ATTACHMENTS IN SUPPORT OF

A WASTE LICENCE REVIEW APPLICATION

(Ref W0029-02)

FOR THE INTENSIFICATION OF

DERRYCLURE LANDFILL

ORIGINAL

Prepared for:

Offaly County Council
Charleville Road
Tullamore
Co. Offaly

Prepared by:

Fehily Timoney & Company
Core House
Pouladuff raod
Cork

November 2008

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User is Responsible for Checking The Revision Status Of This Document

Rev. Nr.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
0	Issue to Client	CQC	ME		12.11.08

Client: Offaly County Council.

Keywords: Waste licence application, review, landfill, management, environmental aspects, monitoring, emissions

Abstract: This document contains the attachments to the application for a review of a waste licence for the intensification of waste acceptance at Derryclure Landfill, from 40,000 tonnes to 100,000 tonnes of waste per annum. The applicant is Offaly County Council.

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LIST OF DRAWINGS

CE07-286-01-001 – Land Ownership Plan
CE07-286-01-002 – Site Location Plan
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CE07-286-01-006 – Emission Point Drawing
CE07-286-01-007 – Proposed Monitoring Location Map

ATTACHMENT A - NON TECHNICAL SUMMARY

This non-technical summary has been prepared in accordance with Article 12(1)(u) of the Waste Management (Licensing) Regulations S.I. 395 of 2004. Sub-articles (a) to (t) of Article 12 are addressed below.

For clarity, the paragraph numbering is in accordance with the numbering of Article 12(1) (a) to (t).

Article 12(1)

(a) General Details

Offaly County Council,
Aras an Chontae,
Charleville Road,
Tullamore,
Co. Offaly.

Tel.: (057) 93 46800
Fax: (057) 93 46868

(b) Planning Authority

The development is in the functional area of Offaly County Council. However, in accordance with the Strategic Infrastructure Act 2006, Offaly County Council has applied to An Bord Pleanála for consent.

(c) Sanitary Authority

The development is currently not connected to a sewer. All foul sewerage is discharged to a holding tank onsite and then transported to Tullamore Waste Water Treatment plant. This plant is in the functional area of:

Offaly County Council,
Áras an Chontae,
Charleville Road,
Tullamore,
Co. Offaly.

Tel: (057) 93 46890
Fax: (057) 93 29231

(d) Location

The facility is located in the townlands of Derryclure and Killeigh, approximately 5 km south of Tullamore, Co Offaly. The National Grid reference for the site is:

E 2355 N 2204

CE07-286-01-002 shows the location of the site.

(e) Nature of the Development

The layout of the facility is indicated on Drawing CE07-286-01-Fig 2.3

Derryclure landfill is in operation since 1977 and consists of an unlined cell which is based on the 'dilute and disperse' principle and more recently fully engineered landfill cells. The site itself occupies a total area of 29.6 ha. At the current permissible annual intake (40,000 tpa), the remaining lifetime of the landfill is approximately 24 years.

The site was initially licensed by the EPA in November 1999. A licence review was granted by the EPA in 2003 allowing the development of an additional nine lined landfill cells. The first of these was constructed in 2006, with landfilling to this cell commencing in late 2006. This coincided with closure of the unlined cell which was capped in 2008.

Existing infrastructure at the site includes:

- Unlined cell (70,000 m^2)
- Lined cells (27,500 m^2)
- Administration office and welfare facilities
- Weighbridge and weighbridge office
- Landfill gas management system
- Leachate management system
- Surface water management system
- Civic amenity facility

The purpose of this review application is for the:

- Intensification of landfilling activities from 40,000 tonnes per annum to 100,000 tonnes per annum
- Extension of the hours of operation at the facility:

Proposed Hours of Operation

Staff will be on site for set up/clean up, a half an hour prior to and after waste acceptance:

- Hours of operation of the landfill – 07:00 to 19:30 Monday to Friday inclusive and 8.00 to 18.00 on Saturdays.

