Waste to Energy Incinerator, Ringaskiddy

Client: Noonan Linehan Carroll Coffey

Submission to An Bord Pleanála

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WASTE TO ENERGY INCINERATOR, RINGASKIDDY - SUBMISSION TO AN BORD PLEANÁLA

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WASTE TO ENERGY INCINERATOR, RINGASKIDDY - SUBMISSION TO AN BORD PLEANÁLA

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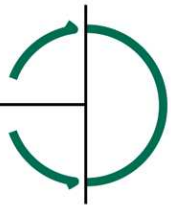


1 INTRODUCTION

1.1 Background

1.1.1 Indaver Ireland proposes to construct a waste-to-energy facility at Ringaskiddy in Co. Cork, for the treatment of industrial, commercial and household wastes and the recovery of energy. The facility will also include a waste transfer station. The site for the proposed waste-to-energy facility and transfer station is situated at the north-eastern corner of the Ringaskiddy Peninsula, and occupied an area of 12 hectares.

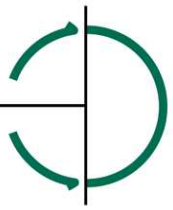
1.1.2 The waste transfer station is proposed to bulk up material and presenting it in a suitable state to ensure maximum efficiency for plant. The Waste-to-Energy Incinerator is proposed to cater for up to 240,000 tonnes of waste per annum.

1.2 Purpose of Report

1.2.1 ILTP were commissioned by Noonan Linehan Carroll Coffee on Behalf of the “CHASE” to assess the traffic impacts associated with the Waste-to-Energy Facility and Waste Transfer Station proposed for Ringaskiddy, Co. Cork.

1.2.2 ILTP have reviewed the Roads and Traffic Section of the Environmental Impact Statement (EIS) undertaken by Arup for the proposed Waste-to-Energy Facility and Waste Transfer Station.

1.2.3 ILTP have identified road and traffic concerns associated with the proposed Waste-to-Energy and Transfer Station located at Ringaskiddy.



2 REVIEW OF EIS

2.1 Introduction

2.1.1 As part of this assessment ILTP have reviewed the Roads and Traffic Section of the EIS prepared by Arup Consulting Engineers on behalf of Indaver Ireland.

2.2 Review of Existing Situation

2.2.1 The Arup report states that "In recent years the Ringaskiddy area has experienced rapid levels of industrial growth, with some further growth likely in the future. The increase in industrial growth has led to a significant increase in traffic within the Ringaskiddy area".

2.2.2 The N28 is a National Primary Road that connects Cork South Ring Road to Ringaskiddy Ferry Port. The EIS also acknowledges that while the N28 was designed to accommodate high volumes of traffic "The roadway, however, does experience congestion during peak periods".

2.2.3 The R613 connects Ringaskiddy to Carrigaline that provides some access to industrial plants. The EIS states "certain sections of the R613, particularly between Coolmore and Carrigaline are narrow with substandard alignment in parts, reducing Heavy Goods Vehicle accessibility".

2.2.4 The EIS highlights a number of junctions on the N28 that were included in the assessment. These include:

- Shannon Park Roundabout
- Raffeen Bridge Junction
- Shanbally Junctions
- Ringaskiddy Junction
- Ferry Port Access

2.2.5 The EIS acknowledges some queuing experienced on the approach to the Shannon Park Roundabout, "in particular from the Ringaskiddy direction during the evening peak period". The Raffeen Bridge Junction is detailed to experience some "queuing on the Raffeen Bridge arm of the junction during the morning peak periods".

