

Signed: *Gráinne O'Leary* Date: 17th August 2017

 <b>epa</b> Environmental Protection Agency <i>An Ghníomhaireacht um Chaomhnú Comhshaoil</i>	<b>OFFICE OF ENVIRONMENTAL SUSTAINABILITY</b>
<b>REPORT OF THE TECHNICAL COMMITTEE ON OBJECTIONS TO LICENCE CONDITIONS</b>	
TO:	Directors
FROM:	Technical Committee - Environmental Licensing Programme
DATE:	17 <sup>th</sup> August 2017
RE:	Objection to Proposed Determination (PD) issued to Roadstone Limited for a facility at Huntstown Quarry, Huntstown, Kilshane and Johnstown Townlands, Finglas, Dublin 11, Licence Register W0277-02.

Application Details	
Type of installation:	Soil and stone recovery facility.
Class of activity under the Fourth Schedule of the Waste Management Act 1996 as amended:	Classes R3, R5 (Principal) and R13.
Licence application received:	8 <sup>th</sup> November 2016
PD issued:	26 <sup>th</sup> May 2017
First party objection received:	No.
Third party objection received:	22 <sup>nd</sup> June 2017

## 1. Company and background to this report

Roadstone Ltd was first granted a waste licence for a soil recovery facility on 11<sup>th</sup> February 2015 (Register Number W0277-01). This facility is located at Huntstown Quarry within a developed area consisting of industrial units to the southwest; licensed facilities to the east and south; and agricultural land to the north and west. The facility is situated approximately 300m from the N2 national primary road and less than 2km from the M50 motorway.

The current waste licence (Reg. No. W0277-01) authorises the acceptance of 750,000 tonnes per annum of soil and stones with a maximum quantity for recovery at the site limited to 7,295,000 tonnes.

Roadstone Ltd applied for a review of this licence in November 2016 (Register No. W0277-02). The Proposed Decision relates to the recovery of 1,500,000 tonnes per annum of soil and stone and dredge spoil; with a maximum quantity for recovery at the facility of 9,450,000 tonnes. The waste processes proposed in *Schedule A.1* of the PD are the importation, stockpiling and use of soil and stone for quarry backfill.

Fingal County Council granted permission on the 8<sup>th</sup> November 2016 (Planning Reference FW16A/0120) to increase the waste intake at the facility from 750,000 to 1,500,000 tonnes per annum.

This report relates to a valid third party objection and a first party submission on this objection received by the Agency in relation to the PD issued to Roadstone Ltd on 26<sup>th</sup> May 2017.

## 2. Consideration of the Objection

The issues raised in the third-party objection and the first party submission on this objection are summarised below. The original objection and submission on the objection should be referred to at all times for greater detail and expansion of particular points.

Type	Name	Date Received
Third Party Objection.	Integrated Materials Solutions Limited Partnership (IMS) acting on behalf of Integrated Materials GP Limited.	22 <sup>nd</sup> June 2017.
First Party Submission on the above objection.	Roadstone Limited.	26 <sup>th</sup> July 2017.

The Technical Committee (TC), comprising of Caroline Murphy (Chair) and Dr Magnus Amajirionwu, has considered all the issues raised in the objection and this report details the Committee's comments and recommendations following the examination of the objection and the submission on this objection.

### Third-Party Objection:

IMS divided their objection into five parts as follows:

#### **Objection 1: Type of waste activity.**

- (i) IMS noted that the facility is authorised for waste recovery activity classes R3, R5 (principal class) and R13 of the Fourth Schedule of the Waste Management Act 1996, as amended.
- (ii) IMS highlighted that the facility is not a landfill for inert waste, as a facility of this nature would require authorisation for disposal activity classes D1 and D5 of the Third Schedule of the Waste Management Act 1996, as amended.
- (iii) IMS believes that a distinction between a Soil Recovery Facility and an Inert Waste Landfill is important in defining the specific waste acceptance criteria and the handling of waste including non-greenfield soil and stone.

