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**Date :** 15/10/2020

**Our ref. :**

**Your ref. :**

## **FURTHER INFORMATION REQUEST – 19/1135**

### **Introduction**

This application proposes reconfiguring the pig herd; increasing the sow numbers from 600 to 1,000 and decreasing the number of finishers on-site to accommodate the extra sows. This will be accomplished by internal refurbishment and will not require any new construction. When this is completed the annual manure production will be virtually unchanged (15,681m<sup>3</sup> vs 15,805m<sup>3</sup>) and the ammonia and odour levels will be reduced.

In this planning application the only new building to be constructed will be a small electrical sub-station. The proposed electrical sub-station is to allow the up-grading of the electricity supply to the site to enable the full operation of the feed mill. This will allow the applicant to produce and control his own pig diets rather than be reliant on commercial feed mills.

Gaseous emissions are described in more detail in Chapter 7 of the attached EIAR. In order to improve emissions from the pig farm the applicant commits to reducing the protein in the growing pig diet by 2% - a measure that is possible when the mill is fully operational and the applicant can formulate his own diets. Reducing the protein by 2% will have the following effects compared to the existing 600 sow herd;

- Odour emissions will be reduced by 18%;
- Ammonia will be reduced by 11%;

## **RESPONSE TO FURTHER INFORMATION REQUEST**

Attached to this document are:

1. (Further Information Figure) FI\_Fig1d @ A3 (Flowpaths for Effluent Arising)
2. (Further Information Figure) FI\_Fig2 @ A3 (Site location showing storm water)
3. Figures 1 – 5 (Discovery mapping showing study area / land-bank) @ A3
4. Figure 1.4 (Existing Buildings Layout) @ A3
5. Figure 1.5 (Proposed Buildings Layout) @ A3
6. Drawing 1000 – Entrance Details 1 @ A1
7. Drawing – Entrance Details 2 @ A1
8. Drawing 1002 – Entrance Details 3 @ A1
9. Drawing 1003 – Storm Sewer Plan – Layout 1 @ A1
10. Drawing 1004 – Storm Sewer Sections @ A1

11. Drawing – C-002 Existing Site Layout
12. Drawing - Lighting Design Drawing @ A1
13. A3D-205071-16A Rev C – sample specification drawings for a single mv electrical substation

The following nine questions were raised in the further information request dated 2201/2020;

# 1. FARMYARD MANAGEMENT, LANDBANK AND NUTRIENT MANAGEMENT

## a) + b); Calculations to demonstrate 26 week slurry storage in existing and proposed situations

There is 50 weeks slurry storage on this unit. Table 1 shows that 15,681m<sup>3</sup> of pig manure will be produced in the existing 600 sow herd and 15,805m<sup>3</sup> produced in the proposed 1,000 sow herd (less 1,400 finisher places). Table 2 and 3 show that the slurry storage in the existing and proposed developments is 17,366m<sup>3</sup>. This is sufficient for >50 weeks, which exceeds the requirements under the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017 (as amended).

**Table 1: Number of pigs in existing and proposed sow herds and slurry produced**

| Type of pig                                                   | Existing 600 sow unit | Proposed 1,000 sow unit |
|---------------------------------------------------------------|-----------------------|-------------------------|
| sows                                                          | 600                   | 1,000                   |
| Gilts                                                         | 100                   | 166                     |
| Boars                                                         | 3                     | 5                       |
| Finisher places                                               | 5236                  | 3,957 ++                |
| Breeding unit manure production (m <sup>3</sup> / sow / week) | 0.174 +               | 0.174 +                 |
| Finishing pig production (m <sup>3</sup> / finisher / week)   | 0.034 +               | 0.034 +                 |
| Total manure produced from breeding unit (m <sup>3</sup> )    | 5,429                 | 5,762                   |
| Total manure produced from finisher unit (m <sup>3</sup> )    | 9,257                 | 9,048                   |
| <b>Total (m<sup>3</sup>) =&gt;</b>                            | <b>14,686</b>         | <b>14,810</b>           |
| Soiled water (m <sup>3</sup> )                                | 995                   | 995                     |
| <b>Total including soiled water (m<sup>3</sup>) =&gt;</b>     | <b>15,681</b>         | <b>15,805</b>           |

+ Table 1 of schedule 2 of SI 605 of 2017 ++ 7,000 weaners sold

**Table 2: Existing Structure List and slurry storage at the 'Ballyfaskin' Site**

| Ref No | Description      | Length (m) | Width (m) | Height (m) | Area (m <sup>2</sup> ) | Depth of tank (m) | Slurry storage* (m <sup>3</sup> ) |
|--------|------------------|------------|-----------|------------|------------------------|-------------------|-----------------------------------|
| 1      | Finisher house   | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                              |
| 2      | Finisher house   | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                              |
| 3      | Finisher house   | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                              |
| 4      | Dry sow house +  | 71.7       | 21.3      | 5.2        | 1527                   | 1.8               | 2077                              |
| 5      | Finisher house + | 29.3       | 17.8      | 4.3        | 522                    | 1.2               | 443                               |
| 6      | Finisher house + | 11.4       | 16.4      | 4.3        | 187                    | 1.2               | 159                               |
| 7      | Finisher house + | 23.6       | 10.4      | 4.3        | 245                    | 1.8               | 334                               |
| 8      | Finisher house + | 21.7       | 21.5      | 4.3        | 467                    | 1.8               | 635                               |
| 9      | Weaner house +   | 30.2       | 11.1      | 4          | 335                    | 1.2               | 285                               |
| 10     | Weaner house +   | 15.5       | 12.6      | 4          | 195                    | 1.2               | 166                               |

