Comhairle Chontae Chill Chainnigh | Kilkenny County Council

Halla an Chontae Sráid Eoin Cill Chainnigh | County Hall John Street Kilkenny

Fónamh don Phobal - Caomhnú don Oidhreacht | Serving People – Preserving Heritage

24th September 2014 Ref: W0260-01

Eve O'Sullivan
Programme Officer
Environmental Licensing Programme
Office of Climate, Licensing and Resource Use
EPA
Headquaters, PO Box 3000
Johnstown Castle Estate
Co. Wexford

Re: Notification under Section 42(II)(e)(i) of the Waste Management Act 1996, as amended.

A Chara,

I refer to your notification in this regard received by email on the 23rd of September 2014.

Kilkenny Planning Authority has no observations to make on the Environmental Impact Statement as requested. We do however draw your attention to condition 4 of permission 06/1772, which reads as follows:

3. *Within 3 months of the date of Grant of Permission, the Developer shall submit to and agree with the Planning Authority an expert comprehensive "Quarry Closure Plan" addressing the complete site of this registration. The Quarry Closure Plan shall address in detail the reinstatement, remediation and rehabilitation (including landscaping) of the complete site such as to restore the site to a beneficial use. The Plan shall also address:*
   - *an implementation programme, with an emphasis on early completion of rehabilitation works where feasible on a phased basis,*
   - *a detailed itemised schedule of costs, certified by an independent person with appropriate expertise, of all individual works of the Quarry Closure Plan.*
   - *long-term proposals including financial for the ongoing continued maintenance of the closed-out quarry*

   Subsequently the Quarry Closure Plan shall be subject to review and agreement with the Planning Authority at not greater than 5 yearly intervals.

   ***Reason**: To ensure satisfactory reinstatement and rehabilitation of the development.*

The Planning Authority has no record of compliance with the above condition, which puts the applicant in breach of their planning permission. The drawings submitted with the application shows the site to be restored level to the adjacent lands.

Guthán/Telephone: 056 7794000 Faics/Fax: 056 7794004
R-post/Email: info@kilkennycoco.ie Gréasán/Webpage: www.kilkennycoco.ie

In future please address all correspondence to:

Senior Executive Officer
Planning Section
Kilkenny County Council
County Hall
John Street
Kilkenny

Mise le meas,

A.M. Walsh
Senior Executive Officer

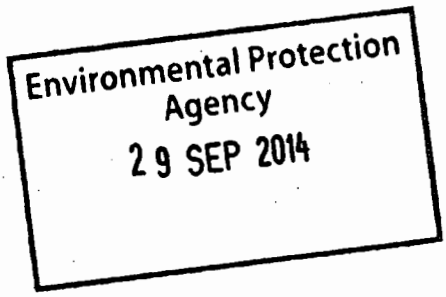
Comhairle Chontae Chill Chainnigh
Halla an Chontae Sraid Eoin Cill Chainnigh

Kilkenny County Council
County Hall John Street Kilkenny

Fónamh don Phobal - Caomhnú don Oidhreacht

Serving People - Preserving Heritage

Eve O'Sullivan
Programme Officer
Environmental Licensing Programme
Office of Climate, Licensing & Resource Use.
Environmental protection Agency
Headquarters
PO Box 3000
Johnstown Castle Estate
County Wexford



24/09/2014

Re:- Notification under Section 42(II)(e)(i) of the Waste Management Act 1996, as amended.

Reg No. W0260-01

Dear Ms O'Sullivan

Further to my phone call conversation with Caroline Murphy 16th September 2014, and further email requests for information relating to CHI Environmental Ltd, Reg no. W0260-01, please find below response by the Environment Section of Kilkenny County Council to queries raised.

Query 1-	Has all the C&D waste brought in to site to-date gone to ground or has the facility been selling secondary aggregate since 2004?
Ans :-	Not all material was infilled, small portion of material was reprocessed for sale. The reprocessing of material for sale grew over the years.
Query 2-	How much has been filled at the facility to-date (I tried to work this out but I'm not sure if all quantities received went to ground)?
Ans	KCC sent all WFP AR's to the EPA as requested. Waste reported as infilled marked as R10 Land spreading, waste reported to KCC as recovered is marked as R4 recycling or reclamation or inorganic materials , .
Query 3	Do you know how much of the void is left to fill i.e. how much tonnage is required to complete the restoration? –
Ans:-	KCC does not have this information.
Query 4	I need to confirm with the applicant but the drawing below is the proposed licence area. Does it look like this area covers the entire site?
Ans:-	Yes to the best of our knowledge.
Query 5	Is the historic landfill within the proposed waste licensed site boundary? It looks as though it's under the C&D concrete area?
Ans:-	Yes, I attach a map showing the approximate area of the historical landfill (hatched). It is important to note that the extent of the landfill is estimated and has not been confirmed with intrusive site works.

Guthán/Telephone: 056 7794000 Faics/Fax: 056 7794004
R-post/Email: info@kilkennycoco.ie Gréasán/Webpage:www.kilkennycoco.ie

Comhairle Chontae Chill Chainnigh | **Kilkenny County Council**

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Query 6	Am I right in saying that currently all rainwater runs off the concrete areas to ground (except the quarantine area)? It's not currently channelled in a specific direction is it?
Ans:-	Unknown.
Query 7	It is a "closed" landfill as defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 S.I. No. 524 of 2008?
Ans:-	Yes
Query 8:-	Condition 5.15 of WMP 23D/2007 states that infilling wasn't to occur on a specific area of this site pending the outcome of an Environmental Risk Assessment. Was this risk assessment connected to the historic landfill? If it was would you mind sending me a copy of the risk assessment?
Ans:-	Yes. Attached
Query 9:-	Has CHI Environmental Ltd been convicted of any offence relating to Section 40(7)(a) of the Waste Management Act 1996 as amended?
Ans:-	No
Query 10	Do you have any comment in relation to CHI Environmental Ltd being assessed as a Fit and Proper Person in accordance with Section 40(7) of the Waste Management Act 1996, as amended?
Ans:-	No
Query 11:-	What is the compliance history of this facility?
Ans:-	The site has been permitted with Kilkenny County Council since 2004, during which time we have not noted any breach of waste permit conditions.

Mise le meas.

Maeve Good
A/Executive Engineer
Environment
Kilkenny County Council
056 7794486

TIER 1 RISK ASSESSMENT

For

Landfill Site,
Granny Quarry,
Granny,
Co. Kilkenny.

