DATE: January 2025

Rainbarrow Farm, Poundbury, Dorset, DT2 9JF

DELIVERY AND SERVICING PLAN

AD Plant, increased feedstock

1. Introduction

1.1. This Delivery and Servicing Plan (DSP) has been produced by Entran in support of a planning application to increase the tonnage of feedstock for an existing Anaerobic Digestion (AD) plant at Rainbarrow Farm, Martinstown, Dorchester.

1.2. A Transport Statement (TS) was submitted to Dorset Council in support of the planning application in June 2024, including details of the proposed development and an assessment of vehicle trips. This DSP should be read in conjunction with the TS.

1.3. This DSP has been prepared in accordance with the guidance document 'Delivery and Servicing Plan Guidance: Planning for Safe, Clean, and Efficient Freight' (December 2020).

1.4. The Rainbarrow Farm AD facility is operated by ENGIE UK, a global leader in low-carbon energy supply and services, with a purpose to accelerate the transition towards a carbon-neutral economy through reduced consumption and environmentally friendly solutions.

1.5. ENGIE operates several anaerobic digestion (AD) plants across Europe, with ENGIE UK currently operating several AD plants across the South West UK, supplying green energy to local homes and businesses.

1.6. The Rainbarrow Farm AD facility supplies essential renewable gas and electricity to Poundbury, Dorchester and Dorset.

1.7. Rainbarrow Farm AD facility has an operations manager on-site at all times when the plant is active. The operations manager will be responsible for overseeing and implementing the Delivery and Servicing Plan. For the purpose of this document, the operations manager is hereafter referred to as the DSP Manager.

DSP Manager contact details:

Name: [redacted]

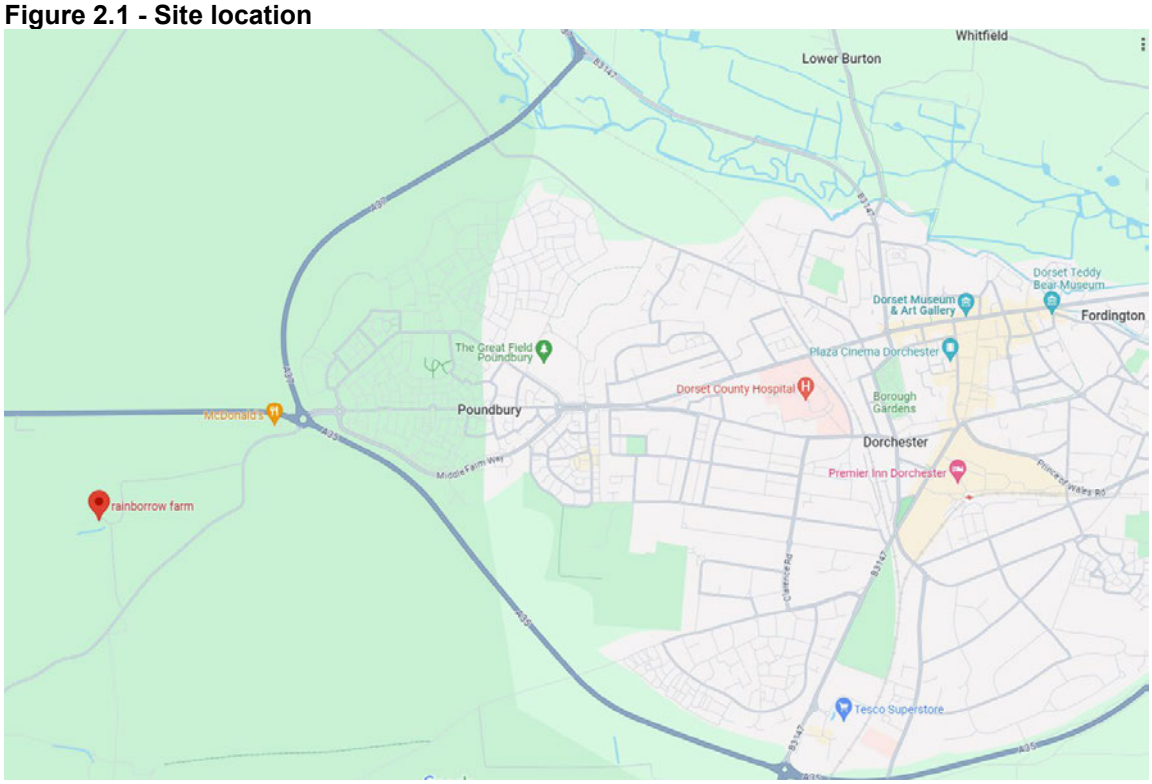
Email: [redacted]

