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Appendix 14.1

Transport Assessment

Environmental Impact Assessment Report: Nua Bioenergy, Lisheen
P-2024-35-59

29/10/2024

Reference number IE01T24A75

Biomethane and Bio-based Fertiliser Production Facility

TRANSPORT ASSESSMENT

BIOMETHANE AND BIO-BASED FERTILISER PRODUCTION FACILITY

TRANSPORT ASSESSMENT

IDENTIFICATION TABLE	
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	Checked by	Glen Moon	Principal	29/10/2024	
	Approved by	Steven Livingstone	Associate Director	29/10/2024	

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1. INTRODUCTION

1.1 General

1.1.1 SYSTRA Ltd (SYSTRA) has been commissioned by Nua Bio-Energy Ltd to provide transport planning services to support an application for the development of a Biomethane and Bio-fertiliser Production Facility at the Lisheen Mine Site, Lisheen, Thurles, Co. Tipperary. The proposed facility will have the capacity to process up to 98,000 tonnes of waste per annum, to produce biomethane and biofertilizer.

1.1.2 In addition to preparing this Transport Assessment (TA) SYSTRA are also producing the following related documents:

- A Framework Mobility Management Plan (MMP);
- An EIA Traffic and Transportation Chapter; and
- A Framework Construction Traffic Management Plan (CTMP)

1.2 Site Location

1.2.1 The site is located 7.5km to the north-west of Urlingford in County Tipperary, and ~7km to the north-west of the M8, which ultimately connects Dublin and Cork.

1.2.2 The 5.62ha site sits within the former Lisheen Mine site and is bounded by agricultural lands to the west. The site location is shown in **Figure 1** overleaf.

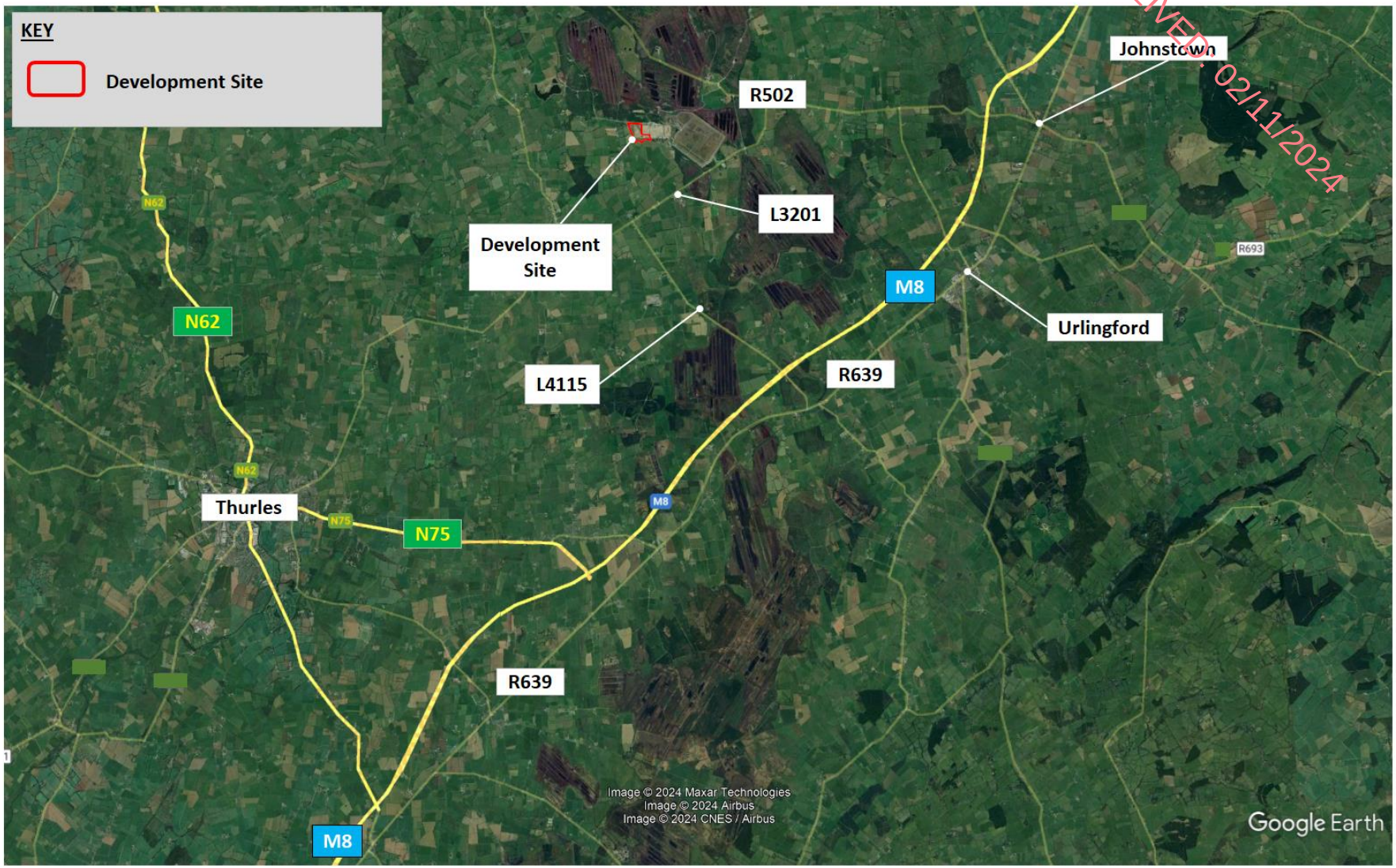

Figure 1. Site Location

1.3 Development Overview

1.3.1 The site layout has been meticulously designed to address the site's constraints, deliver a functional and efficient facility, and ensure that the proposed development not only mitigates environmental impacts but actively enhances environmental quality and promotes biodiversity.