Class C – Low Risk Site

Prepared in accordance with the EPA's Code of Practice for Environmental Risk Assessment for Unregulated Waste Disposal Sites.

Prepared by: Michael Nugent
Environment Section
Kilkenny County Council

08/01/2010

Contents

SUMMARY

Introduction

Granny Landfill is located at Granny, Co. Kilkenny at coordinates X: 258004, Y: 114913 off the N24 road from Waterford to Clonmel. The site was used by Kilkenny County Council for the disposal of municipal waste and was closed in 1995. The site was capped by Kilkenny County Council upon its closure. The site is owned by Robert Murphy, who currently uses the site as a yard for his inert waste recovery facility. The site was previously subject to a waste facility permit ref: WMP23/2007 for the recovery of inert C&D wastes, and is currently in the application process for an EPA license Reg. no: W0260-01

Walkover

A site walkover confirmed that the site is currently used as a yard in a waste permitted C&D facility. The surrounding lands are used for agricultural purposes, there is a new road being built to the North of the site. The nearest house is 110m south east of the site. I did not confirm the presence of a well but I assume there is for the purpose of this assessment.

There are no visible sources of contamination at the site. There are no associated outfalls to surface water. There are no visible signs of impact on the environment.

The site has been capped, and is secure.

Desk study

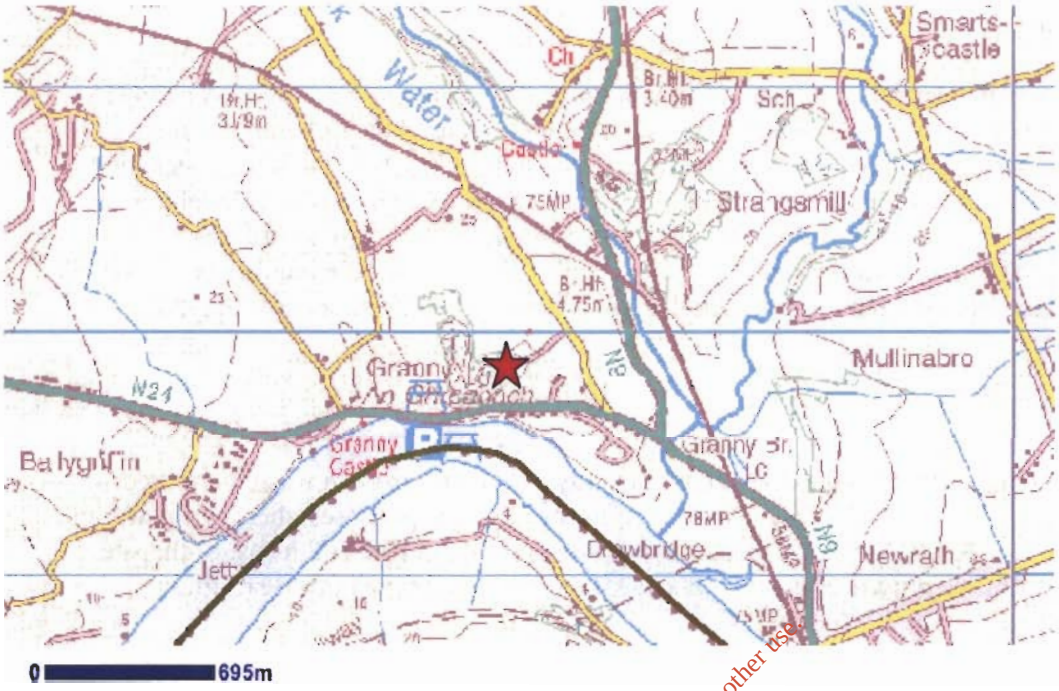
The nearest surface water feature is the river Suir which is located 225m to the south of the site. This river is also an SAC. The local public water supplies are located in Mooncoin (3.8km) and Kilmacow (1.2km). The waste permit facility site office is located 56m from the site.

The underlying aquifer is bedrock which is moderately productive only in local zones. The groundwater vulnerability is assumed to be extreme as the site was previously a quarry – it is presumed that the waste deposited is in contact with the ground water. The subsoil in the area is described as rock – which indicates that there is a thin layer of soil covering the underlying rock ≤ 3m. The site topography is gently sloping away in all directions.

As indicated in the conceptual model the possible receptors of leachate at highest risk are a well, the underlying aquifer, the river and the SAC. The possible landfill gas receptor at highest risk is the waste permit facility site office.

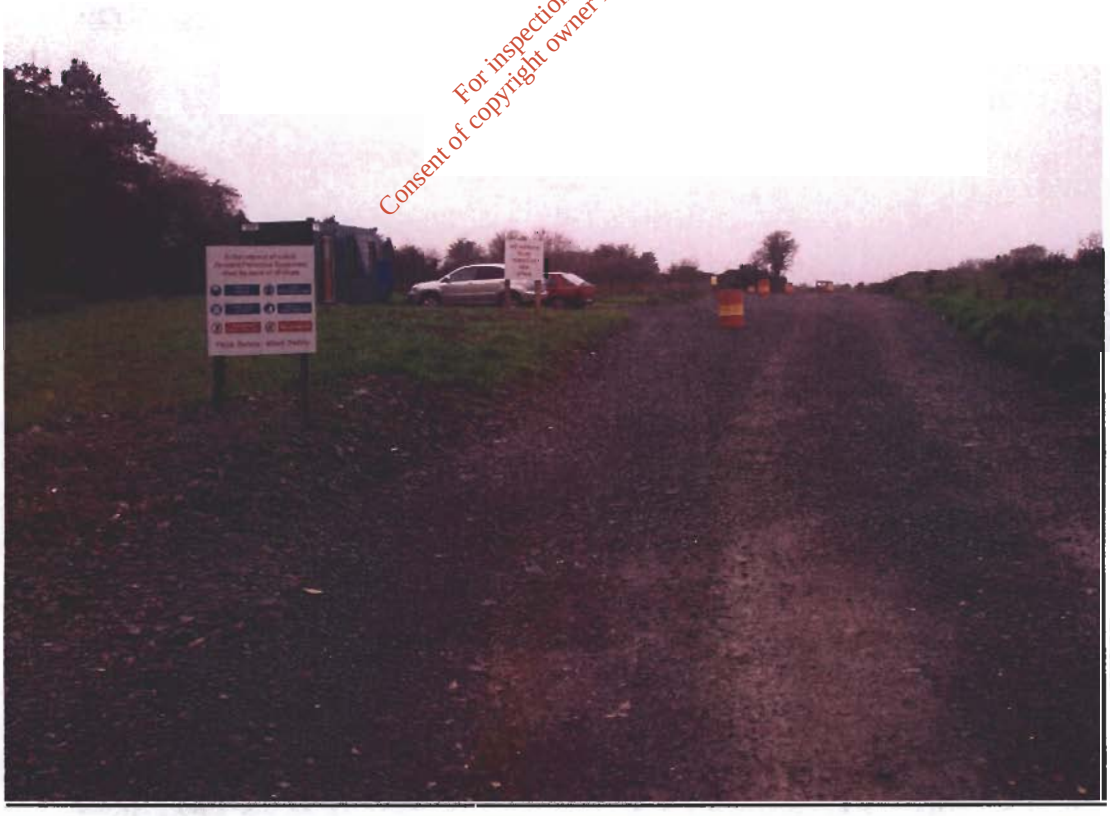
The source-pathway-receptor, SPR, linkages are shown in the network diagrams attached.