Phone: [redacted]

2. Site, surroundings and proposed development

2.1. The site is located to the west of Dorchester as shown in Figure 2.1 below.

Figure 2.1 - Site location



2.2. The site takes access from a purpose-built access road (see figure 2.2 below), approved as part of the original 2010 planning application [1/D/10/001372] for the AD plant, with a junction onto Bridport Road, a two-lane, single-carriageway rural distributor road. The site access is just 280m south-west of the A35. Bridport Road joins the A35 by means of a five-arm roundabout; two approach arms are the A35, one is the A37, and the fifth arm is the primary access into Poundbury.

Figure 2.2 – Aerial image of existing AD facility

2.3. In the vicinity of the site, the A35 and A37 are single-carriageway primary distributor roads and form part of the strategic road network. The primary roads and Bridport Road are all subject to the national speed limit. The primary roads have a system of streetlights but, due to its rural nature, Bridport Road does not.

2.4. Available DfT traffic count data indicates that in 2022 the A35 carried an average of 22,280 vehicles per day close to the site, of which 5% were HGVs; this was slightly below the 2019 (pre-Covid) level of 22,960 vehicles per day.

2.5. In 2022, the A37 carried an average of 19,625 vehicles per day, of which 4% were HGVs; this was slightly higher than the 2019 (pre-Covid) level of 19,175 vehicles per day.

Permitted development

2.6. Planning permission was granted in 2011 for the AD plant (1/D/10/001372) and a S73 application was granted permission in 2012 (1/D/2011/2113).

2.7. The decision notice for the S73 application includes a number of planning conditions. Condition 27 requires the facility operate in accordance with traffic levels outlined in the Planning Support Statement and that a log of vehicular movements shall be kept and made available to the Planning Authority upon request.

2.8. Condition 28 states that the feedstocks shall be limited to those listed in the Planning Support Statement.

2.9. Tables 3.2 and 3.3 of the TS show a refined calculation, first based on bulk 29t loads and secondly based on smaller 14t loads using tractor and trailer. These tables are replicated below as Tables 2.1 and 2.2.

Table 2.1 – Approved vehicle loads (bulk 29t loads)

Heading	Tpa	Tpw	Tpd	Loads pw	Loads pd
IMPORT					
Cow slurry	1508	29	5.27	1	0.2
Chicken manure	6032	116	21.09	4	0.7
Potato	7540	145	26.36	5	0.9
May-Aug					
Grass silage	5568	348	63.27	12	2.2
Sept-Oct					
Maize	14210	1624	295.27	56	10.2
	34858				
EXPORT					
	27144	522	95	18	3.3

Tpa = tonnes per annum; Tpw = tonnes per week; Tpd = tonnes per day

2.10. Table 2.1 demonstrates that during the winter, there would be an average of 2 import loads and 3 export loads per day. This equates to 5 loads which is 10 vehicle trips. During the busiest autumn period, there would be an average of 12 import loads and 3 export loads, equating to 15 loads (30 trips)

Table 2.2 – Approved vehicle loads (Tractor/trailer 14t loads)

Heading	Tpa	Tpw	Tpd	Loads pw	Loads pd
IMPORT					
Cow slurry	1508	29	5.27	2	0.4
Chicken manure	6032	116	21.09	8	1.5
Potato	7540	145	26.36	10	1.9
May-Aug					
Grass silage	5568	348	63.27	25	4.5
Sept-Oct					
Maize	14210	1624	295.27	116	21.1
	34858				
EXPORT					
	27144	522	95	38	6.9

2.11. Table 2.2 demonstrates that if all material were to be brought in and out in the smaller loads, during the winter there would be an average of 4 import loads and 7 export loads per day. This equates to 11 loads which is 22 vehicle trips. During the busiest autumn period, there would be an average of 25 import loads and 7 export loads, equating to 22 loads (44 trips).

2.12. An average load of 14t would equate to 2490 imported loads per year (4980 trips).

2.13. These figures are based on the approved methodology as set out in the Planning Support Statement and two which Conditions 27 and 28 refer.

