

Noeleen Keavey

Subject: FW: Scanned Document -TOBIN REPORT ref in EPA doc re Ballinderry Waste licence
Attachments: UD5976 EO Report 19-2-2020.pdf; UD5976 Tobin Report May 2016.pdf

-----Original Message-----

From: PlanningControl <planningcontrol@kildarecoco.ie>
Sent: Wednesday 19 February 2020 16:30
To: Michelle Reddy <M.Reddy@epa.ie>
Cc: Siobhan Stewart <sstewart@kildarecoco.ie>
Subject: RE: Scanned Document -TOBIN REPORT ref in EPA doc re Ballinderry Waste licence

Dear Michelle,
Please find attached KCC Planning Report dated 19/2/2020 and associated report from Tobin Consulting Engineers.
Regards,

Planning Control Team.

Tá an ríomhphost seo príobháideach agus ní ceadmhach úsáid an ríomhphoist seo d'éinne ach don té ar seoladh chuige é. D'fhéadfadh go mbeadh eolas ann atá faoi phribhléid agus rúnda de réir an dlí. Munar duit an ríomhphost seo, déan teagmháil leis an seoltóir chomh luath agus is féidir. D'fhéadfadh nach iad tuairimí Chomhairle Contae Chill Dara na tuairimí atá curtha in iúl sa ríomhphost seo. Déanann Comhairle Contae Chill Dara iarracht ríomhphoist a chosaint ó víris. Mar sin féin, moltar duit gach ríomhphost a scanadh, mar ní ghlacann an Chomhairle aon dliteanas i leith damáiste do do chórais. Le haghaidh eolas ar do chearta príobháideachta agus ar conas a bhainistimid sonraí pearsanta, logáil isteach ar www.kildarecoco.ie/dataprotection Chun do chuid sonraí pearsanta a nuashonrú cuir ríomhphost chugainn ag customercare@kildarecoco.ie Caithfidh tú deis a thógáil don Chomhairle cé thú féin a chinntiú trí cruthúnas céannachta agus/nó seoladh a sholáthar, sula ndéanaimid aon athruithe.

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FAO : Ms. Michelle Reddy, Case Officer, EPA.

UD 5976 -GCHL, Ballinderry. Compliance submission dated 6th February 2020 from Golder Associates in relation to Condition No. 12 of Plg. Ref. 02/1475 (An Bord Pleanála) PL 09.205039. The applicant is currently seeking a Waste Licence from the Environmental Protection Agency to import approximately 1.2 million tonnes of waste/inert material to the former quarry.

The EPA have sought clarity on whether the submission is compliant with the aforementioned Condition No. 12, noted as follows;

CONDITION No. 12

The extraction site, reduced in accordance with Conditions 1 and 4 above, shall be restored in accordance with a with a phased restoration programme, the final phase of which shall be completed within one year of the cessation of production of materials. A detailed restoration plan shall be submitted to the planning authority for written agreement. The restoration plan shall include the following: -

- (a) Provision for the removal from the site of structures and plant associated with the extraction operations and of waste materials that are not required for restoration purposes.
- (b) Details of the nature of any filling materials that may have to be imported on the site for restoration purposes and the method and timing of any filling operation arising from such importation,
- (c) Provision for the suitable preparation and grading of the area to be restored by use of imported materials, waste materials or overburden materials,
- (d) Provision for spreading over the area to be restored, the sub-soil and top-soil or imported sub-soil and top-soil if required,
- (e) Details of the final surface levels of the restoration area, which levels shall be such as to allow satisfactory drainage of and outfall from the site and provision for the restoration of the natural surfaced and sub-soil drainage of the area to be restored.
- (f) Details of the slopes to which the face of the pit shall be graded. The plans submitted shall be revised to ensure a more natural appearance rather than the engineering finish proposed in the application.
- (g) Details of the after care measures, such as cultivation, seeding, planting and subsequent maintenance and management, which it is proposed to take in order

to render such are of land restored and its condition suitable for use which shall be appropriate to the area, and

- (h) A detailed programme for the implementation of the restoration or operations required by this condition, including an indication of the dates relative to the progress of the sand and gravel extraction by which each phase of the restoration shall be completed.

Reason: To secure satisfactory restoration of the site in the interest of orderly development and the visual amenities of the area.