| Ref No                                                                 | Description                          | Length (m) | Width (m) | Height (m) | Area (m²) | Depth of tank (m) | Slurry storage* (m³) |
|------------------------------------------------------------------------|--------------------------------------|------------|-----------|------------|-----------|-------------------|----------------------|
| 11                                                                     | Finisher House +                     | 69.5       | 20        | 5          | 1390      | 1.8               | 1890                 |
| 12                                                                     | Loading bay +                        | 23         | 4.6       | -          | 106       | -                 |                      |
| 13                                                                     | Weaner house                         | 48.8       | 21.9      | 4          | 1069      | 1.2               | 908                  |
| 14                                                                     | Farrowing house ++                   | 51.3       | 11        | 3.5        | 564       | 1.2               | 480                  |
| 15                                                                     | Weaner house                         | 52.8       | 12.8      | 3.5        | 676       | 1.2               | 575                  |
| 16                                                                     | Farrowing house++                    | 52.8       | 12.8      | 4          | 676       | 1.2               | 575                  |
| 17                                                                     | Dry sow house                        | 52.8       | 22.5      | 5          | 1188      | 1.8               | 1616                 |
| 18                                                                     | Mill Building                        | 20         | 20        | 18.3       | 400       | -                 | -                    |
| 19                                                                     | Office and staff facilities          | 11         | 10        | 5          | 110       | -                 | -                    |
| 20                                                                     | Septic tank                          | -          | -         | -          | 73m³      | -                 | -                    |
| 21                                                                     | Water Harvesting tank and pump house | 1.8        | 52.8      | -          | 110       | 1.8               | -                    |
|                                                                        |                                      | Totals =>  |           |            | 14,238    |                   | 17,366               |
| + In-situ before 2012    ++ Partially in-situ before 2012              |                                      |            |           |            |           |                   |                      |
| * 200mm freeboard allowed and 10% reduction allowed for internal walls |                                      |            |           |            |           |                   |                      |

**Table 3: Proposed Structure List and slurry storage at the 'Ballyfaskin' Site**

| Ref No | Description                 | Length (m) | Width (m) | Height (m) | Area (m <sup>2</sup> ) | Depth of tank (m) | Slurry storage (m <sup>3</sup> ) |
|--------|-----------------------------|------------|-----------|------------|------------------------|-------------------|----------------------------------|
| 1      | Finisher house              | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2355                             |
| 2      | Finisher house              | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2355                             |
| 3      | Dry sow house               | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2355                             |
| 4      | Dry sow house               | 71.7       | 21.3      | 5.2        | 1527                   | 1.8               | 2355                             |
| 5      | Weaner house                | 29.3       | 17.8      | 4.3        | 522                    | 1.2               | 494                              |
| 6      | Weaner house                | 11.4       | 16.4      | 4.3        | 187                    | 1.2               | 171                              |
| 7      | Dry sow house               | 23.6       | 10.4      | 4.3        | 245                    | 1.8               | 361                              |
| 8      | Dry sow house               | 21.7       | 21.5      | 4.3        | 467                    | 1.8               | 706                              |
| 9      | Weaner house                | 30.2       | 11.1      | 4          | 335                    | -                 |                                  |
| 10     | Weaner house                | 15.5       | 12.6      | 4          | 195                    | 1.2               | 179                              |
| 11     | Finisher House              | 69.5       | 20        | 5          | 1390                   | 1.8               | 2139                             |
| 12     | Loading bay                 | 23         | 4.6       | -          | 106                    | -                 |                                  |
| 13     | Weaner house                | 48.8       | 21.9      | 4          | 1069                   | 1.2               | 1027                             |
| 14     | Farrowing house             | 51.3       | 11        | 3.5        | 564                    | 1.2               | 527                              |
| 15     | Farrowing house             | 52.8       | 12.8      | 3.5        | 676                    | 1.2               | 637                              |
| 16     | Farrowing house             | 52.8       | 12.8      | 4          | 676                    | 1.2               | 637                              |
| 17     | Dry sow house               | 52.8       | 22.5      | 5          | 1188                   | 1.8               | 1829                             |
| 18     | Mill Building               | 20         | 20        | 18.3       | 400                    | -                 |                                  |
| 19     | Office and staff facilities | 11         | 10        | 5          | 110                    | -                 |                                  |
| 20     | Septic tank                 | -          | -         | -          | 73m <sup>3</sup>       | -                 | -                                |

| Ref No | Description                          | Length (m)          | Width (m) | Height (m) | Area (m <sup>2</sup> ) | Depth of tank (m) | Slurry storage (m <sup>3</sup> ) |
|--------|--------------------------------------|---------------------|-----------|------------|------------------------|-------------------|----------------------------------|
| 21     | Water Harvesting tank and pump house | 1.8                 | 52.8      | 95         | 110                    | 1.8               | -                                |
| 22     | ESB Substation                       | 4.9                 | 4.4       | 3          | 21.7*                  | -                 | -                                |
|        |                                      | <b>Totals =&gt;</b> |           |            | <b>14,260</b>          |                   | <b>17,366</b>                    |

\* Exact dimensions to be agreed with ESB

#### c); Calculations of all soiled water to be included in the plan

The calculations below demonstrate that even with 995m<sup>3</sup> of soiled water stored with the slurry there is in excess of 50 weeks storage on site.

**Table 3 : Soiled water calculations**

| Uncovered passage                                                                                                          | Dimensions |       |                       |
|----------------------------------------------------------------------------------------------------------------------------|------------|-------|-----------------------|
|                                                                                                                            | L (m)      | W (m) | Vol (m <sup>3</sup> ) |
| North east of house 1                                                                                                      | 71.7       | 1.5   | 156.6                 |
| North east of house 2                                                                                                      | 71.7       | 1.5   | 156.6                 |
| North east of house 3                                                                                                      | 71.7       | 1.5   | 156.6                 |
| East side of piggery                                                                                                       | 100        | 1.5   | 218                   |
| North east of house 7                                                                                                      | 35         | 1.5   | 76.5                  |
| Between houses 6 & 10 and 7 & 8                                                                                            | 35         | 1.5   | 76.5                  |
| Loading bay (12)                                                                                                           | 23         | 4.6   | 154                   |
| Total area od soiled yards / passages (m <sup>2</sup> )                                                                    | 683        |       |                       |
| <b>Total volume of soiled water (m<sup>3</sup>)</b>                                                                        | <b>995</b> |       |                       |
| Annual rain – 1.456m Met Eireann Rainfall Grid data for 179000, 123000<br>Refer to Figure FI_1d attached for house numbers |            |       |                       |

In addition to the loading ramp No 12 (106m<sup>2</sup>), soiled water is generated on uncovered pig passages to the NE of houses 1, 2 and 3, along the eastern side of the piggery from houses 1 to 7, between house 4 and 7 and between houses 7 & 8 and 6 & 10. These uncovered slatted passages are approx. 385m long and 1.5m wide = 683.5m<sup>2</sup> and rainfall is 1.456<sup>1</sup>m for the 52 week period. Therefore 995m<sup>3</sup> of soiled water is collected in slurry tanks under these slatted passages. The slatted passages between houses 13 – 17 are covered. The once weekly movement of sows between houses 1 – 11 and houses 13 – 17 is limited to a few minutes across the concrete yard which is then brushed down and cleaned manually to remove any contaminants. A transport box and fork-lift is used for the movement of weaners between houses 1 – 11 and houses 13 – 17.