MAP

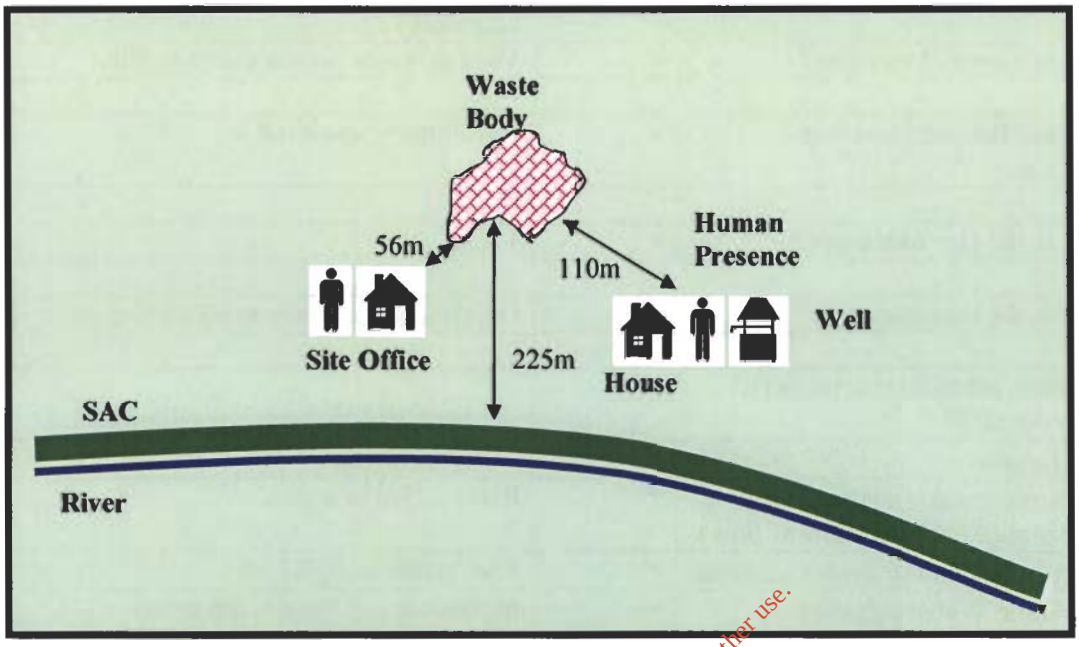


Map Data Based on Ordnance Survey of Ireland Map, License No. Kilkenny CCMA 03-07

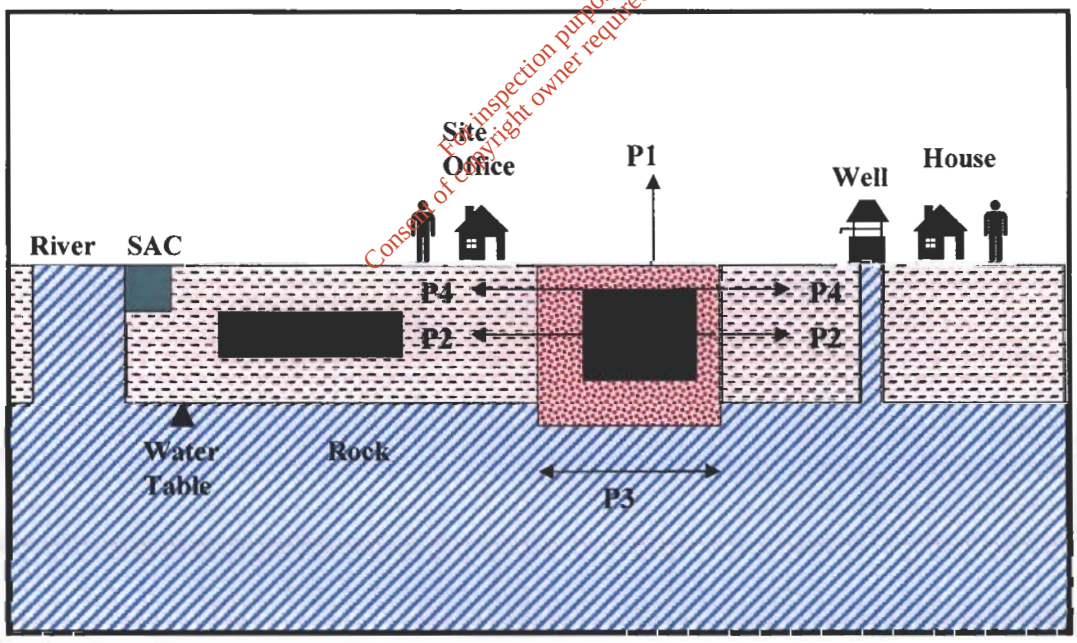
PHOTOGRAPHS



CONCEPTUAL MODEL



Plan



Cross Section

P1 – Landfill Gas
P2 – Leachate Migration – unsaturated zone
P3 – Leachate Migration – saturated zone
P4 – Landfill Gas Migration.

