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INTRODUCTION

12.1 This Chapter of the Environmental Impact Statement (EIS) evaluates the existing traffic environment at and around the existing Huntstown Quarry Complex in north Dublin. It also assesses the impact that the establishment and operation of the proposed inert waste recovery facility at Huntstown and the backfilling of the existing North Quarry will have on the existing traffic in the area.

12.2 This Chapter is prepared on the basis of information on quarry output provided by Roadstone Wood, historical traffic monitoring data obtained from the National Roads Authority and historical traffic surveys and audits undertaken at the application site.

RECEIVING ENVIRONMENT

Existing Road Network

12.3 Roadstone Wood's quarry at Huntstown is located north-east of Blanchardstown and to the north of Finglas. The existing road network around the site is defined by

- the R135 Regional Road to the east, which previously served as the N2 National Primary Road (up to May 2006). This road is also known as the North Road. It intersects with the N2 Dual Carriageway at the Cherryhound Interchange to the north and is severed by the M50 Motorway to the south.
- a local road, known as the Kilshane Road (or Cappagh Road) to the west and north of the quarry.
- the M50 Motorway which lies south of the existing quarry.

12.4 The N2 Dual Carriageway between the M50 Motorway and Cherryhound Interchange runs immediately east of the R135 Regional Road. It continues northwards from the Cherryhound Interchange as the M2 Motorway to north of Ashbourne Co. Meath. From there, it becomes the N2 National Primary Road and continues northwards as a single carriageway road through the counties of Meath, Louth and Monaghan to the border with Northern Ireland

12.5 In relation to the local road network, Huntstown Quarry and the application site are located to the north of the M50 motorway, west of the R135 Regional Road (North Road) and N2 Dual Carriageway and east and south of the Kilshane Road.

12.6 Much of the road network around the quarry and application site has only been upgraded in recent years. The N2 Dual Carriageway / M2 Motorway opened in May 2006 and led to a large and immediate reduction in traffic levels along the former N2 National Primary Road (now the R135 Regional Road) immediately east of Huntstown Quarry. Upgrading of the M50 to provide three lanes of traffic in both directions was also completed in 2010, as was the upgrading of the interchange with the N2 Dual Carriageway to provide for a free flow interchange.

12.7 The existing North Road comprises a single carriageway road generally of about 7.5 metres width with hard shoulders of varying width. The alignment essentially runs straight from the existing quarry entrance northwards up to the

N2/M2 Motorway at the Cherryhound Interchange and southwards to the point at which it is severed by the M50 Motorway at Finglas.

12.8 A speed limit of 80kph applies on the existing R135 Regional Road. This speed limit applies to traffic which travels via the slip road off the northbound carriageway of the N2 Dual Carriageway and North Road to the quarry entrance and to traffic running between the quarry entrance and the Cherryhound Interchange. The speed limit on the Kilshane Road is also 80kph.

12.9 The speed limit on both the N2 Dual Carriageway and M50 Motorway is 100kph, while that on the M2 Motorway north of the Cherryhound Interchange is 120kph.

12.10 The access road leading from the North Road into the Huntstown Quarry Complex is shared by quarry traffic and traffic to and from Huntstown Power Station. The access road is approximately 7.3m wide at the site entrance and divides as it runs towards the quarry. The width of both the inbound (westbound) and outbound (eastbound) lanes is approximately 3.7m wide.

Proposed Local Road Infrastructure

12.11 In addition to recent improvements to the local road network, it is proposed to construct a link road, most likely to dual carriageway standard (or with adequate land reservation to allow an upgrade from wide single carriageway) between the N2 Dual Carriageway and the N3 Dual Carriageway to the north-west of the Ballycoolin Industrial Area, with a link road to the Ballycoolin Road. The proposed new road will link the Cherryhound Interchange on the N2 to an upgraded interchange at Damastown on the N3 and provide a high quality link between these two national roads.

Traffic Routes to Application Site

12.12 At the present time, the direct vehicular access to the quarry and application site is principally provided via the North Road (R135 Regional Road). Traffic coming from Dublin City Centre or the M50 Motorway turns onto the N2 Dual Carriageway and travels a short distance before turning (west) off a dedicated slip road onto the North Road. Thereafter traffic continues south for a short distance along the North Road before turning right (west) via a dedicated right–turn lane onto the access road leading into the Huntstown Quarry Complex. This access road also serves the Huntstown Power generating plant operated by Viridian.

12.13 Traffic travelling south from Ashbourne to the quarry and application site exits the N2 Dual Carriageway at the Cherryhound Interchange and continues south along the North Road, through Kilshane Cross, to the dedicated right-turn lane with the access road leading into the Huntstown Quarry Complex.