#### **First Party Submission on objection 1:**

The licensee clarified that:

- waste has only been and will only be accepted at the facility for the recovery of the quarry void to ground level;
- the licensed facility only accepts inert, uncontaminated, and naturally occurring waste soil and stone from construction and demolition (C & D) sites and from municipal gardens and parks. The review application proposes the additional acceptance of waste dredge spoil from construction and demolition sites;
- a robust waste acceptance plan, waste acceptance criteria and environmental management systems ensure the imported waste will meet the criteria specified by the licence and eliminates the potential for the licensed facility to give rise to any adverse environmental or nuisance impacts;
- the inert waste criteria and the test procedures in Council Decision 2003/33/EC were adopted for soil and stone from non-greenfield sites in the absence of other recognised limit values. The waste criteria were used to establish whether waste soil accepted was inert. The test procedures adopted by the licensee are firmly established and widely implemented across the C&D sector because they are proven, consistent and repeatable;

- the limit value of 100mg/kg for Polyaromatic hydrocarbons (PAHs) for inert waste set by the UK Environment Agency was used as part of the waste acceptance plan in the absence of an Irish national guideline value. This was adopted by the licensee once the plan was agreed by the Agency under the current licence. It is the view of the licensee that there is no spectrum of inertness and that a waste is either inert or not inert. The adopted limit value was considered to be conservative as PAHs are not particularly mobile compounds, particularly when embedded within a large body of soil and stone with a relatively low permeability clay matrix;
- the Council Decision exempts soil and stone waste from C&D sites from characterisation testing when they are being accepted at an engineered inert landfill disposal facility. The recovery facility at Huntstown is not an engineered landfill and this exemption does not apply to the licensed facility. The waste acceptance procedures require the inert waste accepted at the facility to be characterised prior to acceptance at the facility for recovery to ensure there is no risk introduced to the surrounding surface and/or groundwater.

### Technical Committee's Evaluation:

- (i) *Part I Schedule of Activities Licensed* of the PD provides for recovery activity classes R 3, R 5 (Principal activity) and R 13 of the Fourth Schedule of the Waste Management Act 1996, as amended.

*Schedule A* of the PD provides for the importation, stockpiling and use of soil and stone as quarry backfill.

*Schedule A.1 Waste acceptance* states that "Only the wastes as specified in *Table A.1.1* are acceptable for recovery at the facility ..."

- (ii) No disposal classes are listed in Part I of the PD. *Schedule A* does not authorise disposal activities.
- (iii) *Schedule A.1, Table A.1.1* authorises the acceptance of waste soil and stone, and dredge spoil. *Schedule A.2* sets out the waste acceptance criteria for backfill material and *Schedule A.3* sets out the requirements for waste characterisation for non-greenfield soil and stone.

Conditions 8.4, 8.5 and 8.6 list the requirements relating to greenfield soil and stone, non-greenfield soil and stone, and backfilling activities at the facility. Condition 8.13 requires waste acceptance and characterisation procedures.

The inert waste criteria and test procedures specified in Council Decision 2003/33/EC and PAH limit values are generally applied at inert landfills and not at soil recovery facilities. The conditions of the facilities current licence and the PD require the development of waste acceptance criteria under the licence (Condition 8.13).

The TC considers that the PD is clear in the fact that the activity is a recovery activity and that the recovery is limited to the use of soil and stone and dredge spoil for the recovery of the quarry void. The TC recommends the amendment below as a means of providing further clarity in the PD.

### Recommendation:

*Schedule A: Limitations:*

Amend

"The following waste related processes are authorised

- *Importation, stockpiling and use of soil and stone for quarry backfill.*

*No additions to these processes are permitted unless agreed in advance by the Agency"*

to read:

"The following waste **recovery** processes are authorised

- *Importation, stockpiling and **recovery** of soil and stone **through deposition for the purposes of quarry restoration.***

*No additions to these processes are permitted unless agreed in advance by the Agency'.*

## **Objection 2: Environmental setting.**

- (i) IMS noted that the Environmental Impact Statement (EIS) submitted with the waste licence review application confirmed that the aquifer underlying the facility is locally important and it has been classified as having high to extreme vulnerability, meaning it is susceptible to contamination from surface sources.
- (ii) IMS also notes that the EIS states that the quarry excavation has intercepted the water table and that active dewatering/pumping is taking place. IMS highlighted that it appears that the infilled waste will be under the natural water level once the dewatering stops.