WALKOVER SURVEY CHECKLIST

Information	**Checked**	**Comment** (include distances from site boundary)
1. What is current Land Use?	✓	Yard in waste permit C&D facility
2. What are the neighbouring Land Uses?	✓	Agriculture/new road
3. What is the size of the site?	✓	1.2 ha
4. What is the topography?	✓	Gently sloping away in all directions
5. Are there potential receptors (if yes, give details)?	✓	
• Houses	✓	110m from site
• Surface water features (if yes, distance and direction of flow)	✓	River 225m to south
• Any wetland or protected areas	✓	SAC (river Suir) 225m
• Public Water Supplies	✓	Mooncoin – 3.8km; Kilmacow 1.2km(upstream)
• Private Wells	✓	House 110m from site
• Services	✓	Water main 110m from site
• Other buildings	✓	Site office 56m from site
• Other	✓	
6. Are there any potential sources of contamination (if yes, give details)?	✓	
• Surface waste (if yes, type?)	✓	No
• Surface ponding of leachate	✓	No
• Leachate seepage	✓	No
• Landfill gas odours	✓	No
7. Are there any outfalls to surface water? (If yes, are there discharges and what is the nature of the discharge?)	✓	No
8. Are there any signs of impact on the environment? (If yes, take photographic evidence)	✓	No
• Vegetation die off, bare ground	✓	No
• Leachate seepages	✓	No
• Odours	✓	No
• Litter	✓	No

Information	**Checked**	**Comment** (include distances from site boundary)
• Gas bubbling through water	✓	No
• Signs of settlement, subsidence, water logged areas	✓	No
• Drainage or hydraulic issues	✓	No
• Downstream water quality appears poorer than upstream water quality	✓	Not tested
9. Are there any indications of remedial measures? (Provide details)	✓	
• Capping	✓	Capped with subsoil.
• Landfill gas collection	✓	No
• Leachate collection	✓	No
10. Describe fences and security features (if any)	✓	Site secure
Any other relevant information?		

AQUIFER

Map Data Based on Ordnance Survey of Ireland Map, Licence No. Kilkenny CCMA 03-07

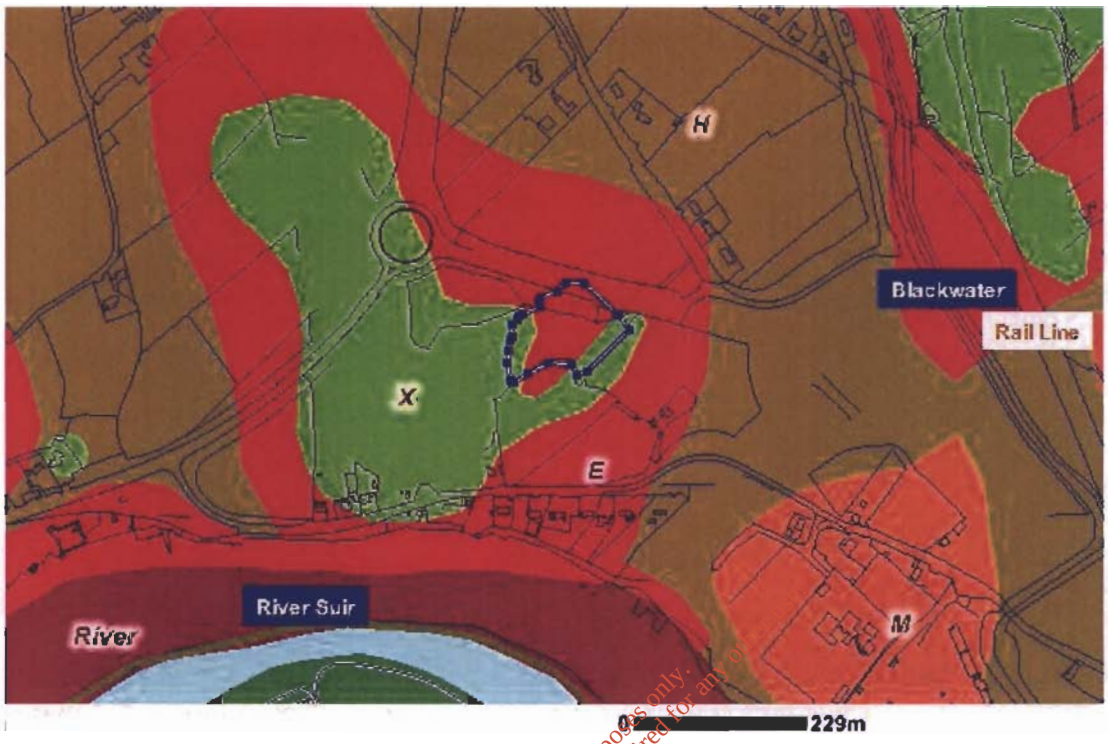
Aquifer type – Ll – Bedrock is moderately productive only in local zones.

SUBSOIL

Map Data Based on Ordnance Survey of Ireland Map, License No. Kilkenny CCMA 03-07

Rock – Rock close to surface

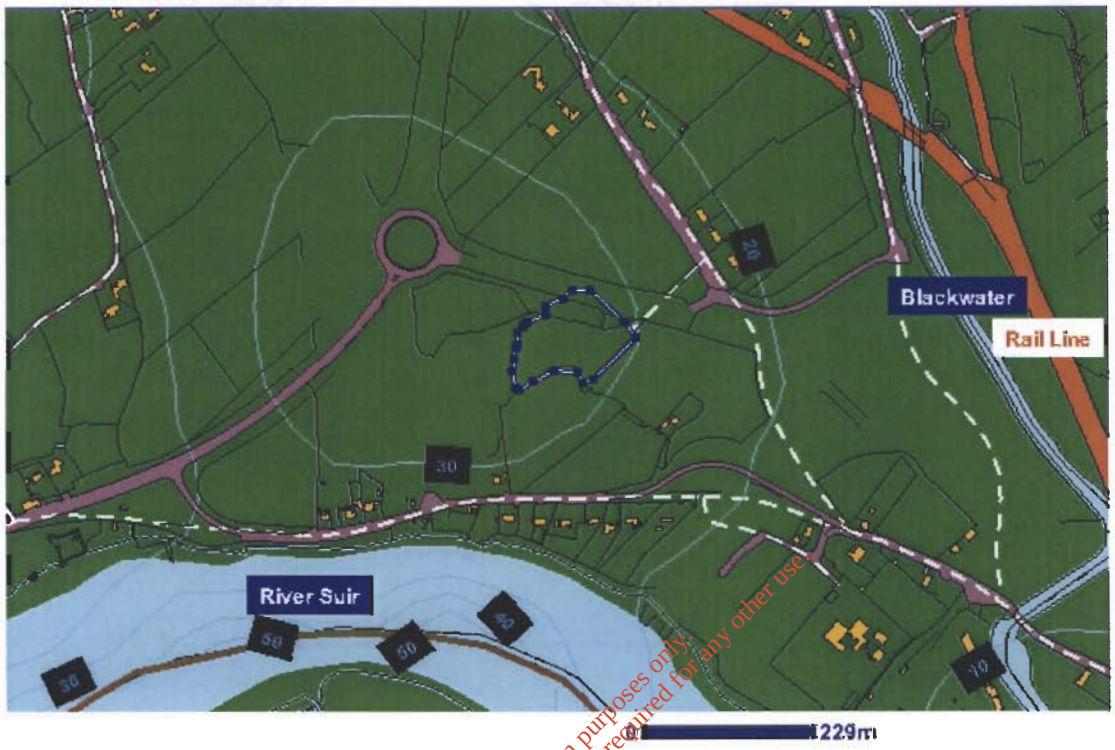
GROUNDWATER VULNERABILITY



Map Data Based on Ordnance Survey of Ireland Map, License No. Kilkenny CCMA 03-07

