



**INERT WASTE RECOVERY FACILITY
BROWNSWOOD, ENNISCORTHY,
CO. WEXFORD**

**ENVIRONMENTAL IMPACT STATEMENT
NON-TECHNICAL SUMMARY**

JUNE 2011



Prepared by :
SLR Consulting Ireland
7 Dundrum Business Park
Windy Arbour
Dublin 14

NON TECHNICAL SUMMARY

CONTENTS

1.0	INTRODUCTION	1
2.0	PROPOSED WASTE RECOVERY FACILITY	2
3.0	HUMAN BEINGS.....	4
4.0	FLORA AND FAUNA.....	4
5.0	SOILS AND GEOLOGY	5
6.0	WATER	6
7.0	AIR QUALITY	7
8.0	NOISE	7
9.0	CULTURAL HERITAGE.....	8
10.0	LANDSCAPE.....	8
11.0	MATERIAL ASSETS	9
12.0	TRAFFIC	10

*For inspection purposes only.
Consent of copyright owner required for any other use.*



NON TECHNICAL SUMMARY

1.0 INTRODUCTION

- 1.1 This Non-Technical Summary provides supporting information to accompany an application for planning permission to Wexford County Council and a waste licence application to the Environmental Protection Agency (EPA) by Roadstone Wood Ltd. for a proposed inert waste recovery facility at the 'Old Quarry' at Brownswood, Enniscorthy, Co. Wexford. The principal waste activity at the site is backfilling of the existing quarry void using imported inert soil and stone.
- 1.2 The proposed inert waste recovery facility is located entirely within the townland of Brownswood, Co. Wexford, approximately 2.5km south of the town of Enniscorthy. Its location is shown on an extract from the 1:50,000 scale Ordnance Survey Discovery Series map of the area, reproduced as Figure NTS 1. Approximately 10 No. residential properties are clustered amongst agricultural land immediately north of the Old Quarry. The existing N11 National Primary Road and the River Slaney are located immediately west of it, while 'Murphy's Quarry' (also operated by Roadstone Wood Ltd.), and approximately 7 No. residential properties are immediately south of it. A local (county) road is located immediately beyond the eastern boundary of the Old Quarry.
- 1.3 At the present time, traffic access to the Old Quarry and the application site is obtained by turning east off the existing N11 National Primary Road between Enniscorthy and Wexford at Brownswood. Traffic movements are facilitated by both left and right turning junctions along the N11 at Brownswood.
- 1.4 The amount of inert material to be backfilled and placed at the facility over its operational life is 1,330,000 tonnes (approximately 700,000m³), of which approximately 1,290,000 tonnes must be imported. Inert materials to be placed and recovered at the facility will be sourced from construction and/or demolition sites where prior testing has indicated that no soil or material contamination is present.
- 1.5 The application area comprises a worked out quarry and surrounding land measuring covering an area of approximately 8.3hectares (20.0acres). No formal planning permission was issued in respect of former quarrying activities at the application site, as it was established and operating prior to the introduction of planning legislation in 1963.
- 1.6 Backfilling of the worked out quarry with inert soil and stones forms part of the quarry restoration plan proposed by Roadstone Wood Ltd. in response to Condition No. 14 imposed by Wexford County Council under the Section 261 quarry registration process in 2007 (Planning Ref. Q/03).
- 1.7 The proposed recovery of inert soils at the former quarry at Brownswood will provide for substantial backfilling of a large open void above the groundwater table, facilitate the restoration of the worked out lands to agricultural use and improve protection of the underlying groundwater resource, which is currently classified as 'extremely vulnerable' due to the absence of any protective soil cover.

NON TECHNICAL SUMMARY

2.0 PROPOSED WASTE RECOVERY FACILITY

Principal Elements

- 2.1 The proposed inert waste recovery facility at Brownswood provides for
- (i) Use of imported inert natural materials, principally excess soil, stones and/or broken rock excavated on construction sites, to backfill and restore a large existing void created by previous rock extraction
 - (ii) Separation of any non-inert construction and demolition waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site prior to removal off-site to appropriately licensed waste disposal or recovery facilities
 - (iii) Temporary stockpiling of topsoil and subsoil pending re-use as cover material for final restoration of the site
 - (iv) Restoration of the backfilled void (including placement of cover soils and seeding) and return to use as agricultural grassland
 - (v) Environmental monitoring of noise, dust, surface water and groundwater for the duration of the site restoration works and for a short period thereafter.

