

## Technical Note

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Project: Wicks Farm, Ford

Project No: 6352

Subject: Addendum Technical Note for Technical Note 2

Prepared by: Benjamin Boreham      Date: 20/12/19

Checked by: Dave Wiseman      Rev:

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### Introduction

- 1.1. This Technical Note has been prepared by Stuart Michael Associates (SMA), consulting engineers, on behalf of Agricultural Investments Limited (the 'Applicant'), in support of the previous TN (Ref 6352/TN2) which proposed a change of access for the granted development (Ref: F/30/18/PL) of six hectares of commercial glasshouse with associated irrigation reservoir, access roads and car parking on land at Wicks Farm, Arundel, West Sussex.
- 1.2. This TN provides supplementary evidence as requested by West Sussex County Council (WSCC) for the relocation of the proposed access, from the location as granted in application no.: F/30/18/PL to the now constructed access as granted under WSCC/026/16/F.
- 1.3. This TN will refer to the Transport Assessment (Ref: R/C151638/02/Iss7) and Transport Assessment Addendum (Ref: C151638/04/Iss2) documents produced by Hydrock Ltd.

### Block Plan

- 1.4. The Block Plan attached in **Appendix A** was produced by Hydrock Ltd to show the proposed access location for the site in application WSCC/026/16/F, this access has now been constructed and is being used by the Applicant.
- 1.5. SMA has edited this document to show the location of the access proposed under F/30/18/PL and the location the Applicant now wishes to gain access to the site from.

### Visibility Splays

- 1.6. **Appendix B** shows the visibility splays proposed for the access from the Hydrock TA. This drawing shows 2.4 x 274m visibility splay to the west and 2.4 x 288m to the east. This visibility splay was accepted by WSCC at the time and is now operational.

- 1.7. The visibility splays shown in Appendix B are more than twice the distance shown in the initial TN, produced by SMA (Ref: 6352/TN1), which proposed 2.4 x 125m visibility splays as based on the speed survey. Both the SMA and Hydrock visibility splays were accepted by WSCC.

### Speed Survey

- 1.8. SMA commissioned a 7 day speed survey in the initial Technical Note (Ref: 6352/TN1), the results of which have been extracted below;

*SMA has commissioned a 7 day vehicle speed and volume survey on Ford Lane to establish what the true vehicle speed is past the site access. A summary of the results can be seen in*

**Table 1.**

**Table 1 – Vehicle Speeds on Surrounding Road Network**

| Location  | Average Speed (mph) | 85 <sup>th</sup> Percentile Speed (mph) |
|-----------|---------------------|-----------------------------------------|
| Eastbound | 41                  | 47                                      |
| Westbound | 41                  | 48                                      |

*As Table 1 shows, average vehicle speeds past the site are 41mph on both the eastbound and westbound carriageways. The 85<sup>th</sup> percentile speeds are 47mph on the eastbound carriageway and 48mph on the westbound carriageway. As the survey was conducted in dry weather, the Design Manual for roads and Bridges (DMRB) states that 2.5mph can be removed off the 85<sup>th</sup> percentile speeds in order to establish wet weather speeds. This results in a wet weather speed of 44.5mph on the eastbound carriageway and 45.5mph on the westbound carriageway.*

*The wet weather speeds are therefore used as the basis of the visibility splays for the proposed site access. The proposed visibility splays are therefore 125m on the westbound carriageway and 120m on the eastbound carriageway.*

- 1.9. As the text above shows, vehicle speeds along Ford Lane are lower than the 60mph speed limit. Furthermore, as the proposed access is now closer to the start/end of the 40mph limit, it is envisaged that vehicle speeds would be lower than those shown in Table 1.
- 1.10. The visibility splays shown on the Hydrock drawing are more than appropriate for Ford Lane, based on DMRB TD 9 guidance. This states that a 215m Y dimension is a requirement for a derestricted (60 mph) speed limit. The drawing shown in Appendix B confirms that the splays exceed the minimum requirement.

## **Swept Path Analysis**

- 1.11. Swept Path analysis of the proposed access was undertaken by Hydrock in the TA, this swept path analysis is shown in **Appendix C**.

## **Approved Vehicle Routing**

- 1.12. SMA proposed a vehicle routing strategy in the initial TN, which was approved by WSCC. This text is reproduced below.