Observed vehicle movements

2.14. Since 2020, average daily loads have been recorded. It is evident that in each year since 2020, the tonnes per annum of imported material has exceeded the 35,000tpa assumed level. In 2023, the plan processed 54,100tpa of imported material. It is also worth noting that the average payload was 15 tonnes, resulting in 7213 delivery vehicle trips in 2023; trips for exported material would be in addition. This is significant because it demonstrates that vehicle movements in excess of those originally anticipated in 2010 can comfortably be accommodated within the purpose-built site access and local roads without any adverse effect on highway safety or capacity.

2.15. The observed vehicle figures for 2023 are summarised in Table 2.3 below.

Table 2.3 – Observed vehicle movements 2023

	Tonnes	Days	Av loads per day	Vehicle trips (pa)
Maize	37,495	25	100.2	4999
Rye	12,556	12	68.6	1674
Oats	4049	3	72.7	540
Total	**54,100**	**40**		**7213**

2.16. This demonstrates that the average load during 2023 was 15t, equating to 3607 imported loads per year (7213 trips).

2.17. There are two primary factors driving the differences between the calculated and observed vehicle trips; the observed trips are based on an increase in feedstock deliveries, and the number of days on which feedstock was delivered in 2023 is less than that assumed in the original calculation. These two factors result in an overall increase in movements, and a higher daily peak. Importantly, as stated above, these differences have been shown to be comfortably accommodated on the local roads without any adverse effect on highway safety or capacity.

2.18. It should be noted that planning permission was granted in 2017 for change of use of existing buildings to house plant and bagging areas associated with the AD plant. No transport statement was submitted with that approved application, but it would be reasonable to assume that that constituted an expansion of activity. Furthermore, permission was also granted in 2020 for a manure store, associated with the AD plant which again was not supported by a transport statement, but which could be considered to allow for an expansion in activity. These approved changes should be taken into consideration when making any comparison of the calculated vehicle trips and the observed vehicle trips.

Proposed increase in feedstock

2.19. Two future scenarios were tested in the TS; the first was an increase from 35,000tpa to 60,000tpa and the second was an increase to 100,000tpa. In both cases, bulk loads and trailer loads were tested. The results are replicated below for information.

Table 2.4 – Future vehicle loads per day (bulk 29t loads)

Heading	Nov-April	May-Aug	Sept-Oct
35,000	5	7	15
60,000	9	12	26
100,000	15	21	44

Table 2.5 – Future vehicle loads per day (tractor/trailer 14t loads)

Heading	Nov-April	May-Aug	Sept-Oct
35,000	11	15	32
60,000	18	26	54
100,000	31	43	91

2.20. The Planning Authority requested that the 60k tpa scenario should be tested, using the observed vehicle trips as a baseline rather than the approved Planning Support Statement. Table 2.6 below shows the predicted vehicle movements associated with 60k tpa, based on the observed movements for 54k tpa shown in Table 2.3.

Table 2.6 – Predicted future vehicle movements (60k tpa)

	Tonnes	Days	Av loads per day	Vehicle trips (pa)
Maize	41584	25	111	5545
Rye	13925	12	77	1857
Oats	4491	3	100	599
Total	**60,000**	**40**		**8000**

2.21. Table 2.6 assumes an 11% uplift in feedstock deliveries compared to 2023, but only delivered on the same number of days, and in the same average load sizes. This can therefore be considered a robust assessment.

<u>On site management</u>

2.22. Feedstock delivery vehicles are directed to the sileage clamps where feedstock is delivered.

- **Material preparation**: Depending on the feedstock, it is either delivered directly to the clamps, or de-packaged and macerated
- **Digestion**: The feedstock is placed in the tanks and broken down by microorganisms
- **Biogas production**: The microorganisms produce biogas, which is a combination of methane and carbon dioxide
- **Digestate production**: The solid material from the digestion process falls to the bottom of the tank and is extracted as a nutrient-rich organic fertilizer
- **Biogas use**: The biogas is cleaned and fed directly into the national gas network. These lines run directly into Poundbury (and beyond)
- **Some of the gas is used to generate electricity**. In part, this electricity is used to power the AD facility, with the remainder being fed into the electrical lines which serve the local community
- **Digestate use**: The digestate is stored in a lagoon and then exported in two forms, solid and liquid, both of which can be spread on farmland to enrich the soil
- **Excess heat use**: The excess heat produced during the process is used to warm the digesters and heat the pasteurization process

2.23. All vehicles delivering feedstock will enter the site via a weighbridge, thereby enabling the operator to record the number of vehicles and the tonnage of each load. All vehicles collecting digestate will leave via the weighbridge enabling data to be recorded in the same way.