Site Infrastructure

- 2.2 Inert materials will be accepted at the site between 06.00 hours and 18.00hours each weekday and 07.00hours to 16.00hours on Saturday. Vehicular access into Roadstone Wood Ltd.'s landholding at Brownswood is principally via an entrance off a very short length of local road which links directly to the N11 National Primary Road to the south of Enniscorthy.
- 2.3 All vehicular traffic arriving must stop at the weighbridge in front of the site office before gaining access to the proposed inert waste recovery facility. Within the site, trucks travel to and from the active restoration and recycling areas over a network of paved and unpaved roads. HGV trucks must pass through a wheelwash facility before exiting the site.
- 2.4 Fuel for site plant and equipment will be stored at the existing storage tanks within the site and/or in mobile double skin bowsers. The fuel storage tanks are constructed on a sealed concrete surface and bunded to provide a retention capacity of 110% of the storage volume. HGV trucks will refuel at existing refuelling facilities adjacent to the maintenance shed. Oil and lubricant changes for both wheeled and tracked plant will be undertaken at existing maintenance sheds.
- 2.5 Staff employed at the waste recovery facility will share existing office and canteen facilities with other Roadstone Wood Ltd. staff employed at Murphy's Quarry to the south and at the adjoining concrete / block production facility.
- 2.6 A waste inspection and quarantine area will be established at an existing shed which is constructed over a sealed concrete slab. Visual inspection, in-situ monitoring and testing of imported waste materials will be undertaken by Roadstone Wood Ltd. staff as inert waste materials are end-tipped, spread and placed at the active backfilling area. Should there be any concern about the nature of soil material after it has been end-tipped, it will be re-loaded onto a truck and directed to the waste inspection and quarantine area for closer

NON TECHNICAL SUMMARY

examination and inspection. Any suspect or unacceptable waste identified will be placed in covered skips which will be removed off-site as required once filled.

- 2.7 Temporary haul roads across backfilled areas in the former quarry will be constructed using small quantities of imported inert concrete and brick or recycled inert construction and demolition waste (secondary aggregate).
- 2.8 Surface water run-off at the site will be collected in sumps at temporary low points within the quarry void. These temporary sumps will effectively function as primary settlement ponds and water collecting in them will be pumped (with minimum agitation) to new settlement ponds / mobile silt trap and oil interceptor and from there, via the existing drainage network and settlement ponds, to an existing discharge to the River Slaney. The proposed site infrastructure layout is shown on Figure NTS 2.

Waste Recovery Activities

- 2.9 Backfilling of the former quarry will proceed in phases and on completion, the site will be restored to former agricultural use. An indication of the proposed final ground level contours is provided in Figure NTS 3.
- 2.10 It is currently envisaged that backfilling of the existing void will be undertaken in a number of 'lifts' from the existing quarry floor. Each phase of backfilling will generally correspond to the depth and extent of existing worked-out quarry benches. Any additional or replacement infrastructure required to facilitate operation of the proposed waste recovery facility will be constructed and/or installed at the outset of backfilling.
- 2.11 On completion, a cover layer of subsoil and topsoil will be placed and graded across the backfilled soil. This will then be planted with grass in order to promote stability and minimise soil erosion and dust generation.
- 2.12 It is estimated that the average rate of importation of inert materials to the quarry void will average around 200,000 tonnes per annum. The corresponding duration of backfilling activities is of the order of 6.5 years, subject to market demand.

Environmental Monitoring

- 2.13 A programme of environmental monitoring is in place around the application site to record air and water emissions from readymix concrete, concrete block and asphalt production activities in the immediate vicinity of the application site. It is envisaged that the existing programme will form the basis of a monitoring programme to be implemented as and when the proposed waste recovery facility is established. This monitoring programme will comply with requirements set by any planning permission issued by Wexford County Council and/or waste licence issued by the Environmental Protection Agency.
- 2.14 Environmental sampling, monitoring and testing for noise, dust, surface water and groundwater will be undertaken by in-house staff and/or independent external consultants as required. Records of environmental monitoring and testing will be maintained on-site and will be forwarded to the EPA / Wexford County Council as required.