*All HGV's will enter the site on the westbound carriageway on Ford Lane and will leave heading eastbound, towards Ford road and the strategic network (A27 and A259). HGV drivers will be informed of this routing when on the way to the site and when they leave the site. A no right turn sign will also be placed near the junction of the access road and Ford Lane to ensure that HGV's travel on the specified route only.*

*This ensures that all HGV's do not access the site via the B2132 and Yapton village centre.*

## **Trip Generation**

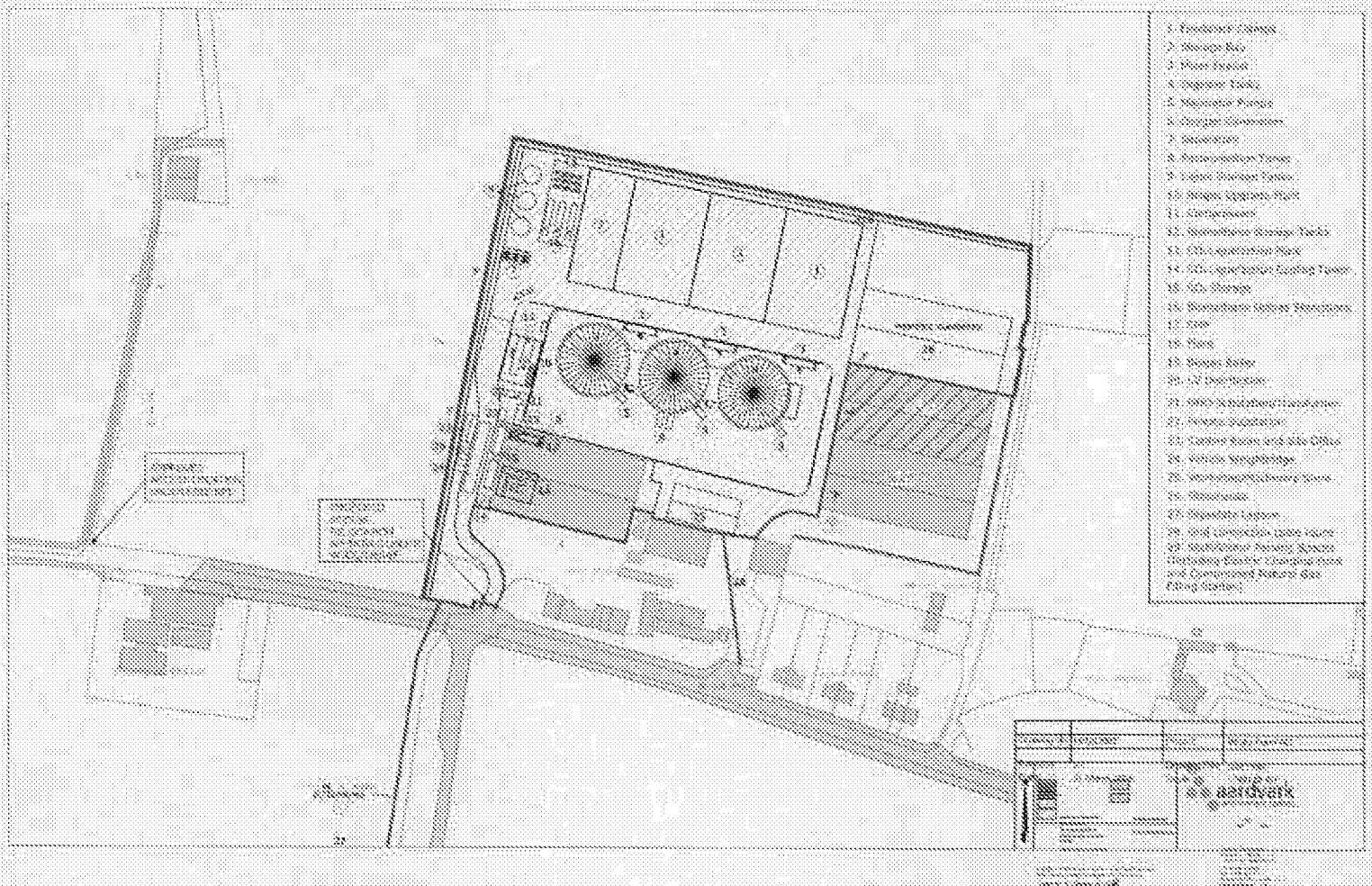
- 1.13. A Trip Generation analysis was undertaken within the TA and Addendum TA for the Wicks Farm site, this analysis found that there would be 24 daily two way trips from the proposed access. This was an increase in 9 trips on its previous use.
- 1.14. The TN prepared by SMA for the proposed poly tunnel site (Ref: 6352/TN1) found that the site would produce 6 daily two way HGV movements. This totals 30 two way HGV trips at the proposed access each day.
- 1.15. Following consultation with the applicant, they have advised SMA that HGV's will be operating on the site from 12pm to 7pm, and will be controlled to ensure that there will never be more than one HGV on site at any one time. The Applicant will schedule HGV's as to minimise any crossover movements where there would be two HGV's using the access at the same time.
- 1.16. The Trip Generation sections from the TA, Addendum TA and SMA TN are attached in **Appendix D**.