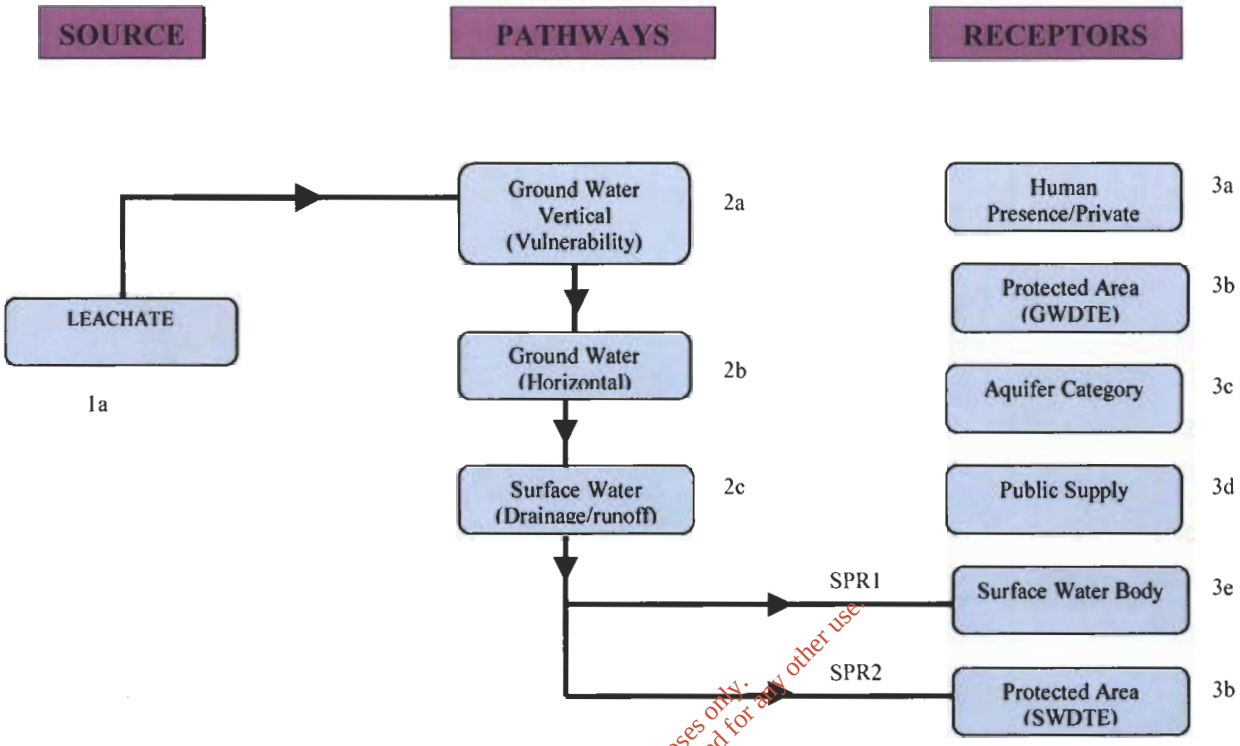
Vulnerability – Extreme – always extreme when quarry concerned

HEIGHT CONTOURS



Map Data Based on Ordnance Survey of Ireland Map, License No. Kilkenny CCMA 03-07

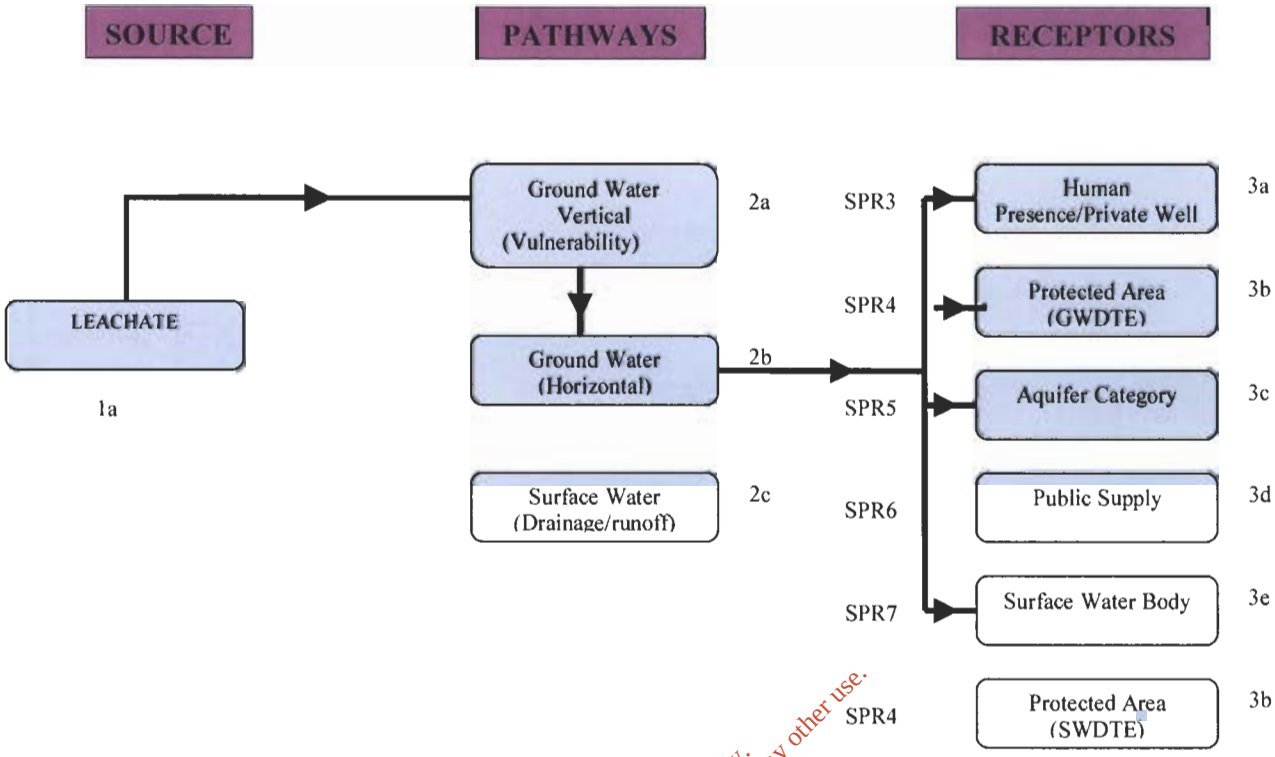
Site gently sloping away in all directions.