NON TECHNICAL SUMMARY

3.0 HUMAN BEINGS

- 3.1 Quarrying and concrete production activities have been undertaken across Roadstone Wood Ltd.'s existing landholding for approximately 50 years. The impact of the proposed waste recovery activities on human beings, principally those arising from backfilling of the worked-out quarry void, will be similar to those which existed previously when rock was being excavated.
- 3.2 While there will be negligible or no impact on much of the local residential housing around the application site, there may be some very minor additional noise and dust impact at the residences closest to the application site (most notably those immediately beyond the northern boundary) when backfilling and restoration works are being undertaken close to the existing ground surface at the northern end of the facility.
- 3.3 The importation of inert soil and stone / construction and demolition materials via the existing local road network may (depending on importation rates) result in a very minor increase in the number of HGV movements along the N11 National Primary Road. A number of measures (including replacement of signage, road lining and improvement of sightlines) will be implemented to enhance traffic safety on access roads leading to the site.
- 3.4 The principal long-term impact of backfilling the existing quarry void will be the restoration of the ground level to above the groundwater table, substantial improvement of an unsightly feature in the landscape and return of the site to its former agricultural use. Once waste recovery activities at the site are complete, there will be a reduction in traffic movement over the short length of local road leading to and from the quarry and proposed waste facility, with consequent improvement of the human environment.

4.0 FLORA & FAUNA

- 4.1 The River Slaney Valley candidate Special Area of Conservation (cSAC) lies to the west of application site and the N11 National Primary Road. It is afforded statutory protection under national and European legislation as it contains a number of designated Annex 1 habitats including wet woodlands, alluvial wetlands, estuaries and mudflats.
- 4.2 Existing water management system at the Old Quarry site in Brownswood is regulated by means of a discharge licence from Wexford County Council.
- 4.3 filling of the existing void space will result in the loss of any flora and disturbance of any fauna that may have naturally re-colonised the existing bare ground and/or exposed rock.
- 4.4 A peregrine falcon, a protected species, was found to be nesting on the residual quarry faces at the site. The proposed quarry restoration plan retains a section of exposed quarry face along the eastern boundary and it is expected that this will provide a permanent suitable roosting and nesting area for the Peregrine Falcon.

NON TECHNICAL SUMMARY

- 4.5 The proposed facility is unlikely to have any direct impact on flora and fauna outside the site boundary, particularly on the River Slaney cSAC.
- 4.6 The discharge of water from the existing groundwater pond or surface water run-off during backfilling operations has the potential to indirectly impact surface water quality in the adjoining River Slaney cSAC. Potential adverse impacts to the river will be managed by passing all dewatered groundwater and surface water run-off via settlement ponds / mobile silt trap and an oil interceptor prior to discharge. The quality of discharge to the river will be regularly monitored to ensure that it complies with emission limit values and has no potential adverse impact on water quality within the cSAC.
- 4.7 Some Himalayan balsam and Japanese knotweed (which are invasive plant species) occur at the application site. A management plan will be prepared which addresses the management and eradication of these species at the site and implements traffic management and material handling protocols at the proposed inert waste recovery facility which will minimise risk of further spread, particularly to the adjoining cSAC.
- 4.8 The existing perimeter hedgerows along the site boundary act as a visual and acoustic barrier and will remain in place for the duration of inert waste recovery activities at the application site. Where necessary, a number of mitigation measures will be implemented to eliminate and/or minimise the impact of waste recovery activities on hedgerows.
- 4.9 As backfilling works are completed, the site will be restored to agricultural use, most likely as grassland. This will be in keeping with the surrounding area, which is composed predominately of grassland and/or tillage. The expected ecological diversity of the restored land is likely to be low, similar to that of the surrounding farmland. The arable farmland which is located immediately beyond the boundary of the application site will not be directly affected by the proposed waste recovery activities.