Proposed hours of Waste Acceptance/Handling at the Landfill Facility

Hours of waste acceptance at the facility – 07:30 to 19.00 Monday to Friday inclusive, and 8.30 to 17.30 on Saturday

The facility will be closed on Sundays and Bank Holidays.

Proposed hours of Waste Acceptance/Handling at the Civic Amenity

- Hours of waste acceptance of the civic amenity – 08:00 to 18:00 Monday to Friday inclusive and 08:30 to 17.30 on Saturdays.

It should be noted that no additional physical development will be required as part of the proposed development. The intensification of landfilling activities will take place in cells which are permitted under the current waste licence (WL029-02).

It is estimated that the proposed development will generate a total of 195 vehicles per day of which 52 will be truck movements.

(f) Class of Activity

In accordance with the Third and Fourth Schedules of the Waste Management Acts, 1996 to 2003, it is proposed to carry out the following classes of activity at the facility (See tables 1 and 2 overleaf).

Table 1: Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003

Class 1.	**Deposit on, in or under land (including landfill):** This activity is limited to the deposit of non-hazardous wastes in lined cells that are on, in and under land.
Class 4.	**Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:** This activity is limited to the storage of leachate in lagoons or tanks.
Class 5	**Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment:** This activity is limited to the placement of waste into lined cells and the flaring/utilisation of landfill gas.
Class 7	**Physico-chemical treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 8 to 10 of this Schedule (including evaporation, drying and calcination):** This activity is limited to the stripping of methane from leachate stored at the facility, which may be deployed at the facility in the future.
Class 11	**Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule:** This activity is limited to the mixing of waste types to be used in the restoration of the facility.
Class 13	**Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced:** This activity is limited to the temporary storage on-site of unacceptable waste in the waste quarantine area prior to transport to another site.

Table 2: Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Act 1996 to 2003

Class 2	**Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):** This activity is limited to the composting of biodegradable waste at the onsite civic amenity
Class 3	**Recycling or reclamation of metals and metal compounds:** This activity is limited to the collection and storage of metals at the civic amenity facility.
Class 4	**Recycling or reclamation of other inorganic materials:** This activity is limited to the collection of waste at the civic amenity facility and for the storage/use of inert waste for the restoration of the facility or in the construction of onsite infrastructure.
Class 9	**Use of any waste principally as a fuel or other means to generate energy:** This activity is limited to the potential collection of landfill gas, flaring and possible utilisation to generate electricity at the facility.
Class 13	**Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:** This activity is limited to the collection and storage of recyclable and reusable wastes at the facility prior to their use on-site or their removal off-site for recycling/recovery.

Class 5 of the Third Schedule will be the principal activity at the site.

(g) Quantity and Nature of Waste (EWC Code)

A total of 100,000 tonnes per annum of waste is proposed to be deposited at the landfill site. The proposed quantities for each waste are given below.

Waste Type	Quantity
Household	45,500
Commercial	39,500
Treated Municipal Sludge	2,000
Construction & Demolition Waste	2,000
Industrial Non- Hazardous Solids	11,000
Total	100,000

(h) Raw Materials

The facility currently uses materials, substances, fuels and energy during the day-to-day operations of the landfill and civic amenity area. Construction materials will be used in phased development of landfill cells, capping of cells and the overall restoration of the site.

The following are estimates for the annual consumption of material and energy on-site:

Diesel oil	c. 209,000 litres per annum
Machinery Hydraulic Oil	c. 680 L
Machinery Engine Oil	c. 420 L
Electricity	20,000 kWh per annum
Water	9,800 m^3 per annum
Vermin Pesticides	c. 25 kgs
Top Soil (Daily Cover)	72,000 tonnes

(i) Plant, Processes and Operating Procedures

The main operations at the development are:

- Landfilling operations
- Civic amenity operation

Each of these is described in turn.

Landfill Operation

Only non-hazardous waste from permitted haulers is accepted for landfilling. Details of all wastes accepted (type, nature, weight, origin etc) at the site are recorded by the weighbridge operator and directed to the appropriate location on site. The waste is inspected at the weighbridge and again at the tipping area. All waste deemed unsuitable or not in compliance with the waste licence for the site is sent off-site to an appropriate facility. These procedures will continue to be implemented during the proposed intensification of landfilling activities at the site.