2.24. All vehicles can enter and leave the site in a forward gear via the dedicated access road which joins the highway network just 270m south of the Monkey Jump Roundabout (A35/A37).

2.25. The private access road has a set of gates set back 17m from the highway. The access road has sufficient width to allow two large vehicles to pass; however, a 20m layby is provided inside the access gates to allow a vehicle to wait, clear of the running lanes, prior to departing. Further waiting/passing laybys are provided along the length of the access road.

3. Objectives and measures

Objectives

3.1. Both the local highway authority (DC) and National Highways have commented on planning application. Neither highway authority has raised any concerns about the existing AD facility and its operations in terms of highway capacity or highway safety, and both highway authorities have raised NO OBJECTIONS to the proposed increase in feedstock.

3.2. Notwithstanding the above, following consultation responses from the local town and parish councils, the Local Planning Authority has stated their primary concern relating to vehicle movements is that of residential amenity. There are no sensitive receptors close to the site and the majority of vehicle movements will be directly onto the primary road network; therefore the issue of residential amenity relates to avoiding any inconvenience to local residents using Bridport Road, and ensuring large vehicles avoid any inappropriate routes to and from the site.

Measures

3.3. The DSP has three primary measures in order to achieve the objectives:

- Control and regulate routes for HGVs travelling to and from the site;
- Manage the tonnage of feedstock being processed by the facility; and
- Ensure effective communication with hauliers and suppliers to ensure drivers will be notified of their obligations under the DSP in advance of visiting the site, and kept informed of any changes over time.

3.4. Secondary measures will include:

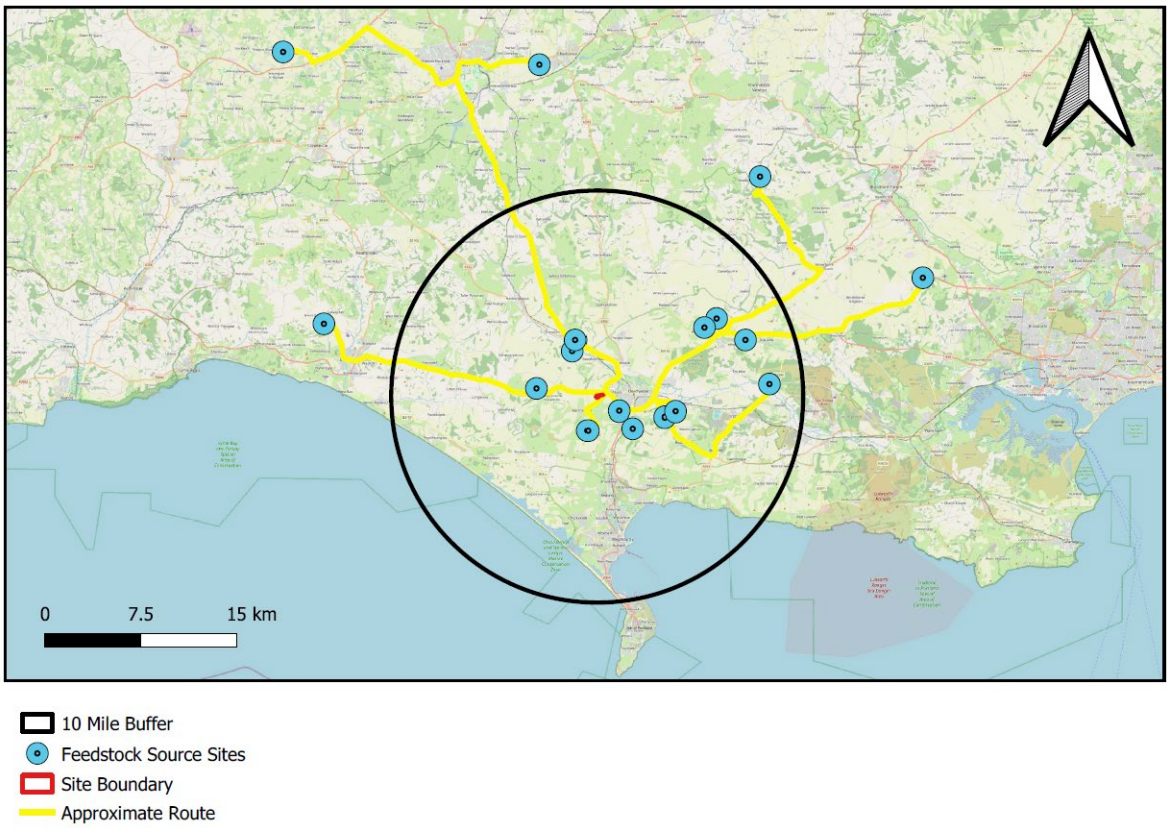
- Providing passive EV charging infrastructure on site to accommodate EV charging in the future and promoting the use of ultra-low emission vehicles through policy decisions, and supplier communications; and
- Providing DSP manager contact details to local stakeholders to enable ongoing engagement with the local community.