5.0 SOILS AND GEOLOGY

- 5.1 Topsoil (the upper layer of soil capable of sustaining vegetation and crop growth) was previously stripped from the site in order to facilitate the development of the former quarry and is currently stockpiled (with subsoil) in mounds across and around the existing quarry site. Soils in the vicinity of the site are suitable for a wide range of agricultural activity and are generally used for grassland or tillage.
- 5.2 Published geological maps indicate that the natural subsoils at the application site principally comprise glacial till and that the underlying rock comprises igneous (volcanic) rock and slaty mudstones of the Campile Formation. Much of the subsoil cover has been removed in the past to facilitate quarrying. Ground investigation information obtained in and around the application site indicates that the subsoil profile comprises varying depths of filled ground over limited thickness of glacial till and/or weathered rock.
- 5.3 There is no evidence of soil contamination at the site other than very limited and localised spills / leaks around existing fuel tanks and former mobile plant.

NON TECHNICAL SUMMARY

These were previously been investigated at the behest of Wexford County Council and are of no longer of any concern to it.

- 5.4 The Geological Survey of Ireland has confirmed that there are no proposed geological National Heritage (pNHA) sites in the immediate vicinity of the site. The backfilling and restoration of the worked out quarry will largely eliminate existing rock exposures, though these are not considered to be of any significant geological interest.
- 5.5 The importation of soil, stones and inert construction and demolition waste introduces a risk of potential soil contamination at the site. Assuming best practice management procedures are employed in operating the facility, the risk of soil contamination is considered to be small.
- 5.6 Backfilling and reinstatement of the worked out quarry void will improve the visual appearance of a prominent ridge in the landscape and facilitate re-establishment of productive agricultural soil across the site.

6.0 WATER

- 6.1 The volcanic rock underlying the application site is classified as a regionally important bedrock aquifer. There are no karst features within 1km of the application site. Maps published on the EPA indicate that the site is located in an area with high to extreme groundwater vulnerability status. This reflects the potential for rapid groundwater movement through thin (or non-existent) soil cover into the underlying bedrock aquifer.
- 6.2 Recent groundwater sampling and testing indicate that groundwater quality at the site is generally good, with former quarry operations shown to have had no significant impact on existing groundwater quality.
- 6.3 The proposed inert waste recovery facility is also located upslope, upgradient and east of the River Slaney. A minor tributary stream to the River Slaney, the Boro River, runs immediately beyond Roadstone Wood Ltd.'s northern property boundary. Currently most rain falling across the Old Quarry either runs-off into the flooded quarry void or infiltrates directly into the ground.
- 6.4 Dewatered groundwater and surface water run-off from paved areas have historically been collected in sumps and drains and pumped to a water holding tank prior to being discharged via settlement ponds to the River Slaney in accordance with the conditions of its discharge licence.
- 6.5 Potential impacts of backfilling the former quarry with inert materials have been assessed and it is considered that in the absence of mitigation measures, the development could have the potential to negatively impact groundwater and surface water quality, particularly if contaminated soils were placed at the site, fuel or chemical spillages occurred or discharges to the River Slaney had high levels of suspended solids, organic contaminants or nutrients.
- 6.6 It is therefore proposed that a number of mitigation measures be incorporated into the scheme to protect groundwater quality, including site management

NON TECHNICAL SUMMARY

protocols in respect of fuelling and maintenance activities and waste acceptance and handling procedures.

- 6.7 The proposed backfilling activities could also have a negative impact on surface water quality, most notably, discharge of sediment laden run-off to the River Slaney. It is therefore proposed that the existing surface water management system at the application site will be upgraded to ensure that all waste pumped out of the quarry during backfilling and restoration is routed via new settlement ponds / mobile silt trap and oil interceptor, before being discharged via the existing water management system to the River Slaney.