12.14 Access to the quarry and application site is also provided from the Ballycoolin and Finglas suburbs of north-west Dublin via an existing site access road leading off the Kilshane Road (also known as the Cappagh Road).

Traffic Flows on Local Road Network

12.15 Following the opening of the N2 Dual Carriageway in May 2006, there was an immediate and marked reduction in the volume of traffic travelling in both

directions along the North Road (the former N2 National Primary Road), as most of it transferred over to the new road.

12.16 Prior to the opening of the N2 Dual Carriageway, monitoring of traffic flows along the North Road by the National Roads Authority indicated that annual average traffic levels (AADT) in the years from 2000 to 2005 varied between 19,311 and 21,477. Traffic levels along the road fell by approximately 10% in the three years between 2003 and 2005 as a result of the opening of the M1 Motorway between the M50 and Balbriggan in June 2003, and possibly also due to improvements in local distributor roads around the Ballycoolin area at that time.

12.17 Prior to the opening of the N2 Dual Carriageway, traffic levels along the North Road were believed to be near capacity, with vehicle speeds during peak periods dropping significantly and leading to congestion and delays. Access onto the North Road from side roads was also difficult at that time due to the heavy traffic flows along the North Road. It was necessary to install traffic signals at Kilshane Crossroads in May 2000 to improved access from the affected side roads, albeit at the expense of traffic speeds along on the North Road (Ref. *Environmental Impact Statement (EIS) prepared on behalf of Meath County Council for the N2:Finglas to Ashbourne Road Scheme*).

12.18 The proportion of HGV traffic travelling along the North Road between 2000 and 2005 varied between 14% and 16.2%. The corresponding average number of HGV movements along the North Road varied between approximately 2,735 and 3,608 daily. As with AADT levels, there was also a marked reduction in the proportion of HGV traffic along the road following the opening of the M1 Motorway in 2003.

12.19 Monitoring of traffic flows along the North Road by the National Roads Authority up to the end of 2005 indicated that during weekday working hours (0700 to 1900hours), southbound (citybound) average hourly traffic flows varied between 500 and 900 vehicles per hour, highest during the morning commute period between 07.00 and 10.00 hours and falling off gradually over the course of the working day. Northbound average hourly traffic flows varied between 600 and 900 vehicles per hour, with a minor peak during the morning commute and a gradual increase up to the evening commute period between 16.00 and 19.00 hours.

12.20 At the present time, the section of the North Road between its severance point at the M50 and the Kilshane Crossroads acts as a local access road for residents and business, including the quarry at Huntstown. Existing traffic levels have reduced markedly from the peak levels which arose in the years immediately preceeding the opening of the N2 Dual Carriageway. Traffic levels along the North Road are currently low and there are no concerns about road carrying capacity or speed restrictions.

Existing HGV Traffic to/from Huntsown Quarry

12.21 In addition to Roadstone Wood's existing quarry activities at Huntstown, there are several associated activities undertaken at the site. These ancillary activities include land restoration and the production of concrete blocks, ready made concrete and blacktop.

12.22 In Table 12-1 below, a summary is provided of outputs (in tonnes) from established site activites in recent years. As would be expected in light of the

current economic downturn, the data indicates a marked fall off in the demand for construction materials in recent years. Owing to commercial sensitivity, no breakdown has been provided of the respective output from each activity. Note that the 2010 output is estimated / extrapolated on the basis of 11 month figures up to November 2010.

Table 12-1 Summary of Site Operations 2007-2010

Activity	2007	2008	2009	2010 estimated
Export of Materials	1,746,000t	1,952,100t	1,298,900t	786,500t
Import of Materials	331,700t	183,100t	27,200t	7,700t

Materials exported off-site include stone, blocks, ready-mix concrete and asphalt
Materials imported to site include sand, C+D waste and inert soil for recycling

12.23 Based on Table 12-1 above, an estimate of the works (HGV) traffic generated by site activities in the years from 2007 to 2010 is provided in Table 12-2 below. Estimates are based on the total quantity of materials used at the site, the average payload of vehicles used to import / export this material and the number of working days in a year (assumed to be 6 working days a week for 48 weeks a year).

