other commercial and industrial biowaste as available.

The initial short-term objective of the facility will be to produce compost suitable for usage for landscaping and for the restoration of the landfill. The facility will be designed for an overall capacity of biowaste of 25,000 tonnes per annum (TPA). The composting facility will be located to the south-eastern edge of the landfill footprint

2.4 Ancillary Infrastructure

The existing site infrastructure includes weighbridges, wheel-wash, site security arrangements, bunded waste inspection and quarantine areas, bunded fuel storage, site accommodation, site roads, surface and foul water drainage, leachate holding tanks, maintenance facility, surface water retention/settlement lagoon, landfill gas flare compound and car parking areas. Planning has already been secured for the site infrastructure listed above as part of the original proposal and construction of this infrastructure has been completed. The proposed development necessitates additional physical works including the development of additional ancillary facilities such as surface water lagoons and the extension of the site roads and swale around the proposed landfill footprint.



GENERAL LEGEND

BORD NA MONA OWNERSHIP BOUNDARY

SITE ACTIVITY BOUNDARY

SITE NOTICE LOCATION [X]

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD
5. OS DISCOVERY SHEET NO'S: N-2622, N-2624, N-2822 & N-2824

1km 0 1km 2km 3km

Issue	Date	Description	By	Chkd.
B	06-06-08	ISSUED FOR LICENCE REVIEW	VB	PON
A	11-04-08	ISSUED FOR PLANNING	MN	PON

Client: BORD NA MÓNA

Project: INTENSIFICATION AND EXTENSION TO DREHID WASTE MANAGEMENT FACILITY

Title: REGIONAL SITE LOCATION MAP

Scale @ A3: 1:100,000

Prepared by:	Checked:	Date:
M. Nolan	P. O'Neill	April 2008

Project Director: D. Grehan

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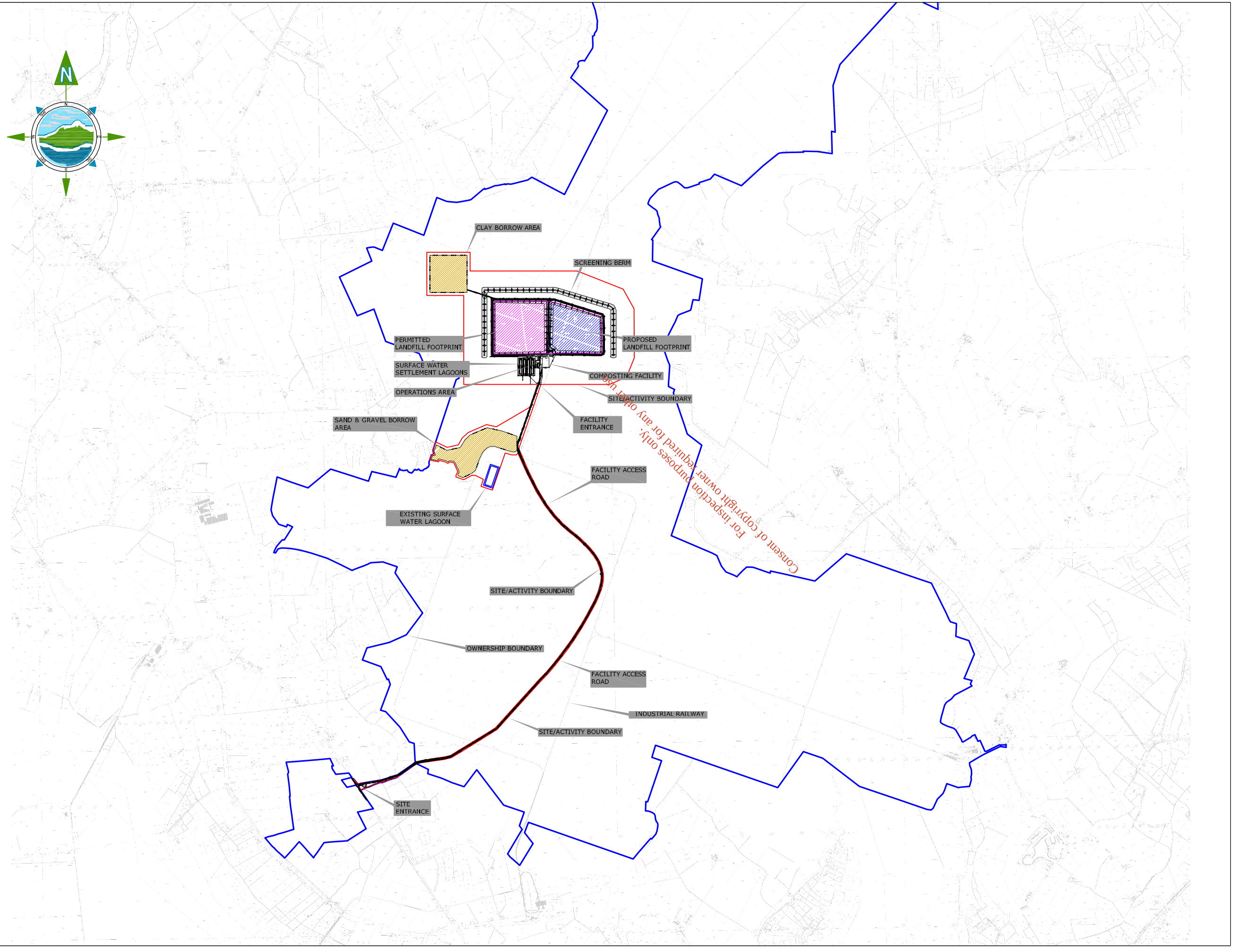
Drawing No.: Figure 1 Issue: B



GENERAL LEGEND

- BORD NA MÓNA OWNERSHIP BOUNDARY
- SITE ACTIVITY BOUNDARY
- TOWNLAND BOUNDARY
- PERMITTED LANDFILL FOOTPRINT
- BORROW AREAS (Clay and sand & gravel)
- PROPOSED LANDFILL FOOTPRINT

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD
5. 6" OS SHEET NO'S: KILDARE 3, 4, 8, 9 & 13

300m 0 300m 600m 900m

Issue	Date	Description	By	Chkd.
B	06-06-08	ISSUED FOR LICENCE REVIEW	VB	PON
A	11-04-08	ISSUED FOR PLANNING	MN	PON

Client: BORD NA MÓNA

Project: INTENSIFICATION AND EXTENSION TO DREHID WASTE MANAGEMENT FACILITY

Title: SITE LAYOUT PLAN

Scale @ A3: 1:30,000

Prepared by:	Checked:	Date:
M. Nolan	P. O'Neill	April 2008

Project Director: D. Grehan

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Drawing No.: Figure 2

Issue: B

Existing Weighbridge at Drehid Waste Management Facility

2.5 Construction Material On-Site

For the purposes of construction of the landfill extension, the existing clay borrow area and a sand and gravel borrow area will be utilised. These areas are located within the confines of the site. Planning Permission has already been granted for the clay borrow area and the sand and gravel area under the original planning application.

2.6 Potential nuisances

The landfilling operations are carried out in a planned and controlled manner, thereby minimising potential nuisances such as odours, dust, noise, litter, vermin, etc. Environmental monitoring stations, in accordance with EPA requirements, have been established at the site and monitoring will be continued post closure of the facility. The facility is operated in accordance with the conditions of the Waste Licence granted by the Environmental Protection Agency (EPA) and planning permission granted by An Bord Pleanála. Waste licence and planning conditions may be revised as an outcome of the current applications before the EPA and An Bord Pleanála. Bord na Móna to employs 'Best Available Techniques' in all aspects of the management of the facility.