Whilst the above compliance with Condition No. 12 is noted, it is considered that the High Court Order relating to this site (dated 22nd November 2016) clearly states that it is the Environmental protection Agencies role to, in effect, regulate all activities under an Article 27 permission, licence, permit, authorisation, permission, approval or consent, as required by the EPA. (Please see item 2 therein on the aforementioned Court Order).

Having regard to Section 163 of the Planning and Development Act 2000 (as amended);

"Permission not required for any works required under this Part" Section 163. Notwithstanding part III, permission shall not be required in respect of development required by a notice under section 154 or an order under Section 160....."

In this instance the High Court Order is the 'de facto' permission with the original 2002 permission now withered. The responsibility now lies with the EPA to regulate further activities (pending Waste License). There are also non-compliance issues associated with Conditions No. 1 and 4 as outlined Condition No. 12.

The Planning Authority considers that the "Remediation and rehabilitation" as outlined in the High Court Order is *not* what is now being proposed by the developer/applicant, insofar as the extent of the works proposed (1.2 million tonnes of imported fill material), will effectively regrade the entire land holding. The proposed works are not in compliance with Condition No. 12.

However the Environmental Protection Agency should be advised of the following concerns, namely;

(a) NO INFILLING OF MAIN LAGOON/EXPOSED WATER BODY.

The infilling of the main lagoon/water body of water is not considered best practice in terms of future ground water/aquifer protection. The planning authority would respectfully recommend that the overall tonnage of imported material (currently at 1.24 million tonnes) be reduced to facilitate the retention of the main lagoon on site having regard to the Geological Survey of Ireland's categorization of the subject site as potentially having "Extreme" vulnerability (regarding the aquifer).

The main body of water (lagoon indicated as 'Pond C' in the restoration plan submitted on 6th Feb. 2020) is approx. 2.7 hectares. The overall site is approximately 8 hectares. Therefore, the respondent has an area of approximately 66% of the overall landholding available for land restoration/infill. The battering down to the water level with gentle slopes will also reduce the overall quantities of imported material. Furthermore, a further reason not to fill below ground water level is that to do so would mean continuous 24 hour pumping into the river Glash which could damage spawning grounds etc., and possibly affect the pH value of the river. However, in verbal discussions with the Agents (Golder), when asked to supply the Planning Department/Council with details of outfall arrangements to drain the lagoon; they suggested that the entire contents of the lagoon (Pond C) would "surcharge to ground" (1).

(b) GROUND WATER PROTECTION PLAN & AQUIFER PROTECTION PLAN REQUIRED.

The Council would advise that a ground water protection and aquifer protection plan should be submitted to ensure that the existing ground water sources serving local residents and farms in the vicinity are unaffected by the development. Where a water source within the affected area is compromised by the restoration works, the operator shall take whatever measures necessary for the provision of adequate supply to replace the affected supply. The results of monitoring of all wells and boreholes within a 500-metre radius of the site is advised, with test results submitted on an annual basis, for example 31st January each year. (To control emissions to ground water in the interests of

proper planning and sustainable development of the and protection of the environment).

Kildare County Council commissioned a report in June 2016 (Tobin Environmental - Please see attached copy.

In summary the report outlined the following; a review of the applicants/developers' proposals and to make recommendations based on best practice.

The report found that;

- The Ballinderry quarry site is located on a **Locally Important Aquifer with extreme vulnerability where ground water is exposed on site.**
- The pumping out of the lagoons/water bodies on site would entail the dewatering of the ponds, for the entire period of the quarry rehabilitation with the development significantly below the regional water table, as the development would require a dry working floor to enable the placement of geotextile and liner system.
- **Infilling of main/large lagoon is not recommend with off-site/imported materials due to GSI guidelines and the potential impact upon the receiving environment.** Namely that an extreme vulnerability rating on a locally important aquifer is not generally acceptable unless it can be shown that;
 - there is a minimum consistent thickness of 3 metres of low permeability subsoil present;
 - there will be no significant impact on the groundwater; and,
 - it is not practicable to find a site in a lower risk area.
- It is important to have gradual sloping shoreline banks with shallow areas to foster a wide variety of wildlife (flora and fauna) , and for health and safety purposes/reasons.

There is no detail in the restoration report from Golder Associates as to the destination of the on-site water body that is, where it is proposed to drain to. With regard to the eastern boundary of the site being a tributary of the River Glash (flowing from south to north).