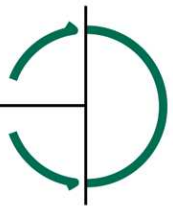
2.2.6 The Shanbally Junctions, consist of a roundabout and a priority T-junction. The EIS states "queues of eastbound traffic extending back for a considerable distance in the morning peak period" are experienced at the roundabout. The EIS also states that the "priority junction exacerbates congestion problems with commuters from Monkstown and Passage West using the junction to access the N28, avoiding traffic queues on the N28 between Raffeen bridge Junction and the Shanbally Roundabout"

2.2.7 Some queuing is noted northbound on the R613 in the AM peak period.

2.2.8 ILTP have undertaken site visits and generally agree with the EIS regarding queuing and congestion in the area, particularly on the N28. However, the ILTP site visits have indicated larger queue lengths than stated in the EIS. Queuing was observed at the Shannon Park Roundabout in the PM peak. Extensive queuing was surveyed eastbound on the N28 at the Shannon Park Roundabout; this is detailed later in the submission.

2.3 Review of Traffic Generation

2.3.1 The traffic generated by the proposed development was estimated based on two types of traffic: HGV traffic and Car traffic.



2.3.2 HGV traffic was generated based on the anticipated volumes of waste and the likely number of HGVs required to accommodate that waste. HGV surveys undertaken at Indaver sites in Flanders and in Dublin were used to develop daily HGV traffic profiles for the site. Car traffic was generated based on the number of employees predicted for the facility. A limited number of visitors to the site were predicted. Shift starting times, ending times, change over and lunch hours were used to develop the daily car traffic profiles for the site.

2.3.3 ILTP generally agree with the traffic generation methodology detailed in the EIS.

2.4 Review of Traffic Distribution and Assignment

2.4.1 The distribution of traffic, HGV and car, were distributed through the local road network based on existing traffic patterns in the area. The EIS states "The traffic from the proposed development has been distributed through the road network based on existing traffic patterns. The total two-way traffic recorded at the main road network extremities during the survey period (06:00 – 24:00) has been used for this".

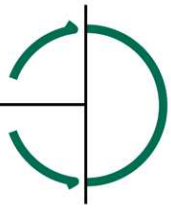
2.4.2 ILTP disagree with this method of distribution on a number of grounds. Firstly, the distribution is based on link flows not turning movements. This means that the distribution is not based on where traffic associated with Ringaskiddy has its origin or destination. Instead it is based on the overall network wide distribution, which would likely skew the distribution towards Carrigaline as the Cork – Carrigaline traffic is likely to be the heaviest traffic movement on the network, particularly in the PM peak.

2.4.3 Secondly, using the existing traffic patterns as the distribution for the proposed development would seem to overly predict HGV traffic for the Waste-to-Energy Facility to utilise regional and local roads as opposed to the Strategic National Road Network. Some of these Regional Roads have been highlighted in the EIS as having "substandard alignment in parts, reducing Heavy Goods Vehicle accessibility". Overly predicting HGV traffic to utilise lower order roads seems contrary to the "Strategic" nature of the development.

2.4.4 Thirdly, as the proposed Waste-to-Energy Facility is to serve the waste needs of Cork City and County, and is to be the sole hazardous waste incinerator for Ireland, it would stand to reason that the facility would be of national significance, if not provincial, in dealing with Toxic Waste. No catchment/distribution assessment was undertaken for the development to determine the likely distribution of traffic to and from the site, countywide, province-wide or nationwide. It would stand to reason that due to the context of the facility that a larger proportion of HGV traffic would come from the North, i.e. using the N28.

2.4.5 For the Carranstown Waste-to-Energy Facility, Co. Meath, a detailed catchment/distribution assessment was undertaken for the HGV traffic generated by the facility, based on catchment population distribution, the likely waste produced in the surrounding town lands and the HGV size and number required to accommodate the waste.

2.4.6 ILTP disagree with the method of distribution and assignment for the traffic generated by the proposed development, as the distribution is not representative of traffic from Ringaskiddy but the overall network including Carrigaline traffic, the distribution appears to overly predict the use of substandard lower order roads for HGV traffic, and there was no catchment/distribution assessment undertaken to confirm the assumed traffic distribution. Overall, the traffic distribution and assignment applied to the development traffic appears to reduce the impact of the development traffic on the Strategic Network, by dispersing it on local and regional roads in the Carrigaline/Ringaskiddy area.