1.4 Purpose of Report

1.4.1 The purpose of this TA is to assess the transport aspects of the development, showing how it will be accessed, how it will operate, what the impact on the transport network will be, and how these impacts will be managed and mitigated. It presents the following information:

- Site access arrangements for all modes;
- Delivery Routes;
- The results of traffic surveys that have been undertaken;
- Expected trip generation during both construction and operation; and
- The traffic impact of the development.

1.5 Scoping

1.5.1 Pre-Application advice was sought from Tipperary County Council (TCC). A Scoping Report was submitted to TCC in July 2024. TCC's response, dated 29/07/11, raised the following points:

- Traffic surveys will be required to inform the baseline assessment. It was subsequently agreed with TCC that Automatic Traffic Count (ATC) surveys could be carried out in August at three locations.
- The Transport Assessment should identify existing traffic volumes, traffic from consented developments, and the impact of traffic from the proposed development.
- The traffic routes to be used by development traffic should be identified in the TA and assessed for their suitability.
- Speed limits on all local roads in the area will reduce to 60kph by November 2024, as part of the National Speed Limit Review.

1.6 Transport Policy and Guidance

1.6.1 SYSTRA's methodology has been devised in accordance with TII's 'Traffic and Transport Assessment Guidelines – May 2014' and will set out the transport and traffic impacts of the proposed development, as well as detailing steps to encourage sustainable travel behaviour.

1.6.2 The TA is consistent with national, regional and local transportation policy and guidance set out in the following documents:

- National Planning Framework, Project Ireland 2040;
- Regional Spatial and Economic Strategy for the Southern Region, Project Ireland 2040; and
- Tipperary County Development Plan (TCDP) 2022-2028.

2. TRANSPORT BASELINE

2.1 Site Access

2.1.1 **Figure 2** shows the road network in the vicinity of the site.

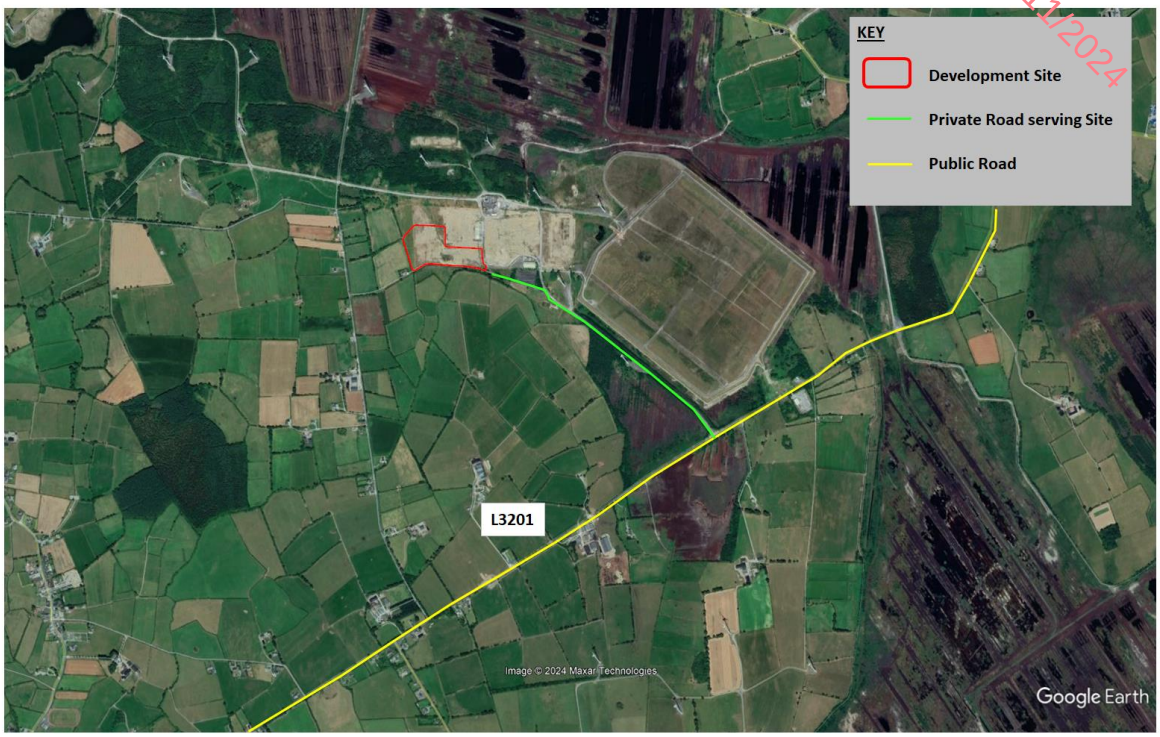

Figure 2. Local Road Network

2.1.2 The site will be accessed from the private road that served the Lisheen Mine, prior to its closure in 2015. This road runs south-east from the site, and meets the L3201 at the priority junction shown in **Figure 3.** The L3201 / private road junction has a wide bellmouth that has been designed to accommodate HGVs.

Figure 3. L3201 / Lisheen Mine Site junction

2.1.3 The private road has been recently resurfaced, and also provides access to the windfarm located within the former mine site, as shown in **Figure 4**.

Figure 4. Private access road looking north from the public road.

2.2 Road Network

2.2.1 The road network in the area around the site is shown in **Figure 1**. The key links of relevance to the site are:

- The **M8**, which is the key strategic link between Dublin and Cork. The nearest junction to the site is Junction 4, which provides all-movements access;
- The **R639**, which runs parallel to the M8, linking Johnstown, Urlingford and Littleton. It has a speed limit of 50km/h as it passes through settlements, and 100km/h on other sections;
- The **R502**, which runs broadly east to west to the north of the site, linking Templemore and Johnstown;
- The **L3201**, a minor road that runs to the south of the Lisheen Mine site, linking the R502 to the L4115. It has a speed limit of 80km/h; and
- The **L4115**, a minor road that runs north-south between the L3201 and the R639. It has a speed limit of 80km/h.