(c) REDUCTION OF OVERALL INFILL MATERIAL/TONNAGE TO THE SITE.

The proposed tonnage of some 1.24 million tonnes (noted in Golder Associates "Restoration & Aftercare Plan" submitted on 6th February 2020), of imported material should be reduced having regard to the above concerns.

The Council would respectfully request that the Environmental Protection Agency, revert back to the Applicants to advise them to reduce their overall tonnage, as per the above/acceptable levels. The applicants were previously advised by the Council regarding the environmental concerns re ground water and aquifer.

Breakdown of overall fill material required (whilst preserving main Lagoon/Pond C) on site.

The estimated filling of the site is noted as being approximately of 5 years duration, with the estimated importation of 350,000 to 400,000 tonnes per annum. The cross-section drawings as submitted (Revision A – drawing No. 05 – Golder dated 6th February 2020) with 3 no. cross sections A, B, and C are noted as follows; When the site area is broken down into area quadrants (using chainage provided and the scaled site layout plan) the following calculations are noted;

- (a) 70 metres by 200 metres by 5 metre depth of fill = 70,000 m³
- (b) 70 by 200 by 10 = 140,000 m³
- (c) 40 by 250 by 5 = 50,000 m³

Total of 260,000 m³ by 1.8 = 468,000 tonnes (approx.) of fill required.

In preserving the main lagoon, "Pond C" the above fill material can be used throughout the site, in contouring/berms etc.

(D) POND B -SUGGESTIONS/RECOMMENDATIONS.

It is noted that the 2 no. remaining ponds on site namely; Pond A and Pond B as noted on the submitted documentation; With Pond B being acknowledged as having been breached in terms of the water table and having an area of 0.2 Hectares. Pond B, has an abundance of quarried material surrounding it, and this material (i.e. not imported infill), should be used to grade the pond back into

agricultural land-use, subject to satisfactory water-out fall arrangements. Pond A appeared to be a depression with some surface water ponding, (to the south-western periphery of the overall site).

(E) NORTHERN PERIPHERY OF SITE- SLOPE STABILITY

The agents make reference to a report commissioned by them by Ayrton Group with reference to the alleged slope stability of the northern face of the Main Lagoon (Pond C).

It is considered that this report does not substantiate the claims regarding the stabilization of the northern slope and as a consequence, the adjoining local road; the applicants assertion that pond C must be infilled. There was no evidence of *recent* slope instability to the northern face of Pond C. Having consulted with the Senior Engineer in Transportation Section of the Council the following recommendations were noted;

Within a reasonable time period the quarry operator shall submit for the written agreement of the Planning Authority a slope stability assessment plan for the northern quarry face prepared by a suitably qualified chartered Geotechnical Engineer. The geotechnical assessment shall contain a management plan including a monitoring strategy, a risk assessment and mitigation measures including emergency remedial strategies with regard to land slip occurring on the northern quarry face slope. The quarry operator shall submit the Planning Authority/EPA for example, by the 31st January each year, during the duration of the permitted restoration (and thereafter the completion of the restoration) a report for the preceding year containing;

- The assessment of the stability of the northern quarry slope in that calendar year,
- Any recorded land slip occurring in the northern quarry face slope in that calendar year.
- Any remedial measures put in place to mitigate the effect of said land slip occurring on the northern quarry face slope in that calendar year.

The above is aimed at ensuring the stability of the quarry slope and the interests of public safety, and traffic safety with regard to the long-term structural stability on the L50004 public road situated adjacent to the northern boundary of the overall lands and in the interests of the proper planning and sustainable development of the area.



Siobhán Stewart

Executive Planner

19th February 2020.

D. Bragan
SEP
19/2/20

3.3 REFERENCES

DoELG/EPA/GSI, 1999. Groundwater Protection Schemes.

Department of the Environment and Local Government, Department of the Environment, Heritage and Local Government (2004) Quarries and Ancillary Activities Guidelines for Planning Authorities

Government, Environment Protection Agency and Geological Survey of Ireland.

EPA, 1995. Landfill Manual: Investigations for Landfills. Environmental Protection Agency.

EPA, 1995. Landfill Manual: Landfill Monitoring.

Environmental Protection Agency. EPA, 1997. Landfill Manual: Landfill Operational Practices. Environmental Protection Agency.