#### d); Yard Layout Plan indicating flow paths for all effluents

Figure FI\_1.d attached indicates flow paths of effluents arising

#### e); Record Keeping

<sup>1</sup> Met Eireann Rainfall Grid data for 179000, 123000



A slurry register is maintained on site. It records;

1. Name & herd number of the customer farmer;
2. Total quantity of organic fertiliser exported to each farmer; and
3. Date of export of pig manure;

A 'Record 3' slurry export form is maintained on site. The 'Record 3' is sent to Department of Agriculture, Food and the Marine (DAFM) at the end of each year. This 'Record 3' contains the following details;

4. Name & herd number of the customer farmer;
5. Total quantity of organic fertiliser exported in the calendar year;
6. N & P content of the pig manure (as per SI 605 of 2017); and
7. Signature of customer farmer.

#### **f); Landbank for all importing farmers and confirmation of Nutrient Management Plans**

##### **Landbank**

DAFM have details of lands and livestock numbers of the farmers taking pig manure in the Department's database and monitor and inspect a proportion of these farmers each year to insure compliance with the regulations. DAFM also controls access to this database from a GDPR perspective. Farmer's herd numbers and LPIS (Land Parcel Information System) data held by DAFM is not made public by DAFM due to data protection regulations. Slurry movement records, which are held on site, are inspected by the EPA every year.

The applicant understands that the Council need to have adequate information to assess environmental impacts of the proposed re configuration of the sow herd. Therefore the applicant, in the EIAR, has provided details of the townlands which receive the pig manure. This allows the definition of a relevant study area, where the customer farmers are located and where the environmental impacts on humans, biodiversity, water, air, climate, material assets, landscape and cultural heritage can be assessed. The applicant contends that this study area adequately represents the 'land-bank' of the pig farm for the purposes of Limerick County Council in its assessment of impacts. Maps of the study area are attached to this further information request as (Figures 1 – 5 Discovery<sup>2</sup> mapping). Further details of this study area / 'land-bank' are included in Section 1.8 of Chapter 1 and Figures 5.4.1 – 5.4.33 of Volume 2 of the EIAR, and in Figures 1.9 and 3.1.1 – 3.1.5 of Volume 3 of the EIAR and areas are presented in Table 4 below. It is important to note that customer farmers may vary from year to year.

##### **Nutrient Management Plans**

The European Court of Justice Decision (C-416/02 European Court of Justice 8 September 2005) found that pig manure generated on a pig farm is not a 'waste'. It is recognised by the European Court as a by product fertiliser and this product (pig manure) is exported to farmers and used in a similar manner to any agricultural fertiliser. The application of all agricultural fertilisers (organic and inorganic) is subject to statutory regulations (SI 605 of 2017, as amended). The statute includes nutrient management measures that apply to all farmers. This nutrient management can be broadly divided into situations where receiving farmers have soil samples and situations where receiving farmers do not have soil samples. Where receiving farmers have soil sample results for their farms then the pig manure is

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<sup>2</sup> License as per Appendix 6 of Vol 3 of the EIAR

applied according to the fertiliser N & P requirements of each sampled area, as set out in Tables 12 – 22 of SI 605 of 2017 (as amended). Where receiving farmers do not have soil samples the regulations state that P-index 3 can be assumed, as set out in Tables 12 – 22 of SI 605 of 2017 (as amended), which logically allows maintenance rates to be applied – thus preventing P build-up. The later nutrient management is assumed in the EIAR. Therefore there is a statutory nutrient management plan in place for every farmer that applies fertiliser to his/her land. The applicant has no information to conclude that receiving farmers are not abiding by the regulations.

#### g); Demonstrate capacity of land bank to cater for proposed effluents

A conservative estimate of the available land within the townlands where pig manure is being delivered is 5,543 ha (13,691 acres). The proposed pig manure will supply approx. 23% of the Phosphorous requirement and 3% of the Nitrogen requirement of this area. This relatively low contribution shows that the receiving environment can cater for the proposed production of pig manure. Table 4 below sets out this P requirement.

This is conservative estimate of the available land and allows for deductions that minimise risk to water; deductions such as; areas identified as 'rock near surface' on GSI mapping; 50m exclusions around rural dwellings to allow for unknown private water supplies, 200m exclusion around public water supplies, exclusions for source protection zones and zones of contribution for public water supplies, 200m zones around schools (to reduce potential for nuisance), buffer strips along watercourses (10+m allowed in this assessment), in-eligible areas such as roads (public and private), farm yards, forestry, scrub, waterbodies and wet lands with obvious rush growth. These deductions are illustrated in Figures 5.4.1 to 5.4.33 of Volume 2 of the EIAR.

Assuming P index 3 in adherence to SI 605 of 2017 (as amended), the receiving environment can cater for 55,430kgs of P and 1,142 tons of N. If the average soil sample results for Limerick and Tipperary are considered then the study area can cater for at least 77,678 kgs P. The pig farm will produce 12,644kgs of P ( $15,805\text{m}^3 \times 0.8$ ) and therefore will supply 23% of this P requirement (55,430kgs) and 3% of the chemical N requirement (Section 5.3 of the EIAR).