Table 12-2 Estimated Works Traffic Generation 2007-2010

Activity	Annual HGV Traffic Movements		Average Daily HGV Traffic Movements	
	IN	OUT	IN	OUT
2010	385	39,325	1	137
2009	1,360	64,945	5	226
2008	9,155	97,605	32	339
2007	16,585	87,300	58	303

12.24 Table 12-2 only presents data on laden trucks entering and leaving the Huntstown Quarry Complex. In general, each movement of a laden truck into or out of the facility generates a corresponding return movement by an empty HGV truck. Having regard to this, and assuming an average working day is 11 hours long, the total number of HGV movements generated in and out of the quarry for the years 2007 to 2010 is as indicated in Table 12-3 below.

Table 12-3 Estimated Daily / Hourly Works Traffic Generation 2007-2010

Activity	Average Daily HGV Traffic Movements		Average Hourly HGV Traffic Movements	
	IN	OUT	IN	OUT
2010	138	138	13	13
2009	231	231	21	21
2008	371	371	34	34
2007	361	361	33	33

12.25 As can be seen from Tables 12-2 and 12-3 above, there has been a marked reduction in the annual and corresponding average hourly HGV movements in and out of the Huntstown Quarry complex in recent years. This reduction in traffic activity reflects the slowdown in the construction industry and the corresponding reduction in demand for construction materials over this period.

12.26 The fall off in traffic levels generated by activities at the Huntstown Quarry Complex will have had an impact on traffic levels along the surrounding road network and on the North Road (R135 Regional Road) in particular, which is the route used by the vast bulk (>95%) of the HGV's entering and leaving the site.

Existing Car Traffic to/from Huntstown Quarry

12.27 Passenger car traffic uses both the North Road and Kilshane Road entrances to the Huntstown Quarry Complex throughout the working day. This traffic is generated through the comings and goings of staff, visitors, meter readers and other service providers. The North Road entrance is shared by traffic to and from the quarry as well as by traffic to and from Huntstown Power Station

12.28 Operations at the Huntstown Quarry complex commence prior to 0700hrs every day. In general, staff traffic in the morning generally arrives prior to the peak commuter traffic periods on the N2 Dual Carriageway / R135 Regional Road and the Kilshane Road. The various activities undertaken at the existing quarry cease at different times of the day and late evening, with the result that's staff traffic leaving the site in the evening generally leaves over an extended period of time, reducing the traffic impact on the surrounding public road network.

12.29 The only available data for traffic flows in and out of the Huntstown Quarry complex dates back to the 2000-2003 period, at which time the the average two hour peak period passenger car unit (pcu) traffic generation at the North Road entrance was recorded as 31 outbound and 18 inbound between 07.00 and 09.00hours in the morning and 15 outbound and 24 inbound between 16.30 and 18.30hours in the evening. Over this two hour period, traffic movements from established site activities were insignificant relative to the peak traffic flows on the public road network at that time of up to 900 vehicles/hour. The equivalent peak period traffic levels generated at the Kilshane Road entrance over the same two hour monitoring periods was 11pcu (3 out and 9 in) in the morning and 22pcu (12 out and 10 in) in the evening.

12.30 The 2000-2003 survey data indicates that in total, over the period of the working day, approximately 180 vehicles entered and left the site via the North Road entrance at that time. The maximum recorded hourly flow of car traffic at the North Road entrance was recorded as 22 inbound and 21 outbound occurring between 1500hrs and 1600hrs. The Kilshane Road entrance generates less car traffic, with the recorded data showing 45 vehicles (20% of total) entering and leaving over the period of the working day. The maximum recorded hourly flow of car traffic at the entrance was recorded between 1600-1700hrs, with 12 vehicles existing the site and 10 entering.

12.31 Observers at Huntstown quarry estimate that the volume of car traffic generated by staff and visitors to the Huntstown Quarry Complex has reduced by in excess of 50% from the levels previously recorded in the 2000-2003 period, reflecting the slowdown in construction activity, the reduction in

employment levels at the quarry and in demand for construction materials and related services.

12.32 With the opening of the N2 Dual Carriageway in 2006, it is likely that car traffic using the North Road entrance to Huntstown Quarry now accounts for a significant proportion of the total car traffic along the section of North Road between Kilshane Cross and the point where it is severed by the M50 Motorway.

Existing Site Entrances

12.33 The existing North Road entrance was granted planning permission in 2006. It was constructed and opened in 2008 and lies approximately 140m north of the former entrance which was used up to that time. The North Road entrance was relocated in order to reduce perceived environmental impacts of traffic movements on residences located immediately opposite the former site entrance.

12.34 The North Road in the vicinity of the existing entrance to the Huntstown Quarry Complex comprises a running carriageway of approximately 7.5metres. The carriageway is undivided and provided with hard shoulders of approximately 2.5metres width on both sides. The visibility sightlines from the site entrance comply with the requirements for the road design speed of 80kph and with current design standards for stop control and afford good forward visibility for traffic travelling in both directions in the vicinity of the site entrance.