EPA, 1999. Landfill Manual: Landfill Site Design. Environmental Protection Agency

Kildare County Council, 2016. - Kildare Strategic Flood Risk Assessment 2017-2022

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As is stated in the *Quarries and Ancillary Activities Guidelines for Planning Authorities (2004)* Quarry restoration can not only replace, but may even add to, the diversity of plants and wildlife. There are many options for restoration that enable land to be returned to an attractive and useful form.

Wetlands are frequently created in old sand and gravel pits, excavated below the watertable. It is important to have gradual sloping shoreline banks with shallow areas to foster a variety of wildlife. Colonisation by native species is currently happening in the north-western section of pond 2. The shallow depths are ideal for the recolonisation of wetland species. The areas of wetland habitat would be allowed to regenerate naturally with a minimum of interference.

Where practical peninsulas and the creation of islands can create a variety of habitats and nesting areas. The current peninsula and small islands on the south of pond 2 are used by breeding birds as nesting locations.

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2 CONSTRUCTION ISSUES

The feasibility of construction below the watertable would require detailed assessment of the placement method. It is unlikely that the current proposals would prove successful. The pumping out of the quarry would entail the dewatering of the ponds for the entire period of the quarry rehabilitation. It may be possible to discharge 1 million m³ over 14 days, as the development is significantly below the regional watertable, the development would require a dry working floor to enable the placement of geotextile and liner system.

It is not possible at present to evaluate the slopes or slope stability of the road to the north of the quarry. This should be evaluated and addressed as part of the site restoration.

3 RESTORATION PROPOSALS

As the restoration of the site to its original conditions is not possible, a number of options may be considered

3.1 OPTION 1

Infilling of Pond 1, restoration of land areas and stockpiles to agricultural land use and retain pond 2 as a wildlife refuge.

As there is insufficient material on site to restore the entire site, efforts should focus on the restoration of the stockpile areas and partially quarried site.

Pond 1 is limited in area and therefore could be considered for restoration with on site material.

As is stated in the *Quarries and Ancillary Activities Guidelines for Planning Authorities (2004)* Quarry restoration can not only replace, but may even add to, the diversity of plants and wildlife. There are many options for restoration that enable land to be returned to an attractive and useful form.

Wetlands are frequently created in old sand and gravel pits, excavated below the watertable. It is important to have gradual sloping shoreline banks with shallow areas to foster a variety of wildlife. Colonisation by native species is currently happening in the north-western section of pond 2. The shallow depths are ideal for the recolonisation of wetland species. The areas of wetland habitat would be allowed to regenerate naturally with a minimum of interference.

Where practical peninsulas and the creation of islands can create a variety of habitats and nesting areas. The current peninsula and small islands on the south of pond 2 are used by breeding birds as nesting locations.

3.2 OPTION 2

Restoration of land areas and stockpile to agricultural land use and retain pond 1 and 2 as a wildlife refuge.

As there is insufficient material on site to restore the entire site, efforts should focus on the restoration of the stockpile areas and partially quarried site.

Suspended Solids

During the dewatering of the quarry floor, the initial phase is unlikely to generate significant silt as the pond acts as a stilling area for sediment. As the dewatering progresses, silt and clay previously settled out would remobilise and be discharged from the site. It is evident from aerial photographs that pond 2 was previously used to settle out suspended solids at the quarry.

In order to discharge the final 2-3m of water (75-72 mOD), between 12 hours and 24 hours of settlement are required in a suitably designed settlement lagoon. The current proposals do not allow for settlement of the later phases of dewatering. The required discharge water quality must meet the Salmonid Rivers regulations of 25 mg/l as set out in European Communities (Quality of Salmonid Waters) Regulations 1988 and implemented in SI 293 of 1988.

Hydrocarbons

Hydrocarbons were detected in one sample on Pond 2. The current proposal does not identify the source of the hydrocarbons or the treatment method to be employed on the discharge water quality. A site investigation and risk assessment is required to identify the source of contamination. Additionally details on the treatment of discharge water quality are required.

As is stated in the Salmonid regulations, Petroleum products must not be present in such quantities that they

- form visible film face on the surface of the water or form coatings on the beds of water-courses and lakes
- impart a detectable "hydrocarbon" taste to fish
- produce harmful effects in fish

It is not known if the hydrocarbon concentrations meet the standards as set out in SI278 of 2009.