3.5. ENGIE will be responsible for implementing the necessary infrastructure and ensuring company policies promote the use of low emission vehicles. The DSP Manager will be responsible recording information and communicating with suppliers, hauliers and other stakeholders.

4. Targets and restrictions

4.1. The anticipated feedstock origins and haulage routes are shown in Figure 4.1 below.

Figure 4.1 – Feedstock origins and haulage routes



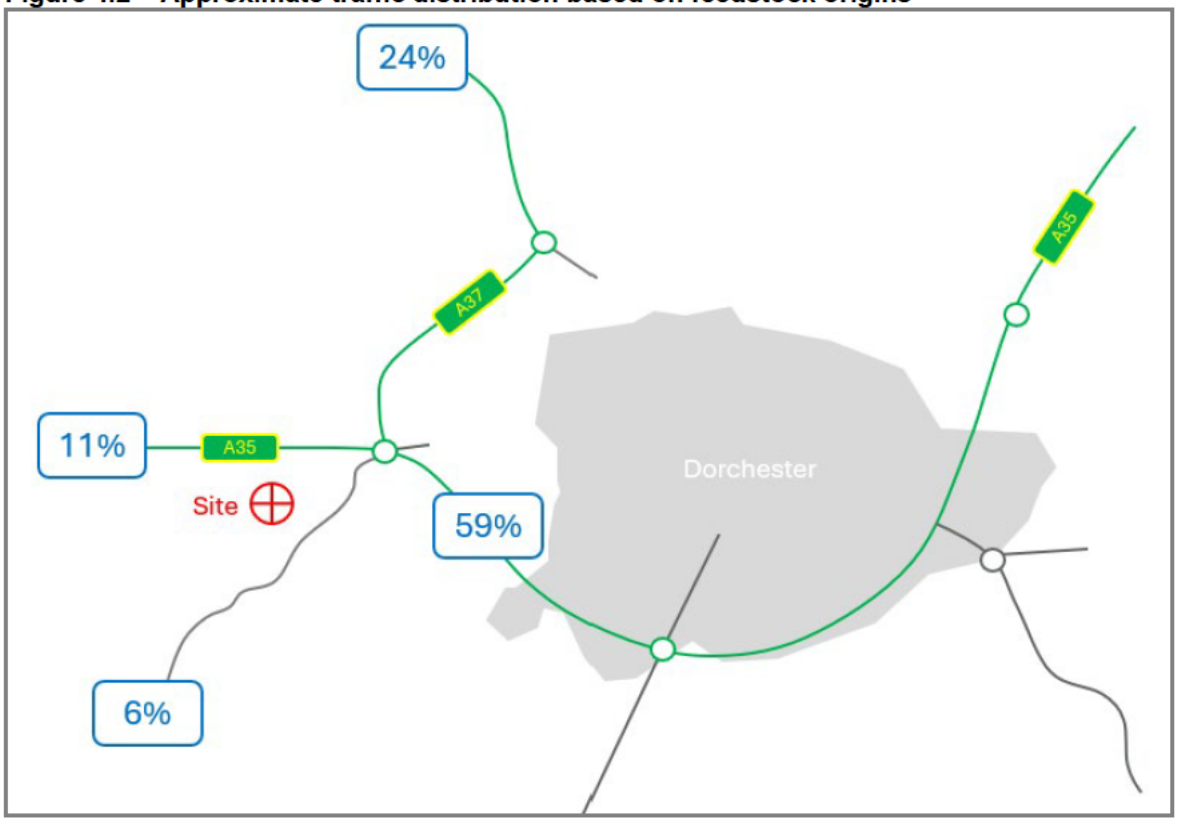
4.2. It is important to note that feedstock origins are subject to contracts and changes in farming operations and conditions, and are therefore likely to change over time. This will be reflected in any future updates to the DSP.