### **First Party Submission on objection 2:**

The licensee highlighted that:

- the placement of soil and stone in the quarry void as part of the restoration of the facility will ultimately reduce the vulnerability of the aquifer beneath the quarry and afford it greater protection;
- the restored facility will be of low permeability and rainwater will run-off to local water courses rather than recharge to the aquifer lying 25 – 45m below;
- once the facility is restored the up gradient groundwater will preferentially flow through the limestone aquifer beneath the facility and mainly in the existing bedrock discontinuities, such as bedrock joints and fractures. The ground water will in the main flow around the less permeable backfilled soil and stone;
- the facility is located just inside the Ward River surface water catchment. If the local groundwater catchment were to follow the surface water catchment it is reasonable to assume that the volume of long-term groundwater flow towards the quarry will be relatively low;
- the planning process has determined that the backfilling of the facility is necessary and appropriate to prevent the formation of open water bodies once quarrying activities have ceased, which could present an unacceptable hazard from local bird activity for overhead aircraft on its approach to or from Dublin Airport. The licensee attached correspondence from Dublin Airport Authority dated 24<sup>th</sup> April 2012 which confirms their preference that the facility is restored.
- other long-term alternatives to backfilling are not without their own risks and challenges for the surrounding environment. All alternatives would require active and permanent long-term management which may ultimately be less sustainable and effective than the approved backfilling strategy.

### **Technical Committee's Evaluation:**

- (i) The facility is situated on poorly productive bedrock with two aquifers; one classified as locally important and the other poor. The groundwater vulnerability beneath the site is high to extreme.

The facility is located across the Swords Groundwater Body (IE\_EA\_G\_011) and the Dublin Groundwater Body (IE\_EA\_G\_008). Fingal County Council in conjunction with the Geological Survey Ireland compiled a Groundwater Protection Scheme for Fingal "*Bog of the Ring Public Water Supply: Source Protection Zones*" (March 2005). The groundwater body beneath the facility has not been listed as part of this protection scheme.

As described in the TC's evaluation of objection no. 1, the PD requires that any soil and stone accepted from non-greenfield sites will, at a minimum, require basic characterisation and on-site verification prior to being recovered at the facility.

The licensee is required to monitor the groundwater quality from boreholes located across the facility. Condition 6.19.1 of the PD requires the licensee to install an additional monitoring borehole down gradient of the facility. Condition 6.19.2 requires the licensee to assess the groundwater monitoring

results annually and determine compliance with the *European Communities Environmental Objectives (Groundwater) Regulations 2010*, as amended. If compliance cannot be demonstrated the licensee is required to complete a hydrogeological risk assessment and complete any remedial actions required (Condition 6.19.4).

The restoration of the facility to ground level will provide for greater protection of the aquifers beneath the facility.

- (ii) Dewatering of the void is required to allow for the recovery and full restoration of the facility. The requirement for dewatering indicates that groundwater exists at the base of the quarry. Once the facility has been closed and restored in accordance with the licence, the dewatering process will cease. Groundwater levels will recover to natural levels in the soil and stone deposited at the base of the quarry void.

**Recommendation:**

No change.
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**Objection 3: Pollution Control Measures.**

IMS are concerned that authorised soil recovery facilities do not have the engineering controls required in Annex I of the Landfill Directive (1999/31/EC) and the Agency's Landfill Design Manual e.g. the requirement for inert landfills to have a base and sides consisting of a mineral layer which satisfies permeability of  $K < 1.0 \times 10^{-7} \text{m/s}$  and thickness  $> 1\text{m}$ . IMS attached a copy of an extract from Annex I of the Directive.

