ATTACHMENT G1 – RESOURCE USE AND ENERGY EFFICIENCY

Raw Materials and Substances

The waste recovered at the Huntstown waste facility comprises inert soil and stone and inert construction and demolition waste (principally concrete, blocks, paving, bricks, ceramics and 'lumpy' bituminous wastes). No process related raw materials, chemicals, solid or liquid wastes intermediates or products etc. are consumed or generated by the waste recovery activities at the facility. In the absence of any putresible wastes at the facility, there will be no requirement to use rodenticides and insecticides to control vermin and insects.

Soil Recovery Facility

The only material requirement in respect of the quarry restoration and backfilling scheme and the associated recovery of soil (by deposition on land) is excess inert soil, stone and rock waste generated by construction and development related activities in Dublin City, North and West County Dublin and the Greater Dublin Area generally. The volume of soil and stone required is approximately 5,025,000m^3.

C&D Recovery - Central Quarry

No site development works or materials will be required to facilitate continued operations at the established C&D waste recovery facility at the Central Quarry.

C&D Recovery – Replacement Facility

At the proposed replacement C&D facility on undeveloped lands in the north-eastern corner of the Roadstone landholding, it is envisaged that existing soil cover will be stripped and used to infill a gap in the existing perimeter screening berm along the northern / north-eastern boundary, to raise the existing berm height by up to 1m and to extend the crest width to a minimum of 2m wide. Supplementary soil materials will be sourced from the adjoining soil recovery facility as required.

Following site stripping, crushed rock will be placed over the exposed mineral subsoil and/or weathered bedrock and compacted to form a hardstanding, typically 300mmm to 500mm deep. It is intended to erect a recovery shed at the proposed replacement facility which will house the C&D crushing / screening plant. A network of buried drainage pipes will be installed around the shed and will be connected to an open grassed channel (swale) which will discharge to a natural channel running toward the Ballystrahan Stream.

The proposed development works at the replacement recovery facility will entail excavation, handling or placement of the following quantities of materials

Table G-1
Material Requirements

Material	Quantity
Excavated Soil	14,700 m^3
Modification of Perimeter Berms	20,200 m^3
Crushed Rock Hardstand (typically 6' or 200mmm down)	22,000 m^3
Sub-surface Drainage Pipework	230 m
Open Channel / Swale Construction	330m

Material Balance

As noted above, approximately 14,700m^3 of soil / topsoil excavated at the site of the relocated facility will be used to modify the existing perimeter berm. This will be supplemented by materials from existing soil / subsoil stockpiles around the North Quarry and West Quarry.

Importation of Construction Materials

Any construction materials required to construct site infrastructure, hardcore, drainage stone and concrete will be sourced from Roadstone quarries and/or concrete production facilities. Other elements, will be sourced from specialist suppliers as required.

Energy Consumption

Electricity

The operation of the recovery facility consumes a relatively minor amount of electrical power / energy, principally on account of lighting and heating at the recovery site office, weighbridge office, canteen and staff welfare facilities and use of pumping equipment at the quarry floor and proposed wheelwash facility.

The amount of electrical energy consumed at the facility (in its own right) is broadly similar to that consumed by a small quarry operation, of the order of 2,500 kW per week. Assuming a 10-year operating period (until soil recovery activities are complete), the total consumption of electricity, in the absence of any improvement in efficiency in the interim, would be of the order of 1,250,000kW (or 1.25MW).

Fuel

All plant and equipment used in recovery operations at the licensed facility (including HGVs, mechanical excavators, bulldozers, crushing / screening plant, loading shovels etc.) is powered by diesel fuel. Refuelling of all mobile plant (bulldozers / mechanical excavators) takes place within the licensed facility, over impermeable (sealed) concrete surfaces at the proposed fuel storage tanks or using double skin bowsers.

Assuming that

- inert waste is imported, placed and recycled at the application site at an average rate of 20,000 tonnes per week, for 50 weeks each year over a 10 year period (500 weeks),
- construction and demolition waste is recycled (crushed, screened and moved between stockpiles) at an average rate of 2,000 tonnes per week for 50 weeks each year over a 10 year period (500 weeks),

the consumption of diesel fuel by the recovery operations at Huntstown is assessed (based on consumption levels at other recovery facilities) as follows :

	Fuel Consumption	Fuel Consumed
Soil Waste Placement and Compaction		
Bulldozer (x2)	2100 litres / week EACH	2,100,000 litres
Mechanical Excavator	500 litres / week	250,000 litres
C&D Waste Recycling		
Front End Loader	600 litres / week	300,000 litres
Crushing / Screening Plant	1400 litres / week	700,000 litres
Other		
Site Vehicles (1 No.)	50 litres / week	25,000 litres
Total Fuel Consumption	**6,750 litres / week**	**3,375,000 litres**

Note that the assessed fuel consumption is based on the following assumptions :

(i) there will no improvement in fuel efficiency of mechanical plant and site vehicles over the operational life of the recovery facility

(ii) no alternatives to diesel fuel will become commercially available over the operational life of the facility.

The proposed placement, compaction and recovery of approximately 9,550,000 tonnes of inert soil and stone and the recovery / recycling of approximately 950,000 tonnes of C&D waste (principally oncrete and concrete products) over an assumed 10 year operating period is therefore estimated to consume a total of 3,375,000 litres of diesel fuel.

ATTACHMENT G2 – ENERGY EFFICIENCY

As much of the energy consumption at the Huntstown recovery facility is tied to use of mechanical plant handling, placing, compacting, processing and/or stockpiling the imported wastes, significant improvements in energy efficiency over the lifetime of the licensed recovery facility will be limited unless there is

(i) there is significant improvement in the fuel efficiency of mechanical plant and site vehicles over the operational life of the facility
(ii) viable, lower costs alternatives to diesel fuel become commercially available over the operational life of the facility.

Notwithstanding this, procedures are in place to monitor and reduce electrical power consumption at the site office, weighbridge office, canteen and staff welfare facilities where possible and to ensure that there is no unnecessary wastage arising from plant and equipment being powered up / on-stand-by / revved-up / left idling when they are not required to be.

As part of its established Environmental Management System (EMS), Roadstone has developed procedures to

- promote awareness about benefits of energy efficiency and of the level of energy consumption at each of its facilities / locations;
- encourage internal benchmarking of energy consumption against other Roadstone / CRH facilities; and
- encourage compliance with, industry best practice on how to improve energy efficiency.

A copy of the relevant EMS procedure (EMS 19) is provided under cover of this Attachment.

Efficiency Audit

Roadstone has undertaken energy audits of all its locations, including the recovery facility at Huntstown. The company has previously achieved accreditation to EN 16001 Standard for Energy Management Systems. In recent years, the company has been transitioning to the replacement international standard ISO 50001 (Energy Management Systems).

The company undertook an energy efficiency audit of its waste recovery facility at Huntstown in March 2017 and a copy of the audit report is included under cover of this Attachment. Although the audit did not immediately identify significant energy saving opportunities, it did make recommendations on monitoring of energy and resource consumption which might aid in the future identification of such opportunities.

Roadstone Ltd.	
ENERGY EFFICIENCY GUIDELINES	**Doc. No.: EMS / 19**
	Revision No: 00
	Date: May 2010
	Approved By: EO

1.0 PURPOSE

The purpose of this document is to outline procedures Roadstone Ltd has in place in order to achieve more efficient energy use.