Waste is landfilled using a number of plant/machines including compactors, excavators and dumpers.

Development at the landfill which includes the construction, filling and capping and restoration of the cells will be carried out on a phased basis.

The intensification of landfilling activities from 40,000 tonnes per annum to 100,000 tonnes per annum will result in a reduction in the life span of the landfill by 14.5 years. It is anticipated that filling activities will have ceased at the site by 2018.

Civic Amenity Operations

Construction of the new civic amenity was completed in the second quarter of 2008. This facility is now fully operational and being operated by Greyhound Recycling and Recovery. The new civic amenity provides for collection of the following:

- Paper and cardboard
- Plastics
- Tin and aluminum cans
- Glass
- Household hazardous waste (e.g. batteries, paint, oil)
- Waste electronic and electrical equipment (WEEE)
- Residual Waste
- Timber
- Green Waste
- Tyres

In 2007, a total of 1,200 tonnes of recyclable materials was accepted at the civic amenity.

(j) Regarding Paragraphs (a) to (g) of section 40 (4) of the Waste Management Act

The information contained within the waste licence application form and its attachments including the environmental impact statement (EIS) demonstrates that the proposed facility meets the above requirements of the Act.

(k) Emissions from the Site

Air

Potential air emission will consist of dust, landfill gas and dour emissions.

The intensification of waste acceptance at Derryclure landfill has the potential to increase dust emissions if good housekeeping practices are not implemented. However, control measures which are currently in place at the site will continue to be applied. Increased landfilling rates will not result in a significant increase in landfill gas volumes. A positive impact of the proposed development will be the peaking of landfill gas production sooner which would make landfill gas utilisation (i.e. for the generation of electricity) more feasible.

The proposed development has the potential to increase odour emissions at the facility. Offaly County Council has recently implemented a number of odour control measures at the site including the installation of the horizontal and vertical gas extraction system in the active cells which will draw odorous compounds to the landfill gas flare, significantly reducing odour emissions from the site.

Noise

During the operation of the facility, site machinery and trucks entering and leaving the site will be the primary source of noise.

The loudest noise and the noise with the most potential for nuisance at the site will be the reversing sirens located on the landfill machinery and truck entering the landfill. These are however required for safety.

The facility will only accept waste during the hours of 07:30 to 19.00 Monday to Friday inclusive, and 8.30 to 17.30 on Saturday and will close on Sundays and Bank Holidays.

Noise emissions are monitored on an annual basis in accordance with the existing waste licence. This monitoring programme will be continued.

Surface Water

Surface water runoff is currently generated from the hardstanding areas and building on-site. This run-off is collected in a network of drains and conveyed to an interceptor, prior to discharging from site at the western boundary. Surface water runoff from the capped cells is discharged via a second point on the eastern boundary.

Wastewater generated in the administration buildings is discharged to the on-site holding tank and transported off-site to Tullamore Wastewater treatment plant together with the leachate.

Groundwater

There will be no direct emissions to groundwater from the proposed intensification activities at Derryclure landfill. No additional construction or expansion of the landfill beyond the area already licensed for development is proposed, therefore their will be no additional negative impact on the geology and hydrogeology due to the proposed development. Intensified activities will only occur within fully engineered cells whose design was approved by the Environmental Protection Agency in 2003. There is a number of groundwater monitoring wells installed as required under the existing waste licence. Water quality monitoring is conducted at each of these wells as specified in the licence.

The increase in waste intake at the site will result in a decrease in leachate volumes generated at the site due to greater absorbency in the waste body. A positive impact will be that the site will be restored and capped sooner which will prevent the infiltration of rain water into the waste body, thus reducing leachate generation.

Environmental Nuisances

During normal landfilling operations, there is potential for odour, dust and litter nuisance from a number of sources. Landfills also have the potential to attract vermin such as rats and flies, and birds, if not correctly managed, can lead to an increase in local populations in the vicinity of the landfill. Existing measures have been successful in ensuring that vermin and bird numbers are controlled.