IMS notes that Annex I outlines that a landfill must be located and designed so as to meet the necessary conditions for preventing pollution to the soil, groundwater or surface water. IMS states that this is achieved through a combination of a bottom liner and a top liner following cell completion. IMS considers that these measures or geological conditions are not present in the Huntstown facility.

IMS understands that the facility is not required to have specially engineered cells, that the waste is deposited directly on the quarry floor with no protection to the environment and that there are no measures regarding the deposition of waste below the static groundwater table.

**First Party Submission on objection 3:**

The licensee highlighted that:

- there is a misconception that the licensed facility should be managed as a landfill disposal facility as opposed to the recovery facility that it is licensed as;
- the objection appears to imply that there should be equivalence between the environmental protection measures required for a soil recovery facility and those required for an inert landfill disposal facility. To hold this view overlooks:
  - that soil recovery facilities have a more limited range of waste intake and are restricted to inert, uncontaminated soil and stones;
  - it is possible to provide the degree of environmental protection at soil recovery facilities by way of robust waste management and control procedures and that it is not essential to install engineering control measures;
  - the natural clay materials used to construct mineral soil liners at the base and sides of engineered landfills are like those which are being imported and placed around the base and sides of the soil recovery facility;

The licensee listed the range of wastes authorised for acceptance at Integrated Materials Solution Limited's licenced landfill for inert waste (Waste Licence Reg. No. W0129-02) and compared this to the three LoW codes proposed for acceptance in the Proposed Decision, the characterisation requirements for the acceptance of these waste types and the waste types prohibited for acceptance at the facility. The licensee highlighted that the Council Decision 2003/33/EC allows for IMS Ltd to accept many C&D wastes including

soil and stone for disposal without prior characterisation testing; however, the licensee's recovery facility is required to carrying out characterisation testing for all soil and stone from non-greenfield sites prior to its acceptance. The licensee notes that an inert waste landfill has less onerous waste acceptance requirements and can accept an increased range of waste types due to the fact waste is being deposited into an engineered lined landfill.

The licensee rejects any assertion the operation of their facility affords no protection to the surrounding environment inclusive of the groundwater body beneath the facility and lists some of the environmental control and protection measures currently in place at the facility (reference the submission for the full listing).

The licensee notes that Section 6.3 of the EPA landfill site design manual states that natural clays of low hydraulic conductivity including clays, silty clays, and/or clayey silts have the potential to make good liners for engineered landfills. The licensee has listed examples where glacial till soils ubiquitous around Dublin have been used as engineered liners for municipal waste landfills. The licensee notes that the manual does not specify the geochemical requirements for clay liners other than that they are natural soils. The licensee pointed out that it is highly likely that any basal liners, side liners and capping layer put in place at an inert landfill facility are like those routinely imported to the licensee's recovery facility and they are subject to the same characterisation methods that are proposed in the PD to demonstrate the liner/capping layers inert and uncontaminated status.

The licensee is aware that the base and side of the recovery facility may not technically comprise a minimum 1m thick engineered layer of low permeability inert clay; however, the reality is that when backfilled, the base and sides of the former quarry will comprise many metres of inert, relatively low permeability clay soils subject to vertical and lateral compressive stresses generated by up to 25m to 45m of soil cover. The vertical stresses on clay soils above the quarry floor will be equivalent to between 45 and 80 tonnes per square meter. This is a significantly greater compressive stress than could ever be generated by earthworks compaction plant used to construct engineered liners at inert landfills.

Regarding the placement of waste above the water table, the licensee clarified that as presented in the EIS no soil and stone will be placed directly into any surface water body or placed in contact with the existing groundwater table. The licensee confirmed that once the quarry has been restored that over time the groundwater table will rebound to a level close to the surrounding undisturbed water level.

### **Technical Committee's Evaluation:**

Article 3 of the Landfill Directive states that the Directive shall be applied to any landfill defined in Article 2(g). This article states "*landfill means a waste disposal site ...*". The facility is a recovery activity and as such the requirements of the Landfill Directive do not apply. The *Landfill Manuals – Landfill Site Design* (EPA, 2000) applies to landfills and does not include guidance for soil and stone recovery facilities.