3 EXISTING ENVIRONMENT

3.1 Existing Site

The Bord na Móna property, outlined by the blue line on Figure 1, is located within the County Kildare townlands of Drehid, Ballynamullagh, Kilmurry, Mulgeeth, Mucklon, Timahoe East, Timahoe West, Coolcarrigan, Corduff, Coolearagh West, Allenwood North, Killinagh Upper, Killinagh Lower, Ballynakill Upper, Ballynakill Lower, Drummond, Kilkeaskin, Loughnacush, and Parsonstown.

The site boundary or the activity boundary, outlined by the red line on Figure 1, which is defined as the area in which all activities associated with the waste management facility will occur, is confined to the townlands of Parsonstown, Loughnacush, Kilkeaskin, Drummond, Timahoe West, Coolcarrigan, Killinagh Lower and Killinagh Upper. All activities associated with the waste management facility is confined to a landbank of 179ha. The proposed landfill extension footprint will be approximately 17.8 hectares (ha) in area.

3.1.1 Proximity of Dwellings

As shown, the immediate area is reasonably sparsely populated. The nearest residential dwelling is located approximately 980m to the northeast of the proposed landfill extension. Planning permission has been granted for a dwelling house located approximately 942m to the northeast of the proposed landfill extension. The largest concentration of houses close to the proposed facility is to the west of the site in the village of Derrinturn. There are no residences within a 500m radius of the previously permitted clay borrow area, with the nearest residential dwelling located approximately 800m to the northeast. A recently constructed residence is located 185m west of the previously permitted sand & gravel borrow area. The next nearest residential dwelling is located approximately 675m to the northwest of the footprint of the sand and gravel area.

3.1.2 Land Use & Site Topography

Land use on and adjacent to the site and existing permitted landfill facility is disused cutaway bogland used up to approximately eighteen years ago for production of sod peat for energy generation. Immediately adjacent to the site there are areas of land where turbary, commercial forestry and agricultural usage are evident.

The proposed site is situated in low-lying cutaway bogland with levels ranging from 84m to 86m OD. Whilst the topography throughout the site is relatively flat at 80 to 90m OD, screening of the site operations from the adjoining roads is provided by existing hedgerows and tree lines, which will be augmented by additional planting between the northern boundary of the landfill footprint and the County Road L5025 as per the previous planning permission. The remote nature of the previously permitted landfill footprint and the proposed landfill extension, lying 800m south of County road L5025 and over 2km from both county road L1910 and regional road R403, provides considerable separation distances between the landfill and adjacent roads.

3.2 Infrastructure and Traffic

The site is accessible via a network of regional routes which in turn link with the National Primary Road / Motorway network. The R403 lies south, southwest and west of the site and joins the R402 at Carbury to the northwest of the site. The R402 connects to the N4/M4 (Dublin to Sligo/Galway) National Primary Road / Motorway, which is located some 8km to the north of the Facility. The R403 connects to the N7/M7 (Dublin to Limerick/Cork) National Primary Road / Motorway, which is located some 14km to the south of the Facility.

Access has been provided into the previously permitted Waste Management Facility from the R403 via a new site entrance and a dedicated access road.

Access Road at Drehid Waste Management Facility

In order to quantify existing traffic flows on the adjoining road network a series of traffic counts were carried out in the area in 2007 and the most recent traffic count data for roads leading to the site were also sourced from Kildare County Council and the National Roads Authority. The traffic counts carried out included traffic counts at the site entrance which shows an estimated AADT (Annual Average Daily Traffic) of 5,844 with a Heavy Goods Vehicle (HGV) content of 11%.

3.3 Air/Climate

3.3.1 Air

Dust monitoring was carried out in 2002/2003 as part of the baseline studies for the initial application, in July 2006 during the initial phases of construction and on a monthly basis since January 2007. Dust deposition rates have primarily been within the licence limit of 350mg/m^2/day. Five noise monitoring surveys have been undertaken at the waste management facility and noise measurements were taken at 6 No. locations. These show that the total noise environment is indicative of a rural environment, with no noise sensitive receptors within 900m of the extended landfill footprint.

3.3.2 Climate

Local meteorological data show that the estimated annual rate of precipitation for the Drehid site is of the order of 813mm. At the site, almost 55% of the total annual rainfall is recorded during the winter period (Oct - March). The prevailing wind direction is from the south and southwest. Evapotranspiration is of the order of 510mm, with just under 50% of the total occurring during the months of May to July.

3.4 Geology Hydrogeology & Surface Water

3.4.1 Geology

The principal dominant soil within the site comprises basin peat deposits. The permitted landfill footprint and proposed extension have been positioned to, inter alia, minimise the volume of peat that is required to be removed. The thickness of peat within the landfill footprint extension varies from 0.5m to a maximum of 2.3m. The contact between the peat deposits and the underlying glacial subsoil is very pronounced, with a sharp change between the two materials. The subsoils, which underlie the site, are predominantly fine grained.

The bedrock encountered within the site was generally in accordance with the GSI geologic map. Waulsortian limestone, which comprises pale grey, fine grained limestone, was encountered throughout most of the site. To the south of the Bord na Móna ownership, dark argillaceous limestone was encountered. This rock is considered to be consistent with the description of the Boston Hill Formation.

The bedrock material encountered at the base of the deepest borehole drilled during the study was classified as the Edenderry Oolite Member of the Allenwood Formation based on material recovered during drilling.

3.4.2 Hydrogeology

The landfill footprint (including its proposed extension) will be entirely underlain by low permeability gravelly Silt/Clay. Sand and Gravel deposits do not underlie the permitted/proposed landfill footprint.

The extensive site investigations and laboratory testing carried out indicate that the geological and hydrogeological conditions deem that the site is acceptable for the development of a landfill in accordance with national guidelines, namely the Groundwater Protection Response Matrix for Landfills.

3.4.3 Surface Water

The artificial drainage network heavily influences the current appearance of the bog. The entire site has been divided into a number of compartments, referred to as 'peat fields' due to the excavation of east-west trending artificial surface drains. These artificial surface drains discharge to a central underground culvert, trending in a general north to south direction. The artificial drainage has been further modified due to the construction of the landfill.

All surface water draining from the operations area of the landfill and borrow areas drains to the west to the Cushaling River, which is a tributary of the River Figile. The access road from the R403 to the facility entrance passes through the sub-catchment of the Abbeylough Stream, which is also a tributary of the River Figile. The River Figile is a sub-catchment of the River Barrow.

The Slate River sub-catchment encroaches on the southern portion of the applicant's property. No activities associated with the development are located within the sub-catchment of Slate River.

3.4.4 Water Quality

Extensive groundwater and surface water baseline sampling has been carried out on and adjacent to the site.

The surface water sampling programme indicates that the quality is generally good; however the setting of the site is naturally impacting the quality of water. The reducing environment of the bog is resulting in elevated ammonia and iron concentrations. The organic analysis indicates that pesticides, herbicides and organic solvents are not detected in the area. Biological analysis indicates that the surface water is naturally impacted by microbial organisms.

3.5 Landscape

The Bord Na Móna-owned boglands are predominantly flat with little subdividing vegetation, and are surrounded on all sides by agricultural pastureland with a well-developed pattern of medium-sized and larger fields and an established hedgerow infrastructure. Field hedgerows are predominantly tall and sparse, consisting largely of mature trees, including ash. The bogland also continues to the north. The eastern site edge is bordered along much of its length by mixed coniferous and deciduous tree belts, and there are isolated tree plantations to the west. Because of intervening belts and blocks of woodland in the area many views of the site lands are obscured. Key open views are from minor roads off the R403 to the south west by the County road (L5025) and houses to the north of the site.