The intensification of the facility will result in the early closure and restoration of the site which will have positive impact on the surrounding community. Once the landfill is capped and restored dust, litter, birds and vermin will be eliminated.

(l) Effects of Emissions

An assessment of the effects of the above listed potential emissions on the environment has been carried out within the environmental impact statement prepared for this development. Mitigation measures where necessary have also been identified in the environmental impact statement. It has been concluded that the continuation of site management practices at the facility will ensure the effects of emissions on the environment will be controlled.

(m) Monitoring and Sampling Points

A complete and comprehensive regime of regular environmental monitoring has been implemented at the facility in accordance with the waste licence (WL029-02) which includes air (dust & landfill gas), surface water, groundwater, leachate, noise and meteorological monitoring. The monitoring frequencies and parameters are outlined in Schedule D of the licence.

The existing environmental monitoring locations are illustrated in Figure 2.6. As the new phases of the landfill are developed in accordance with the existing licence, additional landfill gas monitoring wells will be installed and monitored. These locations are illustrated in CE07-286-01-007 – Proposed Monitoring Location Map.

All environmental monitoring will be carried out by qualified persons and any laboratory analysis that is required will be carried out at an approved off-site laboratory.

(n) Arrangements for Waste Arising from Activity

A small quantity of waste will be generated on site from the use of the canteens, offices, etc and from the maintenance of plant and machinery. Source segregation of this waste will be carried out to recover as many recyclable materials as possible at the on-site civic amenity with the remaining waste disposed appropriately.

(o) Arrangements for Off-Site Treatment or Disposal of Wastes

Wastewater from the administration area and welfare facilities is collected in a separate holding tank and leachate collected from the landfill will be collected on-site in the leachate lagoon and transported by a licenced haulier at regular intervals to Tullamore wastewater treatment plant.

(p) Unauthorised or Unexpected Emissions

The material delivered to the site is inspected at the weighbridge and active area before being placed and compacted. Any unsuitable material is rejected.

Staff will be present on site at all times during opening hours to supervise and carry out operations and to deal with any emergencies. A CCTV security system is installed onsite. Key staff will be on-call to respond to any emergency situation outside of normal working hours e.g. night-time, weekends and public holidays.

Emergency Procedures have been prepared and implemented at the facility to prevent accidents and minimise any effects on the environment from accidental emissions or emergency situations and include:

Copies of these procedures are included in Attachment J.2 of this application.

(q) Closure and Restoration

Each of the phases will be permanently capped as soon as it is practicably feasible. It is expected that filling activities will be completed within 9.5 years if intensification of landfilling activities occur. This has the positive impact of shortening the life-span of the landfill. Once the entire site has been fully capped, vegetation will be allowed to establish naturally.

A restoration and aftercare programme was submitted to the Environmental Protection Agency in March 2006

(r) Financial Provisions

Offaly County Council has established and maintained a fund to ensure that they are at all times financially capable of implementing the Restoration and Aftercare Plan for the facility. The proposed development does not alter the overall financial liability of the facility, therefore this fund/guarantee is sufficient for the proposed development.

(s) European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulation 2000

The above Regulations do not apply to the proposed development.

(t) Geological and Hydrogeological Nature of the Lands

No additional construction or expansion of the landfill beyond the area already licensed for development is proposed, therefore their will be no additional impact on the geology and hydrogeology due to the proposed development.

The increase in waste landfilling activities will occur only within the fully engineered cells that are designed and operated in accordance with the Landfill Directive and EPA Manuals on Landfill Design and Operation. Therefore there will be no direct discharges to groundwater from the proposed development.