2.0 SCOPE

This procedure covers all aspects of energy use within Roadstone Ltd. including usage and cost of electricity and fuel.

3.0 PROCEDURE

MONITORING OF ENERGY

3.1. Energy consumption for the entire location is assessed by reviewing recent energy bills on a monthly basis by location manager.

3.2. Where fitted sub meters are read on a regular basis to assess what large energy consuming machinery uses.

3.3. Energy saving initiatives are identified where possible and objectives set, from this estimated savings can then be calculated.

BEST PRACTICE GUIDELINES FOR ENERGY EFFICIENCY

3.4. Implement the discipline of switching off idle plant when not required for production.

3.5. Review location tariff with ESB Regional Customer Engineer to ensure that optimum tariff is in use.

3.6. Ensure minimum demand during hours of Winter Maximum Demand Reduction Incentive.

3.7. Schedule running of intermittently used plant to avoid build-up of Maximum Demand.

3.8. Fit timer on the quarry de-watering pump to minimise Maximum Demand and to maximise use of cheaper Night Rate.

3.9. Fit daylight sensing controls on external lighting.

3.10. Fit high-efficiency bulbs in internal and in external lighting.

3.11. Fit automatic controllers to feeders of secondary & tertiary crushers to obtain optimum loading.

3.12. Reduce reliance on low-efficiency compressed air when designing plant - (for ram actuators, etc.).

3.13. Record mobile plant fuel consumption per mile/tonne-mile/hour etc. & report to drivers.

3.14. Compare energy use at Location with other Roadstone Wood Ltd. location with assistance of Half-year & Full-year Unit Cost Reports.

3.15. Use combined CRH Group requirements to achieve best purchase of fuels.

3.16. Compare Location energy use with Best Practice within CRH.

3.17. In relation to control of energy use, maintain plant & equipment, deal promptly with malfunctions, train staff.

ISO 50001 Roadstone Ltd.	
Internal Audit Form	**Doc. No.:** ECL/01 **Revision No:** 1 **Revision Date:** 07/9/16 **Approved By:** K D / T O'M

Audit Date	**Location**	**Audit Type**		**Audit No eg. 2017/001**	**Auditor**	
1st Mar'17	Huntstown Recycling	Compliance Process Performance Other	☐ ☐ ☐ ☐	**2017 / 1**	Print Name Signature	Kevin Donovan
Circulation	Leonard Grogan, John Fennel, Tim O'Mahony, Richard McDonnell, John Glynn					

Items to be addressed: Responsible Persons & Timeframe

Item	**Description**	**Responsibility**	**Time Frame**
Item 1	Develop Energy Management Folder – Ref Appendix 1.	Leonard Grogan & John Fennel	March 2017
Item 2	Complete Location Drawing	Leonard Grogan & John Fennel	May 2017 Ongoing
Item 3	Investigate Possibility of integration into EFT System	Leonard Grogan & John Fennel	May 2017
Item 4	Create PC Based Spreadsheet to include pumping data and associated generator fuel data.	Leonard Grogan & John Fennel	June 2017
Item 5	Develop Location Drawings to include Lighting and Heating Loads associated with administration buildings.	Leonard Grogan & John Fennel	October 17
Item 6	Investigate Bowser to establish if an energy baseline can be developed.	Leonard Grogan & John Fennel	June 2017
Item 7	Develop Location Drawings to include how water moves around the location.	Leonard Grogan & John Fennel	December 17
Item 8	Transpose data associated with mobile plant into an excel format.	Leonard Grogan & John Fennel	April 17
Item 9	Use KPI data to develop internal awareness campaigns and training.	Leonard Grogan & John Fennel	May 17

ISO 50001 Roadstone Ltd.	
Internal Audit Form	**Doc. No.:** ECL/01 **Revision No:** 1 **Revision Date:** 07/9/16 **Approved By:** K D / T O'M

Finding Ref	Ancillary Activities	Audit Finding & Action Required	Cat
KD1/1	Energy Management System	An Energy Management Folder containing appropriate information could be retained at the Location and updated on an ongoing basis. The Contents of the Folder are detailed in Appendix 1. Item 1.	3
KD1/2		A drawing should be completed for the Location indicating what machines are used, the fuel point, the pumps and how water is moved about the Location including the sprinklers. The Location of the Administration Areas. Item 2	3
KD1/3	Electrical Bill Report – MIC Vs Max Demand / Wattless / c/kWh	The electricity supplied to the recycling plant is on the same Network at the Huntstown Quarry Location.	3
KD1/4	Details of the non-operational Hour Load at the Location.	There is no kWh reports for the recycling plant office, weighbridge and canteen. It may be an option to add this element into the Quarry Locations EFT (Electrical Sub-meter Platform). This will result in a separate electrical bill and electrical profile for this element. Item 3 If it were possible to add a sub-meter to the recycling plant it would be possible to determine if items are left on during non-operational hours.	
KD1/5	Define Water Pumping Requirement / Control Measures / Hrs Operation / Cost c/kWh	Generators are used to pump water from the Location. There is a report at the Location that details the fuel added to the generator. This should be developed so that it is in a formal excel report within the Energy Management System detailing if possible L/Hr & L/M3 Water Pumped. Item 4	3
KD1/6	Detail Lighting & Heating Load Breakdown	Location Drawings should also be updated to include Lighting & Heating Load and associated control measures such as contactors, timers, occupancy sensors etc. As discussed during the audit the drawings should facilitate the calculation of the lighting 7 heating requirement kW and associated costs. Item 5	3
KD1/7	Is there a Compressed Air Load at Location	No Compressors presently at the Location.	3
KD1/8	Review Administration Buildings	EFT presently does not give access to Recycling Plant Administration Buildings.	3
KD1/10	Specific Awareness & Training/Housekeeping	Training was completed on the day of the Audit including a Location Meeting that refers to all elements appropriate to energy management at the Location.	3

KD1/11	Details of Associated Energy Management Projects	Projects raised during audit must be included in Road Maps.	3
KD1/12	Opportunities Raised	Items 1-5	3

Finding Ref	Infill Process	Audit Finding	Cat
KD1/13	Details of Plant Drawings	The infilling process is completed on a phased bases in a controlled manner. The Mobile Plant completing the tasks are two Dozers and an excavator that is shared with the quarry.	3
KD1/14	Efficiency of Pumping Requirement	There is a generator at the Location that is supplying power to the pumps. The Fuel added to the generator is compiled in a hand written report. Lagoons are currently being constructed at the Location. Water will move through a series of lagoons prior to use within the dust suppression sprinklers that are currently also being constructed. This may reduce the requirement for the road sweeper. Data could be collected on the road sweeper as if the associated savings are 30,0000Litres the associated EEOS Rebate (Energy Efficiency Obligation Scheme) would be ~€3,500. This rebate would finance the electrical metering at the Location. Item 6	3 3
KD/15	Description and details of Generators	Details of the Generator should be included in the Location Drawings.	3
KD1/16	Dust Suppression	As stated drawing indicating how water is moved around the Location should be developed. Water will be pumped around the Location for sprinklers and within the process and for dust suppression. We should establish what is the energy requirement associated with sprinklers and m3 of water pumped. Subsequently if upgraded as detailed above we would know the energy management savings. Item 7	3
KD1/17	Opportunities Raised	Item 6 – 7	3

ISO 50001 Roadstone Ltd.	
Internal Audit Form	**Doc. No.:** ECL/01 **Revision No:** 1 **Revision Date:** 07/9/16 **Approved By:** K D / T O'M