The site falls within the Western Boglands Landscape Character Area as indicated in the Kildare County Development Plan 2005-2011.

There are no scenic roads and views within the 5km radius study area, but there are two within a 5-10km radius of the site. There will be no impact on these views. A long distance walk runs to the east and south of the site at a distance of between 3km and 10km. There are no known views of the site from this walk.

3.6 Ecology

There are no designated conservation areas within the development site, but a number occur within 10km of the site. The Grand Canal pNHA and Hodgestown Bog NHA located some 3.6km and 4.4km from the landfill footprint respectively are the nearest sites designated for nature conservation.

Six No. habitat types were identified within the site. Spoil and Bare Ground habitat occupies the greatest area within the site and is of low local ecological value. The gravel borrow area is also included in this category. None of the habitats recorded on site were considered to be of high ecological value.

Alder buckthorn, a plant classed as 'rare' in Curtis & McGough lies outside the site activity boundary. No rare or protected species of plant were recorded on any of the site visits.

Evidence of Irish hare and common frog using the site was found. Both species are protected under the Irish Wildlife Acts. Redpoll and water rail were recorded on the site in suitable habitat during the breeding season. Both birds are amber listed in 'Birds of Conservation Concern Ireland' as their breeding populations have declined.

3.7 Human Beings/Socio-Economic/Material Assets

The total population residing within County Kildare was recorded as 186,335 at the time of the 2006 Census. Kildare is further characterised by an uneven distribution of population, with nearly one third of total population concentrated in Celbridge Rural District, containing the towns of Celbridge, Maynooth and Leixlip.

The activity site is located in part within the District Electoral Divisions of both Edenderry and of Naas Rural. Results from the 2006 Census, assessed against the population recorded at the time of the previous Census in 2002, indicate an increase of over eleven percent for Edenderry rural and eighteen percent for Naas Rural.

All of the existing settlements in the vicinity are a considerable distance from the subject site, the nearest being Timahoe, at approximately 2.1km kilometres from the previously permitted landfill footprint and proposed extension. Derrinturn Village is approximately 3.2km from the previously permitted landfill footprint and proposed extension, while both Allenwood and Coill Dubh are in excess of 5km.

There are a limited number of residences likely to be affected by the development.

The site is located within an area contained within the Western Boglands landscape classification. This area of the county is highly distinctive due to the existing large areas of bogland vegetation and therefore the area is thinly populated.

3.8 Archaeology

An extensive archaeological assessment was carried out of an area under consideration for the extension of the previously permitted Drehid Waste Management Facility. The archaeological assessment was initially conducted in 2003, with a further site visit in 2004. The archaeological assessment was conducted in order to identify the known monuments and to determine if any other previously unrecorded sites exist. The assessment involved a walkover survey of the site, concentrating on the areas of cutover bog, drain faces and remaining high peat banks, where it would be possible to identify archaeological features more readily.

Following the granting of planning permission for a waste management facility at the site, archaeological monitoring of ground disturbance took place over a period of five months from August 2006. The archaeologists monitored the reduction of ground levels and the removal of all peat layers from the access road, landfill footprint and the sand and gravel borrow area. No features or artefacts of archaeological significance were encountered in the course of monitoring.

4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Bord na Móna proposes to intensify and extend the already permitted Drehid Waste Management Facility. Under the current planning permission and in accordance with the current Waste Licence, 120,000 TPA of waste can be disposed of to the engineered landfill site with an additional 25,000 TPA permitted for treatment at a composting facility. The operational life of this facility is 20 years. Construction of the permitted facility commenced in August 2006 and the facility commenced accepting waste in February 2008.

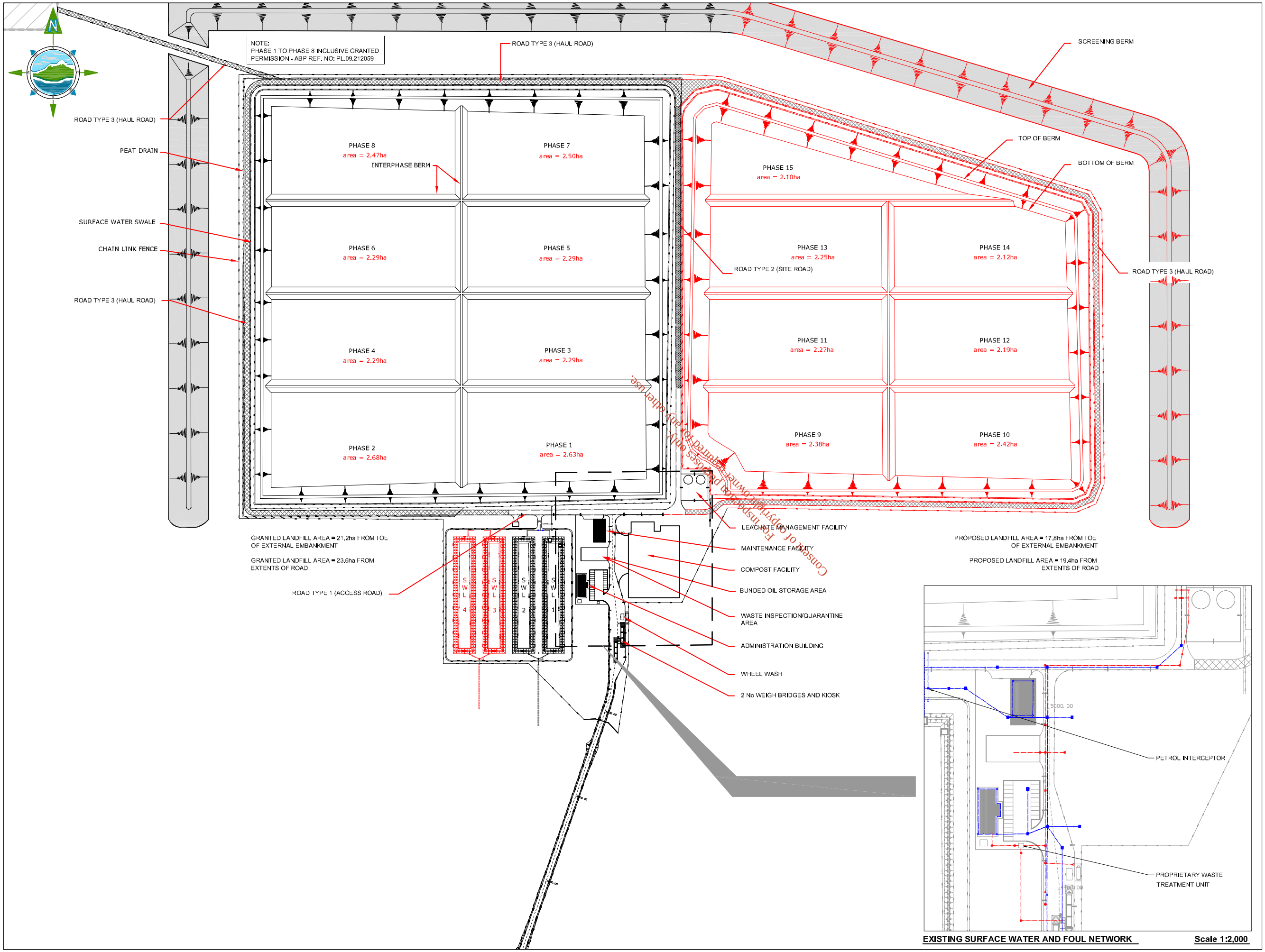
This proposal would enable an additional 240,000 TPA of waste (over and above that already permitted) to be disposed of for 7 years. After 7 years the development will revert back to receiving the permitted 120,000 TPA for the remaining permitted operational life of the facility.