**Table 4: Phosphorous requirement of the receiving environment**

| Townland              | Gross Area (ha) | Net Area* (ha) | Total P Requirement for Study Area (kgs) |
|-----------------------|-----------------|----------------|------------------------------------------|
| 1. Killeenagarraiff   | 113             | 84             | 842                                      |
| 2. Highpark           | 212             | 180            | 1796                                     |
| 3. Caherconlish       | 89              | 35             | 350                                      |
| 4. Fedamore           | 76              | 49             | 490                                      |
| 5. Ballybricken North | 83              | 68             | 683                                      |
| 6. Ballybricken West  | 117             | 53             | 534                                      |
| 7. Ballybricken East  | 88              | 48             | 476                                      |
| 8. Ballybricken South | 132             | 111            | 1114                                     |
| 9. Caherelly East     | 293             | 211            | 2114                                     |
| 10. Caherelly West    | 170             | 85             | 850                                      |
| 11. Killeely          | 81              | 53             | 526                                      |
| 12. Monearmore        | 18              | 6              | 56                                       |

| Townland                                                                            | Gross Area (ha) | Net Area* (ha) | Total P Requirement for Study Area (kgs) |
|-------------------------------------------------------------------------------------|-----------------|----------------|------------------------------------------|
| 13. Cullen                                                                          | 26              | 15             | 148                                      |
| 14. Gortdrum                                                                        | 82              | 22             | 224                                      |
| 15. Ballyryan East                                                                  | 71              | 33             | 328                                      |
| 16. Milltown (ED Ballykisteen)                                                      | 36              | 20             | 205                                      |
| 17. Bruff                                                                           | 159             | 74             | 737                                      |
| 18. Knockainy West                                                                  | 465             | 294            | 2942                                     |
| 19. Knockainy East                                                                  | 29              | 23             | 227                                      |
| 20. Kilfrush                                                                        | 324             | 249            | 2489                                     |
| 21. Knocklong                                                                       | 46              | 44             | 438                                      |
| 22. Knocklong West                                                                  | 285             | 212            | 2122                                     |
| 23. Knocklong East                                                                  | 223             | 107            | 1075                                     |
| 24. Ballycurrane                                                                    | 135             | 95             | 950                                      |
| 25. Bartoose                                                                        | 153             | 135            | 1348                                     |
| 26. Emly                                                                            | 82              | 43             | 430                                      |
| 27. Ballylooby                                                                      | 181             | 153            | 1525                                     |
| 28. Lattin North                                                                    | 108             | 94             | 938                                      |
| 29. Lattin West                                                                     | 74              | 66             | 657                                      |
| 30. Lattin East                                                                     | 84              | 62             | 620                                      |
| 31. Mooresfort                                                                      | 330             | 275            | 2753                                     |
| 32. Kilross                                                                         | 249             | 188            | 1876                                     |
| 33. Ballyfroota                                                                     | 198             | 173            | 1733                                     |
| 34. Galbally                                                                        | 96              | 74             | 741                                      |
| 35. Corderry                                                                        | 216             | 170            | 1701                                     |
| 36. Park (ed galbally)                                                              | 186             | 131            | 1305                                     |
| 37. Spittle (ED Ballylanders)                                                       | 245             | 199            | 1988                                     |
| 38. Curraghkilbran                                                                  | 114             | 108            | 1081                                     |
| 39. Curraghturk                                                                     | 325             | 98             | 980                                      |
| 40. Ballyfauskeen                                                                   | 336             | 209            | 2093                                     |
| 41. Cullane North                                                                   | 258             | 149            | 1494                                     |
| 42. Ballyduff                                                                       | 204             | 93             | 935                                      |
| 43. Cullane Middle                                                                  | 200             | 166            | 1664                                     |
| 44. Cullane South                                                                   | 305             | 209            | 2086                                     |
| 45. Spittle (ED Darragh)                                                            | 149             | 86             | 863                                      |
| 46. Kilglass                                                                        | 274             | 204            | 2038                                     |
| 47. Shanbally                                                                       | 144             | 110            | 1096                                     |
| 48. Kilcoran                                                                        | 389             | 178            | 1779                                     |
| <b>Totals =&gt;</b>                                                                 | <b>8,250</b>    | <b>5,543</b>   | <b>55,430</b>                            |
| * Deductions as per section 5.9. and Figures 5.1.4 – 5.1.33 of Volume 2 of the EAIR |                 |                |                                          |

Figure 1.8, Section 5.8 and Table 5.5 of Volume 2 of the EAIR demonstrates that there is a relatively low pig population in County Limerick; contributing just 2% to the overall organic Nitrogen (N) for the County. Table 5 below (a copy of Table 5.5 of the EIAR) shows that the estimated rate of Organic N for

the study area is approx. 123.6 kgs/ha without pigs, and 126 kgs/ha with pigs. This relatively low contribution of organic N demonstrates that there is capacity in the receiving environment to cater for the proposed increase in sows.

Table 5.2 *Emissions from Agriculture 1990-2018* of the EPA National Inventory Report shows the contribution from the pig section is 330 Kt CO<sub>2</sub> equivalent – which is just 2% of the National Agricultural GHG emissions. This also demonstrates that there is capacity in the receiving environment to cater for the proposed re configured pig herd.