Finding Ref	Mobile Plant	Audit Finding	Cat
KD1/18	Description of Mobile Plant Requirement	There are two Dozers, an Excavator that is shared with the quarry and a fuelling bowser at the Location. One of the Dozers will soon be replaced with a new dozer. Data form the previous set up should be established on spreadsheets in order to establish if the new dozer is more energy efficient. This data can also be included with the road-sweeper data and possible EEOS application. Item 8	3
KD1/19	Details of Suitability to Tasks	Machines were operated in an efficient manner, no plant or equipment were operating in idle mode, movement within and around the infilling site was in an efficient manner.	3
KD1/20	Access to data and associated details	Data is gathered by Brian Maguire for all mobile plant and retained within a Folder at the Weighbridge. The relevant data should be imputed into an excel file so that the relevant information can be trended and KPI's established. This data would indicate fluctuations that may later be investigated. The data can also be used within internal driver training programs and could be posted on a communication board in the canteen so that the drivers become more aware of their energy KPI's. Item 9	3 3
KD1/21	Driver Specific Awareness & Training Details / Housekeeping	Once data is captured and KPI's established internal site specific training could be completed.	3
KD1/22	Details of Associated Energy Management Projects	N/A	
KD1/23	Opportunities Raised	Items 8-9 and Evaluate training requirements.	3

Appendix 1

Energy Management Folder Contents:

A. Site Drawings

B. Minutes of Meetings

C. Internal / External Audits

D. Training

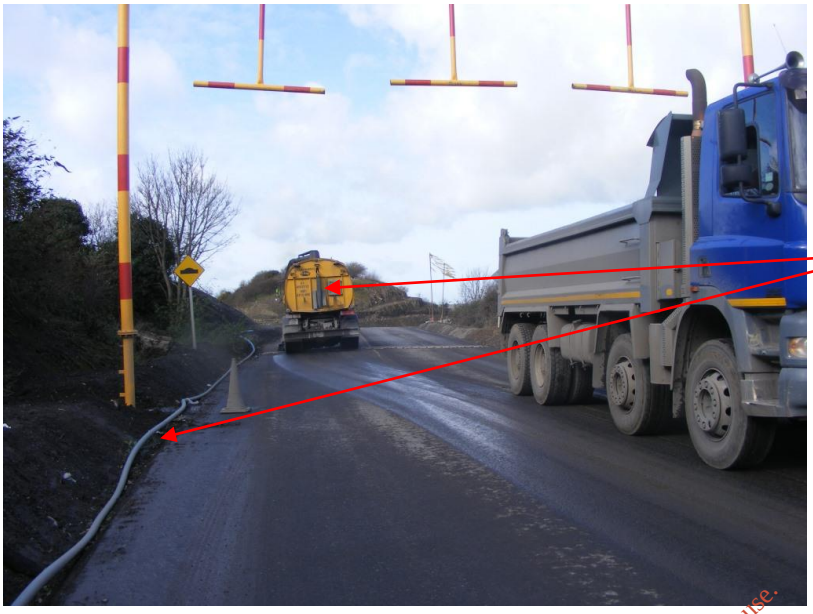
E. Projects

Appendix 2

Audit Pictures

KPI Data should be developed for the Dozers and can be used for Projects, Internal Training and Communication.

Plate 1 – Mobile Plant working at the Location



The Road Sweeper was operating at the Location.
Once sprinklers are operation the bowser hrs may be reduced.

Plate 2 – Road Sweeper and Sprinklers under Construction

Appendix 3

Categories of Audit Findings Explanation
Category 1 – A major non conformance where there is a failure to implement and maintain one or more of the required EnMS elements which would raise doubt as to the capability of the EnMS to achieve Roadstone stated energy policies or meet the Locations energy objectives and targets. *Close out Period – 1 Week* **Category 2** – A non conformance where there is a failure to meet the requirements of the EnMS 16001 but is less significant than, and does not meet the definition of a Category 1 non conformance. *Close out Period – 4 Weeks* **Category 3** – A comment or a suggestion/opportunity for improvement which can be incorporated into future reviews/upgrades of the EnMS. *Close out Period – 6 Weeks* **N/A** – Not Applicable in relation to non conformance (can also indicate a positive aspect about the location EnMS) *Close out Period – n/a*

ATTACHMENT H1 WASTE TYPES AND QUANTITIES

In addition to the existing soil waste recovery activities at Huntstown (which are currently regulated by way of Waste Licence Ref. No. W0277), this waste licence review application provides for

(i) inclusion of established construction and demolition waste recovery activities within the scope of the waste licence;
(ii) an increase in the permitted intake of construction and demolition waste from a maximum of 24,950 tonnes per annum at present to 95,000 tonnes per annum;
(iii) relocation of C&D waste recovery activities to a dedicated new long-term recovery facility on a 5.2 hectare site in the north-eastern corner of the Huntstown Quarry Complex and
(iv) construction of a hardstanding area, waste processing shed, surface water management infrastructure and upgraded internal access road at the new waste recovery facility.

No further C&D waste will be imported to the existing C&D waste recovery facility located at the Central Quarry area. Once End of Waste criteria for recycled aggregate are published by the EPA, it is envisaged that off-site dispatch of the C&D wastes stockpiled at the existing facility will continue for a period of up to 2 to 3 years.

It is envisaged that in future materials conforming to the following waste (EWC) codes will be recovered at the licensed facility:

Soil Recovery Facility

- 17 05 04 Soil and stones other than those mentioned in 17 05 03.
- 17 05 06 Dredging spoil other than those mentioned in 17 05 05
- 20 02 02 Soil and stone from municipal facilities

Construction and Demolition Waste Recovery Facility

- 15 01 07 Glass Packaging
- 17 01 01 Concrete
- 17 01 02 Bricks
- 17 01 03 Tiles and Ceramics
- 17 01 07 Mixtures of Concrete, bricks, tiles and ceramics
- 17 02 01 Wood
- 17 02 02 Glass
- 17 02 03 Plastic
- 17-03 02 Bituminous mixtures other than those mentioned in 17 03 01
- 17 04 05 Iron and Steel
- 19 12 05 Glass from Mechanical Treatment
- 20 01 02 Glass from Municipal Waste

The estimated annual quantities to be recovered at the Huntstown facility for the five year period 2018-2022 are indicated below:-

Year	Inert soil / stones for recovery (tonnes / annum)	Inert C&D waste for recovery (tonnes / annum)	Total annual quantity of waste (tonnes / annum)
2018	1,500,000 (max)	95,000 (max)	1,595,000 (max)
2019	1,500,000 (max)	95,0000 (max)	1,595,000 (max)
2020	1,500,000 (max)	95,000 (max)	1,595,000 (max)
2021	1,500,000 (max)	95,000 (max)	1,595,000 (max)
2022	1,500,000 (max)	95,000 (max)	1,595,000 (max)

Note that a minor proportion of the total volume of inert soil imported to the facility (up to 20,000 tonnes per annum) could comprise organic rich topsoil capable of sustaining vegetation growth. This material will be stockpiled as required pending re-use in quarry restoration works. As topsoil could arguably be classified as an organic material, provision is made in Table H1A of the application form for recovery of 20,000 tonnes of topsoil per annum under waste activity R3 (Recycling/reclamation of organic substances which are not used as solvents).