A sand and gravel borrow area and clay borrow area have also been previously permitted at the site, from which material for the construction of the waste management facility is sourced.

The locations of these elements of the proposed facility are shown on Figure 2, with a layout of the proposed facility infrastructure shown on Figure 3.

4.1 Proposed Landfill

The landfill footprint encompasses 39ha which includes the proposed extension of 17.8ha. On average the landfill will be 15-20m deep and the maximum final height, post settlement, of the landfill will be approximately 103.25 metres above Ordnance Datum (mOD). The site will be managed and landscaped to reflect the specific attributes of the surrounding landscape.



EXISTING SURFACE WATER AND FOUL NETWORK — Scale 1:2,000

GENERAL LEGEND

BORD NA MONA OWNERSHIP BOUNDARY

SITE ACTIVITY BOUNDARY

BORROW AREAS (Clay & sand & gravel)

TYPE 2 (SITE ROAD)

TYPE 1 (ACCESS ROAD)

TYPE 3 (HAUL ROAD)

GRANTED INFRASTRUCTURE

PROPOSED INFRASTRUCTURE

DRAINAGE LEGEND

EXISTIN SURFACE WATER NETWORK

EXISTING FOUL NETWORK

EXISTIN SURFACE WATER MANHOLE

EXISTING FOUL MANHOLE

Issue	Date	Description	By	Chkd
B	06-06-08	ISSUED FOR LICENCE REVIEW	VB	PON
A	11-04-08	ISSUED FOR PLANNING	MN	PON

Client: BORD NA MÓNA

Project: INTENSIFICATION AND EXTENSION TO DREHID WASTE MANAGEMENT FACILITY

Title: FACILITY INFRASTRUCTURE

Scale @ A3: 1:4,000

Prepared by:	Checked:	Date:
M. Nolan	P. O'Neill	April 2008

Project Director: D. Grehan

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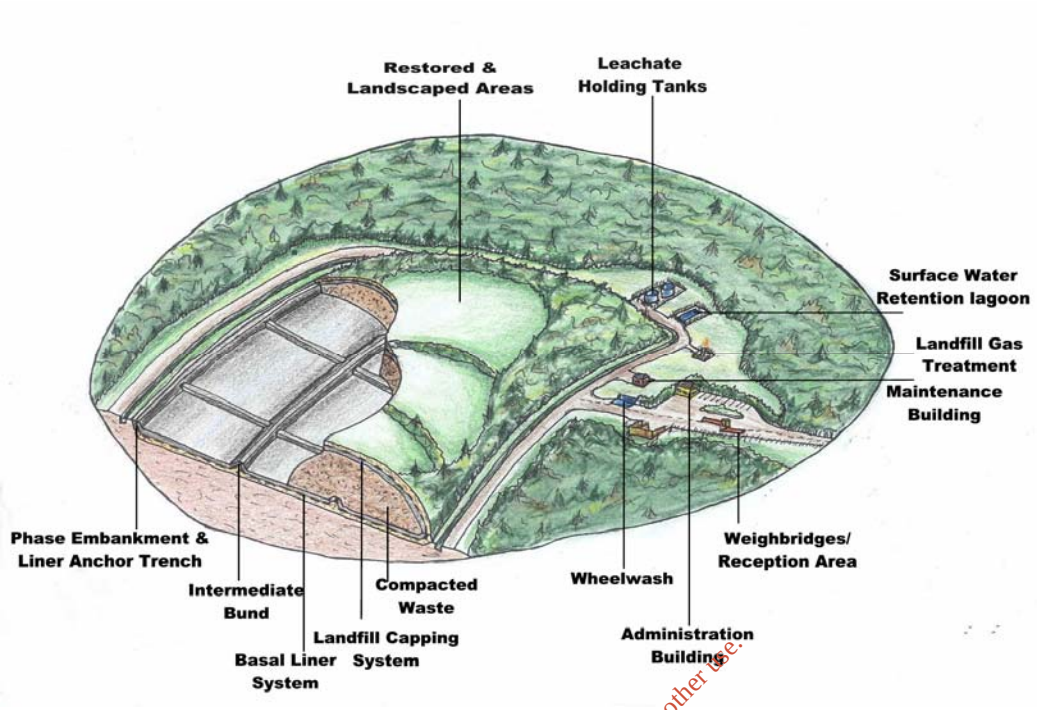
Drawing No.: Figure 3

Issue: B



Schematic of Typical Landfill

The permitted landfill will be constructed in 8 phases and the proposed landfill extension will be constructed in 7 phases. Stripping of the peat layer and preparation of the ground to the formation levels required will take place prior to the development each phase. The total void space capacity of the landfill is estimated to be 5 million cubic metres. This void space does not however allow for settlement of the waste, which will take place over time.

Landfill Cell at Drehid Waste Management Facility

The landfill will be progressively capped on completion of each phase, with ongoing landscaping taking place throughout the lifetime of the site. On final capping, the site will be allowed to recolonise to natural species. The landfilling operation will be carried out in a planned and controlled manner, thereby minimising potential nuisances such as odours, dust, noise, litter, vermin, etc. The permitted facility has been designed, and is being constructed and operated in accordance with the conditions of the Waste Licence (W201-01) issued by the EPA. Environmental monitoring stations, in accordance with EPA requirements, have been established at the site and monitoring will be continued post closure of the facility.

Phase one of the permitted landfill site is currently in construction. Construction and testing of Cells No.1 and No.2 of Phase No.1 were completed in January 2008 with first waste was accepted at the facility in early February 2008. Bord na Móna will progressively restore the site on completion of each phase and will provide for all necessary aftercare measures in accordance with the Environmental Protection Agency (EPA) landfill manuals.

Table 1 indicates the projected residual waste tonnages to be landfilled at the facility during its lifetime. The proposed additional residual waste volumes over and above the previously permitted volumes are outlined separately in this table and the intensification is proposed to commence during the second half of 2008.

Table 1: Annual Tonnages of Waste to be landfilled at Drehid WMF

Year	Permitted (Tonnes)	Proposed Intensification (Tonnes)	Total (Tonnes)
2008	120,000	120,000*	240,000
2009	120,000	240,000	360,000
2010	120,000	240,000	360,000
2011	120,000	240,000	360,000
2012	120,000	240,000	360,000
2013	120,000	240,000	360,000
2014	120,000	240,000	360,000
2015	120,000	120,000*	240,000
2016	120,000	-	120,000
2017	120,000	-	120,000
2018	120,000	-	120,000
2019	120,000	-	120,000
2020	120,000	-	120,000
2021	120,000	-	120,000
2022	120,000	-	120,000
2023	120,000	-	120,000
2024	120,000	-	120,000
2025	120,000	-	120,000
2026	120,000	-	120,000
2027	120,000	-	120,000

* *The intensification of the landfilling of waste is proposed to commence in mid 2008 and finish in mid 2015, spanning a 7-year period.*

The permitted engineered landfill consists of eight fully lined phases, each further sub-divided into four to six separate cells (per phase), for the acceptance of residual waste. The proposed extension to the engineered landfill will consist of a further seven fully lined phases, each sub-divided into four to six separate cells (per phase) for the acceptance of residual waste. The landfill is fully contained and has been designed in order to provide for both leachate and landfill gas collection. The basal lining system consists of a High Density Polyethylene (HDPE) liner overlaying a 500mm thick layer of low permeability Bentonite Enhanced Sand (BES).

The finished phases will be capped with a low permeability capping system, consisting of a linear low density polyethylene (LLDPE) liner and a compacted clay layer, which will serve to prevent the uncontrolled migration of landfill gas and the infiltration of rainfall into the waste body thereby

minimising the quantity of leachate generated. Lined cells have been and will continue to be constructed in accordance with the *EPA Landfill Design Manual (2000)*, allowing for the isolation of the deposited waste at the site.