**Table 5 : Estimated rate of Pig Organic Nitrogen Contribution to Receiving Environment**

| Livestock Category                                                          | Numbers Limerick | Numbers Tipperary | Organic N Produced in Co Limerick (Kgs) | Organic N Produced in Co Tipperary (Kgs) |
|-----------------------------------------------------------------------------|------------------|-------------------|-----------------------------------------|------------------------------------------|
| Dairy cows (CSO June 2019)                                                  | 118,800          | 175,100           | 10,335,600                              | 14,883,500                               |
| Other cows (CSO June 2019)                                                  | 26,200           | 55,800            | 1,703,000                               | 3,627,000                                |
| 0 - 1 Yr Old (CSO June 2019)                                                | 122,000          | 197,100           | 2,928,000                               | 4,730,400                                |
| 1 - 2 Yr Old (CSO June 2019)                                                | 108,800          | 189,600           | 6,201,600                               | 10,807,200                               |
| >2 Yr Old (CSO June 2019)                                                   | 51,400           | 81,800            | 3,341,000                               | 5,317,000                                |
| Bulls (CSO June 2019)                                                       | 400              | 500               | 26,000                                  | 32,500                                   |
| Deer (CSO 2010)                                                             | 203              | 92                | 2,639                                   | 1,196                                    |
| Horses/Ponies (CSO 2010)                                                    | 4,314            | 9,049             | 215,700                                 | 452,450                                  |
| Laying Hens (CSO 2010)                                                      | 16,325           | 7,809             | 9,142                                   | 4,373                                    |
| Breeding Birds (CSO 2010)                                                   | 121,117          | 305               | 67,826                                  | 171                                      |
| Table Birds (CSO 2010)                                                      | 1,180,443        | 987               | 283,306                                 | 237                                      |
| Other Birds (CSO 2010)                                                      | 1,224            | 7,035             | 1,224                                   | 7,035                                    |
| Ewes (CSO 2010)                                                             | 10,389           | 68,993            | 135,057                                 | 896,909                                  |
| Hoggets (CSO 2010)                                                          | 2,563            | 17,618            | 15,378                                  | 105,708                                  |
| Goats (CSO 2010)                                                            | 125              | 573               | 1,125                                   | 5,157                                    |
| <b>Estimated Org N (kgs) produced in the County (excl. pigs)</b>            |                  |                   | <b>25,266,597</b>                       | <b>40,870,836</b>                        |
| <b>Agricultural area (ha) (CSO 2010)</b>                                    |                  |                   | <b>206,690</b>                          | <b>313,152</b>                           |
| Rate of Organic kgs N / ha (excl. pigs)                                     |                  |                   | 121                                     | 130.5                                    |
| <b>Rate of Organic kgs N / ha (excl. pigs) (73% study area in Limerick)</b> |                  |                   |                                         | <b>123.6</b>                             |
| Sows (DAFM 2019)                                                            | 4,071            | 13,868            | 354,177                                 | 1,206,516                                |
| <b>Total Org N (kgs) produced in the County (incl. pigs)</b>                |                  |                   | <b>25,383,174</b>                       | <b>42,077,352</b>                        |
| Rate of Organic kgs N / ha (incl. pigs)                                     |                  |                   | 122.8                                   | 134.4                                    |
| <b>Rate of Organic kgs N / ha (incl. pigs) (73% study area in Limerick)</b> |                  |                   |                                         | <b>126</b>                               |

**H : Explanation of how exiting 600 sow facility can accommodate 1,000 sows without extending.**

The finisher sale weight will be reduced from 135kgs to 102kgs to respond to trends in available markets which demands a lighter carcass weight. In addition to this 7,000 weaners will be sold. The optimum production system for the farm is to use the additional space for additional sows and keep fewer finisher places. In the existing 600 sow herd the finishers are on the farm for 16.7 weeks which is approx. 3.1 batches each year. These heavier pigs have a lower average daily weight gain and have a higher space requirement. The 600 sows produce 16,200 pigs per year and therefore, at any one time there will be 5,236 finisher pigs on site ( $16,200 \div 3.094$  batches). See Figure 1.4 attached for housing types.

**Table 6: 600 Sow production system**

| Type of pig                   | Existing 600 sow unit |
|-------------------------------|-----------------------|
| Sows                          | 600                   |
| Gilts                         | 100                   |
| Boars                         | 3                     |
| Pigs produced per annum       | 16,200                |
| Weaners places                | 2500                  |
| Finisher places (3.1 batches) | 5236                  |
| Finisher growth rate          | 0.85kgs/day           |
| Weeks per batch               | 16.7                  |

The proposed 1,000 sow herd involves the selling of 7,000 weaners each year and rearing remaining finisher pigs to a standard weight of 102kgs to satisfy existing market and refurbishing the resultant spare housing accommodation to accommodate the extra sows. The finishers are on the farm for 10.3 weeks – approx. 5.05 batches each year. These lighter pigs have a higher average daily weight gain and have a lower space requirement. The 1,000 sows produce 27,000 pigs per year; 7,000 weaners are sold reducing the finisher pig places by 1,400 and therefore, at any one time there will be **3,957** finisher pigs on site  $[(27,000 - 7,000) \div 5.05 \text{ batches}]$ . See Figure 1.5 attached for housing types.

**Table 7: 1,000 Sow production system**

| Type of pig                                   | Existing 600 sow unit |
|-----------------------------------------------|-----------------------|
| Sows                                          | 1,000                 |
| Gilts                                         | 166                   |
| Boars                                         | 5                     |
| Pigs produced per annum                       | 27,000                |
| Weaners places                                | 4,000                 |
| Finisher places (5.05 batches)                | 3,957                 |
| Finisher places sold off site (7,000 / annum) | (-1,400)              |
| Finisher growth rate                          | 0.9kgs/day            |
| Weeks per batch                               | 10.3                  |

The internal refurbishment of houses 3, 5, 6, 7, 8 and 15 to change the type of pig being accommodated, will be as follows;

- Houses 3, 7 and 8 will change from finisher to dry sow houses.
- Houses 5 and 6 will change from finisher houses to weaner houses; and
- House 15 will change from weaner house to farrowing house;

## **2 : Water Services; Location map showing storm water discharge.**

Location map FI\_Fig. 2 is attached. Also storm water discharge shown in Drg 1003 and 1004 attached.

### 3 : Odour: Include a robust complaints procedure

In the proposed development a 2% reduction in the growing pig diet protein is predicted to result in an overall reduction in odour emissions of 18% compared to the existing 600 sow herd (the growing pigs account for 84% of odour emissions in the proposed herd). There is well established data that supports the conclusion that reducing dietary protein also reduces odour emissions. The Odournet UK report<sup>3</sup> (page 64) states that odour reductions in the order of 25-30% are achievable by reducing protein in the diet. Hayes<sup>4</sup> et al (2004) found that odour reductions of 33% and 38% can be achieved by reducing the protein from 19% CP to 16% and 13% respectively. The odour unit emission reductions are calculated as follows;

- Existing = 146,170 o.u.
- Proposed before reducing protein = 143,432 o.u. (-2%)
- Proposed after reducing protein = 119,196 o.u (-18%)

The odour emissions are calculated by using emissions data from Table 5 of the Odournet UK report and this is described in more detail in Section 7.4.5 of the EIAR. Finisher pigs have the highest odour emissions and less finishers in the reconfigured herd will result in less odour emissions.