Network Diagram for Leachate Migration through combined groundwater and surface water pathways

SPR 1: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and discharges to a local drainage system which drains to a surface water body. No adjacent drainage ditch but possibility of connection to local drainage ditch assumed.

SPR 2: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and discharges to a local drainage system which drains to a protected area. No adjacent drainage ditch but possibility of connection to local drainage ditch assumed.



Network Diagram for Leachate Migration through groundwater pathways

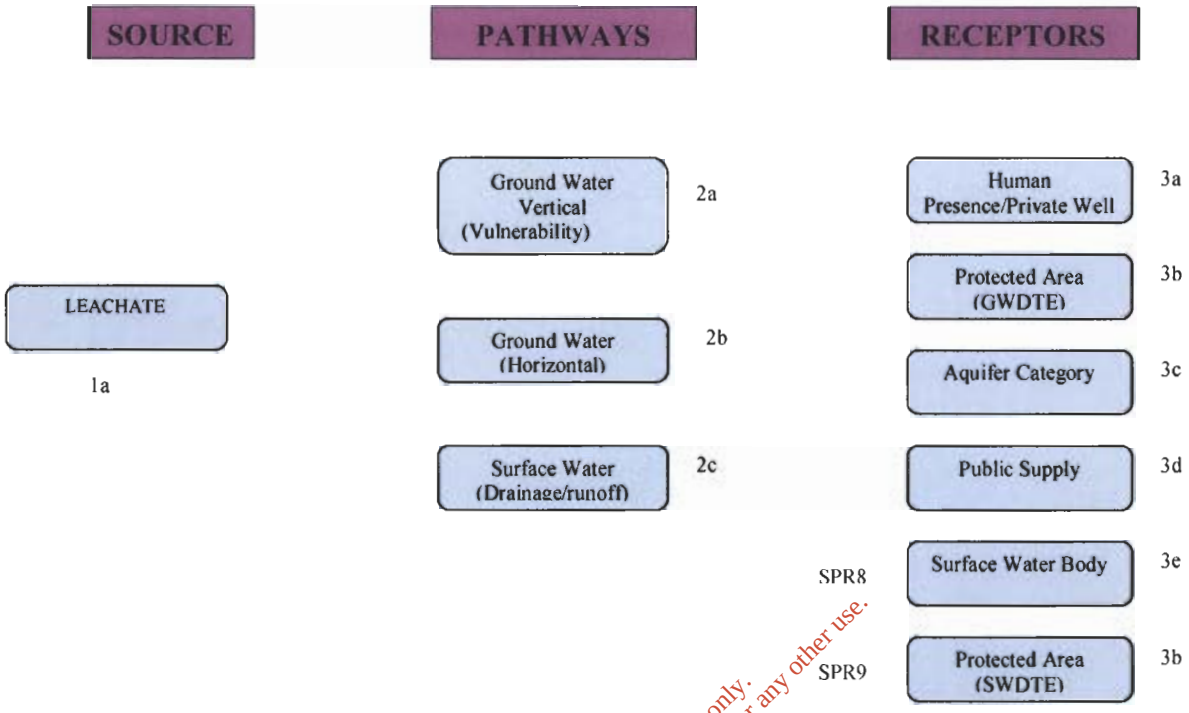
SPR 3: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and enters a private well. Possibility of private well at private dwelling 10m from waste body.

SPR 4: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and enters a protected area. There is an SAC 225m from the waste body.

SPR 5: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally depending on the aquifer category. Aquifer is moderately productive in local zone.

SPR 6: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and enters a public water supply. Not applicable here as the public water supply is greater than a kilometre away and the aquifer is not karst.

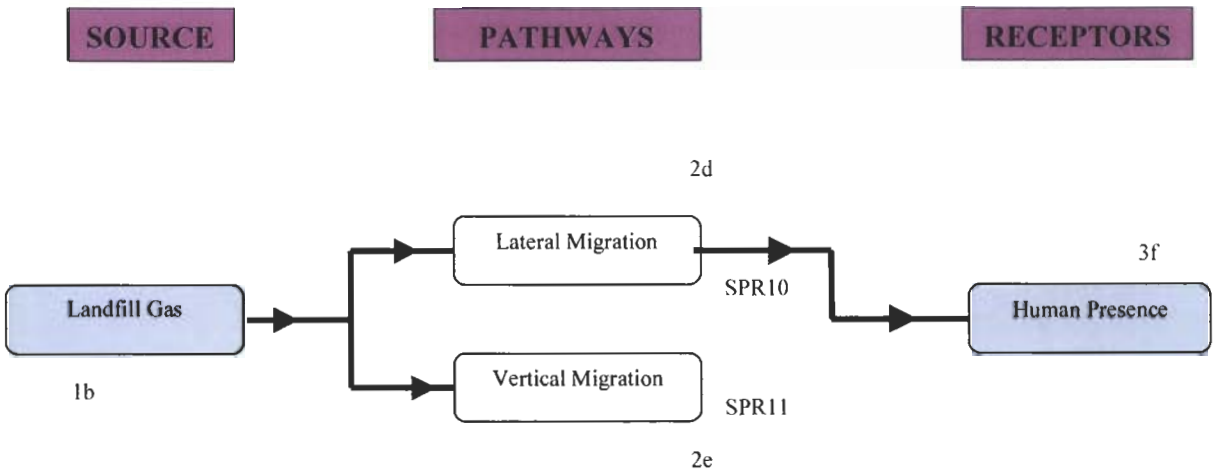
SPR 7: Leachate migrates downwards through the subsoil into the aquifer, where it then migrates horizontally and enters a surface water body. River Suir 225m from waste body.



Network Diagram for Leachate Migration through surface water pathways

SPR 8: Leachate or surface water runoff from the waste enters surface water drainage directly from where it enters a surface water body. (not associated with groundwater flow). Not applicable in this case as there is no surface water drainage connected to the waste body.