Provision is also made in completing Table H1A for temporary stockpiling of

- up to 100,000 tonnes of the imported soil waste material per annum;
- up to 95,000 tonnes of unprocessed C&D waste;
- up to 95,000 tonnes of processed / recycled C&D waste (awaiting sale.

Stockpiling of these materials is classified as waste activity R13 (storage of waste pending any of the operations numbered R1 to R12).

Capacity and Lifespan

While this licence review application provides for an increase in the maximum permitted C&D waste intake from 24,950 tonnes per annum to 95,000 tonnes per annum. It is not however certain that the increased waste intake limit will be reached every year the facility continues in operation. There are many factors which will influence the C&D waste intake rate, including, but not limited to the:

- Availability of acceptable inert C&D materials from the adjacent production facilities and local construction sites;
- Publication of 'End-of-Waste' criteria for recycled aggregates produced from inert construction and demolition waste
- Prevailing economic climate and related construction industry output;
- Distance of construction projects from the facility (and scale or duration of activity);
- Logistical / programming constraints at sites generating inert materials;
- Disruptions along the existing local and national road network.

Note that it is currently envisaged that the C&D waste recovery activities at Huntstown will continue for at least as long as soil recovery activity continues at the adjoining quarries within the Huntstown Quarry Complex.

ATTACHMENT H2 WASTE ACCEPTANCE PROCEDURES

The proposed waste acceptance procedures for inert soil and C&D waste imported to Huntstown Quarry for backfilling / restoration and recovery / recycling purposes are detailed in the Waste Acceptance and Handling Plan, a copy of which is provided under cover of this Attachment.

Huntstown Inert Waste Recovery Facility, Finglas, Dublin 11

WASTE ACCEPTANCE AND HANDLING PLAN

SLR Ref: 501.00180.00166

September 2017

CONTENTS

1 INTRODUCTION

1.1 Huntstown Inert Waste Recovery Facility

The Environmental Protection Agency (hereinafter 'the Agency' or 'EPA') issued a waste licence to Roadstone Ltd. (hereinafter 'Roadstone') in respect of an inert waste recovery facility at Huntstown North Quarry, Finglas, Dublin 11 on 11th February 2015 (Ref. W0277-01).

A number of pre-commencement submissions in respect of the soil recovery facility, including a Closure, Restoration and Aftercare Management Plan (CRAMP) and Environmental Liabilities Risk Assessment (ELRA) were submitted to the Agency following the award of the waste licence. These submissions were approved by the Agency and the Financial Provisions required on foot of these were put in place by Roadstone during September 2015. Backfilling and soil recovery activity commenced at the facility in October 2015.

The original waste licence limited the annual soil waste intake to a maximum of 750,000 tonnes. In August 2016, an application for planning permission to increase the permitted waste intake to a maximum of 1,500,000 tonnes per annum was submitted to Fingal County Council (Planning Permission Ref. FW16A/0120). This was subsequently granted in November 2016.

A waste licence review application providing for a commensurate increase in waste intake to 1,500,000 tonnes per annum and an extension of the licensed site to also include the West Quarry was submitted to the EPA in early November 2016.

Soil Recovery Facility

The existing waste licence provides for

(i) Backfilling of up to 9,450,000 tonnes (approximately 5,025,000m^3) of naturally occurring waste materials, principally excess inert soil, stones and/or broken rock excavated on construction and development sites, to re-use in backfilling and restoring a void created by extraction at the North Quarry and West Quarry at Huntstown;

(ii) Separation of any non-inert construction and demolition waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site;

(iii) Transfer of any separated waste streams to a dedicated waste inspection and quarantine facility for temporary storage, pending inspection, testing and potential removal to off-site to authorised waste disposal or recovery facilities;

(iv) Stockpiling and storage of imported topsoil pending re-use as cover material during final phase of restoration;

(v) Progressive restoration of the backfilled void (including placement of cover soils and seeding) and return to a natural grassland habitat and

(vi) Environmental monitoring of noise, dust, surface water and groundwater for the duration of the proposed site restoration works and for a short aftercare period.

Up to approximately 50,000m^3 (95,000tonnes) of the inert soil and stone required to backfill the quarry and/or re-profile the ground surface may be sourced from existing soil stockpiles and/or screening berms around the application site. All remaining soil and stone to be used in the restoration of the application site will be imported from external construction work sites. These materials are most likely to be sourced from

(i) greenfield development sites (where there has been no significant disturbance or degradation of soil below the upper nutrient rich topsoil layer)

(ii) development sites in previously developed urban areas, beneath a defined zone close to the present day ground surface which has been built up, disturbed or impacted by previous development or land use)

(iii) excavations of buried utilities (specifically stone / gravel / aggregate surround fill)

In addition to these materials, small volumes of aggregate are also imported for use in construction of temporary haul road over filled soils as required.

An estimate of the material quantities required to complete backfilling of the licensed site is provided below: -

Table 1-1
Material Requirements

Material	Quantity (tonnes)	Source
Inert subsoil, stones and rock	9,400,000 tonnes	Imported
Stockpiled soil	95,000 tonnes	In-situ
Aggregate	20,000 tonnes	Imported
Topsoil (150mm)	30,000 tonnes	Imported

Construction and Demolition Waste Recovery Facility

In addition to the existing licensed recovery activity, Roadstone intends to submit a further waste licence review application to the EPA to provide for

(i) inclusion of established construction and demolition waste recovery activities within the scope of the existing waste licence;

(ii) an increase in the permitted intake of construction and demolition waste from a maximum of 24,950 tonnes per annum at present to 95,000 tonnes per annum;

(iii) relocation of C&D waste recovery activities to a dedicated new long-term recovery facility on a 5.2 hectare site in the north-eastern corner of the Huntstown Quarry Complex and

(iv) construction of a hardstanding area, waste processing shed, surface water management infrastructure and upgraded internal access road at the new waste recovery facility.

No further C&D waste will be imported to the existing C&D waste recovery facility located at the Central Quarry area. Once End of Waste criteria for recycled aggregate are published by the EPA, it is envisaged that off-site dispatch of the C&D wastes stockpiled at the existing facility will continue for a period of up to 2 to 3 years.

1.2 Classes of Licensed Waste Activities

The waste licence issued to Roadstone by the Environmental Protection Agency (EPA) provides for the following licensed activities (as per the Fourth Schedule of the Waste Management Acts 1996 (as amended).

(i) Class R5 : Recycling / reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials (Principal Activity).

(ii) Class R3 : Recycling / reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) which includes gasification and pyrolysis using the components as chemicals and

(iii) Class R13 : Storage of waste pending any of the operations numbered R1 to R12.

2 WASTE ACCEPTANCE

The excavation and blasting of limestone has been undertaken at the Huntstown Quarry Complex for the past four decades, following grant of an outline permission in or around 1969. It is understood that quarrying at the northern and central areas was commenced at some time in the early-to-mid 1980's, on foot of a planning permission granted in 1982.

In August 2014, Roadstone secured planning permission for continuation of quarrying at its Huntstown Quarry complex for a further 20 year period (Fingal County Council Ref. No FW12A-0022, An Bord Pleanala Ref. No. 06F.241693). The overall development proposal, which was subject to EIA, included provision for ultimate backfilling and restoration of the existing North, West and South Quarries and the planned Central Quarry to original ground level.

At the present time, backfilling and restoration of the North and West Quarry is proceeding in accordance with existing planning permission(s) and the recently reviewed waste licence (Ref. W0277).