12.35 The western entrance to the Huntstown Quarry Complex, from Kilshane Road is a 6 meter wide 'rural' county undivided road leading to the Ballycoolin Industrial Estate. Hedgerows and small trees line both sides of the road. The gated entrance is approximately 8 metres wide and is set back from the running carriageway by 10 metres. The entrance is flared to approximately 45 metres at the running carriageway edge. Visibility sightlines in both directions are satisfactory and comply with the current design standards for stop control

12.36 Both access points at the North Road and at Kilshane Road have historically been shown to function satisfactorily at their present locations. As such, it is considered unnecessary to alter the existing access points in terms of geometry and/or location.

IMPACT ASSESSMENT

Forecast HGV Traffic Generation

12.37 The estimated volume of material to be placed at the application site is approximately 3,840,000m^3. Of this, a relatively small volume, estimated at no more than 50,000m^3 will be sourced from stockpiles, perimeter screening berms and general site levelling works required for the final restoration of the quarry. The remainder of the material will need to be imported.

12.38 The duration of backfilling activities at the quarry void will largely be dictated by the rate at which approximately 3,790,000m^3 (7,200,000 tonnes) of externally sourced inert soil and stone is imported to the site. There are many factors which will influence this in turn, including, but not limited to,

- Availability of acceptable inert materials at construction sites
- Prevailing economic climate
- Construction industry output
- Distance of construction projects from the facility (and scale or duration of same)
- Logistical and/or programming constraints at sites generating inert materials
- Climatic conditions (reduced construction activity in wet weather)
- Disruptions along the existing local and national road network
- Capacity of earthmoving plant to place and compact materials
- Waste inspection / weighbridge processing constraints

12.39 In light of these and other variables, calculation of intake rates and duration is not an exact science. Over the short-to-medium term (the initial 5 years of operation), it is possible that a large volume of proportion of inert soil could be sourced from construction of Metro North or Dart Underground.

12.40 At the present time, it is estimated that the rate of importation of inert materials to the quarry void could average around 400,000 tonnes per annum and increase to a maximum of 750,000 tonnes per annum should a large scale infrastructure or development project proceed at some stage within the surrounding catchment area during its operational life. If an average importation rate of 400,000tonnes/year is assumed, the expected operational life of the facility would be 18 years.

12.41 In view of the difficult economic climate which exists at the present time, intake tonnages may be lower over the initial few years (2011-2015) and over that time, the facility may only operate on an intermittent or project-specific basis.

12.42 The proposed importation requirement of 7,200,000 tonnes is equivalent to approximately 360,000 HGV movements (at 20 tonnes per load) in order to completely backfill the quarry void. Roadstone Wood has defined a relatively optimistic scenario where it would be possible to fill the void at the North Quarry over an 18 year period. Although it is likely that it could take longer to fill the quarry void, as a result of recent scaling back in construction activity, the 18 year scenario is considered sufficiently onerous for assessment of likely traffic impacts.

12.43 An assumed annual average intake of up to 400,000 tonnes / year corresponds to an average hourly trip rate of 7 HGV movements into and 7 HGV movements out of the North Quarry per hour. Should the rate of backfilling accelerate to 750,000 tonnes / year on account of a large scale development or infrastructure project (such as Metro North or Dart Underground), the hourly HGV trip rate could increase to approximately 13 HGV movements into and 13 HGV movements out of the quarry per hour.

12.44 It is envisaged that almost all HGV lorries importing material to the proposed inert soil recovery facility at Huntstown will approach the site along the M50 Motorway and/or N2 Dual Carriageway and enter the site using the existing North Road entrance. It is expected that only a very occasional HGV lorry carrying material to the facility will use the Kilshane Road entrance.

Forecast Car Traffic Generation

12.48 It is envisaged that the proposed inert waste facility will generally sustain existing employment levels at the Huntstown Quarry Complex and could possible facilitate employment of 1 or 2 additional personnel.

12.49 Although the number of car movements by visitors and service providers coming and going to the application site cannot be readily quantified, it is considered unlikely that they will generate any discernable increase in the number of car movements to and from the Huntstown Quarry complex.

12.50 As previously discussed, staff arrivals and departures account for a relatively minor proportion of traffic on the existing road network. A proportion of this traffic also arrives and departs outside the generally accepted peak commuter traffic periods. When the proposed inert waste facility is operational, it is not therefore expected to generate any noticeable increase in employee car traffic.