KEYMAP

SITE BOUNDARY

NATIONAL GRID
CO-ORDINATE
E 2355
N 2204

SITE PLAN
Scale 1:25000

Rev.	Drawn	Chkd	Appd		
A	KL	MIE	DOS	Cork 11.11.08	ISSUE FOR WASTE LICENCE REVIEW
				Rev Origin / Date	Description

Revision History: A

Name of Client
OFFALY COUNTY COUNCIL

Name of Job
DERRYCLURE LANDFILL WASTE LICENCE REVIEW

Title of Drawing
SITE LOCATION PLAN

Scales Used
1:25000

Dwg. No. CE07-286-01_002
Rev. A

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ORIGINAL DRAWING SIZE A1 - (841 x 594)

NATURAL SCALE

ACCESS FROM N80

SURFACE WATER DISCHARGE POINT

UNLINED CELL - FULLY CAPPED

PAVED ACCESS ROAD

WHEELWASH

ENTRY WEIGHBRIDGE

WEIGHBRIDGE OFFICE

EXIT WEIGHBRIDGE

CIVIC AMENITY

ADMINISTRATION

WASTE INSPECTION

WASTE QUARANTINE

SURFACE WATER SWALE

LEACHATE LAGOON

LANDFILL GAS FLARE

EXTENSION TO CELL 1B

CELL 1B (CURRENTLY ACTIVE)

FACILITY BOUNDARY

CELL 1A

FUTURE CELL 7 UNDER WL029-02

FUTURE CELL 8 UNDER WL029-02

FUTURE CELL 9 UNDER WL029-02

FUTURE CELL 6 UNDER WL029-02

FUTURE CELL 5 UNDER WL029-02

FUTURE CELL 4 UNDER WL029-02

FUTURE CELL 3 UNDER WL029-02

SITE PLAN

Scale 1:2500

Rev.	Drawn	Ckk'd	Appr'd	Cork	Description
A	MM	SM	DOS	21.10.08	ISSUE FOR APPROVAL
Revision History	A			Rev Origin / Date	

Name of Client

OFFALY COUNTY COUNCIL

Name of Job

DERRYCLURE LANDFILL WASTE LICENCE REVIEW

Title of Drawing

FUTURE FACILITY INFRASTRUCTURE

Scales Used: 1:2500

Dwg. No.: CE07-286-01_FIG 2.3

Rev.: A

O:\ACAD\2007\C207\286\01\C207286d1_Fig2.3

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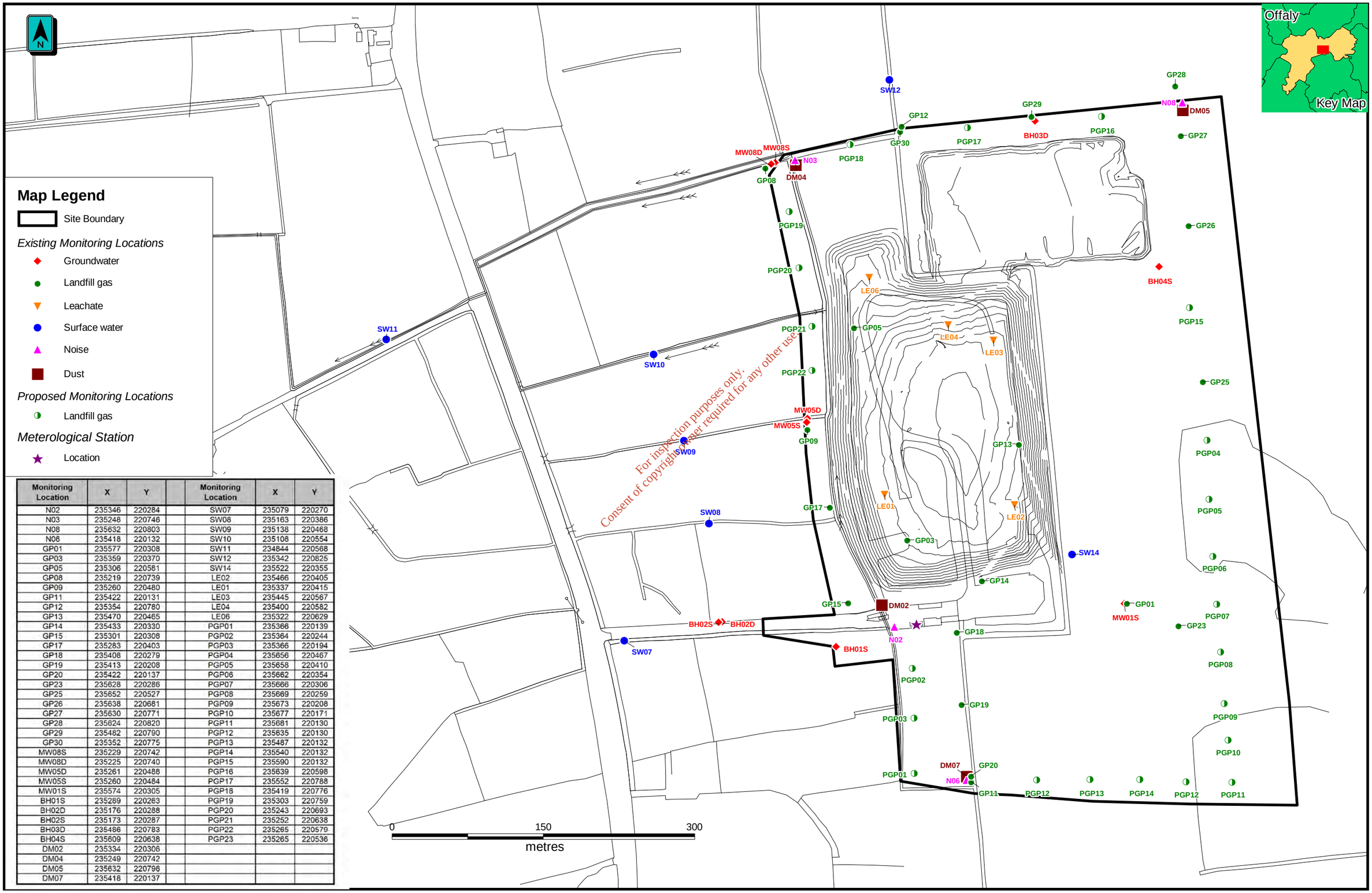
NATURAL SCALE 100mm 50 0 10 20 50 100mm