2.5 Review of HGV Impact on Road Network

2.5.1 The proposed development of the Waste-to-Energy facility is predicted to generate two-way traffic volumes of 433veh/day. Due to the nature of the proposed development the majority of vehicles will be Heavy Goods Vehicles (HGVs). The proportion of HGV traffic for the proposed development was predicted to be approximately 55%, which equates to 188HGV/day. This proportion of HGVs is very high compared with the percentage of HGVs on the national roads, which in general have a HGV proportion of approximately 10%.

2.5.2 ILTP feel that the HGV impact on the road network is not emphasised adequately in the EIS. HGVs have a greater impact on roadways and in particular at junctions than Cars or Light Goods Vehicles (LGVs). In strategic traffic modelling and assessment, traffic is represented in small units called Passesnger Car units (PCUs), which equate to one car. HGVs are generally represented by 3 PCUs per HGV, due to the greater impact HGVs have on the junctions and the road network. In basic terms, 1 HGV has the equivalent impact of 3 cars. PCUs are a better representation of HGV impacts on the network as they give a better appreciation for the greater impacts associated with the HGVs.

2.5.3 If the traffic volumes predicted to be generated by the proposed development were converted to PCUs a value of 734PCU/day is predicted. This figure is 390PCU/day higher than the number of vehicles perday, indicating the magnitude of the impact of the development due to the large volumes of HGVs.

2.5.4 To ensure robustness of assessment, particularly with regards to large volumes of HGV traffic, it is recommendable to utilise equivalent PCU values, rather than vehicle numbers. In this respect, ILTP feel that the HGV impact on the road network is not emphasised adequately in the EIS.

2.6 Review of Road Network Operation Assessment

2.6.1 In Section 8.7 of the EIS the traffic generated by the proposed development is assigned to the road network, showing the percentage increase in traffic on the road network. ILTP disagree, as stated in Section 3.4, with the distribution and assignment of traffic on the road network, as it appears to reduce the impact of the development traffic on the Strategic Network, by dispersing it on local and regional roads in the Carrigaline/Ringaskiddy area.

2.6.2 ILTP also disagree with the presentation of the projected traffic flows and percentage increase as they do not adequately represent the impact of the increased traffic on the road network, as it represents the increase in terms of vehicles/hour as opposed to PCUs/hour, as stated in Section 3.5.

2.6.3 ILTP feel that the traffic impact associated with the proposed development on the National Road Network has been under-represented based on the issues raised above with regards to the distribution, assignment and representation of HGV traffic.

2.7 Review of Projected Junction Operation Assessment

2.7.1 Section 8.7 of the EIS also details and assessment of projected junction operation for 6 junctions. This assessment utilised ARCADY to assess roundabouts and PICADY to assess priority junctions. The junctions assessed include the following:

- Shannon Park Roundabout
- Raffeen Bridge Junction
- Shanbally Junctions
- Ringaskiddy Junction

- Ferry Port Access
- Proposed Indaver Site Entrance

2.7.2 ILTP have some concerns regarding the accuracy of the projected junction operation assessment undertaken in the EIS.

2.7.3 ILTP undertook a site visit, which included a queue length survey at the Shannon Park Roundabout. During the site visit queuing was observed at the Shannon Park Roundabout, in particular extensive queuing was surveyed westbound on the N28 from the Shannon Park Roundabout in the PM peak. Figure 3.1 shows extensive eastbound queuing on the N28 at the Shannon Park Roundabout in the PM peak.

Figure 2.1 : Extensive Queuing on the N28 at Shannon Park Roundabout in the PM Peak

2.7.4 An additional to the site visit at Shannon Park Roundabout an in-vehicle video survey of the eastbound extensive queuing was undertaken as a distance and journey time survey. To travel the 415m of queued traffic took 6:05minutes. Figure 3.2 illustrates the extent of this queuing surveyed in the PM peak.