2.2.2 As advised by TCC, speed limits on all local roads in the area will reduce to 60kph by November 2024, as part of the National Speed Limit Review.

2.2.3 The R639 / L4115 junction is a priority junction, with the L4115 forming the minor arm. As shown in **Figure 5**, a right-turning lane (with ghost island) is provided for traffic turning right onto the L4115 from the R639, and a deceleration lane is provided for vehicles turning left onto the R639.

Figure 5. R639 / L4115 junction, looking east on the R639

2.2.4 The L4115 / L3201 junction is a priority junction, with the L4115 forming the minor arm. As shown by the visible tyre markings in **Figure 6**, the predominant movements are between the L4115 and L3201 east.

Figure 6. L4115 / L3201 junction, approaching the junction on the L4115

2.3 HGV Routes to site

2.3.1 The development of the Lisheen Mine began in 1997 and production began in 1999. At its peak, the mine employed around 400 people, and produced over 1 million tonnes of ore each year. A TA for a proposed Biorefinery on the Lisheen Mine site stated that when the Lisheen Mine was in full production, it generated a daily total of 120 HGV trips and 374 Light Vehicle trips.

2.3.2 The proposed HGV routes between the site and the strategic road network are those that were used by the Lisheen Mine. These are shown in **Figure 7.**

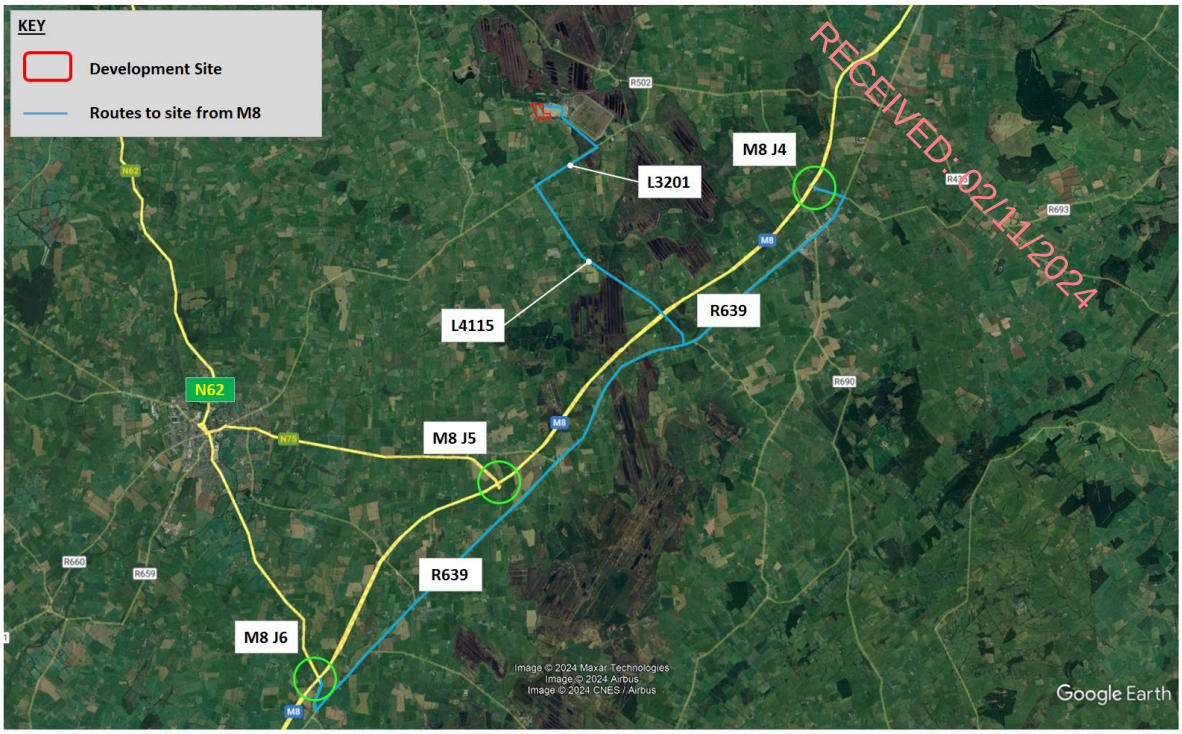

Figure 7. HGV Access Routes

2.3.3 The proposed routes are:

- To / from the north-east via the L4115, L3201, R639 and M8 J4; and
- To / from the south-west via the L4115, L3201, R639, R630 and M8 J6.

2.3.4 The L3201 and L4115 were previously used as the HGV route between the Lisheen Mine and the R639. To support operations, the right-turn lane was added to the R639 at its junction with the L4115, and both the L4115 and L3201 were improved.

2.3.5 As shown in **Figures 8 and 9**, both the L4115 and L3201 are of suitable width and alignment to accommodate two-way HGV traffic.

Figure 8. L3201 to the west of the Lisheen Mine access

Figure 9. L4115 to the south of the L3201

2.3.6 The L3201 and L4115 pass through a semi-rural area. Individual properties and farms take direct access onto these roads, but there are no distinct settlements, or particularly sensitive receptors on the route between the R639 and the site.

2.3.7 Based on forecast operations, Nua anticipate that 50% of deliveries will travel to M8 J4, and 50% by M8 J6. Some deliveries may also route via M8 J5, however this only has east-facing slips, and can only be accessed from Thurles via the N62.

2.3.8 The R639 connects the L4115 with both M8 J4 and M8 J6. En-route to M6 J4, the R639 passes through Urlingford, and en-route to M6 J6 it passes through Littleton. Speed limits within

these settlements is 50km/h, and construction traffic can be accommodated safely, and without noticeably affecting existing traffic levels.