Only inert waste is currently recovered at the licenced waste recovery facility. Soil and stones are recovered directly at the facility by placing it on or land without any further processing. It is envisaged that a licence review application will be submitted to the EPA in the near future to provide for the inclusion of processing / recycling of inert construction and demolition (C&D) waste within the scope of the waste licence for the recovery facility at Huntstown.

2.1 Prior Approval of Waste Producers / Waste Collectors

Inert waste (soil and stone) shall only be accepted at the recovery facility from waste producers and/or waste collectors who have been pre-approved by the site operator, Roadstone Ltd.

Approval to import inert waste to the facility shall only be issued to waste producers and/or waste collectors who can demonstrate that they have a valid waste collection permit and have a proven track record in the construction, waste management and/or haulage sectors.

Once approved, each waste collector will be issued with a unique reference code / number which identifies both it and the source site from whence the imported soil and stone originated. This reference code / number must be presented at the weighbridge each time a consignment of inert soil waste is brought to the facility. Failure to present a valid customer code will mean the consignment will be rejected and not permitted to access the facility.

2.2 Basic Characterisation

Basic characterisation is the first step in the waste acceptance procedure and typically constitutes a full characterisation of the waste by gathering all necessary information to facilitate safe recovery in the long term. Basic characterisation is required for each type of waste intake.

The inert materials to be accepted at the site for use in backfilling / recovery activities are identified by their European Waste Catalogue reference number below

EWC Code	Waste Description
17 05 04	Soil and stones other than those mentioned in 17 05 03
20 02 02	Soil and stones

The above listed materials are included on the list of wastes in Clause 2.1.1 in Section 2 of the Annex to Council Decision 2003/33/EC which are assumed to fulfil

(i) the criteria set out for the definition of ***inert waste*** in Article 2(e) of the Landfill Directive (1999/31/EC) and
(ii) the criteria for intake to inert waste landfills listed in Section 2.1.2 of the Annex to 2003/33/EC.

On this basis it is considered reasonable to also assume that materials conforming to the EWC codes listed above (and/or certified as such) can be classified as inert for waste acceptance purposes at the licensed soil recovery facility at Huntstown.

Council Decision 2003/33/EC exempts wastes conforming to these EWC codes from the general requirement for characterisation testing when they are submitted to *a landfill* for inert waste. Notwithstanding this, it is considered prudent when accepting these wastes for intake to a soil recovery facility such as Huntstown, to collect and record some characterisation information in advance, in order to verify that the imported waste is / will be inert and that it will present no risk to underlying ground and/or groundwater.

2.2.1 Intake from Greenfield Sites

In the case of soil and stone being sourced at, and imported from, a greenfield development site, a letter of suitability will be required from an appropriately qualified or competent person which provides the following information to Roadstone prior to forwarding waste consignments to this waste facility

The required letter of suitability will state the following:

(i) The waste is greenfield soil and stone;
(ii) A description of the source and nature of the soil and stone;
(iii) The location of the source of the soil and stone (including a map showing the source site boundary);
(iv) The material is suitable for use as backfill at the facility; and
(v) The material will not cause environmental pollution at the facility.

The producer of the waste and/or the waste collector will be responsible for ensuring that the information provided is correct and pertains to the soil waste being / to be imported to the facility.

Once Roadstone is satisfied on the basis of the information provided to it that the soil wastes to be imported to the facility are inert, it shall issue approval to the waste producer / collector allowing the waste to be recovered at the Huntstown facility.

2.2.2 Intake from Non-Greenfield Sites

The limit values for soil and stone to be accepted at the recovery facility shall be in accordance with those set for inert waste in Section 2.1.2 of the Annex to Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills. Test data shall be provided to confirm that the imported soils are inert and comply with the adopted inert waste acceptance criteria. The limit values for waste intake at the facility as set out in Council Decision 2003/33 are indicated in the table reproduced overleaf.

A copy of Council Decision 2003/33 is reproduced in full in Appendix A.

Limit Values for Inert Waste Intake

Component	Leaching Limit Values *L/S Ratio = 10 l/kg* *mg/kg dry substance*	Limit Value *mg/kg*
Arsenic	0.5	
Barium	20	
Cadmium	0.04	
Chromium (total)	0.5	
Copper	2	
Mercury	0.01	
Molybdenum	0.5	
Nickel	0.4	
Lead	0.5	
Antimony	0.06	
Selenium	0.1	
Zinc	4	
Chloride	800	
Floride	10	
Sulphate	1000	
Phenol Index	1	
Dissolved Organic Carbon	500	
Total Dissolved Solids	4000	
Total Organic Carbon		30,000
BTEX*		6
PCBs**		1
Mineral Oil		500
Polyaromatic Hydrocarbons		100

* Benzene, Toluene, Ethylbenzene and Xylenes

** Polychlorinated Biphenyls

For non-greenfield sites, only soil and stone which has less than 2% contamination with materials of anthropogenic or non-natural origin (such as rubble, concrete, bricks, metal etc.) will be accepted at this facility, as per Table A.2 of Schedule A of the licence.

For non-greenfield source sites where greater than 2,000 tonnes of soil and stone is to be exported off-site to the Huntstown recovery facility, some basic characterisation testing will be sought in advance.

Once Roadstone is satisfied on the basis of the information provided to it that the soil wastes to be imported to the facility are inert, it shall issue approval to the waste producer / collector allowing the waste to be recovered at the Huntstown facility

2.2.3 Restrictions on Intake

The following intake restrictions shall apply at this facility:

(i) consignments containing peat shall not be accepted

(ii) consignments containing soil from known or suspect contaminated sites or sites having a potentially high risk of contamination (eg. garage forecourts or former industrial sites) shall not be accepted

(iii) consignments which could potentially contain asbestos, chemicals or any hazardous materials shall not be accepted

(iv) waste from unknown and/or unrecorded sources shall not be accepted

(v) all inert soil accepted at the facility must have minimal quantities (<2%) of other construction and demolition wastes intermixed with it (eg. metals, plastic, wood, rubber etc.) shall not be accepted.

2.3 Compliance Testing

When wastes have been deemed to be acceptable for recovery at this facility on the basis of a basic characterisation, they shall be subject to subsequent compliance testing to demonstrate that they do in fact comply with basic characterisation and acceptance criteria.

As previously indicated, all waste materials to be accepted at this waste facility are included on the list of wastes in Clause 2.1.1 in Section 2 of the Annex to Council Decision 2003/33/EC which are assumed to fulfil

(i) the criteria set out for the definition of inert waste in Article 2(e) of the Landfill Directive (1999/31/EC) and

(ii) the criteria for intake to inert waste landfills listed in Section 2.1.2 of the Annex to 2003/33/EC.

As such, these wastes are also deemed to be ***exempt*** from the general requirement for compliance testing. Notwithstanding this exemption however, it is again considered prudent to check the imported wastes to ensure compliance with the basic characterisation information provided (which, in the case of soil imported from a greenfield site at least, may not have included any prior quality testing).

In order to verify that the waste being accepted and used for restoration purposes at this recovery facility is inert, Roadstone will undertake compliance testing on soil and stones which have been imported to site. A representative sample of waste shall be taken from one in every 120 loads of soil and stone accepted at the recovery facility (or every 2,000 tonnes). A leachate sample derived from each soil sample (at 10:1 liquid : solid ratio typically) will be subject to compliance testing which for the initial period of operation at least will comprise all contaminant indicators for inert waste identified in Council Decision 2003/33.