## **Summary**

- 1.17. This TN has been prepared by SMA on behalf of Agricultural Investments Limited (the 'Applicant'), in support of the previous TN (Ref 6352/TN2) which proposed a change of access for the granted development (Ref. F/30/18/PL) of six hectares of commercial glasshouse with associated irrigation reservoir, access roads and car parking on land at Wicks Farm, Arundel, West Sussex.

- 1.18. This TN provides supplementary evidence on Visibility Splays, Speed Surveys, Swept Path Analysis, Approved Vehicle Routing as well as Trip Generation, as requested by (WSCC). This data was required for the relocation of the proposed access, from the location as granted in Ref: F/30/18/PL to the now constructed access as granted under WSCC/026/16/F.

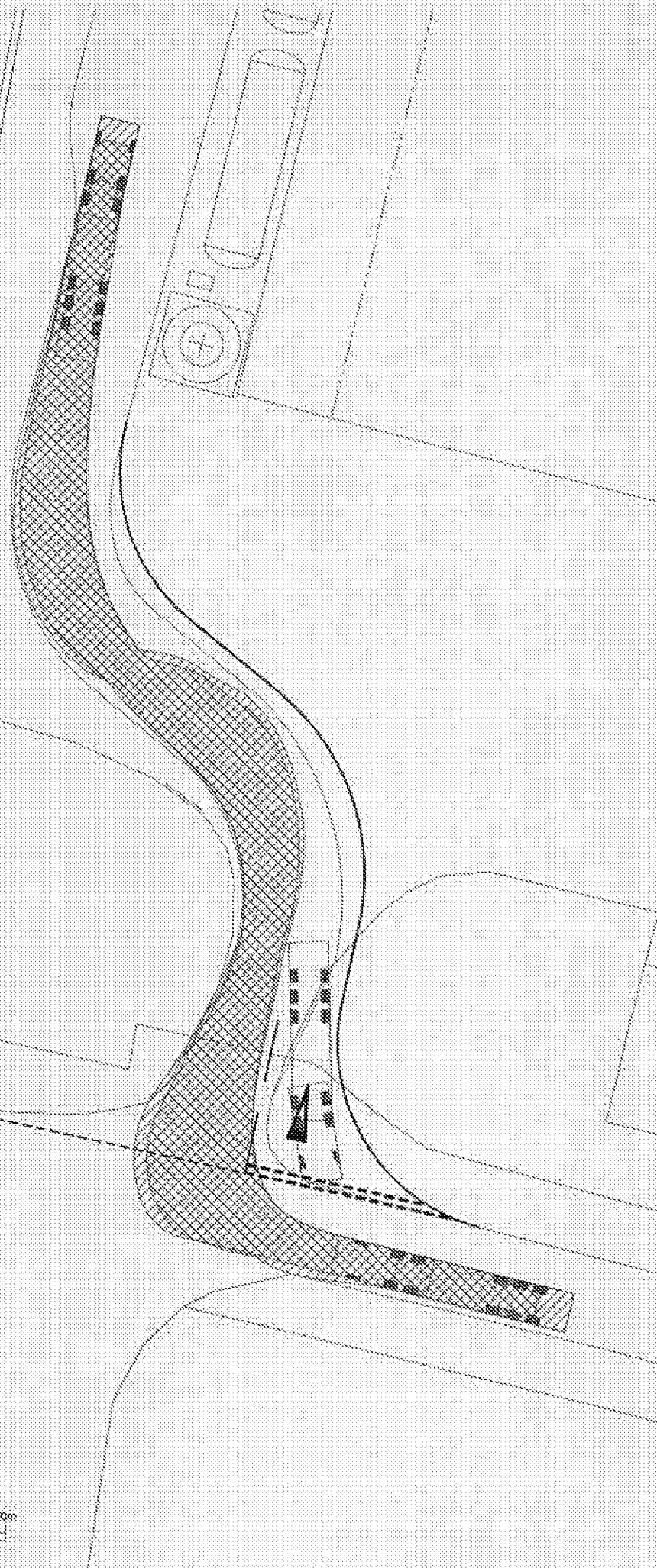
## **APPENDIX A**



## **APPENDIX B**



## **APPENDIX C**



APPLICATION AREA BASED UPON DRAWING  
TITLES: BORGAS, PROJECT NAME & OLD PLANT  
DRAWING NUMBER: WWS-405-001 SAT 1 OF  
3 REV PT  
PRODUCED BY WATER AND WASTE  
SERVICES

[illegible]

|                           |         |
|---------------------------|---------|
| TANKER                    |         |
| OVERALL LENGTH            | 15.380m |
| OVERALL WIDTH             | 2.500m  |
| OVERALL BODY HEIGHT       | 2.250m  |
| MIN BODY GROUND CLEARANCE | 0.813m  |
| TRACK WIDTH               | 2.430m  |
| LOCK TO LOCK TIME         | 4.10s   |
| 80% TO 80% TRIPPING RATIO | 6.200s  |

|     |     |          |          |
|-----|-----|----------|----------|
| 855 | 802 | 80000000 | 80000000 |
|-----|-----|----------|----------|

## Hydrock

2000 Coast Range, Coast Range, Washington, 98001-0000  
501-234-5678 501-234-5678 501-234-5678 501-234-5678  
www.2000coastrange.com

5155

AAROVARK EM LIMITED

Project: ANAEROBIC DIGESTION PLANT,  
WICKS FARM,  
FORD  
Project Number: C151638

**Scenario 10: SWEEP PATH**  
ANALYSIS OF PROPOSED ACCESS.  
HGV ENTERING SITE WITH  
VEHICLE WAITING TO EXIT

| Class | Student | Sub No | Class Date | Sub Date   |
|-------|---------|--------|------------|------------|
| 45    | 10      | 100    | 10/10/1985 | 10/10/1985 |