2.4 Traffic Flows

Survey Locations

2.4.1 SYSTRA commissioned Nationwide Data Collection Ltd, a specialist survey company, to undertake traffic surveys in August 2024. Survey dates were agreed with TCC's Transport Planning team.

2.4.2 These surveys comprised three Automatic Traffic Counters (ATC) that were in place for a three-day period, commencing Tuesday 13th August 2024. The ATC recorded hourly traffic flows, composition and speeds, at the following locations:

- On the L3201, 1.6km south-west of Clonsaul, close to the Lisheen Mine access junction;
- On the L4115, 3.6km north-west of the R639 junction; and
- On the R639, 500m west of the L4115 junction.

2.4.3 The location of the ATC's is shown in **Figure 10**.

Figure 10. ATC Locations

Survey Results

2.4.4 A full set of survey results is included as **Appendix 14.2** in the EIAR. **Table 1** shows the recorded Annual Average Daily Flows (AADF).

Table 1. ATC Results

Ref	Location	AADF (All veh)			AADF (HGV)			HGV %		
		NB / EB	SB / WB	Total	NB / EB	SB / WB	Total	NB / EB	SB / WB	Total
1	L3201	267	275	542	23	23	46	9%	8%	8%
2	L4115	484	481	965	37	37	74	8%	8%	8%
3	R639	1,674	1,746	3,420	114	114	228	7%	7%	7%

2.4.5 **Table 1** shows that:

- Recorded traffic flows on the L3201 and L4115 were very low, with Average Annual Daily Flow (AADF) totals of 542 vehicles and 965 vehicles respectively;
- Recorded traffic flows on the R639 were slightly higher, with an AADF of 3,420 vehicles recorded; and
- Recorded HGV percentages were between 7% and 9% at each of the locations.

2.4.6 The recorded AADF are presented graphically in **Figure 11**.

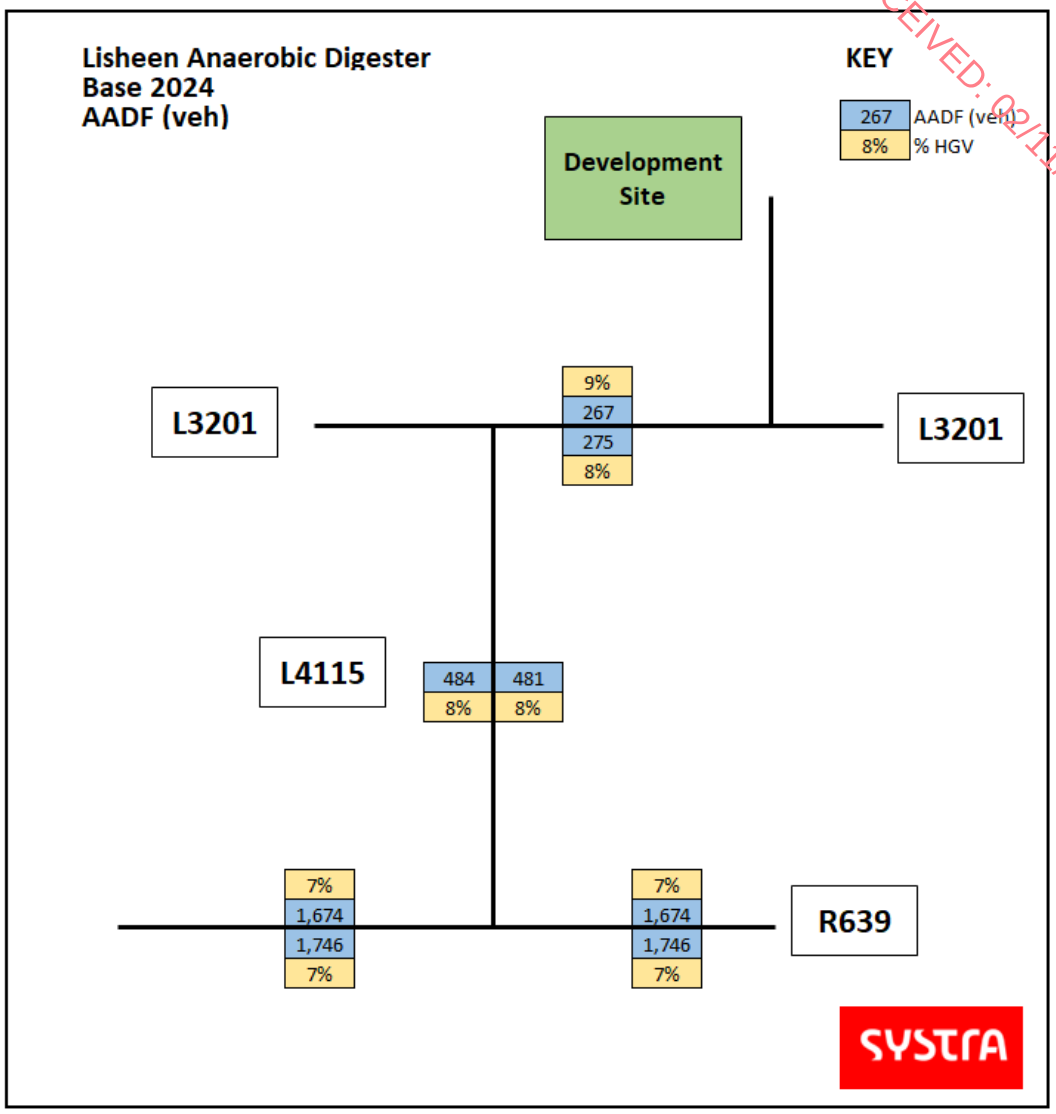

Figure 11. Recorded AADF traffic flows

2.4.7 Recorded 'peak hour' traffic flows were extremely low. The recorded two-way flows in the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours were:

- L3201 – 42 vehicles / 48 vehicles;
- L4115 – 80 vehicles / 108 vehicles; and
- R639 – 226 vehicles / 310 vehicles.