7.0 AIR QUALITY

- 7.1 Given the inert nature of the materials being used to restore the application site and the absence of biodegradable (organic) wastes, no landfill gas emissions will arise at this site.
- 7.2 The principal air quality impact associated with the continued operation of the inert waste recycling facility is fugitive dust emission. Emissions are likely to arise during dry periods from
- (i) trafficking by HGVs over unpaved soil surfaces
 - (ii) end-tipping of inert soil and stone and
 - (iii) handling / compaction of inert soil
- 7.3 In order to control dust emissions, a number of measures will be implemented, principally
- (i) extension of the existing sprinkler system on site to cover the proposed waste recovery activities
 - (ii) additional spraying of water from a tractor drawn bowser on dry exposed soil surfaces as and when required
 - (iii) construction of internal haul roads across backfilled ground using minor quantities of imported inert concrete, brick or secondary (recycled) aggregate with low silt and clay content
 - (iv) routing all HGVs leaving site through the existing wheelwash facility and
 - (v) planting the restored surface with grass as soon as practicable after placement of cover soils to minimise soil erosion and dust emissions.
- 7.4 The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of paved internal roads and the existing local road in front of the site.

8.0 NOISE

- 8.1 Noise monitoring in and around the application site indicates that average ambient noise levels across the application site typically range between 40dBA L_{Aeq} and 59dBA L_{Aeq} , depending on location (proximity to N11 National Primary Road) and time of day. These noise levels are consistent with daytime levels in rural areas close to a working quarry and a busy national road.

NON TECHNICAL SUMMARY

- 8.2 The worst case scenario in relation to potential temporary noise impact arises at residences beyond the northern site boundary, when quarry backfilling activity takes place close to the surface at the northern quarry face. Spreading and compaction plant and HGV trucks will be at the shortest distance from the adjoining residences at this time. Noise assessment indicates that in a worst case scenario, cumulative noise levels arising from intensive backfilling activities (with plant operating 100% of the time) would remain below recognised permissible noise threshold limits of 55 dB(A) L_{Aeq} .
- 8.3 Predicted (maximum) future noise levels at nearby sensitive receptors are comparable to existing levels, making it unlikely that any exceedence of threshold noise levels will be noticed by nearby residents.
- 8.4 It is proposed to monitor average noise levels during the operation of the waste recovery facility at the Brownswood site. Should these indicate that average noise levels exceed permitted limits (or likely to be exceed them), provision will be made for a combination of one or more of the following in order to reduce noise levels:
- construction of a temporary screening embankment,
 - installation of a temporary noise barrier between noise source receptor(s)
 - reduction of noise emissions at source
 - management of activities to minimise vehicular movements and/or duration of activities closest to affected residences.

9.0 CULTURAL HERITAGE

- 9.1 The cultural heritage study in respect of the waste recovery facility at Brownswood comprising a paper study and fieldwork was carried out in August 2010. A wide variety of paper, cartographic, photographic and archival sources was consulted. All the lands impacted by the development were visually inspected.
- 9.2 There are two recorded monuments close to the application site, one a fulacht fia (prehistoric cooking site) lies to the south within Brownswood townland, the other a burial site lies within Salville / Motabeg townland to the north. A protected Victorian era property, Brownswood House lies south of the application site, between the Old Quarry and Murphy's Quarry.
- 9.3 Given the history of quarrying and aggregate processing at the application site (and at Murphy's Quarry to the south), it is considered that the proposed recovery of inert soils in backfilling of the worked out quarry void will have no direct or indirect impact on any items of cultural heritage, including archaeological resources and architectural heritage.

10.0 LANDSCAPE

- 10.1 The proposed inert waste recovery facility at Brownswood is located within a rural landscape which is described as lowlands by the Wexford County Development Plan 2007-2013. The rural character of the area immediately around the application site has been eroded to an extent by the existing

NON TECHNICAL SUMMARY

extractive industry, the N11 National Primary Road and much isolated or clustered housing development. The predominant land use in the area is agricultural, principally tillage and grassland.