Condition 3.15.2 requires the licensee to have regard to the guidance given in the *Landfill Manuals - Landfill Monitoring* (EPA, 2003) when constructing any new groundwater wells.

#### *Facility location:*

Development at the facility was granted planning permission (Register Reference FW16A/0120) and this permission authorises the importation of inert soil and stone waste used in the restoration of quarry voids (and backfilling to former ground level).

#### *Facility design:*

The design of the facility is influenced by the previous quarrying activity. The final restoration profile of the facility will be in accordance with the Restoration Plan required to be submitted under Condition 9 of planning permission Register Reference FW12A/0022. Condition 2 of the licensee's latest planning permission (Register Reference FW16A/0120) requires the facility to be completed in accordance with the terms and conditions granted under planning permission Reg. Ref. FW12A/0022.

A liner is not required at this soil and stone recovery facility to protect the surrounding environment because a recovery activity by definition is an operation the principal result of which is waste serving a useful purpose and in this case soil and stone which has met waste acceptance criteria is the only waste authorised to be

backfilled. The backfilling of soil and stone which meets waste acceptance criteria as set out in the PD will not negatively impact the surrounding environment.

**Recommendation:**

No change.
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**Objection 4: Waste acceptance criteria.**

Condition 8.5.1:

*The licensee shall, in a manner and format agreeable to the Agency, propose maximum concentrations and/or trigger levels for relevant contaminants in non-greenfield soil and stone proposed for acceptance and backfill at the facility. Non-compliant materials shall be dealt with in accordance with Condition 8.13.8 of this licence.*

Condition 8.13.9:

*The waste shall be subject to the measures outlined in the 'Waste Acceptance and Handling Plan', dated June 2016, as set out in Appendix 2A to the Environmental Impact Statement, which was submitted as part of the licence application.*

IMS has noted that Condition 8.5.1 of the PD requires the licensee to agree maximum concentrations and/or trigger levels for relevant contaminants in non-greenfield soil and stone prior to acceptance at the facility and that Condition 8.13.9 requires waste to be subject to the measures outlined in the 'Waste Acceptance and Handling Plan', dated June 2016, as set out in Appendix 2A of the EIS submitted with the application for licence review.

IMS has highlighted that Section 2.2 of the Plan in Appendix 2A of the EIS refers to the Landfill Directive (Council Decision 2003/33/EC) and requires limit values for non-greenfield soil and stone to be in accordance with the limit values for inert waste in section 2.1.2 of the Annex to Council Decision 2003/33/EC. IMS notes that these limits are relevant for inert waste accepted for disposal at facilities with engineered cells.

**First Party Submission on objection 4:**

The licensee provided a summary of the legislative and authorisation requirements for soil and stone recovery since 1998 and discussed the increasing level of control placed on this activity since that time. The submission should be referenced for further detail.

The licensee discussed the difficulty in quantitatively defining that a material is inert using limit values for specific parameters. The requirements of Council Decision 2003/33/EC are being used to demonstrate that a material is inert in the absence of any alternative criteria.

The licensee referred to the report *Construction & Demolition Waste: Soil and Stone Recovery/Disposal Capacity - Eastern Midlands Region/ Connacht Ulster Region/ Southern Region Waste - Management Plans 2015 – 2021* and quoted the volume of soil and stone that was treated at various waste facility types in the Eastern Midlands Region in 2015. The figures quoted include 1.2 million tonnes of stone and stone recovered at licensed soil recovery facilities and 0.065 million tonnes disposed of at licensed inert landfill facilities. The licensee stated that from the time inert landfill facilities were first licensed that they have never established themselves as the primary outlet for inert soil and stone waste generated by construction activity either from greenfield or non-greenfield sites. The licensee feels that this is not surprising as National and European policy priority has been to divert construction and demolition waste from disposal to recovery and re-use outlets.

The licensee highlighted that operators of inert waste landfills could apply for a licence review to include soil and stone recovery activities at their facilities that are subject to the same waste acceptance and control restrictions as other soil and stone recovery facilities.