In addition to reducing the protein it is proposed to implement an Odour Management Plan (Appendix 4 of Volume 3 of the EIAR) which will contain more robust procedures for addressing complaints. The Odour Management Plan is in adherence with EPA Air Guidance Note No 9 (AG 9). The complaints procedures are as follows;

1. The key contact person is notified immediately if he was not the first contact in relation to the complaint;
2. The odour complaint record (attached below) must be completed, signed and dated. Each complaint should be given a reference number, for example, 2020\_OC\_1, 2020\_OC\_2, , 2020\_OC\_3, etc.;
3. The complainant must be asked to give details of;
  - a. the time odour was detected;
  - b. how long it lasted;
  - c. how often it occurs;
  - d. the nature of the nuisance – what sort of odour was it? (see nuisance odour wheel)
  - e. weather conditions should be noted
4. The EPA inspector should be notified;
5. An odour assessment should be carried out as soon as possible after the complaint in compliance the EPA Guidance AG5 (using field record sheets attached below);
6. The odour complaint should be logged in the complaints log;
7. The complainant should be contacted to explain what measures will be taken to avoid repeat of odour incident;

<sup>3</sup> Odournet U.K. Ltd 2001; *Odour Impacts and Odour Emission Control Measures for Intensive Agriculture – Final Report*

<sup>4</sup> Hayes, E. T., Leek, A. B. G., Curran, T. P., Dodd, V. A., Carton, O. T., Beattie, V. E., & O'Doherty, J. V. (2004). The influence of diet crude protein level on odour and ammonia emissions from finishing pig houses. *Bioresource Tech.*, 91(3), 309-315.

8. Following a complaint daily odour assessments should be carried out, to include the vicinity of the complainant source. The EPA AG5 records (see below) should be retained on site.
9. The key contact should explain to the complainant that the situation is being monitored and engage as much as possible with complainants;
10. Following repeat complaints the records should be reviewed to see if there is a pattern / time when odour issues arise;
11. Review production process to eliminate odour issues where possible.
12. Review odour management plan following corrective action

### Odour complaint Log

| Date | Type<br>(Complaint /<br>Non-<br>Conformance /<br>Assessment) | Complaint<br>type / Area /<br>Process /<br>Report Type | Description of Odour | Corrective Action<br>Taken | Outcome |
|------|--------------------------------------------------------------|--------------------------------------------------------|----------------------|----------------------------|---------|
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |
|      |                                                              |                                                        |                      |                            |         |

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| ODOUR COMPLAINT REPORT FORM            |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
|----------------------------------------|------|-----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|---------------|-----------|------|-------------|
| Name & Address:                        |      |           |              | Phone Number:                                                                                                                                                                                                                                                                                                                                                                                                     |                 |              |               |           |      |             |
| Time / Date of Complaint:              |      |           |              | Time / Date of Odour:                                                                                                                                                                                                                                                                                                                                                                                             |                 |              |               |           |      |             |
| Location of Odour:                     |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| Weather Conditions:                    |      |           |              | Dry                                                                                                                                                                                                                                                                                                                                                                                                               | Rained Recently | Drizzle      | Raining       | Foggy     |      |             |
| Temperature:                           |      |           |              | Cold                                                                                                                                                                                                                                                                                                                                                                                                              | Cool            | Warm         | Hot           |           |      |             |
| Wind Strength:                         | Calm | Light Air | Light Breeze | Gentle Breeze                                                                                                                                                                                                                                                                                                                                                                                                     | Moderate Breeze | Fresh Breeze | Strong Breeze | Near Gale | Gale | Strong Gale |
| Type of Odour (see below):             |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| Odour Intensity (see below):           |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| Persistence Scale (see below):         |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| Duration of Odour (time):              |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| Nature of Exposure:                    |      |           |              | No Odour                                                                                                                                                                                                                                                                                                                                                                                                          | Intermittent    | Persistent   |               |           |      |             |
| Any Comments / Additional Information: |      |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |              |               |           |      |             |
| <p>Type Of Odour</p>                   |      |           |              | <p><b>Odour Intensity &amp; Persistence Scale</b></p> <p><b>Odour Intensity</b></p> <ul style="list-style-type: none"> <li>0 - No Odour</li> <li>1 - Faint Odour</li> <li>2 - Moderate Odour</li> <li>3 - Strong Odour</li> <li>4 - Very Strong Odour</li> </ul> <p><b>Persistence Scale</b></p> <ul style="list-style-type: none"> <li>0 - No Odour</li> <li>1 - Intermittent</li> <li>2 - Persistent</li> </ul> |                 |              |               |           |      |             |