This final capping will also allow for the collection of clean surface runoff, which will be diverted via a surface water swale to the surface water settlement lagoons and eventually discharging into the Cushaling River, which contributes to the River Barrow catchment. This surface water run-off will be equivalent in quantity terms to pre-development levels. On completion of deposition of waste, the site will be fully restored and an aftercare/monitoring programme will be put in place.

Landfill gas (LFG) is the end product of the microbiological degradation of organic material. It is produced under anaerobic conditions, for example in the waste body of a landfill site. The degradation process takes place in different steps, in which the raw organic material is degraded to smaller material that, in the course of the processes, is converted into LFG. In undiluted form, LFG consists primarily of the components methane (approximately 60%) and carbon dioxide (approximately 40%).

An intermediate landfill gas collection system will be implemented following the commencement of waste deposition into the lined cells. Gas collection during the infill of waste will contribute towards effective odour control. A permanent gas collection and treatment system will be installed at the site on final capping of each phase. Intermediate gas collection during the filling of cells is achieved by means of horizontal systems. Following completion of waste deposition and placement of the temporary cap, vertical gas wells will become the primary vehicle for the collection of gas.

A landfill gas flare has been provided at the site to flare the collected landfill gas in accordance with EU standards in terms of combustion temperature, retention times, emission levels etc. The landfill gas will be collected and flared during operation as well as after the cessation of landfilling, as gas production can continue for some years post-closure. If sufficient quantities of landfill gas can be harnessed at the site, and if economically feasible, this landfill gas will be utilised to generate electrical energy. The landfilling operation is carried out in a planned and controlled manner, thereby minimising potential nuisances such as odours, dust, noise, litter, vermin, etc.

When each of the landfill phases is filled, a final cover will be constructed on the waste body. In order to limit the risk of damage to the final cap due to waste settlement, a temporary cap comprised of clay will be installed for a period of at least 2 years. During this period, the settlement of the waste body

will be measured on a regular basis. Once the settlement has sufficiently decreased and when weather conditions are favourable, the construction of the final capping system will commence.

4.2 Ancillary Infrastructure

The existing site infrastructure includes weighbridges, wheel-wash, site security arrangements, bunded waste inspection and quarantine areas, bunded fuel storage, site accommodation, site roads, surface and foul water drainage, leachate holding tanks, maintenance facility, surface water retention/settlement lagoon, landfill gas flare compound and car parking areas.

Planning has already been secured for the site infrastructure, listed above, as part of the original proposal and construction of this infrastructure has been completed.

Leachate Holding Tank at Drehid Waste Management Facility

The proposed development necessitates additional physical works including the development of additional ancillary facilities such as surface water lagoons and the extension of the site roads and swale around the proposed landfill footprint.

4.3 Material Borrow Areas

Planning permission for the periodic excavation of the clay borrow area, as a source of low permeability clay for the construction of embankment/bunds and landfill capping material, has already been secured. Construction of the facility to date has not necessitated the excavation of the clay borrow area due to the availability of suitable materials, for the construction of embankments and bunds, exposed during the stripping and clearing of areas to required formation levels. Bord Na Móna will endeavour to continue this construction approach for the remainder of the facility.

Overview of construction of landfill base

Following the full realisation of the clay borrow area, when the landfill has been fully restored, it will also be fully restored. Any side slopes, which at that time had not been regraded, will be regraded to a safe side slope.

The previously permitted sand and gravel borrow area has been partially excavated for the construction of the initial stage of the facility. The sand and gravel borrow area is used on a periodic basis for the provision of sand for use in the Bentonite Enhanced Soil (BES) layer of the basal liner. The sand and gravel borrow area is also used also as a source for granular sub-bases for the facility roads and will also be used to provide granular material for the capping drainage layer on the landfill. When each area of the borrow area has been fully exploited the area will be graded to ensure that the side slopes are safe.

Surface water settlement lagoons are constructed at the sand and gravel and clay borrow areas, which prevent any uncontrolled emissions of run-off to the adjoining surface water bodies.

4.4 Facility Operations

The facility operates, as permitted, on a daily basis from 8.00am to 6.30pm Monday to Saturday each week. Waste is accepted at the facility between the hours of 8.00am to 6.00pm. This allows time for the daily cover of the waste at the landfill.

Administration Building at Drehid Waste Management Facility

Waste acceptance procedures comply with the EPA's Draft Landfill Manual on Waste Acceptance (1998) and in accordance with Council Decision 2003/33/EC. Only household, commercial and non-hazardous industrial wastes which have been pre-treated or are not suitable for pre-treatment are accepted onto the site. Suitable construction and demolition waste is also accepted on-site for the construction of various elements of the landfill site.

The waste management facility is operated in compliance with EPA waste license (W201-01). The conditions of the licence include measures to minimise or prevent nuisance to the public occurring as a result of the operation of the facility. A complaints register detailing any complaint received from the general public in respect of the operation of the facility is maintained at the site.

All environmental monitoring is carried out under the conditions of the waste licence (W201-01) for the facility, issued by the EPA. Emission Limit Values (ELV) has been set by the EPA for many of the parameters to be monitored. Exceeding these values is considered to be a non-compliance with the waste licence. As part of the Waste Licence an Annual Environmental Report (AER) is formulated that collates and reports all monitoring data each year. A comparative assessment is made with data from previous years.

Contingency plans have been put in place and any accidents and other emergencies are handled by on-site personnel in accordance with Bord na Móna emergency response procedures. Emergency response contact numbers for the relevant authorities including the Fire Service, Gardaí, or Ambulance Services are prominently posted on-site. All site operatives and other relevant employees of Bord na Móna are regularly trained in emergency response procedures and in fire prevention and control.

5 POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

The Drehid Waste Management Facility is designed, constructed, operated, monitored and will be restored in accordance with European Council Directive 1999/31/EC on the landfill of waste, the EPA Landfill Manuals, BAT guidance notes for waste facilities. Ongoing facility operations are in accordance with waste licence and planning conditions. Therefore potential impacts on the environment are minimised. Nonetheless, a number of mitigation measures for the facility are proposed, which limit potential impacts and ensure that the facility is operated without causing nuisance to the local residents and local communities.

5.1 Air/Climate

5.1.1 Noise

The noise emission from the facility will be kept well within the emission limit values recommended in the EPA's *Guidance Note for Noise in Relation to Scheduled Activities*. There will be no tonal or impulsive noise emissions from the site and the night-time emissions from the ventilation system will be inaudible at all residences at less than 25 dB(A). The noise emissions associated with road traffic will result in a negligible noise impact at all residences.

There will be no perceptible increase in road traffic generated ground vibration. Road traffic generates low levels of ground vibration (<0.1mm peak particle velocity at 20m and these are indistinguishable by humans).

Only proper silenced plant is operated on site and the Resident Engineer/Facility Manager ensures that unnecessary revving of machines is avoided. Screening Berms will be constructed to the north, east and west of the landfill footprint, as extended. Construction of the berms to the north and west has already advanced as part of the initial stage of construction at the facility.

5.1.2 Dust

The extraction of material from the sand and gravel borrow area and the clay borrow area will have a negligible effect on the environment. Given that these borrow area are enclosed within the confines of the site it is considered that the nuisance due to dust generated will be negligible for the local residents.

Dust monitoring carried out, during excavation and processing of material at the sand and gravel borrow area for the construction of the initial phase of the facility, has provided assurance that mitigation measures and good construction practices are effective in achieving dust levels below 350 mg/m²/day.