Limit values for inert soils shall be in accordance with those set by *Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills*. Test data shall be used to confirm that the imported soils are inert and comply with established waste acceptance criteria.

2.4 On-site Verification

CCTV cameras are mounted around the weighbridge and weighbridge office at Huntstown and will be used to inspect all consignments being imported to the recovery facility. Any waste materials that are deemed to be unacceptable for recovery at the facility on the basis of a visual inspection at the weighbridge will be rejected and directed to an alternative authorised waste facility.

As material is being unloaded, end-tipped and/or stockpiled at the active backfilling face (soil and stones), it shall be subject to further visual inspection by site operatives to ensure that it is consistent with the characterisation data provided and that there is no excessive anthropogenic or non-natural material (<2%) intermixed with it.

If some contamination of soil and stones is immediately evident from visual inspection (unusual colour, smell etc.) or if excessive quantities of construction and demolition waste materials (such as metals, plastic, concrete, bricks, wood, rubber etc.) or other wastes are included, it shall be loaded back onto the HGV and directed off-site.

The waste producer / waste collector who imported the suspect material to site will be advised that no further loads will be accepted from the same source as the suspect material, pending completion of more detailed waste characterisation (potentially including testing) to confirm that all waste generated at the same source is inert and substantially free of other (non-soil and stone) waste.

Testing shall be undertaken at the expense of the waste producer / waste collector. In this instance, characterisation testing shall comprise a minimum of one batch leaching test for parameters listed in Section 2.1.2 of Annex 2 of Council Decision 2003/33/EC.

2.5 Sanctions

If any waste consignment forwarded to the waste recovery facility

(i) fails to comply with the acceptance policy outlined above

(ii) is inconsistent with the basic characterisation information provided

(iii) is discovered or suspected to have unacceptable waste intermixed with it

(iv) does not have a valid approval code on the accompanying documentation

it shall be not be accepted and directed off-site.

A record of the rejection of the waste consignment will be made in the site working folder.

If records indicate that consignments from a particular waste producer and/or waste collector are being repeatedly rejected, Roadstone will review whether or not to withdraw approval for its continued use of the recovery facility.

3 WASTE ACCEPTANCE – CONSTRUCTION AND DEMOLITION WASTE

3.1 Basic Characterisation

The inert construction and demolition waste materials to be accepted at the facility are identified by their European Waste Catalogue reference number below

EWC Code	Waste Description
15 01 07	Glass Packaging
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of Concrete, bricks, tiles and ceramics
17 01 02	Wood
17 02 03	Plastic
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 05 04	Iron and steel
19 12 05	Glass from Mechanical Treatment
20 01 02	Glass from Municipal Waste

In the case of C&D waste being sourced at, and imported from construction and development sites, waste producers and/or waste collectors will be required to submit the following waste characterisation information to Roadstone prior to consigning waste from the source site to its waste recovery facility at Huntstown :-

(i) source and origin of the waste;
(ii) procedures used to generate, manage and handle the waste at source;
(iii) composition and consistency of the waste;
(iv) physical appearance of the waste (smell, typical colour, physical form);
(v) classification (EWC) code according to European waste list (CD 2001/118/EC).

Only soil and stone which has less than 2% contamination with non-inert, non-recoverable material (such as timber, metal, plastic etc.) will be accepted for recovery at the facility.

In addition, for source sites where greater than 2,000 tonnes of C&D waste is to exported off-site to the Huntstown recovery facility, some basic characterisation test data will be sought in advance from the waste holder prior to its dispatch off-site. A representative test sample should be taken and tested for the initial 2,000 tonnes of C&D waste to be dispatched, and once for every 250 loads (approximately 5,000 tonnes) thereafter. These test data should confirm that the imported C&D waste is inert and complies with the adopted inert waste acceptance criteria.

The limit values for C&D waste to be accepted at the recovery facility are in accordance with those set for inert waste in Section 2.1.2 of the Annex to Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills. The limit values for waste intake set out in Council Decision 2003/33 are as indicated in Table 3.1 previously. A copy of Council Decision 2003/33 is reproduced in full in Appendix A.

All sampling will be carried out by independent and qualified persons and/or companies. Test laboratories should have a proven track record and experience in soil testing and analysis and operate an externally accredited quality assurance system.

Once the Licensee is satisfied on the basis of the characterisation information provided to it that the C&D waste to be imported to the facility is inert, it shall issue approval to the waste producer / collector allowing the waste to be recovered at its Huntstown facility

3.2 Compliance Testing

When wastes have been deemed to be acceptable for recovery at this facility on the basis of a basic characterisation, they shall be subject to further testing post-processing and prior to export off-site for re-use on construction and development sites.

It is envisaged that the scope of post-processing testing will be consistent with that set out in the End of Waste Criteria which will be published by the Agency in due course. The End of Waste criteria will establish that the recycled aggregate product is fit for the intended use and conforms to standard industry specifications and requirements (which include a requirement not to adversely impact human health or the environment).

In the interim, all imported, unprocessed C&D waste currently stockpiled at the Central Quarry will remain on-site as under existing legislation, it cannot be legally re-used until it can be shown to comply with a set of End of Waste criteria published by the Agency.

3.3 On-site Verification

As C&D waste is being unloaded, end-tipped and/or stockpiled, it shall be subject to further visual inspection by site based operatives to ensure that it is consistent with the characterisation data provided and that there is no excessive (<2%) non-inert, non-recoverable material intermixed with it.

If some contamination of the C&D waste is immediately evident from visual inspection (unusual colour, smell etc.) or if excessive quantities of waste materials such as metals, plastic, concrete, bricks, wood, rubber etc. (or other wastes) are identified, it shall be loaded back onto the HGV and directed off-site.

The waste producer / waste collector who imported the suspect or non-compliant material to site will be advised that no further loads will be accepted from the same source site as the suspect material, pending completion of more detailed waste characterisation (which could potentially including testing) to confirm that all waste generated at the same site is inert and substantially free of other (non-C&D) waste.

Testing shall be undertaken at the expense of the waste producer / waste collector. In this instance, characterisation testing shall comprise a minimum of one batch leaching test for parameters listed in Section 2.1.2 of Annex 2 of Council Decision 2003/33/EC.

4 WASTE HANDLING

4.1 Importation of Waste

All soil and stones / C&D forwarded for recovery purposes to be pre-sorted at source, inert and free of any non-hazardous / hazardous domestic, commercial or industrial wastes.

Only inert soil and stones / C&D waste complying with limit values set by *Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills* will be accepted at the waste recovery facility.

Materials shall be accepted at the site between 07.00 hours and 18.00 hours each weekday and on Saturday. No materials shall be accepted at any other time including Sundays and Public Holidays.

All soils imported to the site shall be brought in HGV trucks from the weighbridge at the front of the site directly to the active backfilling face (soil and stones) or the C&D recovery area (Central Quarry / replacement recovery facility in north-eastern corner of quarry complex).

Following unloading at the active backfilling area / C&D stockpile areas, accepted consignments of soil and stones will immediately be spread and compacted in-situ using a bulldozer.

4.2 Removal of Wastes Off-Site

Any excessive quantities of inert construction and demolition wastes inadvertently imported and accepted at the site will be segregated, stockpiled and transferred to storage skips at the waste quarantine area pending removal off–site to a local authorised construction and demolition waste recovery facility.