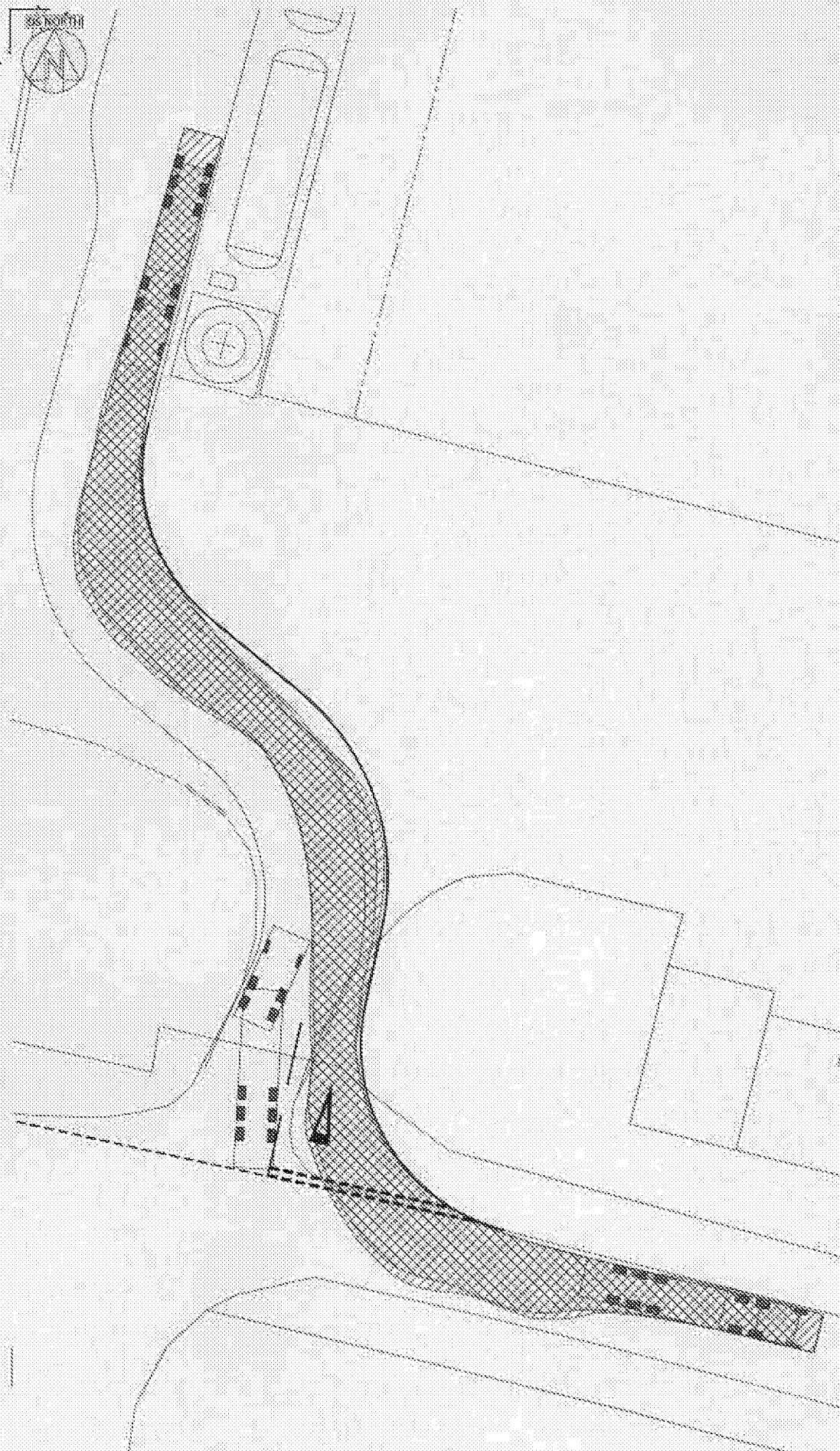
Learning Goals INFORMATION

151638/ATO1

## **APPENDIX D**

STUART MICHAEL ASSOCIATES

8



APPLICATION AREA BASED UPON DRAWING  
TITLED BODIES, BIOETHANE & CCS PLANT  
DRAWING NUMBER BWS-WF-001 SHEET 3 OF  
3 REV 01  
PRODUCED BY WATER AND WASTE  
SERVICES

Technical drawing of a truck chassis showing dimensions and component labels:

- Dimensions:**
  - Overall length: 6700
  - Wheelbase: 3800
  - Front overhang: 1900
  - Rear overhang: 1000
  - Ground clearance at front: 100
  - Ground clearance at rear: 100
- Labels:**
  - Motor (at front)
  - Pompa d'acqua (Water pump)
  - Servosterzo (Power steering)
  - ABS
  - Alzacristalli elettrici (Electric windows)
  - Cerchi pneumatici (Tires)
  - Portellone posteriore (Rear hatch)
  - Portellone anteriore (Front hatch)
  - Portellone laterale (Side hatch)
  - Portellone superiore (Upper hatch)
  - Portellone inferiore (Lower hatch)
  - Portellone laterale superiore (Upper side hatch)
  - Portellone laterale inferiore (Lower side hatch)
  - Portellone superiore anteriore (Front upper hatch)
  - Portellone superiore posteriore (Rear upper hatch)
  - Portellone inferiore anteriore (Front lower hatch)
  - Portellone inferiore posteriore (Rear lower hatch)
  - Portellone laterale superiore anteriore (Front upper side hatch)
  - Portellone laterale superiore posteriore (Rear upper side hatch)
  - Portellone laterale inferiore anteriore (Front lower side hatch)
  - Portellone laterale inferiore posteriore (Rear lower side hatch)

|                                    |         |
|------------------------------------|---------|
| OVERALL 12/05/74                   | 15.2800 |
| OVERALL 08/05/74                   | 2.5500  |
| OVERALL BODY WEIGHT                | 2.3500  |
| MAX BODY GROWTH CLEARANCE          | 0.0700  |
| TRACK 08/05/74                     | 2.4000  |
| TRACK 12/05/74                     | 4.00    |
| WATER TO 08/05/74 SLIMING 04/05/74 | 6.0700  |

|          |              |       |
|----------|--------------|-------|
| 4-597723 | CONY, ROBERT | 65-38 |
| 45-582   | CONY, ROBERT | 65-38 |

## Hydrock

Open Coast Drive, New Lane Elementary, District 8523, 401  
SE 230th St 223 690 2164 and 105 or visit  
www.fishers.org

Not being a member of the Society, I cannot say whether or not the Society is a part of the Church.