2.4.8 **Figure 10** shows the recorded traffic profile on the R639.

Figure 12. R639 ATC – Traffic profile

2.4.9 **Figure 10** shows that traffic levels on the R639 were relatively consistent throughout the day, between 08:00 and 16:00. There was a slight recorded peak in traffic between 17:00 and 18:00, where approximately 160 vehicles were recorded in each direction.

2.5 Walking and Cycling Infrastructure

2.5.1 There is no walking or cycling infrastructure on the local roads in the vicinity of the site, due to its rural location.

2.6 Public Transport Services

2.6.1 There are no bus services that pass the site. The nearest bus services pass along the R639, 6km to the south-west.

3. THE PROPOSED DEVELOPMENT

3.1 Site Layout

3.1.1 The proposed site layout is shown in **Figure 5.** A full breakdown of the different elements on site is provided in Section 6.3 of the EIAR.

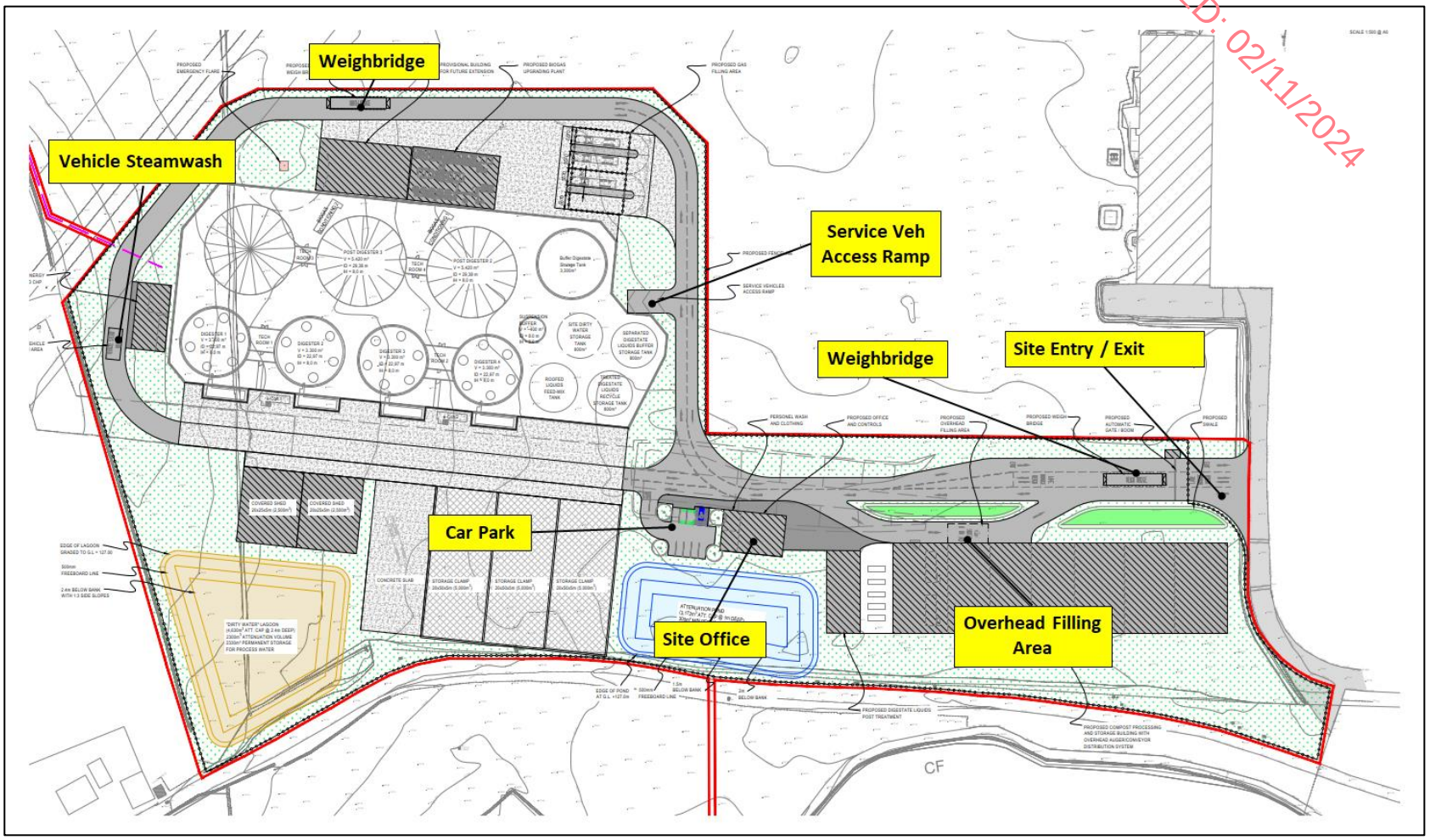

Figure 13. Proposed Site Layout

3.1.2 The proposed site layout has been designed with the anaerobic digestion plant at its core, serving as the central feature of the facility. A largely 'one-way' circulation system surrounds the anaerobic digestion plant and its associated bund, facilitating the efficient movement of vehicles and personnel throughout the site.

3.1.3 To the south of the anaerobic digestion plant is the primary feedstock storage area, where solid and liquid materials are safely stored before being processed. Liquid feedstock is housed in a bunded storage area adjacent to the anaerobic digestion plant, ensuring compliance with safety and containment requirements.

3.1.4 North of the bunded area is the gas processing and loading facility, which handles the processing, compression, and distribution of biomethane. The energy building, situated to the west, houses essential backup power systems - a combined heat and power (CHP) unit - and a pellet boiler ensuring a reliable and renewable energy supply to support the anaerobic digestion process.