Should minor quantities of non-inert wastes (principally metal, timber, PVC pipes and plastic) be inadvertently imported amongst the soil and stones, it too shall be separated out (mechanically or by hand, as appropriate), stockpiled and temporarily stored in skips at the waste quarantine area prior to removal off-site to appropriately authorised waste disposal or recovery facilities

In the unlikely event that suspected contamination of the soil matrix is subsequently identified during the spreading, placement and compaction operations, it will be segregated from the main waste body and transferred to the covered waste inspection and quarantine facility pending closer inspection and testing to establish whether it is inert or not. Suspect waste will be identified on the basis of visual inspection (unusual colour, intermixed wastes etc) or by smell. Detailed records will be kept of all inspections and testing of suspect wastes.

Should inspections and/or testing indicate that the materials transferred to the waste inspection and quarantine facility are non-inert and cannot be accepted and used for restoration purposes at this site, they will be placed in skips and covered pending removal off-site by permitted waste collectors to a suitably permitted (or licensed) waste disposal or recovery facility.

APPENDIX A

COUNCIL DECISION 2003/33 ESTABLISHING CRITERIA FOR THE ACCEPTANCE OF WASTE AT LANDFILLS

COUNCIL

COUNCIL DECISION

of 19 December 2002

establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

(2003/33/EC)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community,

Having regard to Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste [1], and in particular Article 16 thereof and Annex II thereto,

Whereas:

(1) Pursuant to Article 16 of Directive 1999/31/EC, the Commission is to adopt specific criteria and/or test methods and associated limit values for each class of landfill.

(2) A procedure should be laid down to determine the acceptability of waste at landfills.

(3) Limit values and other criteria should be set for waste acceptable at the different classes of landfills.

(4) The test methods to be used for determining the acceptability of waste at landfills should be determined.

(5) It is appropriate from a technical point of view to exempt from the criteria and procedures set out in the Annex to this Decision those wastes generated by the extractive industry that are deposited on-site.

(6) A suitably short transition period should be granted to Member States to develop the necessary system to apply this Decision and a further brief transition period may be necessary for Member States to ensure the application of the limit values.

(7) The measures provided for in this Decision are not in accordance with the opinion of the Committee established by Article 18 of Council Directive 75/442/EEC of 15 July 1975 on waste [2]. They therefore have to be adopted by the Council in accordance with Article 18(4) of that Directive,

HAS ADOPTED THIS DECISION:

Article 1

This Decision establishes the criteria and procedures for the acceptance of waste at landfills in accordance with the principles set out in Directive 1999/31/EC and in particular Annex II thereto.

Article 2

Member States shall apply the procedure as set out in section 1 of the Annex to this Decision to determine the acceptability of waste at landfills.

Article 3

Member States shall ensure that waste is accepted at a landfill only if it fulfils the acceptance criteria of the relevant landfill class as set out in section 2 of the Annex to this Decision.

Article 4

The sampling and testing methods listed in section 3 of the Annex to this Decision shall be used for determining the acceptability of waste at landfills.

[1] OJ L 182, 16.7.1999, p. 1.

[2] OJ L 194, 25.7.1975, p. 39. Directive as last amended by Commission Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32).

ATTACHMENT H3 WASTE HANDLING PROCEDURES

The proposed waste handling procedures for inert soil / C&D waste imported to Huntstown Quarry, for backfilling /restoration and recycling / recovery purposes are detailed in the Waste Acceptance and Handling Plan, a copy of which is provided in Attachment H2.

Details of handling arrangements for other waste arisings are provided in Attachment H4.

ATTACHMENT H4 – MANAGEMENT OF WASTE ARISINGS

The waste recovery facility at the Huntstown Quarry complex provides for

- the recovery of excess soil waste by depositon / backfilling on land and
- recovery of inert construction and demolition (C&D) waste to produce secondary (recycled) aggregate.

The operation of the recovery facility is only likely to generate low volumes of other wastes (if any) for off-site disposal or recovery as detailed below.

Inert Soil / Construction and Demolition Waste

Any non-hazardous or hazardous wastes identified within the inert soil / C&D waste is separated and transferred to the waste inspection and quarantine shed, pending subsequent removal off-site to authorised waste disposal or recovery facilities by permitted waste collectors. On the basis of experience gained to date in operating this and other soil / C&D waste recovery facilities in the Greater Dublin Area however, Roadstone anticipates that the quantities of such wastes requiring transfer / removal off-site are likely to be very low.

In addition to CCTV inspection at the weighbridge(s), visual inspection and in-situ monitoring of imported C&D waste materials is undertaken by site-based personnel overseeing operations at unprocessed stockpiles at the existing (and planned future) recovery area.

Should any non-inert or non-soil / C&D waste be identified amongst incoming waste consignments, the entire waste consignment will be rejected and reloaded onto the HGV / tipper truck and the haulier directed to remove the waste off-site to another authorised (ie. permitted or licensed) facility.

In the unlikely event that suspected contamination is identified subsequently, during waste handling and processing / crushing, it will be segregated from the main waste stockpiles and transferred to the covered waste inspection and quarantine shed pending closer inspection and testing to establish whether it is inert or not. Suspect waste will be identified on the basis of visual inspection (unusual colour, intermixed wastes etc.) or by smell. Detailed records will be kept of all inspections and testing of suspect wastes.

Should inspections or testing of suspect soil / C&D waste at the inspection and quarantine shed indicate it is non-inert and cannot be accepted or handled at the recovery facility, it will be placed in skips and/or covered pending removal off-site by permitted waste collectors to an authorised waste disposal or recovery facility.

Any occasional metal waste encountered amongst the C&D waste is separated and placed in a skip pending removal off site to an authorised waste recovery facility. Other non-inert waste (timber, plastic etc.) is also be separated and placed in a skip pending removal to an authorised waste facility.

Residual Waste

It is anticipated, based on Roadstone experience of operating several inert C&D waste recovery facilities across the State, that all C&D waste accepted at the recovery facility at Huntstown can be processed to produce recycled aggregate and that little or no residual waste requiring further disposal or recovery at off-site facilities will be produced. Any such residual waste which is produced will be handled, managed and reported in accordance with national waste management legislation and any specific conditions attaching to the amended waste licence.

Hazardous Waste

Any waste oils, lubricants, filters, batteries, scrap metal, drums etc., associated with the licensed activity are removed from the facility by authorised waste collectors for recovery and/or recycling at off-site locations. Any water / fuel collecting within bunded structures is also removed and dispatched off-site as liquid waste by authorised waste collectors. An authorised waste collector removes any commercial / domestic type waste for pre-treatment and/or disposal at an authorised off-site waste management facility.

Other Waste

Any scrub vegetation or tress removed as part of the site clearance and site establishment works will be removed and mulched.

Waste Collection

Only operators and/or haulage firms holding valid current waste collection permits will be engaged to transfer waste streams off-site to other waste disposal or recovery facilities.

Waste Records

Detailed records of all wastes dispatched for recovery, recycling or disposal at off-site locations are maintained in line with requirements of Condition 11.9 of the existing waste licence and summary details are reported annually to the EPA in the Annual Environmental Report (AER) submitted for the facility.

EMS Provisions - Waste Management

The management of wastes generated at the licensed facility is in accordance with the company's existing Environmental Management System (EMS). A copy of the EMS procedure in respect of waste management is provided under cover of this Attachment (EMS 21).

Other EMS procedures are in place at the licensed facility to prevent and minimise the potential for uncontrolled emission of hazardous liquid wastes (principally waste oils and lubricants) to surface water and/or ground / groundwater. Emergency response procedures are also in place to deal with the immediate on-site response in the event of an accidental spill or leak of such wastes at the facility. Details of these procedures are provided in Attachment J.