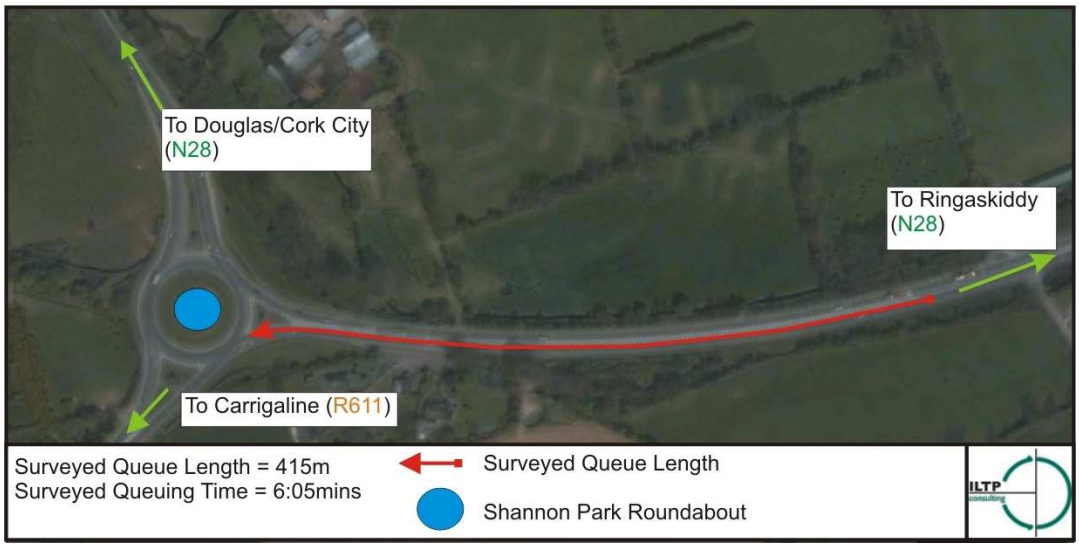


Figure 2.2 : Queuing Surveyed Westbound on N28 At Shannon Park Roundabout in PM Peak

2.7.5 In Appendix 8.1 of the EIS the ARCADY assessment of the Shannon Park Roundabout for the 2008 year existing scenario details N28 on the east of the Shannon Park Roundabout of having a Demand/Capacity ratio of 67%, a maximum queue of 2 vehicles and an average delay of 0.15 minutes.

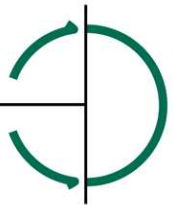
2.7.6 Therefore, this would imply that there is a remaining space capacity of 33% on the Shannon Park Roundabout.

2.7.7 Comparing the survey undertaken by ILTP to the ARCADY analysis of the Shannon Park Roundabout for the 2008 Base Year scenario in Appendix 8.1 of the EIS highlights a major discrepancy between the on-site situation and the modelled scenario.

2.7.8 ILTP feel that the 2008 base scenario modelled in ARCADY is not calibrated or validated accurately to represent the existing situation. Therefore, the base model accuracy cannot be relied upon to assess the future year modelling.

2.7.9 In addition to the assessment issues highlighted for the Shannon Park Roundabout operational assessment, ILTP have concerns regarding the accuracy of the modelling of the Shanbally Junctions. The EIS only considers the roundabout in the assessment, when in fact the adjacent priority junction can impact on the overall capacity of the network.

2.7.10 For the existing scenario, the EIS states “queues of eastbound traffic extending back for a considerable distance in the morning peak period” are experienced at the roundabout. The EIS also states that the “priority junction exacerbates congestion problems with commuters from Monkstown and Passage West using the junction to access the N28, avoiding traffic queues on the N28 between Raffeen bridge Junction and the Shanbally Roundabout”.



2.7.11 As the roundabout and the adjacent priority T-junction interact and at times reduce overall capacity at this location it would seem appropriate to assess the combined impact of traffic on the two junctions, and not just the roundabout. This would particularly be the case since traffic is assigned to this local road from the proposed development, and would likely compound the impact on the overall capacity at this location. ILTP feel that the impact of development traffic at these junctions has been under-represented, due to the assessment of only one of the junctions.