| General                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Your Reference                                                                                         |                                                                                 | Site Location                                               |                                                        | Assessment by                                                                        |  | Date |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------|--|------|--|--------|------------------------|-------------|------------------------------------------------------------|----------------|---------------------------------------------------------------|-----------------|-------------------------------------------|-------------------|-------------------------------------------------------|----------------|-----------------------------------|-----------------|---------------------------------------------------------------------------|-------------|---------------------------------------------------------------------|--------|---------------------------------------------------|---------------|
| Pre-Assessment Preparation                     | Observer is free from medical conditions (cold, sore throat, sinus trouble)?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Observer abstinence (30 min) from smoking, flavoured drinks, scented toiletries and deodorisers?       | Reason for odour assessment – Complaint verification; routine; other (specify). | Map – Has a map showing assessment locations been attached? | Weather Conditions Note 3 (record wind info on page 2) |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
|                                                | <p><b>Note 1: Observation point Sensitivity (assuming detectable, if not then 0)</b></p> <p>0 Remote (no housing, commercial/industrial premises or public area within 500m of observation point)</p> <p>1 Low sensitivity (no housing, commercial/industrial premises or public area within 100m of observation point)</p> <p>2 Moderate sensitivity (housing, commercial/industrial premises or public area within 100m of observation point)</p> <p>3 High sensitivity (housing, commercial/industrial premises/public area within area of observation point)</p> <p>4 Extra sensitive (complaints arising from residents, businesses and users of public area within area of observation point)</p> <p><b>Note 2: Wind Strength</b></p> <table border="1"> <tr> <td>0 Calm</td> <td>Smoke rises vertically</td> </tr> <tr> <td>1 Light air</td> <td>Direction of wind shown by smoke drift, but not wind vanes</td> </tr> <tr> <td>2 Light Breeze</td> <td>Wind felt on face; leaves rustle, ordinary vane moved by wind</td> </tr> <tr> <td>3 Gentle Breeze</td> <td>Leaves and small twigs in constant motion</td> </tr> <tr> <td>4 Moderate Breeze</td> <td>Raises dust and loose paper; small branches are moved</td> </tr> <tr> <td>5 Fresh Breeze</td> <td>Small trees in leaf begin to sway</td> </tr> <tr> <td>6 Strong Breeze</td> <td>Large branches in motion; umbrellas used with difficulty against the wind</td> </tr> <tr> <td>7 Near Gale</td> <td>Whole trees in motion; inconvenience felt when walking against wind</td> </tr> <tr> <td>8 Gale</td> <td>Twigs break off trees; progress generally impeded</td> </tr> <tr> <td>9 Strong Gale</td> <td>Slight structural damage occurs (chimney pots and slates removed)</td> </tr> </table> <p><b>Note 3: Weather Conditions</b></p> <p>Precipitation – dry, rained recently, drizzle, raining, foggy</p> <p>Temperature – cold, cool, warm, hot</p> <p><b>Note 4: Odour Persistence</b></p> <p>0 No Odour</p> <p>1 Intermittent (detected intermittently during the period of assessment)</p> <p>2 Persistent (detected throughout the period of assessment)</p> <p><b>Note 5: Odour Intensity</b></p> <p>0 No detectable odour</p> <p>1 Faint Odour (barely detectable, need to stand still and inhale facing the wind)</p> <p>2 Moderate Odour (easily detectable while walking and breathing normally, possibly offensive)</p> <p>3 Strong Odour (bearable but offensive – might make clothes / hair smell?)</p> <p>4 Very Strong Odour (unbearable, difficult to remain in area affected by odour)</p> |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  | 0 Calm | Smoke rises vertically | 1 Light air | Direction of wind shown by smoke drift, but not wind vanes | 2 Light Breeze | Wind felt on face; leaves rustle, ordinary vane moved by wind | 3 Gentle Breeze | Leaves and small twigs in constant motion | 4 Moderate Breeze | Raises dust and loose paper; small branches are moved | 5 Fresh Breeze | Small trees in leaf begin to sway | 6 Strong Breeze | Large branches in motion; umbrellas used with difficulty against the wind | 7 Near Gale | Whole trees in motion; inconvenience felt when walking against wind | 8 Gale | Twigs break off trees; progress generally impeded | 9 Strong Gale |
| 0 Calm                                         | Smoke rises vertically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 1 Light air                                    | Direction of wind shown by smoke drift, but not wind vanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 2 Light Breeze                                 | Wind felt on face; leaves rustle, ordinary vane moved by wind                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 3 Gentle Breeze                                | Leaves and small twigs in constant motion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 4 Moderate Breeze                              | Raises dust and loose paper; small branches are moved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 5 Fresh Breeze                                 | Small trees in leaf begin to sway                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 6 Strong Breeze                                | Large branches in motion; umbrellas used with difficulty against the wind                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 7 Near Gale                                    | Whole trees in motion; inconvenience felt when walking against wind                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 8 Gale                                         | Twigs break off trees; progress generally impeded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| 9 Strong Gale                                  | Slight structural damage occurs (chimney pots and slates removed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                        |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
| Odour Source Investigation (Post Odour Survey) | Start Tim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Do any of the odours experienced on-site match in character those recorded during the off-site survey? |                                                                                 | List areas inspected:                                       |                                                        | What relevant activities were occurring on-site during the off-site odour assessment |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |
|                                                | Finish Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Potential on-site odour sources identified:                                                            |                                                                                 |                                                             |                                                        |                                                                                      |  |      |  |        |                        |             |                                                            |                |                                                               |                 |                                           |                   |                                                       |                |                                   |                 |                                                                           |             |                                                                     |        |                                                   |               |

| Field Observations |  |  |  |  | Thresholds that could indicate nuisance   | Parameter                                                                                                                                                                                                                                              | Observer Location | Wind (Ind = if not detectable) | Time | Odour Rating | Odour Description Comments |
|--------------------|--|--|--|--|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------|------|--------------|----------------------------|
|                    |  |  |  |  | ...                                       | Name of household / commercial site (describe so that location can be easily identified again by a third party)                                                                                                                                        |                   |                                |      |              |                            |
|                    |  |  |  |  | ≥3                                        | Sensitivity (1-5) Note 1                                                                                                                                                                                                                               |                   |                                |      |              |                            |
|                    |  |  |  |  | ...                                       | Direction from which wind blows                                                                                                                                                                                                                        |                   |                                |      |              |                            |
|                    |  |  |  |  | Down-Wind Approx DW or not detectable etc | Orientation (Observer Vs facility)                                                                                                                                                                                                                     |                   |                                |      |              |                            |
|                    |  |  |  |  | ...                                       | Strength Note 2                                                                                                                                                                                                                                        |                   |                                |      |              |                            |
|                    |  |  |  |  | ...                                       | Start Time (24hr clock)                                                                                                                                                                                                                                |                   |                                |      |              |                            |
|                    |  |  |  |  |                                           | Period of observation                                                                                                                                                                                                                                  |                   |                                |      |              |                            |
|                    |  |  |  |  | 1 or 2                                    | Odour Persistence (0-2) Note 4                                                                                                                                                                                                                         |                   |                                |      |              |                            |
|                    |  |  |  |  | ≥2                                        | Odour Intensity (0-4) Note 5                                                                                                                                                                                                                           |                   |                                |      |              |                            |
|                    |  |  |  |  |                                           | Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment, particularly if the observations are supported by public complaints on impact, frequency and duration of odours. |                   |                                |      |              |                            |

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#### 4. Noise – Noise Assessment

The projected change in pig numbers will not increase significantly noise emissions from the pig farm because the pig building structures will not change. Pig numbers and types within the houses will not significantly change the noise emissions outside. While noise impacts are within the acceptable limits the applicant is cognisant of the local submissions in respect of noise, particularly in relation to the loading of pigs. Therefore the applicant, subject to the agreement of Limerick County Council and as a condition of any permission if granted, will commit to insulate the loading bay enclosure with insulated walls and roof to mitigate noises at the point of loading. Section 4.3 of EPA (UK) IPPC SRG 6.02 *Noise Management at Intensive Livestock Installations* document states that typical noise levels inside pig houses is 67db and 43db outside; and for the mill house is 90dB inside and 63dB outside. The separation distance to the mill means that there will be no significant noises from this building.