3.1.5 The centrally located control building provides oversight and management of the site's operations, ensuring optimal control and coordination. To the east of the site is the bio-based fertiliser processing and storage facility, completing the operational layout and ensuring smooth integration of all processes from feedstock input to product output.

3.2 Site Access and Circulation

3.2.1 The site layout is designed to ensure efficient, safe, and regulatory-compliant circulation for all vehicle movements, with a primarily 'one-way' flow surrounding the anaerobic digestion (AD) plant at the centre of operations. This layout enables smooth transitions between feedstock delivery, processing, cleaning, and product loading. Drawing Nos. 2429-DOB-XX-XX-Si-DR-C-0700 and 2429-DOB-XX-XX-Si-DR-C-0701 enclosed as part of the planning application, show vehicular flow and swept path analysis. A description is provided below.

Feedstock Delivery and Bio-Based Fertiliser Loading

Truck Arrival and Feedstock Unloading

3.2.2 Trucks delivering feedstock enter through the main gate and are directed to the weighbridge for initial weighing. After weighing, trucks proceed to designated unloading areas near the feedstock storage, located south of the AD plant. Here, both solid and liquid feedstocks are stored before processing in a bunded area adjacent to the AD plant.

3.2.3 Cleaning and Regulatory Compliance

3.2.4 After unloading, trucks move around the AD plant to the steam wash area, ensuring compliance with Department of Agriculture regulations for cleanliness. This cleaning step helps prevent contamination and adheres to required safety standards for agricultural and food-related transport.

3.2.5 Post-Cleaning Weighing and Fertiliser Loading

3.2.6 Once cleaned, trucks proceed to weighbridge No. 2 for a secondary weighing. Trucks then move to the bio-based fertiliser loading area, located to the east of the site. Here, an overhead auger system loads the trucks with processed fertiliser, automatically weighing the product to ensure accurate delivery.

3.2.7 Exit Route

3.2.8 After loading, trucks follow the circulation route back to the main gate, exiting the site in a controlled, streamlined manner.

Biomethane Trailer Loading

3.2.9 Trucks collecting biomethane trailers enter through the main gate and proceed directly to the gas loading area north of the AD plant. They typically arrive with an empty trailer, which is unhitched and replaced by a full trailer for delivery. The gas loading area is designed to facilitate quick hitching and unhitching, ensuring an efficient rotary loading process for biomethane distribution.

3.2.10 This circulation system not only enhances operational efficiency but also ensures the safe and compliant movement of vehicles, feedstocks, and products, with each step closely integrated into the site layout.

3.2.11 **Staff and Visitor Access**

3.2.12 Staff and visitors will enter the site through the main gate, following clear signage directing them to the designated parking area. This area is separate from all plant and truck operations, providing a safe environment for exiting vehicles and parking bicycles. Located adjacent to the office and control room, this area ensures easy access for staff and visitors to report and sign in upon arrival, supporting site safety and compliance procedures.

3.3 Hours of Operation

3.4 The facility will operate continuously, 24 hours a day, 7 days a week, as anaerobic digestion is an uninterrupted biological process. Generally, feedstock deliveries will occur between 07:00 and 19:00, Monday to Friday, and between 07:00 and 16:00 on Saturdays. However, during peak periods, such as harvest seasons, feedstock may be accepted outside of these hours, including evenings, weekends, and bank holidays, to accommodate seasonal demands.

3.5 Staff Numbers

3.5.1 Only 3-4 members of staff will be permanently stationed at the site. Staff travel will therefore generate only a small proportion of overall travel demand to the site.

3.6 Parking

3.6.1 The TCC Development Plan does not provide specific parking standards for this type of development. However, based on the bespoke operational requirements of the development, the following parking spaces will be provided for staff and visitors:

- 8 standard parking spaces, 2 of which will incorporate EV charging; and
- 1 Accessible Parking space.

3.6.2 The parking spaces will all be located in a small car park, adjacent to the Office and Control building.

3.6.3 In addition, a covered cycle shelter, with space for four bikes, will be located outside the office entrance. Again, there are no particular TCC standards for this type of development, but the level of provision has been designed to be suitable for any potential demand.

4. TRAFFIC IMPACTS

4.1 Construction Stage

Trip Generation

4.1.1 It is envisaged that the construction of the proposed development shall be a single-phased construction program, involving sub-phases / workflow events as follows:

- **Phase 1.1**: Site set-up and compound / access - 1 month
- **Phase 1.2:** Construction of Process Area Run-Off Drainage Lagoon – 1 month
- **Phase 1.3:** Main construction stage – 18 months

4.1.2 Full details of the activities in each stage are included in **Chapter 6 of the EIAR**. The expected hours of construction operation are:

- 08:00 – 18:00 Monday to Friday; and
- 08:00 – 13:00 on Saturday.

4.1.3 During the Main Construction Stage, approximately 10,000m^3 will be imported to site, equating to a total of 834 inbound HGV journeys (1,668 two-way trips).

4.1.4 In addition, there will be a small number of other deliveries (such as timer or manhole deliveries), which will bring the number of inbound deliveries to around 1,000 HGVs (2,000 two-way trips). No material will be exported from the site.

4.1.5 In addition, around 20 construction staff will be based on site for the duration of the build. It is therefore expected that:

- There will be a daily average of 3 HGV deliveries to the site, resulting in 3 inbound, and 3 outbound trips per day. HGV deliveries will be spread relatively evenly throughout the day. During periods of peak construction, it is anticipated that there could be 10 inbound, and 10 outbound HGV trips to the site on a daily basis; and
- Most construction workers will arrive by shared transport, and given the site's location, all are expected to arrive by road (either by car or shuttle bus). Assuming the worst case, that all arrive by car, and an average vehicle occupancy of two persons, the site will therefore generate 10 inbound, and 10 outbound staff vehicle trips per day.
- Staff trips to and from the site will generally take place just in advance of the site working hours and following the site close in the evening.