Traffic Impact Appraisal

12.51 The hourly HGV traffic movements assessed above compare with the current (2010) hourly traffic rate of 13 HGV movements in each direction in and out of the Huntstown Quarry Complex. An average annual intake of 400,000 tonnes would therefore equate to a 53% increase in current (2010) inbound and outbound HGV movements to and from the quarry, while a maximum annual intake of 750,000 tonnes would equate to an 100% increase on current levels.

12.52 When compared against current (2010) HGV traffic levels generated by site activities at Huntstown, the magnitude of the increase in HGV traffic movements generated by the proposed inert waste recovery facility is potentially significant. It is however important to appreciate that the scale of this impact arises principally as a result of a marked and rapid decline in HGV movements in and out of the Huntstown Quarry complex in recent years.

12.53 Were the proposed facility to be fully operational, the effect of an annual importation rate of 400,000 tonnes/year would be to increase hourly average traffic movements at the Huntstown Quarry Complex from 13 to 20 vehicles per hour in each direction (in total, from 26 to 40 per hour). At this level, HGV traffic movements would be approximately 5% below estimated average hourly levels in 2009, 42% below estimated average hourly levels in 2008 and 40% below estimated average hourly levels in 2007.

12.54 The effect of an annual maximum importation rate of 750,000 tonnes/year would be to increase hourly average traffic movements at the Huntstown Quarry Complex from 13 to 26 vehicles per hour in each direction (in total, from 26 to 52 per hour). At this level, HGV traffic movements would be approximately 23% above estimated average hourly levels in 2009, 24% below estimated average hourly levels in 2008 and 21% below estimated average hourly levels in 2007.

12.55 Given that the upgraded public road network around the application site has in recent years demonstrated its capacity to safely and efficiently carry HGV traffic levels significantly in excess of those which will arise when the proposed inert waste recovery facility is fully operational, it is considered that

the proposed development will have no significant impact on the road carrying capacity, existing or design service levels and/or traffic safety across the existing public road network.

12.56 A number of potential impacts associated with traffic could arise as a result of the proposed inert waste recovery facility. They include noise, vibration, air pollution and human beings and each is considered in separate chapters of this EIS.

MITIGATION MEASURES

12.57 Given the large scale investment in national road infrastructure in and around the Huntstown Quarry complex in recent years, together with

- the recent relocation and upgrading of the North Road entrance to the quarry,
- the reduction in traffic levels associated with the recent slowdown and reversal of growth in the national economy
- the fact that predicted traffic levels have been experienced and readily accommodated on the public road network only relatively recently

it is considered that the proposed development of an inert waste recovery facility at Huntstown will have no negative or adverse impact on road carrying capacity or associated traffic hazard on the existing public road network. Consequently, there is no requirement for any traffic mitigation measures to be incorporated into this proposal.

FIGURES

EXISTING SOIL RECOVERY AREA

WEIGHBRIDGE

WEIGHBRIDGE OFFICE

SECURITY HUT

SECURITY HUT

SECURITY HUT

VIRIDIAN POWER STATION
(EXCLUDED - NOT OWNED BY RWL)

EXISTING C&D RECYCLING AREA

SITE ENTRANCE

N

W E

S

0 50 100 150 200m 300 400 500

Metres
1:5000

NOTES

1. EXTRACT FROM 1:2,500 ORDNANCE SURVEY DIGITAL SHEET NO'S. 3062-A, 3062-B, 3062-C, 3062-D, 3063-A, 3063-C, 3130-A, 3130-B,

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

LEGEND

- ROADSTONE WOOD LTD. LANDHOLDING (c. 201.8 ha)
- WASTE LICENCE APPLICATION AREA (c. 35.9 ha)
- N2 DUAL CARRIAGEWAY
- LOCAL ROAD
- NORTH ROAD (R135)
- RIGHT OF WAY
- LOCATION OF NEAREST RESIDENCES
- HGV ACCESS ROUTES TO SITE
- INCOMING TRAFFIC MOVEMENTS
- OUTGOING TRAFFIC MOVEMENTS

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The Right Choice

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ROADSTONE WOOD LTD.
ENVIRONMENTAL IMPACT STATEMENT

WASTE RECOVERY FACILITY,
HUNTSTOWN QUARRY,
NORTH ROAD, FINGLAS, DUBLIN 11

TRAFFIC MANAGEMENT

FIGURE 12-1

Scale	Date
1:5,000 @ A3	FEBRUARY 2011

00180.15.0[illegible]12-1.R0.TRAFFIC MANAGEMENT.dwg