4.3. Notwithstanding the above, Figure 4.1 illustrates that the vast majority of imported material is expected to arrive at the site via the primary route network (A35 and A37). It is not expected that an equal quantity of feedstock will be sourced from each of the locations shown in Figure 4.1, but there are 17 feedstock origins, only one of which would use Bridport Road. If there were to be an equal distribution, that would equate to less than 6% of material being delivered via Bridport Road.

4.4. The vehicle trips in Table 2.6 show 111 loads being delivered per day during a short peak period of Maize harvesting. That equates to 222 vehicle trips. If 6% of these were to arrive via Bridport Road, that would equate to just 14 trips (7 arrivals and 7 departures) across a 12-hour delivery window. The remainder of the trips would enter and leave via the primary road network. This would have a negligible effect on residential amenity.

4.5. Again, if traffic were to distribute onto the primary road network in proportion to the feedstock sources, the network distribution would be approximately as shown in Figure 4.2 below.

Figure 4.2 – Approximate traffic distribution based on feedstock origins



4.6. It is important to reiterate that this distribution is based on number of feedstock origins, not predicted tonnage of material from each source. The tonnage of feedstock and the sources will naturally vary over time, so the distribution in Figure 4.2 is a reasonable proxy on which to base the DSP targets and restrictions.

4.7. The vehicle trips in Table 2.6 show a peak of 111 loads being delivered per day during a short peak period of Maize harvesting. That equates to 222 vehicle trips.

4.8. Table 4.1 below shows the highest peak daily trips on each road.

Table 4.1 – Peak HGV daily vehicle trips - distributed

	Baseline	Development	% increase
Bridport Road	NK	14	-
A35 (west)	22,280	24	0.11%
A37	19,625	53	0.27%
A35 (east)	22,280	131	0.59%

4.9. Table 4.1 shows that the worst-case peak period increase in vehicle trips will result in less than 1% increase on any part of the primary road network. It is therefore reasonable to conclude that no targets or restrictions need to apply to the proposed movements on the primary roads.

4.10. It is also important to note that the figures in Table 4.1 refer to daily trips. This shows that during the highest peak period, the development will generate 208 vehicle trips through the Monkey Jump Roundabout (104 arrivals and 104 departures). When taken across a 12-hour delivery window, that equates to an average of just 17 trips per hour. Of course, this is the highest peak for approximately 25 days of the year. For the remainder of the year, the vehicle numbers would be even lower.

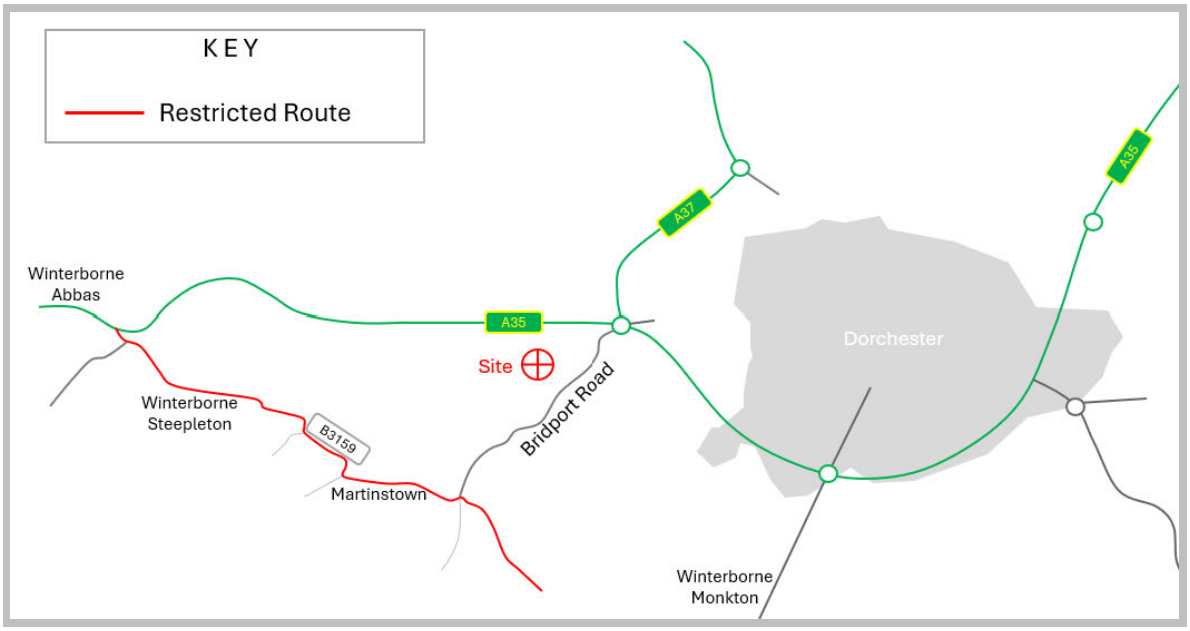
4.11. All the figures listed above relate to the total travel demand based on 60,000 tonnes per year, not the net increase that would result from the proposed increase in feedstock.