The licensee highlights that there is no evidence to support the view of the objector that soil restoration facilities have been restricted to accepting materials from greenfield sites and material with very low concentrations of anthropogenic materials.

Regarding the objection on the overlap between Condition 8.5.1 and 8.13.9, the licensee recommends the removal of condition 8.5.1 and referencing the existing waste plan as per Condition 8.13.9.

**Technical Committee’s Evaluation:**

Condition 8.5.1 requires non-greenfield soil and stone to meet an Agency agreed quality control standard and Condition 8.13.9 requires the same waste to, *inter alia*, meet the inert waste criteria set out in the Landfill Directive.

As discussed in Objection 3 above the requirements of the Landfill Directive and Council Decision 2003/33/EC do not apply to recovery facilities where disposal via landfilling is not taking place.

The ‘Waste Acceptance and Handling Plan’ (June 2016) submitted with the application is out-dated as it does not reflect the annual waste throughput or maximum waste recovery proposed for the proposed facility.

Condition 8.13 of the PD sets out the waste acceptance and characterisation procedures required to be put in place and maintained at the facility.

**Recommendation:**

Delete Condition 8.13.9.
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**Objection 5: Request for an oral hearing.**

The third-party objection has set out a request for an oral hearing.

**First Party Submission on objection 5:**

The licensee believes the oral hearing requested by the third party is unwarranted and that the associated policy and licensing issues are clearly set out in written correspondence in sufficient detail as to enable the Agency to make a final determination on the objection. The licensee also stated that there were no objections as part of the licensee’s planning application to increase the annual rate of importation of inert soil and stone at the facility.

**Technical Committee’s Evaluation:**

The Oral Hearing request was presented to the Board of the Agency on the 18<sup>th</sup> July 2017. It was recommended to the Board that an Oral Hearing was not merited and the Board approved this recommendation.

**Recommendation:**

No change
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**Point of submission by the first party not relating to the objection:**

The licensee highlighted that currently significant quantities of soil and stone from construction and demolition greenfield and non-greenfield sites are being notified to the Agency as by-product. Notified soil and stone by-product is not subject to acceptance testing or regulatory control. The licensee stated that this level of control contrasts markedly with that applied to the same material accepted at soil and stone recovery facilities. The licensee is strongly of the view that the degree of environmental control and risk management measures applied by the PD strikes an appropriate balance and provides for the effective and efficient management of environmental risks associated with the intake, handling and placement of inert soil and stone from non-greenfield construction sites for land restoration purposes.



## Technical Committee's Evaluation:

This submission is not in relation to the third-party objection.

## Recommendation:

No change

## 6 Environmental Impact Assessment Directive – Reasoned Conclusion Update

The TC has reviewed the assessment in the Inspector's Report and, taking into account the objection received, and the contents of this TC report, the TC considers that the likely significant direct and indirect effects of the activity have been identified, described and assessed in an appropriate manner as respects the matters that come within the functions of the Agency, and as required by Section 83(2A) and Section 87(1G)(a) of the EPA Act 1992 as amended.

It is considered that the mitigation measures as proposed in the Inspector's Report, and as detailed in this TC report, will adequately control any likely significant environmental effects from the activity.

It is also considered that the proposed activity, if managed, operated and controlled in accordance with the licence conditions included in the PD, with the inclusion of the amendments proposed in this report, is unlikely to damage the environment as a whole and the risk of potential impacts occurring is not unacceptable.

It is further considered that the proposed activity, if managed, operated and controlled in accordance with the licence conditions included in the PD, with the inclusion of the amendments proposed in this report, will not cause environmental pollution or the breach of any environmental quality or emission standard, and can be authorised by the Agency in accordance with Section 83(5) of the EPA Act as amended.

## 7 Overall Recommendation

It is recommended that the Board of the Agency grant a licence to the applicant

- (i) for the reasons outlined in the Proposed Decision and
- (ii) subject to the conditions and reasons for same in the Proposed Decision, and
- (iii) subject to the amendments proposed in this report.

Signed:



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Caroline Murphy,  
Inspector