- 10.2 Given the locally elevated nature of the landscape around the application site and the presence of boundary hedgerows, there is practically no long-distance view into the site. There are some partial or restricted views into the site from residences to the north, screened by a combination of intervening hedgerows and topography.
- 10.3 The inert waste recovery facility will not have any significant impacts on designated scenic or tourist roads and viewpoints on account of its location, the intervening topography and screening by hedgerows. The application site is too distant and fully screened by intervening vegetation to be perceptible from any designated view or prospect.
- 10.4 The quarry backfilling activities are likely to be visible for temporary periods (if at all) from the closest residences, to the north of the application site. Much of the views into the site will be screened by the surrounding landscape elements, a combination of the topography and existing hedgerows.
- 10.5 Ultimately, the worked-out quarry will be returned to beneficial use as agricultural grassland. On completion, the site will merge better into the surrounding landscape, eliminating any negative visual impact which currently arises.
- 10.6 Landscape mitigation measures will be put in place to minimise any potential visual impact associated with the proposed restoration scheme. These include
- i) Retaining all hedgerows along the site boundary and
 - ii) Removing any temporary plant, infrastructure and paved surfaces on completion of backfilling works.

11.0 MATERIAL ASSETS

- 11.1 Access to the inert waste recovery facility at Brownswood is via a short length of local road leading off the N11 National Primary Road.
- 11.2 There are several residential clusters in the immediate vicinity of the site, mainly located along local roads to the north and the south of the application site. The River Slaney Valley cSAC lies to the west of the N11 and is afforded statutory protection as it contains a number of designated habitats including wet woodlands, alluvial wetlands, estuaries and mudflats.
- 11.3 Although bedrock exposed at the site and in the surrounding area is classified as a regionally important aquifer, it is understood that houses in the immediate vicinity are supplied with drinking water from a Local Authority mains supply.
- 11.4 The level of HGV movements to and from the inert waste recovery facility could increase, depending on the rate of importation of soil and stones. Backfilling activities at the site present a number of risks to groundwater quality. However measures will be implemented to minimize these risks.