4.1.6 **Table 2** provides a summary of expected construction traffic.

Table 2. Construction Traffic

Type	Daily Trips		
	Inbound	Outbound	Total
Construction Workers	10	10	20
HGVs	10	10	20
TOTAL	**20**	**20**	**40**

4.1.7 **Table 2** shows that there are expected to be 40 two-way trips to the site on each day, during the peak construction period.

4.1.8 Staff trips would arrive on the site by 08:00, and generally leave the site between 16:00 and 18:00. HGV trips would be spread evenly throughout the day. No abnormal loads are anticipated.

Traffic Impact during Construction

4.1.9 **Table 3** presents the predicted impact during the construction stage. SYSTRA has assumed that all construction traffic will travel on the L3201 and L4115, and that flows on the R639 will be split evenly between east and west.

Table 3. Traffic impact during construction stage

Location	Construction Traffic (AADF)			Base 2024 (AADF)			Base + Construction (AADF)			% impact		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
L3201	50	20	70	496	46	542	546	66	612	10%	43%	13%
L4115	50	20	70	891	74	965	941	94	1,035	6%	27%	7%
R639	25	10	35	3,192	228	3,420	3,217	238	3,455	1%	4%	1%

4.1.10 **Table 3** shows that in absolute terms, the traffic impact during the construction stage will be modest. In percentage terms, there will be a higher percentage increase, particularly in HGV traffic, on the L3201 and L4115, but this is due to the small numbers of existing HGV trips on the local road network. The R639 will see a modest percentage increase in all trips, which will not be particularly noticeable compared to existing flows.

4.1.11 Although not considered to be significant in terms of traffic levels, if not properly managed then construction traffic does have the potential to impact negatively on local communities and other road users.

4.1.12 Traffic impacts during the construction stage will be mitigated through the implementation of a Construction Traffic Management Plan (CTMP), which will be agreed with TCC. SYSTRA has prepared a Framework CTMP, which forms part of the wider Construction Management Plan, which has been prepared by Donnachadh O'Brien Consulting Engineers (Ref. 2429-DOB-XX-SI-RP-C-0003), and forms part of the wider EIAR.

4.2 Operational Stage

Trip Generation

4.2.1 The site will process up to 98,000 tonnes of material each year. Based upon a 40 hour working week, it is anticipated that the development will typically generate an average of 6 two-way vehicle movements per hour, and a total of 44 two-way trips per day, as shown in **Table 1**.

Table 4. Development Trip Generation

Month	Trucks Delivering	Trucks Only Collecting	Gas Trucks	Inbound Trips per day	Two way trips per day	Average Hourly trips per day
Jan	13	5	4	22	44	6
Feb	13	5	4	22	44	6
Mar	13	5	4	22	44	6
Apr	13	5	4	22	44	6
May	13	5	4	22	44	6
Jun	13	5	4	22	44	6
Jul	18	5	4	27	55	7
Aug	13	5	4	22	44	6
Sep	13	5	4	22	44	6
Oct	13	5	4	22	44	6
Nov	18	5	4	27	55	7
Dec	13	5	4	22	44	6

4.2.2 Many vehicles that will deliver material to the site will also pick up bio-fertilizer for their return journey, a business efficiency that also helps to reduce the number of vehicle trips that are generated on a daily basis.

Traffic Impact during Operation

4.2.3 **Table 5** presents the predicted impact during the busiest month of operation (July). SYSTRA has assumed that all traffic will travel on the L3201 and L4115, and that flows on the R639 will be split evenly between east and west.

Table 5. Traffic impact during operation

ATC	Location	Two-way Traffic (AADF)		
		DM YoO 2026	Operational Traffic	Increase
1	L3201	556	55	10%
2	L4115	991	55	6%
3	R639	3,511	27	1%

4.2.4 **Table 3** shows that in absolute terms, the traffic impact during operation will be modest, with an additional 55 two-way HGV trips per day, equating to around 7 trips an hour, or one every 8 minutes.

4.2.5 This is assessed as having only a minor impact on the roads and junctions along the access route, and will not cause any issues in terms of driver delay or congestion.

4.2.6 SYSTRA has produced an MMP which sets out how deliveries to and from the site will be safely and efficiently managed. This is included as **Appendix 14.3** within the EIAR.

4.3 Cumulative Impact

4.3.1 SYSTRA has undertaken a check on planning applications within a 10km radius listed as granted, or with a decision pending from within the last five years.

4.3.2 Six developments have been identified as having the potential to generate traffic on the HGV routes to the Lisheen AD site. These developments are:

- Acorn Recycling Workshop and Truck Washout facility (Ref: 2360281);
- Irish Bioeconomy Foundation Research and Development Building (Ref: 211171);
- Glanbia Biorefinery Facility (Ref: 18601296);
- Revive Environmental Mechanical Assessment Workship (Ref: 21709); and
- Derryville Environmental Solutions AD Facility (Ref: 20816).

4.3.3 **Table 14.8** shows the predicted traffic flows along the roads in the study area that will be generated by the developments highlighted in **Table 14.7** as having a potential cumulative impact.