Mitigation measures such as the grassing of exposed areas, the covering of stockpiles, spraying with water during periods of extended dry weather etc. will also reduce potential dust impacts from the borrow areas.

5.1.3 Odours

An odour impact assessment of the Drehid Waste Management Facility was carried out using library based olfactometric data and predictive dispersion modelling. The purpose of this assessment was to determine the potential for the generation of odour impact in the vicinity of the proposed extension and intensification of landfilling and composting operations and to outline general odour minimisation and mitigation strategies to be implemented into the facility operations. During Year 2011, 2014, 2020 and 2027 of operation, no residents should perceive an odour concentration of more than 1.50 and 3.0 OuE m^{-3} at the 98th and 99.5th percentile of hourly averages respectively, as odour management, minimisation and mitigation strategies (including best national and international practice) will be implemented throughout the lifetime of the waste management facility operations.

Landfill gas, operations and odour management plans implemented for the operation of the waste management facility provide for the identification of odour emission sources and immediate implementation of mitigation techniques. The management plans are document controlled through the Environmental Management System. All members of staff are trained and familiar with the workings of each plan. As the waste management facility will be operated over a 20-year period, Bord na Móna will continually update each plan to take account of advancements and key developments in the waste management and odour mitigation areas.

5.1.4 Landfill Gas and Gas Flare

The nearest dwelling is approximately 1km from the landfill footprint. Given the considerable distance to the nearest houses and the relatively restricted pathways for flow of landfill gas through the peat and mineral subsoil it is unlikely that there will be any difficulty with gas migration to these houses. Uncontrolled landfill gas migration will further be minimised by the installation of the horizontal landfill gas drainage layer and the vertical

landfill gas extraction system in the waste cells.

A maximum worst-case modelling scenario was used to assess the air quality impact of the landfill flare unit. Based on the modelling, the landfill gas flare unit will have no ambient or GLC air quality impact in the vicinity of the flare. The flare unit will cause no ambient air quality impact on any of the nearest residences as demonstrated by the approved US EPA and Irish requested EPA dispersion model for a worst-case dispersion estimate of the flare units.

5.1.5 Aerosols

Aerosols can typically be generated from leachate treatment plants where aeration of the leachate is taking place. However the aeration or treatment of leachate is not carried out or proposed at the Drehid Facility. As outlined, leachate is transported off-site for treatment at Leixlip Wastewater Treatment Plant. In addition recirculation of the leachate will take place beneath the temporary cover and/or the final capping of the landfill. It is considered that aerosols will therefore not be generated at the site and as such no mitigation measures are proposed or required.

5.1.6 Climate

It is not considered that the proposed development will have a significant impact on the local or global climate.

5.2 Geology and Hydrogeology

5.2.1 Potential Impacts

The potential impact associated with exposed soil surface principally relate to sediment laden run-off to watercourses. The greatest risk of sediment run-off occurs during wet weather. Management and control of water falling on worked areas are an important aspect in minimising the impact of construction. The implementation of such measures has ensured that surface water discharges have been of good quality.

All excavations within the site are terminated in the unconsolidated material; therefore there is no potential impact on the bedrock environment. It is necessary to progressively clear the peat material from the landfill footprint and the borrow areas in order to win construction material or achieve formation levels for landfill construction.

Earthwork and excavation are likely to cause the greatest impact on the soil environment during the construction phase. It should be noted that the vast majority of the material required for the construction of the facility infrastructure is available within the confines of the site activity boundary, therefore construction disruption will not impact on the surrounding environment, i.e. the general public will not be impacted during the construction of the facility.

Peat has been removed from the administrative area, sand and gravel borrow pit and Phases 1 and 2 of the landfill. Further excavations will be phased over the overall 20 year lifetime of the facility and therefore the potential impact of such activity will also be phased.

The landfill will not impact upon the quality or abstraction rate of any supplies in the area. The landfill is outside of the source protection zones of both the Robertstown well field and the Johnstown Bridge well field. The landfill will not impact upon these major abstraction areas.

5.2.2 Proposed Mitigation Measures

The following mitigation measures have been employed on site for initial stages of construction of the previously permitted waste management facility including Phase 1 of the landfill. These mitigation measures will also be employed for the remaining phases of the previously permitted waste management facility and for the proposed intensification and extension.

During the construction of the facility and especially when excavation of unconsolidated material is required, standard approved working methods have been and will continue to be employed to reduce the risk to the surrounding environment. Temporary and permanent water control measures, comprising temporary sediment control measures and permanent settlement lagoons, existing and proposed, will control the quality of any water discharged from the Drehid Waste Management Facility.

The borrow areas are excavated below the water table in places. Minor changes in the shape of the shallow water table in the vicinity of the borrow areas are likely to result from the excavations. However, the impact of these changes will be localised and considered insignificant.

Any standing water accumulating within the landfill footprint, where waste has not been placed, will continue to be diverted to the settlement lagoons, to enhance retention, lower velocity and allow suspended solids to fall out of suspension prior to discharge to the adjoining surface water network.

The engineering measures utilised in the construction of this facility are aimed at the containment of leachate within the landfill liner system and the collection of leachate for subsequent treatment off-site. The design has also taken account of the groundwater protection response matrix. The design of the containment system is in accordance with the EU Landfill Directive and the EPA Landfill Design Manual.

A composite basal lining system was developed to maximise the protection offered. This basal liner has already been installed for Phase 1 of the landfill and will be utilised for the remaining phases of the permitted landfill footprint. This basal lining system will also be utilised for the proposed extension. The basal lining system is comprised of a High Density Polyethylene (HDPE) liner and a 500mm thick layer of Bentonite Enhanced Soil (BES), with a permeability value of less than or equal to 5×10^{-10} metres/second, which forms a low permeability barrier to impede vertical percolation. The low permeability of the natural overburden material offers further protection to the groundwater environment.

A leachate collection system, comprising a permeable drainage layer with leachate collection pipework, has been installed on top of the basal liner, with a gradient towards the leachate sump to the extreme southeast of the landfill, for Phase 1 of the previously permitted landfill. The leachate collection system will be extended for all phases of the landfill. The leachate is pumped to secure leachate holding tanks already constructed at the site. These tanks are emptied periodically and the leachate tankered off-site to approved wastewater treatment facilities.

All effluent from the on-site proprietary wastewater treatment plant serving the administration building (i.e. liquid fraction) and surplus wastewater from the composting facility is also diverted to the leachate holding tanks.

Periodic sampling of the groundwater, from the monitoring boreholes installed within the site, is undertaken to demonstrate that the quality is not being affected by the operation of the facility.

Given the above mitigation measures and the landfill design employed to contain the leachate within the landfill, it is considered that the impact on the geological and hydrogeological environment will not be significant.

5.3 Surface Water

5.3.1 Potential Impacts

The regional hydrological setting will not be significantly impacted by the proposed development. The impact of the temporary reduction in contribution to the surface water environment, due to the export of water falling on areas where waste has been placed (i.e. leachate) will be negligible to the overall flows in the Cushaling River. The net contribution will be restored to natural levels following the installation of the capping system.

As there are no natural surface water features crossing either the previously permitted landfill footprint, the proposed landfill footprint, composting facility, access road, sand and gravel borrow area or clay borrow area, it has been and will be possible to construct the facility without altering or culverting the natural surface water drainage network.

The existing Timahoe Bog drainage infrastructure is only impacted in areas of the site where construction occurs. It is proposed to re-route drainage channels at the periphery of the construction zones to minimise the volume of water that could potentially be impacted. The rerouting of some of the drainage channels has already taken place during the construction of the initial stage of the facility including Phase 1 of the landfill.