2.8 Review of Impact on Ringaskiddy Village Urban Area

2.8.1 ILTP also assessed the impact of traffic generated by the proposed development on the urban area of Ringaskiddy Village. The Section 8.7 of the EIS for the proposed Waste-to-Energy Facility details that the proposed development traffic will increase through traffic in Ringaskiddy Village by 4.1% in the AM peak hour, by 14.7% in the Midday Peak hour, and by 3.6% in the PM peak.

2.8.2 As stated above, in Section 3.5, ILTP feel that the HGV volumes have been under-represented in the EIS. HGVs should be represented using PCU values instead of vehicles, as it assessed their impact more robustly. ILTP have re-assessed the percentage increase in traffic for Ringaskiddy Village based on a PCU value of 3PCUs per HGV. Table 3.1 details the vehicular increase in terms of vehicles/hour and also in terms of PCUs/hr.

Table 2.1: Comparison of Traffic Impacts in Ringaskiddy Village

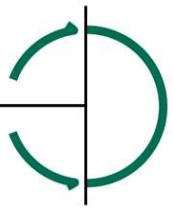
	Without Veh/hr	**With** Veh/hr (%age inc.)	**With** PCU/hr (%age inc.)
AM Peak	941	980 (4.1%)	984 (4.5%)
Midday Peak	435	499 (14.7%)	551 (26.6%)
PM Peak	617	639 (3.6%)	667 (8.1%)

2.8.3 Assessing the impact of the traffic generated by the proposed development in this manner allows for the appropriate impact to be fully assessed. It can be seen from Table 3.1 that the traffic impact in Ringaskiddy Village is greater than that stated in the EIS, particularly for the Midday and PM peak scenarios.

2.9 Summary

2.9.1 In summary, ILTP feel that the Roads and Traffic section of the EIS is under-representative of the impact that the traffic generated by the proposed development would have on the road network.

2.9.2 ILTP disagree with the method of distribution and assignment for the traffic generated by the proposed development, as the distribution is not representative of traffic from Ringaskiddy but the overall network including Cork - Carrigaline traffic, the distribution appears to actively encourage the use of substandard lower order roads for HGV traffic, and there was no catchment/distribution assessment undertaken to confirm the assumed traffic distribution. Overall, the traffic distribution and assignment applied to the development traffic appears to reduce the impact of the development traffic on the Strategic Network, by dispersing it on local and regional roads in the Carrigaline/Ringaskiddy area.



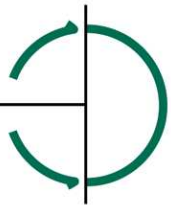
2.9.3 ILTP disagree with the method in which the impact of HGV traffic generated by the proposed development is assessed in the EIS. HGVs have a greater impact on the road network than cars and as such should be assessed as having a greater impact than cars. To ensure robustness of assessment, particularly with regards to large volumes of HGV traffic, it is recommendable to utilise equivalent PCU values, rather than vehicle numbers. In this respect, ILTP feel that the HGV impact on the road network is not emphasised adequately in the EIS.

2.9.4 The interaction of the two junctions at Shanbally is not assessed, only the roundabout is assessed, even though it is stated that the priority T-junction negatively impacts on the capacity of the roundabout and hence the road network at this location.

2.9.5 The base year calibration of the Shannon Park Roundabout does not accurately reflect the existing situation, particularly in the PM peak. In fact it under-represents N28 eastbound queuing by approximately 400m. ILTP believe that the accuracy of the future year assessment at this junction is therefore questionable, and should not be relied upon to assess the impact of traffic associated with the proposed development.

2.9.6 ILTP feel the traffic distribution is underrepresented on the National Roads leading to the site and the adjacent regional and local roads overrepresented. This would make the base model results not valid. The combination of these corrected distributions would a significantly higher impact on the N28 road network.

2.9.7 The impact on Ringaskiddy Village from the through traffic generated by the proposed development is greater than stated in the EIS, and is approximately two times greater for the Midday and PM peaks.



3 REVIEW OF PREVIOUS PLANNING APPLICATION – INSPECTOR'S REPORT

3.1 Introduction

3.1.1 ILTP have reviewed the Inspector's Report, dated 5-1-2004, for the previous application for a smaller Waste-to-Energy facility for Ringaskiddy, in terms of roads and traffic. While this refers to a previous application on the site, ILTP feel that some of the issues raised in the Inspector's Report are still applicable and valid in relation to the current application.