Table 6. Cumulative Projects – Traffic Generation

	Project Name	Traffic Generation on L3201 and L4115 (AADF, two-way trips)			Traffic Generation on R639 (AADF, two-way trips)			Assumption
		Car	HGV	Total	Car	HGV	Total	
1	Acorn Recycling Workshop and Truck Washout	66	30	96	33	15	48	Assumed all traffic uses the Lisheen Mine Route
2	Irish Bioeconomy Foundation Research and Development Unit	52	0	52	26	0	26	Assumed 50% of traffic uses the Lisheen Mine Route
3	Glanbia Biorefinery (1)	140	70	210	70	35	105	Assumed 50% of traffic uses the Lisheen Mine Route
6	Revive Environmental	95	0	95	48	0	48	Assumed 50% of traffic uses the Lisheen Mine Route
12	NaringTech	15	17	32	8	9	17	Assumed 25% of traffic uses the Lisheen Mine Route
15	Derryville Environmental Solutions	1	5	6	1	3	4	Assumed 25% of traffic uses the Lisheen Mine Route

	TOTAL	**369**	**122**	**491**	**185**	**61**	**246**	

4.3.4 **Table 6** shows that the identified cumulative developments are predicted to generate a daily total of 491 two-way trips on the L3201 and L4115, of which 369 will be car trips, and 122 will be HGV trips. Across a typical 8-hour working day, this equates to 60 two-way trips per hour, or an average of 1 trip per minute.

4.3.5 The above traffic will be split 50:50 between the R639 to the east and west of the L4115.

4.3.6 **Table 14.9** shows the impact of this cumulative traffic on Base 2024 traffic levels, with and without the proposed development.

Table 7. Cumulative Impacts

	Road	Base 2041 AADF (two-way)	Base + Cumulative Traffic		Base + Cumulative + DS	
			Total	% increase from Base	Total	% increase from Base
1	L3201	631	1,122	78%	1,176	86%
2	L4115	1,124	1,615	44%	1,659	48%
3	R639	3,983	4,474	12%	4,518	13%

4.3.7 **Table 6.1** in TII Publication DN-GEO-03031 'Rural Road Link Design' sets out the typical traffic flow at which different types of rural road link will operate over capacity.

Table 8. Cumulative flows vs Road Capacity

	Road	Road Type	Capacity[1] (AADF)	Max Cumulative Flow (AADF)	Calculated Spare Capacity (AADF)
1	L3201	Type 3 Single (6.0m) Carriageway	5,000	1,176	3,824
2	L4115	Type 3 Single (6.0m) Carriageway	5,000	1,659	3,341
3	R639	Type 1 Single (7.3m) Carriageway	11,600	4,518	7,082

4.3.8 **Table 8** shows that even when the maximum predicted cumulative traffic is added onto Base 2041 traffic flows, all of the roads on the Lisheen access route will continue to operate well below their theoretical capacity.

[1] As per Table 6.1 of DN-GEO-03031

4.3.9 The above analysis demonstrates that the local road network will be able to accommodate the traffic levels from the proposed development, in combination to the planned and consented developments in the area.

4.4 Conclusion

4.4.1 In absolute terms, the traffic impacts of the development during both construction and operation are modest, and no improvements to the existing road network are required to accommodate traffic. Each of the three junctions on the access route to the site from the R639 (R639 / L4415, L4115 / L3201 and L3201 / Mine Access) is suitable to accommodate HGV traffic, as are the roads themselves.

5. SUMMARY AND CONCLUSION

5.1 Summary

5.1.1 SYSTRA has been commissioned by Nua Bio-Energy Ltd to provide transport planning services to support an application for the development of a Biomethane and Bio-based Fertiliser Production Facility at The Lisheen Mine Site, Lisheen, Thurles, Co. Tipperary. The proposed facility will have the capacity to process up to 98,000 tonnes of waste per annum, to produce biomethane and biofertilizer.

5.1.2 The site is located 7.5km to the north-west of Urlingford in County Tipperary, and ~7km to the north-west of the M8, which ultimately connects Dublin and Cork. The 5.62ha site is situated within the former Lisheen Mine site, and is bounded by agricultural lands to the west.

5.1.3 The site will be accessed using a private road that served the Lisheen Mine, prior to its closure in 2015. This road runs south-east from the site, and meets the L3201 at the priority junction.

5.1.4 The proposed HGV routes between the site and the strategic road network are those that were used by the Lisheen Mine. The proposed routes are:

- To / from the north-east via the L4115, L3201, R639 and M8 J4; and
- To / from the south-west via the L4115, L3201, R639, R630 and M8 J6.

5.1.5 Traffic surveys undertaken in 2024 show that traffic flows on the R639, L3201 and L4115 are low. The R639 has a recorded AADF of 3,420 vehicles, with the two minor roads accommodating less than 1,000 vehicles per day.

5.1.6 It is anticipated that the development will take 20 months to construct. During the period of peak construction, it is expected that there will be 20 car / LGV trips and 20 HGV trips (all two-way) to the site each day.

5.1.7 During operation, it is expected that the development will typically generate an average of 6 two-way HGV movements per hour, and a total of 44 two-way HGV trips per day. In addition, there will be a small amount of staff travel. Given the nature of the development, and the rural location of the site, the vast majority staff travel is expected to be by car.

5.1.8 In the predicted Year of Opening (YoO) 2026, operational traffic is predicted to result in increases in daily traffic flows of 10% on the L3201, 6% on the L4115 and 1% on the R639. In the case of the minor roads, the percentage increases are relatively high due to the very low existing traffic flows.

5.1.9 In absolute terms, the traffic impacts of the development during both construction and operation are modest, and no improvements to the existing road network are required to accommodate traffic.

5.1.10 Analysis contained within the TA demonstrates that the local road network will be able to accommodate the traffic levels from the proposed development, in combination to the planned and consented developments in the area.

5.1.11 It is important that suitable measures are put in place during the construction stage, to ensure that road safety (including pedestrian / cyclist safety) has been fully considered, and that the site operates safely and efficiently. A Framework Construction Traffic Management Plan has been prepared, and is included as part of the planning application documents.

5.2 Conclusion

5.2.1 The TA has fully assessed the impacts of the development, and found that it can be suitably accommodated into the local transport network. It will make use of an existing, established access junction onto the L4115, and the proposed access routes to the M6 have previously been successfully used by the former Lisheen Mine.

5.2.2 The development will generate a modest amount of daily vehicle movements, on roads that are able to safely accommodate the small amount of increased demand.