4.12. Based on the assessment included in the Transport Statement, and the figures set out in Sections 2 and 4 of this DSP, one target and one restriction should be applied to the future operation of the Rainbow Farm AD facility.

Restrictions

4.13. A Route Management Strategy (RMS) is required to accompany any material increase in feedstock being processed at the facility. The purpose of the RMS is to protect the residential amenity of the residents of Martinstown and Winterborne Steepleton. To that end, the B3159 will be listed as a Restricted Route. All hauliers and drivers will be advised that the Restricted Route may not be used as a through route to or from the site and that only vehicles with an origin or destination immediately served by the B3159 may use that route.

Figure 4.3 – Route Management Strategy



4.14. The DSP Manager is responsible for communicating the restrictions imposed by the RMS in advance of any hauliers or drivers visiting the site for the first time.

4.15. As a matter of good practice, all hauliers and drivers will be advised to use the highest category of road available to them when delivering or collecting material from the site.

4.16. Any revision to planning condition 27 should retain the requirement "*A log of vehicular movements shall be kept, and these formal records shall be made available for inspection by the Planning Authority at seven days' notice upon request*".

4.17. The total number of vehicle movements per year will be controlled by the maximum tonnage of feedstock to be processed by the facility. Any revision to planning condition 28 should therefore limit the feedstock to 60,000 tpa.

4.18. All feedstock deliveries and digestate collections must be by prior arrangement only. All hauliers and drivers must have been informed of the requirements of the DSP in advance of their first visit to the site, and of any changes to the DSP over time.

Targets

4.19. The peak delivery period for any AD facility will be the harvest period of each feedstock material. The duration of the harvest is heavily dependent on weather conditions; it is therefore extremely important to build in sufficient flexibility in the operations to allow for feedstock to harvested during optimum (dry) weather conditions and delivered to the site for storage and processing. This is common to all AD facilities producing renewable gas and electricity for local communities.

4.20. The DSP Manager must assess the feedstock deliveries scheduled for each forthcoming WEEK. If the deliveries are predicted to exceed the numbers set out in Table 2.6 of this DSP by 10%, the DSP Manager must take all reasonable measures to communicate with feedstock providers and hauliers to reorganise deliveries so as not to exceed the daily average figures in Table 2.6.

4.21. It is acceptable for vehicle trips to exceed the daily average on any given day, but the DSP Manager must endeavour to arrange deliveries so as not to exceed the Table 2.6 daily averages by more than 10% when measured across each week.

5. Monitoring and refreshing the DSP

5.1. All vehicles delivering feedstock to the facility must enter via the weighbridge and a record be taken. All vehicles collecting digestate must leave via the weighbridge and a record be taken.

5.2. The DSP Manager will be responsible for maintaining an accurate record of the number of vehicles delivering and collecting material from the site, and the total tonnage of that material. The log of vehicular movements shall be made available for inspection by the Planning Authority at seven days' notice.

5.3. The DSP manager shall include within the log, any occurrences where vehicle trips were predicted to exceed the Table 2.6 daily averages by more than 10% and interventions required.

5.4. The DSP Manager shall keep a record of all communication with suppliers and hauliers regarding the DSP. The DSP Manager shall keep a record of all communication with local stakeholders regarding the DSP.

5.5. The DSP will be reviewed on an annual basis and updated if required. The DSP Manager will provide details of any updates to all suppliers and hauliers as well as the Planning Authority.