Case: \_\_\_\_\_

ASREMARK EM LIMITED

Address:  
ANAEROBIC DIGESTION PLANT,  
WICKS FARM,  
FORD

Report Number: C51638

Access Job: SWEEP PATH  
ANALYSIS OF PROPOSED ACCESS  
NGV EXITING SITE WITH VEHICLE  
WAITING TO ENTER OFF OF HIGHWAY

| ISBN | Constant | State (D.S.) | Therapy Date | Frequency  |
|------|----------|--------------|--------------|------------|
| 233  | 118      | 3-230        | 28/01/2025   | 0000000000 |

**INFORMATION**

151638/8T02 4



## 5.0 TRIP GENERATION

### 5.1 Existing Trips

- 5.1.1 The site is currently used as a central collection and distribution point for all of the produce from the land that makes up Wick Farm. This section details the number of trips that results from the existing farms operation. This is broken down into *trips to the site*, where produce is brought to the central collection point for bulk loading; and *trips from the site*, where trips are transported off-site to customers.

#### *Trips to the Site*

- 5.1.2 The transportation of produce from the wider area of Wick Farm to the site's location for storage and bulk loading is made up of trips that occur both internally and on the local highway network.
- 5.1.3 The internal trips occur across adjacent fields, and therefore do not appear on the local highway network.
- 5.1.4 The remaining trips are from the nearby fields that make up Wick Farm. These trips use or cross the highway and are made via 12 tonne tractor and trailers.
- 5.1.5 In total this results in 1,305 trips to the site per annum via the local highway network, or 4 one-way trips to the site each day (assuming a seven day working week).

#### *Contract Stored Crops*

- 5.1.6 In addition the site is currently contracted to import and then distribute contract store crops. This will not contribute to the AD Plant operation, but will form part of the baseline. This results in 167 trips to the site per annum, or 3 one-way trips per week.

#### *Trips from the Site*

- 5.1.7 Once collected and bulked centrally, the produce is loaded into large vehicles with a capacity of 29 tonnes for onward distribution.
- 5.1.8 This results in 504 one-way trips from the site per annum, or an average of 1 one-way trips from the site each day.

#### *Summary*

- 5.1.9 The existing number of trips is summarised in Table 5.1.

Table 5.1: Summary of Existing Trips

| Existing                                      | Annual one-way | Daily one-way | Weekly one-way | Daily two-way |
|-----------------------------------------------|----------------|---------------|----------------|---------------|
| Trips for central collection and bulk loading | 634            | 2             | 12             | 3             |
| Internal Trips                                | -              | -             | -              | -             |
| Contract Store Crops                          | 167            | 0             | 3              | 1             |
| Trips for wider distribution                  | 504            | 1             | 10             | 3             |
| <b>Total</b>                                  | <b>1305</b>    | <b>4</b>      | <b>25</b>      | <b>7</b>      |



## 5.2 Proposed Trips

- 5.2.1 The produce currently exported from the site will be used to fuel the AD Plant, and so the 504 HGV 'trips from the site', undertaken to distribute the produce will no longer occur. These will be replaced by the export of gas from the site.
- 5.2.2 At full capacity (this varies seasonally), the plant will output 28,000m<sup>3</sup> of gas per day. Gas tankers with 14,000m<sup>3</sup> capacity trailers will be used to export the Biomethane and gas tankers with 19,250m<sup>3</sup> capacity trailers will export the CO<sub>2</sub>. This will result in 815 trips per annum, or up to 3 trips per day.
- 5.2.3 The proposed number of trips is summarised in Table 5.2.