SPR 9: Leachate or surface water runoff from the waste enters surface water drainage directly from where it enters a protected area. (not associated with groundwater flow). Not applicable in this case as there is no surface water drainage connected to the waste body.



Network Diagram for Landfill Gas Migration (Lateral and Vertical)

SPR 10: Landfill Gas migrates laterally through the subsoil or bedrock and enters a receptor,building. There is a site office 56m from the waste body.

SPR 11: Landfill gas rises vertically and enters a receptor, building, on the waste body. Not applicable in this case.

RISK SCORING MATRICES

Source

Table 1a: LEACHATE: SOURCE/HAZARD SCORING MATRIX

WASTE TYPE	WASTE FOOTPRINT (ha)		
	≤ 1 ha	> 1 ≤ 5 ha	> 5 ha
C&D[20]	0.5	1	1.5
Municipal[21]	5	7	10
Industrial[22]	5	7	10
Pre 1977 sites[23]	1	2	3
		MAX	10

Table 1b: LANDFILL GAS: SOURCE/HAZARD SCORING MATRIX

WASTE TYPE	WASTE FOOTPRINT (ha)		
	≤ 1 ha	> 1 ≤ 5 ha	> 5 ha
C&D[20]	0.5	0.75	1
Municipal[21]	5	7	10
Industrial[22]	3	5	7
Pre 1977 sites[23]	0.5	0.75	1
		MAX	10

Pathways

Table 2a: LEACHATE MIGRATION: *PATHWAYS*

Parameters	Points available
GROUNDWATER VULNERABILITY (Vertical pathway)	
Extreme Vulnerability	3
High Vulnerability	2
Moderate Vulnerability	1
Low Vulnerability	0.5
High – Low Vulnerability	2

Table 2b: LEACHATE MIGRATION: *PATHWAYS*

Parameters	Points available
GROUNDWATER FLOW REGIME (Horizontal pathway)	
Karstified Groundwater Bodies (Rk)[25]	5
Productive Fissured Bedrock Groundwater Bodies (Rf and Lm)[25]	3
Gravel Groundwater Bodies (Rg and Lg)[25]	2
Poorly Productive Bedrock Groundwater Bodies (Ll, Pl, Pu)[25]	1

Rk Regionally Important Karstified Aquifers
Rf Regionally Important Fissured Bedrock Aquifers
Rg Regionally Important Extensive Sand/Gravel Aquifers
Ll Locally Important Sand/Gravel Aquifers
Lm Locally Important Bedrock Aquifers - Generally Moderately Productive
Lg Locally Important Bedrock Aquifers - Moderately Productive only in Local Zones
Pl Poor Bedrock Aquifers – Generally Unproductive except for Local Zones
Pu Poor Bedrock Aquifers – Generally Unproductive

Table 2c: LEACHATE MIGRATION: *PATHWAYS*

Parameters	Points available
SURFACE WATER DRAINAGE[28] (surface water pathway)	
Is there a direct connection between drainage ditches associated with the waste body and adjacent surface water body? Yes	2
If no direct connection	0

Table 2d: LANDFILL GAS: PATHWAY assuming receptor within 250m of source

Parameters	Points available
LANDFILL GAS LATERAL MIGRATION POTENTIAL	
Sand and Gravel, Made ground, urban, karst	3
Bedrock	2
All other Tills (including limestone, sandstone etc – moderate permeability)	1.5
All Namurian or Irish Sea Tills (low permeability)	1
Clay, Alluvium, Peat	1

Table 2e: LANDFILL GAS: PATHWAY assuming receptor located above source.

Parameters	Points available
LANDFILL GAS VERTICAL (UPWARDS) MIGRATION POTENTIAL	
Sand and Gravel, Made ground, urban, karst	5
Bedrock	3
All other Tills (including limestone, sandstone etc – moderate permeability)	2
All Namurian or Irish Sea Tills (low permeability)	1
Clay, Alluvium, Peat	1

Receptors

Table 3a: LEACHATE MIGRATION: *RECEPTORS*

Parameters	Points available
HUMAN PRESENCE (presence of a house indicates potential private wells)	
On or within 50m of the waste body	3
Greater than 50m but less than 250m of the waste body	2
Greater than 250m but less than 1km of the waste body	1
Greater than 1 km of the waste body	0

Table 3b: LEACHATE MIGRATION: *RECEPTORS*

Parameters	Points available
PROTECTED AREAS (SWDTE or GWDTE)	
Within 50m of the waste body	3
Greater than 50m but less than 250m of the waste body	2
Greater than 250m but less than 1km of waste body	1

Greater than 1 km of the waste body	0
Undesignated sites[27] within 50m of site of the waste body	1
Undesignated sites[27] greater than 50m but less than 250m of the waste body	0.5
Undesignated sites[27] greater than 250m of the waste body	0

Table 3c: LEACHATE MIGRATION: *RECEPTORS*

Parameters	Points available
AQUIFER CATEGORY [28](resource potential)	
Regionally Important Aquifers (Rk, Rf, Rg)	5
Locally Important Aquifers (Ll, Lm, Lg)	3
Poor Aquifers (Pl, Pu)	1

Rk Regionally Important Karstified Aquifers
Rf Regionally Important Fissured Bedrock Aquifers
Rg Regionally Important Extensive Sand/Gravel Aquifers
Ll Locally Important Sand/Gravel Aquifers
Lm Locally Important Bedrock Aquifers - Generally Moderately Productive
Lg Locally Important Bedrock Aquifers - Moderately Productive only in Local Zones
Pl Poor Bedrock Aquifers – Generally Unproductive except for Local Zones
Pu Poor Bedrock Aquifers – Generally Unproductive

Table 3d: LEACHATE MIGRATION: *RECEPTORS*

PUBLIC WATER SUPPLIES (other than private wells)	
Within 100m of site boundary	7
Greater than 100m but less than 300m or within Inner SPA (SI) for GW supplies	5
Greater than 300m but less than 1km or within Outer SPA (SO) for GW supplies	3
Greater than 1km (karst aquifer)	3
Greater than 1km (no karst aquifer)	0

Table 3e: LEACHATE MIGRATION: *RECEPTORS*

Parameters	Points available
SURFACE WATER BODIES	
Within 50m of site boundary	3
Greater than 50m but less than 250m	2
Greater than 250m but less than 1km	1
Greater than 1km	0

Table 3f: LANDFILL GAS: *RECEPTOR*

Parameters	Points available
HUMAN PRESENCE	
On site or within 50m of site boundary	5
Greater than 50m but less than 150m	3
Greater than 150m but less than 250m	1
Greater than 250m	0.5