The site access road from the R403 road to the facility entrance is similar to public roads and run-off from these roads is not contaminated and does not pose a risk to the surface water environment. Run-off from these roads drains to the adjoining lands and ultimately to the existing artificial site drainage network.

5.3.2 Proposed Mitigation Measures

During the construction phase and the operational phase a high standard of environmental engineering practices will continue to be utilised to minimise the impact of the facility on the surrounding surface water environment.

In order to reduce the risk of sediment laden water adversely impacting surface water, measures are and will be implemented to divert such water through treatment systems (settlement lagoons) prior to discharge to receiving waters. During the construction period all water pumped from the base of excavations is pumped to temporary/mobile sediment control devices, comprising grit traps or devices of similar efficiency.

One of the Existing Surface Water Lagoons

Two additional lagoons will be constructed for the landfill extension. The construction of the lagoons will be phased during the progressive development of the landfill phases. The settlement lagoons mitigate the potential of sediment laden run-off impacting the surface water environment in the environs of the landfill extension. Settlement lagoons are also installed at the material borrow areas so that the extraction of sand and gravel and clay does not adversely impact on the quality of the surface water environment.

All potentially contaminated effluent, including leachate, captured rainwater from high risk areas and the liquid fraction of the domestic effluent, is diverted to the leachate holding tanks, from where the effluent will continue to be exported from the site to an approved wastewater treatment facility.

There will be no uncontrolled discharge from the facility to the surface water environment. Regular sampling of the surface water environment is undertaken downstream of the waste management facility to ensure that on-site activities are not causing an adverse impact on the natural water quality.

Given the above mitigation measures and the high design standard to which the Drehid Waste Management Facility, including landfill and ancillary infrastructure, is constructed, the risk to the surface water environment is significantly reduced. The measures employed will ensure that there is no adverse impact on the surface water environment.

5.4 Landscape/Visual Aspects

5.4.1 Potential Impacts

The proposed extension and intensification of use will have an impact on the visual and landscape character of the surrounding area.

Views from outside of the site boundary are limited however, due to intervening vegetation, and therefore impact on character in the wider landscape is generally low.

The retention of as much of the existing tree/scrub cover as possible, and minimal interference with the existing landscape within the activity boundary, in conjunction with new planting, will prove valuable in mitigating the visual impact of the extension and intensification of use.

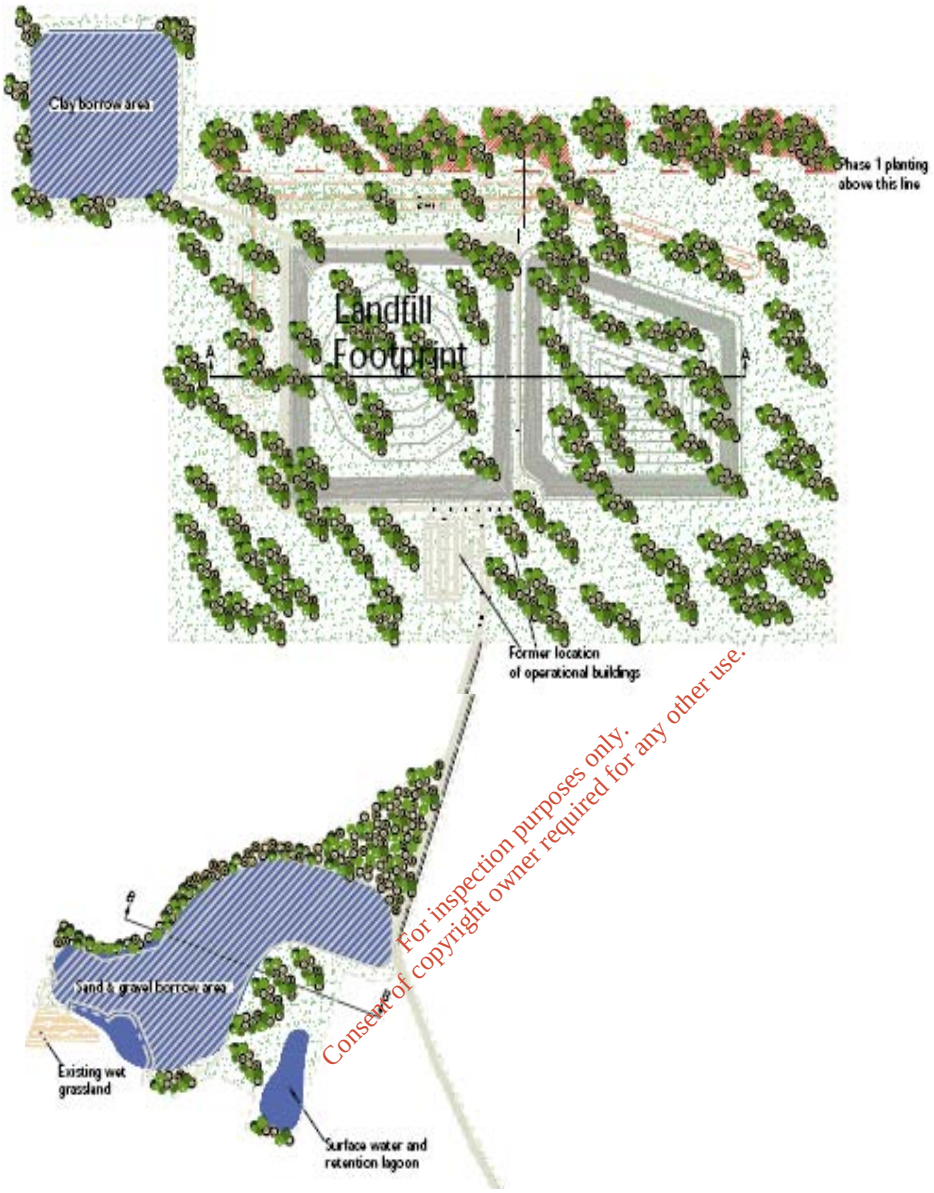
The greatest levels of visual impact arising from extension and intensification of use as described will be on views from the county road (L5025) north of the northern site boundary, and on a small number of properties and road users located to the southwest.

The remaining views within the 5km study area will experience negligible to low to moderate visual impact, generally due to the screening capacity of intervening vegetation.

5.4.2 Proposed Mitigation Measures

A restoration plan has been prepared for the mitigation of potential visual and landscape impacts caused by the Drehid Waste Management Facility.

The main features of this plan include the planting of locally occurring native woodland, the formation of two lakes following decommissioning of borrow pits, hedgerow planting along the county road directly to the north of the site and the construction of a screening berm to the north, east and west of the landfill footprint, as extended, which will be sown with native grasses and planted with native trees and shrubs. A schematic of the proposed site restoration plan is presented herein.



Schematic of proposed Site Restoration Plan

5.5 Ecology

5.5.1 Potential Impacts

No direct impacts on any site designated for conservation will arise through the development of the facility.

There is the potential for silt or sediment run-off created by the proposed development to indirectly impact on the river Barrow cSAC, although given that the river Barrow is approximately 20km away from the landfill footprint, the potential impact would be insignificant. Mitigation measures will prevent silt and sediment entering the surface water drains and will ensure that there are no indirect impacts on the river Barrow cSAC or any other designated site.

The construction of the landfill site and the proposed extension, along with the development of the gravel and clay borrow areas, will lead to the permanent removal of the majority of the existing areas of habitat present within the landfill footprint (including the extended area) and the clay and gravel borrow areas.

The Cutover Bog habitat will be subjected to the greatest level of impact. Cutover Bog occupies the largest area on site and also has been classified as being of moderate ecological value, the loss of which will constitute a moderate negative impact.