Table 5.2: Summary of Continuing/Proposed Trips

| Continuing/Proposed                      | Annual      | Daily one-way | Weekly one-way | Daily two-way |
|------------------------------------------|-------------|---------------|----------------|---------------|
| Trips for produce delivery - via highway | 2632        | 9             | 51             | 18            |
| Trips for produce delivery - internal    | -           | -             | -              | -             |
| Biomethane gas export                    | 553         | 2             | 10             | 4             |
| CO <sub>2</sub> gas export               | 262         | 1             | 5              | 2             |
| <b>Total</b>                             | <b>3447</b> | <b>12</b>     | <b>66</b>      | <b>24</b>     |

## 5.3 Traffic Impact Analysis

- 5.3.1 The change in trips is summarised in Table 5.3.

Table 5.3: Summary of Net Change in Trips

| Net change (proposed-existing)                     | Annual      | Daily one-way | Weekly one-way | Daily two-way |
|----------------------------------------------------|-------------|---------------|----------------|---------------|
| Trips for central collection and bulk loading      | -634        | -2            | -12            | -3            |
| Trips for wider distribution (no longer occurring) | -504        | -1            | -10            | -3            |
| Contract Store Crops (no longer occurring)         | -167        | 0             | -3             | -1            |
| Trips for produce delivery - via highway           | 2632        | 9             | 51             | 18            |
| Biomethane gas export                              | 553         | 2             | 10             | 4             |
| CO <sub>2</sub> gas export                         | 262         | 1             | 5              | 2             |
| <b>Net change (Proposed-Existing)</b>              | <b>2142</b> | <b>9</b>      | <b>41</b>      | <b>17</b>     |

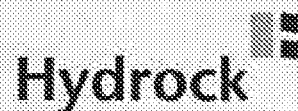
- 5.3.2 Table 5.3 shows that there is a slight increase in trips, which results in an increase of 17 two-way trips on average each day.
- 5.3.3 In summary the local highway network will be subject to a reduction in farm HGV's, offset by the introduction of small number of gas tanker trips, and a slight increase in tractor use that could occur outside of planning.

## 5.4 HGV Routing

### Traffic Management Plan

- 5.4.1 As mentioned in Section 2.2, the closest part of the SRN is the A27.
- 5.4.2 Following a report into the safety issues at the Yapton Lane Level Crossing, the pre-application advice received from WSCC was that any intensification of HGV movements at this location would result in a recommendation of refusal. This route has therefore been ruled out.

# Transport Assessment Addendum



|              |                               |            |                 |
|--------------|-------------------------------|------------|-----------------|
| Project:     | Wicks Farm                    | Reference: | C151638/04/Iss2 |
| Client:      | Wicks Farm Biogas Ltd         |            |                 |
| Subject:     | Transport Assessment Addendum |            |                 |
| Prepared by: | Luke Hutcheson                | Date:      | 15/07/2016      |
| Approved by: | Rory McHugh                   | Date:      | 15/07/2016      |
| Revision:    | 1                             | Date:      | 19/07/2016      |

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## 1.0 TRANSPORTATION ASSESSMENT ADDENDUM

### 1.1 Introduction

1.1.1 This Transport Assessment Addendum (TAA) has been prepared in response to comments received on planning application WSCC/026/16/F – Land at Wicks Farm, Ford. The TAA provides an addendum to the Transport Assessment (reference: R/C151638/02/ISS7), provided as part of the planning submission.

1.1.2 This TAA has been written primarily in response to comments provided by Dominic Smith as the Local Highway Authority (dated 14<sup>th</sup> June 2016), but also takes into consideration a number of comments made during the consultation process by parish councils and local residents.

1.1.3 It is considered that the key points arising from the consultation comments, and which this TAA seeks to address, are:

- Clarification on the trip generation;
- Daily average taking into consideration seasonality;
- Intensification of Ford Lane traffic;
- Hours of operation
- HGV routing strategy; and
- Site access RSA (Stage 1) and Design Team Response.

1.1.4 These points are addressed in turn below.

### 1.2 Trip Generation

1.2.1 The majority of the increase in trips is made up of farm traffic using a tractor and trailer, which could occur outside of planning permission should the farm change its cropping regime. This increase in tractor and trailer movements equates to 11 of the 17 two-way trips per day as stated in Table 5.3 of the TA. The remaining 6 trips that make up the proposed development's increase in trips are made by HGVs (gas export).