Roadstone Ltd.	
WASTE MANAGEMENT PROCEDURE	**Doc. No.: EMS / 21**
	Revision No: 02
	Date: June 2015
	Approved By: EO

1.0 SCOPE

To ensure that **ALL** waste streams arising on site, including, decommissioned vehicles, location activities, products and services are controlled and handled in an appropriate manner with regard to all applicable legislation and regulations, and in compliance with the Company's Environmental Policy and Environmental Management System.

2.0 LITTER / DUMPING

It is against strict company policy to drop litter on any company site. Persons found doing so will be asked to lift the litter and dispose of it in the correct fashion.

Fly Tipping is strictly prohibited. Any persons caught dumping will be reported to the Authorities.

3.0 APPROVED WASTE DISPOSAL / RECOVERY CONTRACTORS

All waste contractors employed should hold a valid waste collection permit (as issued by the Local Authority relevant to the location) for the removal of waste off-site. The Environmental Officer shall keep a copy of valid waste collection permits on electronic format. A copy of the Waste Contractors permit / licence for the operation of a waste facility should also be kept on file.

All Hazardous Waste Contractors should hold a valid waste collection permit and a valid waste licence. All locations should receive a Certificate of Disposal from the Hazardous Waste Contractor indicating that the waste has been disposed appropriately.

4.0 CATEGORIES OF WASTE

Table 1 & 2 outlines the reusable/recycling/disposal route for non- hazardous and hazardous waste that may arise on site;

TABLE 1 NON-HAZARDOUS MATERIAL		
MATERIAL	*REUSABLE / RECYCLING / DISPOSAL ROUTE:*	*PERSON RESPONSIBLE*
1. General internal domestic waste (litter, food scraps etc.)	a) To be placed in designated skip and collected by Permitted Waste Contractor	Location Manager

TABLE 1 NON-HAZARDOUS MATERIAL		
MATERIAL	*REUSABLE / RECYCLING / DISPOSAL ROUTE:*	*PERSON RESPONSIBLE*
2. Old plastic hard hats	a) To be placed in designated skip and collected by Permitted Waste Contractor	Location Manger
3. Scrap metal	a) Where required items of scrap equipment to have remaining oil, fuel, antifreeze, batteries etc removed. (see Hazardous Waste Section) b) All scrap metal to be collected by Permitted Waste Contractor c) Scrap metal suitable for re-use will be stored in a designated area labeled 'Re-usable Materials'. If thee is no plan to reuse the scrap metal, the scrap metal will be collected by a Permitted Waste Contractor	Location Manager
4. Pallets	a) To be stacked neatly. Repair pallets if possible. Re-use. Surplus stock build up to be sold on to a pallet specialist	Location Manager

TABLE 2 HAZARDOUS MATERIAL		
MATERIAL	***REUSABLE /RECYCLING/ DISPOSAL ROUTE***	***PERSON RESPONSIBLE***
1. Recovered Oil	a) Recovered oil shall be collected and stored for recycling in designated and labeled bunded tanks b) Recovered oil will be collected by a Licenced Waste Contractor	Location Manager
2. Used spill kit materials	a) Used spill absorbents will be stored in heavy-duty plastic bin bags. Label all bags with note of what they contain, including contaminants. Waste materials to be collected by Licenced Waste Contractor	Location Manager
3. Oil rags and Oil filters	a) To be kept in a designated wheely bin and collected by Licenced Waste Contractor	Location Manager
4. Batteries	a) Batteries to be stored in a high-density polyethylene container b) Used batteries are to be collected by Licenced Waste Contractor	Location Manager

TABLE 2 HAZARDOUS MATERIAL		
MATERIAL	***REUSABLE /RECYCLING/ DISPOSAL ROUTE***	***PERSON RESPONSIBLE***
5. Fluorescent tubes	a) To be stored in a designated labeled storage box until sufficient are collected to be removed off-site by Licenced Waste Contractor	Location Manager
6. Printer/copier toner cartridges / ink jets	a) To separate recycling bin supplied and collected by Licenced Waste Contractor	Location Manager
7. Septage	a) All septage is to be collected by Licenced Waste Contractor	Location Manager
8. 40 gallon oil drums	a) All empty scrap drums to be stored in a single designated area prior to removal off site by Licenced Waste Contractor	Location Manager

Note – *Any Waste streams not mentioned above will be determined to be deemed hazardous or non-hazardous (Environmental Officer to be contacted) and dealt with appropriately thereafter.*

5.0 PROHIBITION OF BURNING WASTE ON SITE

UNDER NO CIRCUMSTANCES WILL ANY WASTE BE BURNT FOR DISPOSAL PURPOSES

6.0 WASTE MANAGEMENT RECORDS

The Location Manager shall keep a record of all wastes generated on site and collected from Waste Disposal Recovery Contractors. This will be recorded in the Environmental Records File.

7.0 RELEVANT DOCUMENTS

- Legislation Register

8.0 RELEVANT AUTHORITIES

- Local Authority
- Environmental Protection Agency (Tel: 053 9160600)
- REPAK (Tel: 01 4670190)

ATTACHMENT H5 – WASTE RECYCLING AND RECOVERY

Contribution to Re-use and Recycling Initiatives

Regulations 31(1) and 31(2) of the European Communities (Waste Directive) Regulations 2011 place an obligation on the Government, the Minister for the Environment, the Environmental Protection Agency and Local Authorities, as appropriate, to take any and all such measures as may be required to

(i) promote and/or facilitate the re-use and recycling of waste;

(ii) make arrangements for the collection and handling of separated waste streams in order to facilitate high quality recycling and

(iii) ensure that compliance targets for specific household / municipal waste streams and non-hazardous construction and demolition wastes (as requiredby European and national legislation) are achieved by 2020.

The continuation of existing inert construction and demolition (C&D) waste recovery activities (under licence) at the Huntstown Quarry complex, the relocation of C&D waste recovery activities and the planned increase in the rate of C&D waste intake will not, in isolation or in combination, adversely impact the re-use or recycling of any of the specific waste streams identified in the regulations and will not therefore address any of the above listed obligations imposed on the agencies and/or authorities responsible for waste management within the State.

By definition, excess (waste) soil or C&D wastes generated in the course of construction works or development project cannot be re-used or recycled at the site on which it originates. If it is not possible for excess soil and/or C&D waste to be re-used and/or recycled at another construction site or development project in close proximity, it must be transferred off-site for recovery purposes.

Arrangements for recycling and/or recovery of any non-hazardous or hazardous C&D waste, metal or other non-inert wastes (timber, plastic etc.) inadvertently brought to site will be managed as outlined in Attachment H4 of this waste licence review application and in Chapter 2 of the Environmental Impact Statement which accompanies it.

Compliance with Recovery Obligations

Section 29(2A) of the Waste Management Act of 1996 (as amended) places an obligation on waste producers and holders to ensure that

(i) waste undergoes recovery operations in accordance with the requirements of the waste hierarchy and

(ii) is managed in compliance with waste management legislation and

(iii) in a manner which does not give rise to environmental pollution.

An appraisal of how the licensed waste facility at Huntstown Quarry addresses the requirements of the EU Waste Directive (2008/98/EC) and Section 21A(2) to ensure that waste is managed at the highest priority level of the waste hierarchy is provided separately in Attachment L3 of this waste licence review application.