3.2 Adequacy of Content of the EIS: Traffic

3.2.1 As stated by ILTP in Section 3.5 of this report, the Inspector stated "all of the measurements were given in vehicles per hour, rather than PCUs, and hence equated a very large HGV with a private motor car, despite their obvious differences in size and extent of road coverage in congested conditions. This had the effect of underestimating the impact of HGV traffic (which would represent a significant proportion of the traffic that would be generated by the development)". The new application for the increased size Waste-to-Energy Facility has again underestimated the impact of HGV traffic by not converting HGVs to PCUs, which are more appropriate to determining the full impact.

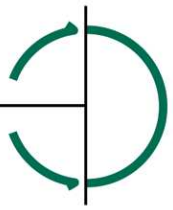
3.3 Proper Planning and (Sustainable) Development: Inadequate Infrastructure - Roads

3.3.1 The inspector also states, regarding the inadequacy of the existing road network, "It is evident to me that the existing traffic situation in the area, and in particular in Shanbally and Ringaskiddy, and along the N28 from the Shannon Park Roundabout, is extremely congested, and is of a standard that could not justify further development without improvement". In the intervening years since the previous application and the current application the road network has not been improved by any significant amount (if at all), and as a result ILTP agree with the Inspector's Report that the road network could not justify further development without infrastructure.

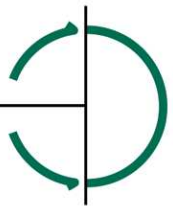
3.4 Conclusion and Recommendation

3.4.1 In the Conclusion and Recommendation Section of the Inspector's Report the following is stated:

- "Having regard to the location of the proposed development at the end of the peninsula of Ringaskiddy, with a single road access and no rail access, on the southern coast of the State, and to the scale of the development which is designed to source waste from all parts of the State, it is considered that the proposed development would involve excessive movement of vehicular traffic through urban areas, and hence would give rise to conditions that would be prejudicial to public safety and amenity. The proposed development would therefore be contrary to the proper planning and development of the area".
- "The existing road infrastructure in the vicinity of the site, particularly along the N28 National Primary Route at Carr's hill, the Shannon Park Roundabout and Shanbally Roundabouts, and along the LP2545 local road within Ringaskiddy, is currently the subject of serious congestion, and is inadequate to accommodate the extra volume of traffic and traffic movements that would be generated by the proposed development, both during construction and operational phases, particularly the significant HGV content. It is considered that the proposed development would endanger public safety by reason of a serious traffic hazard and obstruction of the road users".
- "The proposed development would be premature by reference to the existing deficiencies in the road network serving the area of the proposed development, which it is not likely will be rectified within a reasonable period".



3.4.2 ILTP agree with Conclusion and Recommendations set out in the Inspector's Report for the previous application as it highlights deficiencies in the road network, existing at the time of the previous application, which have not been fully addressed in the EIS for the current application. Inadequacies in the Roads and Traffic Section of the previous EIS, with regards to the adequate representation of HGV traffic, have not been rectified and still underestimate the impact associated with the HGV traffic.



4 CONCLUSION

4.1.1 The traffic generated by the proposed development has been under-represented in the EIS, the distribution and assignment methodology is flawed and the junction analysis was undertaken on the base model simulations that were not validated accurately to existing conditions.

4.1.2 The Inspector's Report from the previous application was highly critical of the previous traffic assessment in terms of HGV representation in vehicles per hour, and also in terms of the lack of capacity of junctions on the N28. In the current application the HGV traffic is again represented in vehicles and not in PCUs. Since the Inspector's Report the capacity issues at the junctions have not been addressed and congestion is still experienced at peak times.

4.1.3 From our assessment of the proposed development, we find that the development on traffic grounds to be premature on roads and traffic grounds, pending the upgrade of the N28 and would urge An Bord Pleanála not to grant permission.