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Over Court Barns  
Over Lane  
Almondsbury  
Bristol  
BS32 4DF  
UK

Page 3



- 1.2.2 Of the 6 HGV trips from the site, only 3 will be above the existing baseline position. This is because the site currently generates 3 HGV trips per day (trips for wider distribution) and so the proposals will only increase HGV trips by 3 trips per day.
- 1.2.3 In terms of the site's hourly impact on the highway network, there will be less than one additional tractor trailer trip per hour and less than one additional HGV trip every two hours. This is considered to be insignificant in terms of the operation of the local highway network.
- 1.2.4 Table 1.1 below shows the summary of the net change in trips, as per Table 5.3 of the submitted TA, with an additional column defining the method of transport. This demonstrates that the bulk of the trips are made up by tractor and trailer, which given the farms existing use could already occur on the highway network through changes in the way that the farm is managed.

Table 1.1: Summary of Net Change in Trips

| Net change (proposed-existing)                     | Annual | Daily one-way | Weekly one-way | Daily two-way | Method of transport |
|----------------------------------------------------|--------|---------------|----------------|---------------|---------------------|
| Trips for central collection and bulk loading      | -634   | -2            | -12            | -3            | Tractor and trailer |
| Trips for wider distribution (no longer occurring) | -504   | -1            | -10            | -3            | HGV                 |
| Contract Store Crops (no longer occurring)         | -167   | 0             | -3             | -1            | Tractor and trailer |
| Trips for produce delivery - via highway           | 2632   | 9             | 51             | 18            | Tractor and trailer |
| Biomethane gas export                              | 553    | 2             | 10             | 4             | HGV                 |
| CO2 gas export                                     | 262    | 1             | 5              | 2             | HGV                 |
| Net change (Proposed-Existing)                     | 2142   | 9             | 41             | 17            |                     |

### 1.3 Seasonal variation

- 1.3.1 Wicks Farm has supplied the monthly breakdown of the cropping regime, which is shown in Table 1.2.

Table 1.2: Seasonal variation in cropping regime, by month

| Month                | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Feedstock Import (%) | 0%  | 0%  | 15% | 15% | 10% | 5%  | 5%  | 5%  | 20% | 20% | 5%  | 0%  | 100   |

- 1.3.2 This breakdown has been applied to the annual trips shown in Table 1.1, resulting in a monthly figure adjusted for the seasonal variation, which is shown in Table 1.3. The gas export will not experience a seasonal fluctuation and is based on a seven day week.

### **Proposed Internal Works**

- 1.22. The proposed access road will need additional works in order to safely allow an HGV to access the site. These works consist of widening the existing corners leading to the site, in order to facilitate the turn of the 16.5m HGV as well as the potential passing of two HGV's on the corner.
- 1.23. A portion of land will be required in order to facilitate these works, the applicant has confirmed that the land required is within their ownership. The resulting corner radii is 35m and 22.5m. **Drawing 6352.002** shows the proposed widening of the internal carriageway and Autotrack Vehicle Tracking of and HGV entering and leaving the site.

### **Internal Vehicle Tracking**

- 1.24. As shown in the proposed layout presented in **Appendix A**, the development will incorporate two ancillary buildings. It is from these buildings that the HGV's will be loaded via a forklift truck or other such loading method. This eliminates the need for the HGV to reverse up to the building to be loaded via a loading bay.
- 1.25. As such, internal vehicle tracking has been based on this principle, and is shown in **Drawing 6352.003**. As this shows, the HGV enters the site, turns and enters the loading area, after being loaded it can turn and leave the site in forward gear. This method ensures that minimal reversing is required on site.

### **Proposed Trips**

- 1.26. From the Applicants past experience in operating a site like this, they propose that there will be no more than 3 HGV's on site per day, so a maximum of 6 HGV movements over the day. The site will also have 21 parking spaces provided for staff and visitors, however it is not anticipated that all 21 spaces will be occupied at any one time.
- 1.27. Following consultation with the applicant, they have advised SMA that HGV's will be operating on the site from 12pm to 7pm, and will be controlled to ensure that there will never be more than one HGV on site at any one time, and that HGV's will not have to pass each other at the entrance of the site on Ford Lane.
- 1.28. The applicant also operates a staff minibus service, which reduces the number of vehicle movements to and from the site. The staff minibuses will arrive on site in the morning at around 8am and leave the site around 3pm – 4pm, outside of the traditional network peak times.