1.2.2 Flow modifications

Areas downgradient in Broadford are identified in the draft Kildare Strategic Flood Risk Assessment 2017-2022. As a consequence, a flood risk assessment of the additional storm water flows is required as part of the development.

The placement of approximately 1 million m³ of material below the watertable with displaces the equivalent volume of water storage within the surface water catchment of the River Glash. Backfilled material is likely to comprise lower permeability material and result in increased surface water runoff from the site. Currently the pond provides surface water attenuation at the site. While the proposal would increase runoff, the maximum discharge to the surface water network should be equal to 1-year Greenfield site peak runoff rate or limited to 2 l/s/ha in accordance with the Greater Dublin Strategic Drainage Study, Volume 2, New Development Policy. Site critical duration storm to be used to assess attenuation storage volume.

The maximum permitted surface water outflow from any new development is to be restricted to that of a Greenfield site before any development took place. All new development must allow for climate change as set out in the GSDSDS Technical Document. In general, all new developments must incorporate Sustainable Drainage Systems (SuDS).

Sustainable Drainage Systems include devices such as: Swales, Permeable Pavements, Filter Drains, Storage Ponds, Constructed Wetlands, Soakaways, etc. SuDS devices such as permeable paving or swales/ ponds etc. may require the approval of KCC.

1 INTRODUCTION

TOBIN has been appointed by Kildare County Council to review this project to determine the optimum restoration plan for the former Goode Quarry at Ballinderry, Co. Kildare. The purpose of this report is to review the current proposals and make recommendations based on best practice.

1.1 SUMMARY

The following are a summary of the main issues with the proposed development.

The proposed development would require an EPA Waste Licence in accordance with the Waste Management Regulations, 1996 as amended. This process is separate to the planning regulations and as such would require the submission of an EIS, Appropriate Assessment/Natura Impact Statement and Waste Licence application to the EPA. Where a site proposes the import of greater than 100,000 tonnes of material, an EPA waste licence is required.

1.1.1 Landfill guidelines

As the proposal has identified a number of brownfield sites in Dublin, the site should conform with the Geological Survey of Ireland (GSI) guidelines for inert landfills. The GSI in conjunction with the Department of Environment and Local Government (DoELG) and the EPA have developed a methodology for the preparation of groundwater protection schemes to assist the statutory authorities and others to meet their responsibility to protect groundwater (DoELG/EPA/GSI, 1999). This methodology incorporates land surface zoning and groundwater protection responses. These groundwater protection responses are concerned with the site selection process for landfills and the associated design, operation and monitoring of landfill sites. In general terms this guidance is for the siting of landfills for non-hazardous wastes. The principles involved may also be applied to the selection process for landfill sites for hazardous and inert waste. A significant factor in siting all landfills is the protection of groundwater which is an important resource and source of water supply in Ireland, particularly in rural areas.

Based on a review, the site is located on a regionally important aquifer with up to 8m of material proposed below the watertable. The EPA matrix for landfills outlines the siting criteria for inert, non-hazardous and hazardous landfills. In accordance with the GSI Matrix, the site is located on a Regionally Important Aquifer with extreme vulnerability. According the site is classified as R4 – Not acceptable. Some areas of the site with high vulnerability could be classified as R3₂ - Not generally acceptable, unless it can be shown that:

- There is a minimum consistent thickness of 3 metres of low permeability subsoil present;
- There will be no significant impact on the groundwater; and
- It is not practicable to find a site in a lower risk area.

Further investigations are required to establish the watertable on the site and seasonal variation.

1.2 IFI SUBMISSION

The current proposals are unlikely to meet the IFI requirements based on the discharge quality and flow modifications.

1.2.1 Discharge quality

FIGURES

No table of figures entries found.

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DOCUMENT AMENDMENT RECORD

Client:	Kildare County Council
Project:	Ballinderry Quarry
Title:	Restoration Plan Review

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PROJECT NUMBER: 10045				DOCUMENT REF: 10045-01-01			
Revision	Description & Rationale	Originated	Date	Checked	Date	Authorised	Date
Draft	Restoration Review	J. Dillon	19/05/16	S.T.	19/05/16	D.G	19/05/16
TOBIN Consulting Engineers							

Ballinderry Quarry Summary Report

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May 2016

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