Monitoring Location	X	Y	Monitoring Location	X	Y
N02	235346	220284	SW07	235079	220270
N03	235248	220746	SW08	235163	220386
N08	235632	220803	SW09	235138	220468
N06	235418	220132	SW10	235108	220554
GP01	235577	220308	SW11	234844	220568
GP03	235359	220370	SW12	235342	220825
GP05	235306	220581	SW14	235522	220355
GP08	235219	220739	LE02	235466	220405
GP09	235260	220480	LE01	235337	220415
GP11	235422	220131	LE03	235445	220567
GP12	235354	220780	LE04	235400	220582
GP13	235470	220465	LE06	235322	220629
GP14	235433	220330	PGP01	235366	220139
GP15	235301	220308	PGP02	235364	220244
GP17	235283	220403	PGP03	235366	220194
GP18	235408	220279	PGP04	235656	220467
GP19	235413	220208	PGP05	235658	220410
GP20	235422	220137	PGP06	235662	220354
GP23	235628	220286	PGP07	235666	220306
GP25	235652	220527	PGP08	235669	220259
GP26	235638	220681	PGP09	235673	220208
GP27	235630	220771	PGP10	235677	220171
GP28	235624	220820	PGP11	235681	220130
GP29	235482	220790	PGP12	235635	220130
GP30	235352	220775	PGP13	235487	220132
MW08S	235229	220742	PGP14	235540	220132
MW08D	235225	220740	PGP15	235590	220132
MW05D	235261	220488	PGP16	235639	220598
MW05S	235260	220484	PGP17	235552	220788
MW01S	235574	220305	PGP18	235419	220776
BH01S	235289	220263	PGP19	235303	220759
BH02D	235176	220288	PGP20	235243	220693
BH02S	235173	220287	PGP21	235252	220638
BH03D	235486	220783	PGP22	235265	220579
BH04S	235609	220638	PGP23	235265	220536
DM02	235334	220306			
DM04	235249	220742			
DM05	235632	220796			
DM07	235418	220137			

Fehily Timoney & Company

Proposed Environmental Monitoring Location Map

CE07-286-01-007