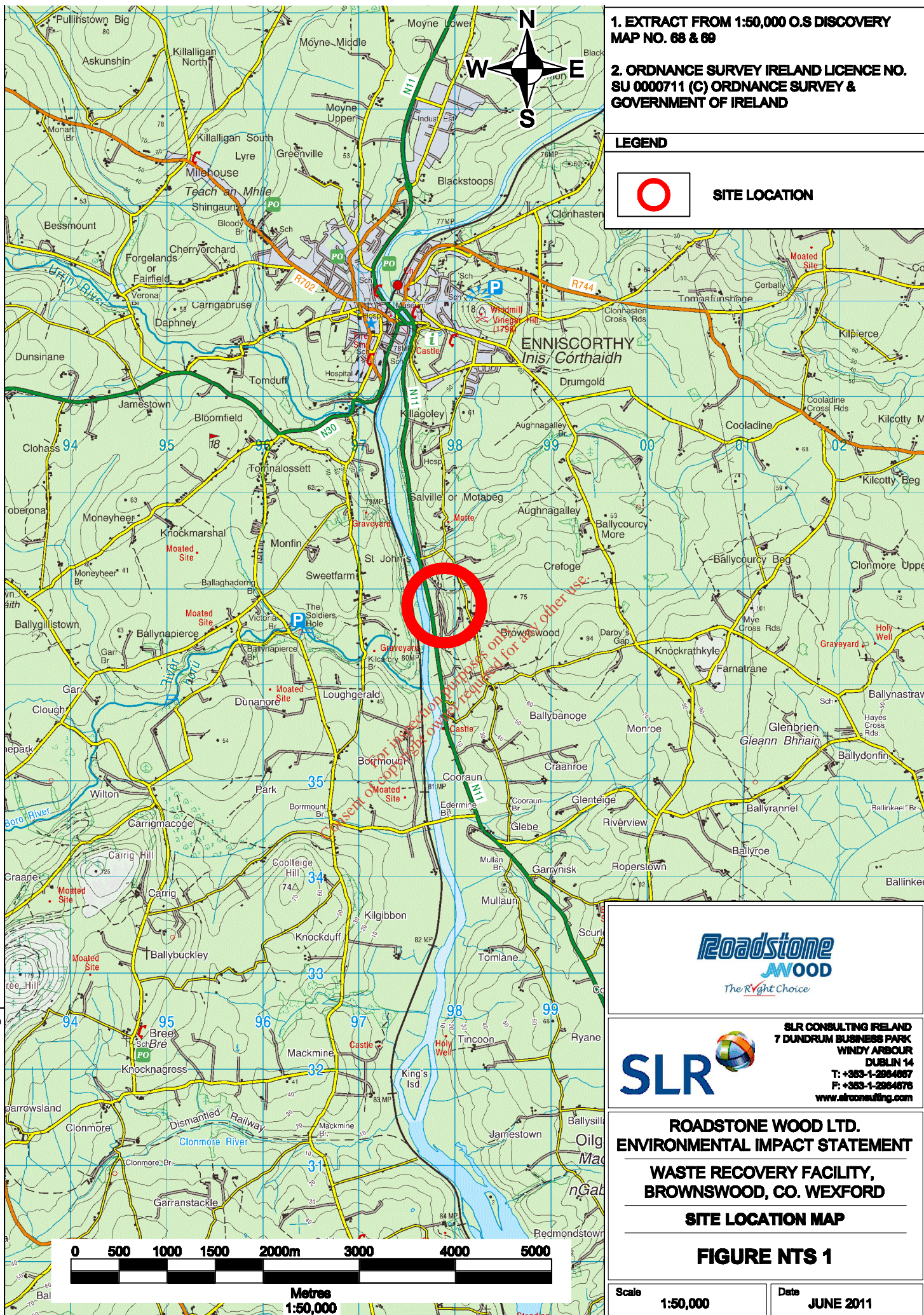
NON TECHNICAL SUMMARY

- 11.5 There may be some short-term impacts on residential amenity for residents living immediately around the site, most notably an increase in ambient noise and dust emissions when materials are being placed close to the surface at the northern face of the quarry. A number of measures will be implemented to minimize such emissions.
- 11.6 In the long-term, backfilling of the former quarry with inert material will increase protection to, and reduce the vulnerability of, the existing groundwater aquifer. By improving the visual appearance of a prominent ridge in the landscape, it will also have a neutral, possibly beneficial, impact on land values and/or residential property values.

12.0 TRAFFIC

- 12.1 The proposed waste activities at Brownswood entail backfilling the existing quarry void using imported inert soils and stones. HGV trucks carrying soil and stones to the waste recovery facility will all travel to the waste recovery facility along the existing N11 National Primary Road.
- 12.2 Assuming an average rate of quarry infilling of approximately 200,000tonnes/year, this could result in an average of 3 additional HGV movements per hour in each direction along the N11, over and above that which exists at the present time. Were the rate to increase temporarily to 400,000tonnes/year, this could result in an average of 6 additional HGV movements per hour in each direction.
- 12.3 An increase in HGV movements of between 3 and 6 per hour in each direction would be lower than the total number of number of hourly HGV movements to and from the Brownswood site in recent years, when quarry output was at a maximum.
- 12.4 As HGV traffic movements in and out of the application site were higher in the recent past, the existing road network has demonstrated its ability to safely and effectively carry any future increase in traffic levels to and from the proposed waste recovery facility in the future.
- 12.5 A number of measures recommended by a recent independent road safety audit will be implemented to further improve road traffic safety along existing local roads leading to and from the application site. These measures, which include replacement of signage, road lining and improvement of sightlines, will be implemented subject to agreement with Wexford County Council.

0180.00012.18.001.R0.SITE LOCATION MAP.dwg



1. EXTRACT FROM 1:50,000 O.S DISCOVERY
MAP NO. 68 & 69

2. ORDNANCE SURVEY IRELAND LICENCE NO.
SU 0000711 (C) ORDNANCE SURVEY &
GOVERNMENT OF IRELAND

LEGEND



SITE LOCATION

Roadstone
WOOD
The Right Choice



SLR CONSULTING IRELAND
7 DUNDUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2984667
F: +353-1-2984676
www.slrconsulting.com

ROADSTONE WOOD LTD.
ENVIRONMENTAL IMPACT STATEMENT

**WASTE RECOVERY FACILITY,
BROWNSWOOD, CO. WEXFORD**

SITE LOCATION MAP

FIGURE NTS 1

Scale
1:50,000

Date
JUNE 2011