Fauna species present within the vicinity of the facility could potentially be impacted through noise disturbance which can arise during construction, although this impact will only be minor and be of a temporary nature.

5.5.2 Proposed Mitigation Measures

Scrub and vegetation that are to be retained will be clearly marked to avoid accidental damage during excavations and site preparation. Any removal of scrub or other areas of semi-natural habitat will be carried out in accordance with best practice in order to minimise impacts on breeding birds.

Foul drainage from all site offices and construction facilities will be contained and disposed of in an appropriate manner to prevent pollution of watercourses. The environmental monitoring programme for the facility includes the annual monitoring of the water quality of the Cushaling River using the standard kick sampling technique and the analysis of aquatic invertebrates to produce a Q value for the sample site.

The loss of wetland habitat (Drainage Ditches) will be compensated for by the inclusion of wildlife friendly designs in the restoration plans for water bodies at the sand and gravel borrow area and the clay borrow area, when these areas have been fully excavated.

The restoration plan for the facility includes the use of native trees and shrubs with the species mix chosen appropriate for the site conditions and to reflect the existing species composition in the Scrub and Bog Woodland areas. Where feasible, trees and shrubs used will be of local provenance.

5.6 Human Beings/Socio-Economic/Material Assets

5.6.1 Potential Impacts

There will be no disruption to the social travel patterns of those residing adjacent to the proposed site. The facility is accessed via the regional road network and the purpose built private site access road, which joins the R403 at Killinagh Upper. No public roads or pedestrian routes are severed by the facility and its proposed intensification and extension. The facility operates on a daily basis from 08.00 to 18.30 Monday to Saturday (inclusive), excluding public holidays and Sundays.

When fully operational, the previously permitted facility will provide direct employment for approximately 13 people, as well as for additional service and construction workers. The proposed intensification and extension will mean that there will be further additional employment for 2 No. permanent employees as well as for service and construction workers.

Any tourist attractions are located a significant distance from the facility and will not be impacted by the proposed extension and intensification. In addition, traffic generated by the proposed development will not adversely impact on visitors travelling to any of these attractions.

The only buildings located within the site activity boundary are the recently constructed buildings associated with the development of the previously permitted waste management facility. There are no listed or other buildings of significant architectural or cultural heritage within the vicinity of the site. There will be no visual impact on any of the surrounding items or facilities of tourist potential.

5.6.2 Health and Safety

Impacts regarding health and safety at the waste management facility, relate primarily to concerns about individuals either straying or trespassing into the facility, alongside the health and safety of each worker or visitor to the facility. Security fencing has been erected to prevent accidental or intentional trespass onto the facility. Warning signs have been placed along the fencing at regular intervals, informing people of the potential hazards associated with unauthorised trespass.

With respect to human health, a landfill health study, based on work commissioned by the Department of Health and Environment (UK) from the Small Area Health Statistics Unit (SAHSU) at Imperial College London has failed to confirm any links between birth defects and proximity to landfill facilities.

This view is supported by a literature review carried out by the Health Research Board in Ireland in its 2003 report entitled *"Health and Environmental Effects of Landfilling and Incineration of Waste – a Literature Review"*. This report states that *"As there is a paucity of literature relating to modern landfill and incineration sites, nearly all of the studies identified in this report relate to older technologies. It can be assumed that as emissions controls improve, risks of adverse effects diminish"*

5.6.3 Property Values

There is no evidence to show that the siting, construction and operation of a modern engineered landfill would seriously injure the amenities and depreciate the value of property in the vicinity of the facility.

5.6.4 Community Development

Bord na Móna finalised arrangements with Kildare County Council to establish a community liaison committee in advance of commencement of operations at the site. The principal function of committee is to identify environmental works and community facilities to be funded by the Community Development Fund

Bord na Móna has also made arrangements with Kildare County Council for the establishment of this local community development fund. This fund will be used for the provision of environmental improvement and recreational or community amenities in the locality.

5.6.5 Proposed Mitigation Measures

The previously permitted Drehid Waste Management Facility has been developed in such a manner so that the impact on landuse, the local population, employment, tourism and amenities is minimised. No further mitigation measures are required in addition to those previously proposed.

The Community Development fund will provide benefits for the local community through the provision of environmental improvement and recreational or community amenities in the locality.

5.7 Archaeology

5.7.1 Potential Impacts

Due to the size of the site and its location within a wetland environment, the potential for the discovery of archaeological features is quite high. However, due to the industrial peat extraction activity that has occurred within this site in the past, it is likely that a number of the archaeological features have already been removed.

The area of activity does incorporate sections of the two toghers, including their point of intersection, to the north of the previously permitted landfill footprint. However, no excavation works will take place within at least 30m of the recorded monuments.

Avoidance of impacts was included in the design of the waste management facility, in this case to avoid the recorded monuments, and excavations will be limited to areas where there are no known archaeological features. Subsequent to the granting of permission for the waste management facility archaeological monitoring of ground disturbance took place. No features or artefacts of archaeological significance were encountered in the course of that monitoring.

5.7.2 Proposed Mitigation Measures

A suitably qualified archaeologist will again monitor the removal of vegetation and drain cutting in advance of the future phases of construction of the waste management facility (including the future phases of the landfill as permitted and the proposed footprint extension). The borrow areas will also be monitored as they are developed. This work for future phases will again be undertaken in advance of commencement of construction works.

5.8 Infrastructure and Traffic

5.8.1 Potential Impacts

Stress tests carried out at junctions on the R403 and adjoining road network indicate that the proposed intensification and extension of the Drehid Waste Management Facility will generate a maximum additional 2.7% traffic even in the unlikely event that all the traffic comes from either the south or north. Based on NRA guidelines, it is concluded that there will be no significant short or long-term impact due to operational and/or construction traffic associated with the proposed intensification and extension of the development.

The spreading of the facility generated traffic between the route options will proportionally reduce the traffic loading on any one route. The existing access routes to the site (some of which have been upgraded since the previous planning application was lodged) have been demonstrated to be clearly capable of accommodating the additional traffic associated with the proposed intensification and extension of the Drehid Waste Management Facility.

A road safety audit carried out on the existing site entrance junction was submitted to and subsequently approved by Kildare County Council. The new site entrance as constructed provides adequate access for a dedicated entrance onto a Regional road with an 80km/h speed limit.

Adequate visibility splays of 4.5 x 160m have been provided at the site entrance junction. A ghost island junction at the existing site entrance junction with a right turning lane has been provided. This is adequate for the proposed traffic increases. Since the lodgement of the original planning application for the Drehid Waste Management Facility, a significant number of network improvements have taken place, which has had a positive impact on traffic movements to the Facility.

5.8.2 Proposed Mitigation Measures

There are no mitigation measures necessary for the proposed intensification and extension of the Drehid Waste Management Facility.

5.9 Interaction of the Foregoing

The most significant possible interactions are between the following potential impacts and human beings and the material assets of the area:

- Visual intrusion
- Noise
- Air quality
- Traffic

However, with the mitigation measures outlined in the preceding sections of the Non-Technical Summary in relation to visual intrusion, noise, air quality, and traffic, the likely effects of the proposed development on the local residents and material assets are expected to be relatively insignificant.

While there is potential for the above impacts to interact and result in a cumulative impact, it is unlikely that any of these cumulative impacts will result in significant environmental degradation.

The previously permitted facility and its proposed extension is sited at a significant distance from the local road network and residential properties, with the nearest residence being approximately 980m from the landfill footprint (permitted and extension). Avoidance of impacts was used throughout the design of the facility. The impact and mitigation measures proposed are designed to further ameliorate the impact of the proposed intensification and extension of the previously permitted waste management facility on the wider environment.