RISK SCREENING

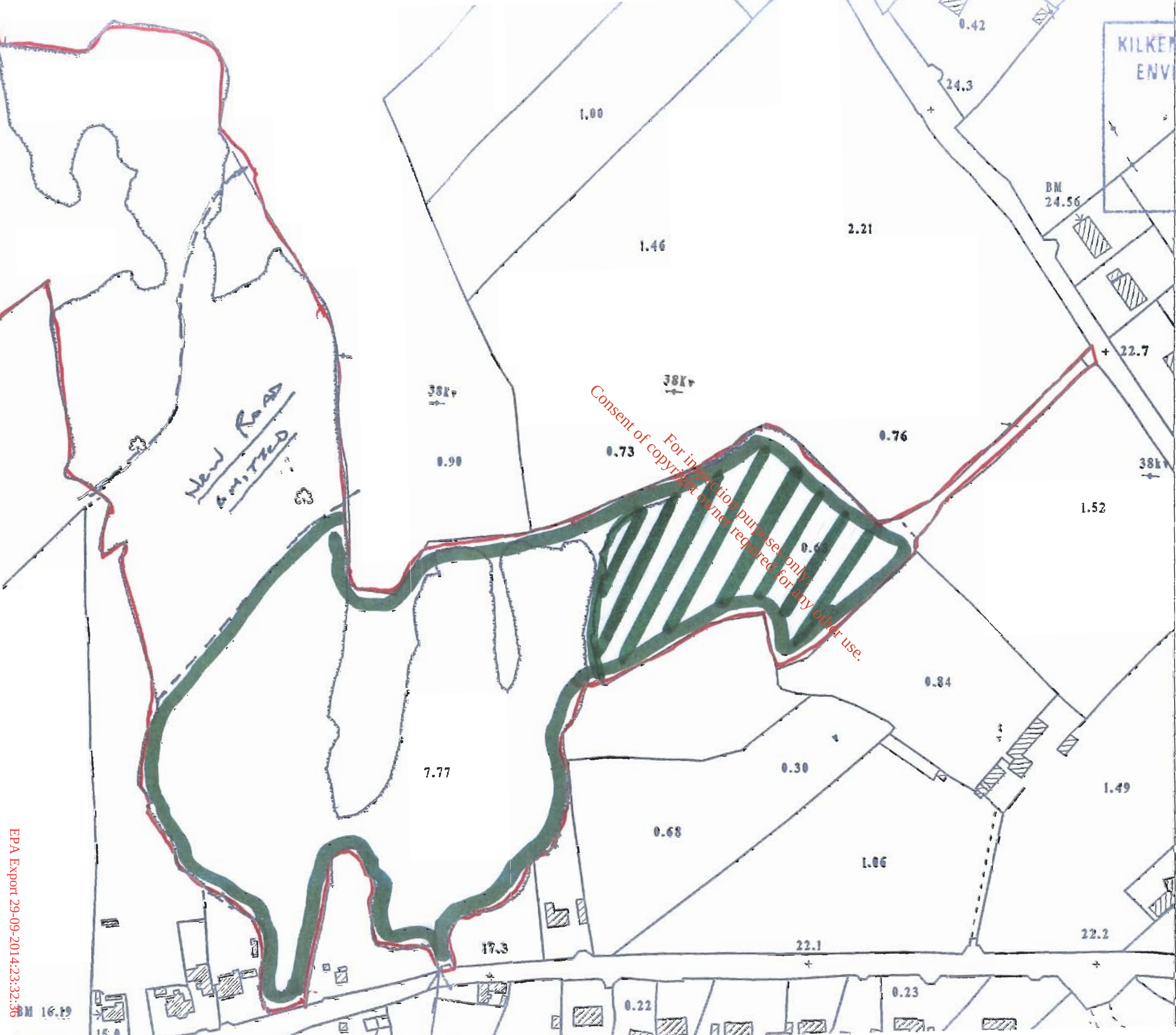
SITE: Granny Quarry

RISK: Class C, Low Risk

TABLE		SCORE	RATIONALE
Source			
Leachate Hazard	1a	7	1.2 ha, municipal waste
Landfill Gas Hazard	1b	7	1.2 ha
Pathways			
Leachate Migration – Ground Water Vulnerability	2a	3	Extreme Vulnerability
Leachate Migration – Ground Water Flow Regime	2b	1	Ll – bedrock moderately productive, local
Leachate Migration – Surface Water Drainage	2c	0	No direct connection
Landfill Gas – Lateral Migration	2d	2	House 110m from body - bedrock
Landfill Gas – Vertical Migration	2e	0	No receptor located above source.
Receptors			
Leachate Migration – Human Presence	3a	2	House within 250m of site
Leachate Migration – Protected Areas	3b	2	SAC (river Suir) within 250m of waste body
Leachate Migration – Aquifer Category	3c	3	Ll – Aquifer moderately productive in local zone
Leachate Migration – Public Water Supplies	3d	0	Public water supplies greater than 1km – no karst aquifer
Leachate Migration – Surface Water Bodies	3e	2	Surface water body less than 250m
Landfill Gas – Human Presence	3f	3	Site offices less than 150m from site

SPR LINKAGE SCORE			MAX LINKAGE SCORE	NORMALISED SCORE
SPR 1	1a X (2a + 2b + 2c) X 3e *7(3+1+0)2*	56	300	18.67%
SPR 2	1a X (2a + 2b + 2c) X 3b (SWDTE) *7(3+1+0)2*	56	300	18.67%
SPR 3	1a X (2a + 2b) X 3a *7(3+1)2*	56	240	23.33%
SPR 4	1a X (2a + 2b) X 3b *7(3+1)2*	56	240	23.33%
SPR 5	1a X (2a + 2b) X 3c *7(3+1)3*	84	400	21%
SPR 6	1a X (2a + 2b) X 3d *7(3+1)0*	0	560	0%
SPR 7	1a X (2a + 2b) X 3e *7(3+1)2*	56	240	23.33%
SPR 8	1a X 2c X 3e *7(0)2*	0	60	0%
SPR 9	1a X 2c X 3b (SWDTE) *7(0)2*	0	60	0%
SPR 10	1b X 2d X 3f *7(2)3*	42	150	28%
SPR 11	1b X 2e X 3f *7(0)3*	0	250	0%

This site scored a maximum linkage score of 28%. This classifies the site as Class C Low Risk.



MAP SCALES

1:2500

5565-C 5565-D
5631-A 5631-B

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25 Barronstrand street, Waterford City.
On behalf of Ordnance Survey Ireland