A noise assessment was carried out (Appendix 1 of Volume 3 of the EAIR). This assessment considers the impacts of the Electricity Substation on the nearest sensitive receptors. It concludes;

- The recorded activity at the boundary of the site was found to be in compliance with EPA IPPC license  $L_{A,T}$  55 dBA day-time and  $L_{A,T}$  45 dBA night-time noise limits.
- The predicted noise level for the Electric Substation was found to be less than 0 dB at sensitive receptors, more than 10 dB below day-time and night-time background noise levels. As per the BS4142 methodology, this would be “an indication that the specific sound source will have a low impact”.

#### 5. Environmental Impact/Screening and Appropriate Assessment

A revised AA Screening Report is attached.

#### 6. Environmental Impact/ Assessment Report (EIAR)

A revised EIAR is attached.

#### 7. Traffic

There will be a slight increase in traffic volume in the proposed development.

##### a) Sightline drawings

- Please refer to drawings 1000, 1001 & 1002 for details relating to remedial works for sight line improvement at existing entrance. Please note the proposal was discussed previously with Mr. Tony Carmody of Limerick City & Co.Co. on March 12<sup>th</sup>, 2020 and he deemed them to be to his satisfaction.
- To be clear the sight lines and site layout plans are based on an extensive topographic survey carried out on site for the applicant by Focus Surveys Ltd., O'Connell Avenue, Turner's Cross, Cork.
- The remedial works to be carried out are to roadside boundaries which are within the applicant's ownership.

##### b) Traffic Assessment

**Table 8: Estimated daily traffic counts at the existing and proposed 'Ballyfaskin' pig farm.**

| Type of Traffic Movement  | Existing number | Proposed number |
|---------------------------|-----------------|-----------------|
| Staff car movements       | 7.4             | 9.1             |
| Feed delivery             | 1.6             | 1.4             |
| Livestock transport       | 0.5             | 0.8             |
| Service vans etc.         | 0.3             | 0.3             |
| Slurry tanker             | 3.7             | 3.8             |
| Carcass and waste removal | 0.15            | 0.15            |
| Miscellaneous             | 0.5             | 0.5             |
| <b>Total =&gt;</b>        | <b>14</b>       | <b>16</b>       |

### Existing Traffic

The number of existing vehicles entering the site in the 600 sow enterprise is 14. This is projected to increase to 16. The normal working hours are 0700 – 1600 hours Monday to Friday and 0700 – 1100 hours on Saturday to Sunday. Assuming no slurry tankers during the winter period the average slurry tanker movements during the summer will be 7 (double). Therefore the summer traffic will be approx. 16.5 per day and the winter traffic will be approx. 9.5. Generally, traffic movements will peak between 0700 and 1000 with approx. 4 - 5 traffic movements and between 1500 and 1600 with 3 – 4 traffic movements. Existing movements are;

- Employees – 7.4 journeys / day; There are five employees (including the owner) on the existing 600 sow unit. The employees come in four cars Monday to Friday – eight journeys. On Saturdays and Sundays there will be three employees attending the site – 6 journeys. Therefore weekly total = 52 journeys
- Feed delivery – approx. 1.6 / day. Feed deliveries generally arrive on 4 days from Monday – Friday, and may arrive on a Saturday during bank holiday weekends. There are 5 - 6 deliveries per week (11-12 journeys). The compartmentalized feed lorry generally arrives between 0900 – 1000 and the average load is approx. 20t of compound mix.
- Livestock transport – 0.8 / day. Approx. 16,200 finishers are produced each year. These are transported weekly in lorries with a capacity for 160-180 finished pigs 95 loads per year (190 journeys).
- Service vans – 0.3 / day based on two per week.
- Slurry tankers<sup>5</sup> - 3.7 journeys per day. 15,681m<sup>3</sup> of pig manure is removed from the site in 640 loads (1280 journeys) per annum. The peak will occur from March – June (inclusive) when there may be up to 30 journeys on a busy day.
- Carcass and waste removal – 0.15 / day.
- Miscellaneous – 0.5 journeys per day

### Proposed traffic

- There will be a slight increase in traffic volume under the proposed development (14 – 16 per day);
- The labour on the farm will increase by one person resulting in an increase of 12 journeys per week.

<sup>5</sup> Estimated average tanker size based on 75% removed by 27.3m<sup>3</sup> tanker and 25% removed by 10m<sup>3</sup> tanker

- Feed consumption on site will increase from 5,960 tonnes to 6,760 tonnes. However, following the construction of the electricity substation it will be possible to fully operate the mill house and therefore feed ingredients will replace compound feed for approx. 95% of the total feed usage. This will mean the average tonnage per load will increase from 20t per load to 28–29t per load – because straight ingredients are delivered by larger bulk lorries (not compartmentalized). Therefore, 6,760t will be delivered in approx. 247 loads<sup>6</sup> - which is slightly less to the existing situation.
- Annual livestock transport will increase to 120 loads for the 20,000 finishers, 20 loads for the 7,000 weaners each year.
- Service vans etc. will remain the same.
- Slurry production will only increase by 124m<sup>3</sup> per annum = 5-6 loads. (12 movements).
- Carcass and waste removal will remain at once weekly;
- Miscellaneous will remain the same.

The daily traffic movements from the pig farm will increase to approximately 14 to 16.

#### Proposed construction traffic

The construction traffic will involve;

- For the construction of the electrical substation over a 4 week period;
  - 3 readymix lorries (6)
  - 4 builders in 2 vans for four weeks (224)
  - Deliveries (20)
- For the refurbishment of the pig buildings over a 4 month period
  - 3 fitters/labourers (2 vehicles) for 40 days (320)
  - Deliveries (20)

Allowing a contingency, this is approx. 650 traffic movements over a 120 day period which is an average of 5 - 6 movements per day. During the construction phase peak traffic will occur 0800 – 1000 with 6 – 8 traffic movements and from 1600 – 1700 with 5 movements, Monday to Friday. The construction traffic will increase the AADT by 6 movements per day for the construction period. The construction traffic is a temporary increase of approximately <1% of the AADT on the R662.

#### Traffic Impact Assessment

The baseline traffic was assessed on the R662 on September 1<sup>st</sup> and 4<sup>th</sup> by counting the traffic passing the pig farm entrance. The adjusted Annual Average Daily Traffic (AADT) was 923 movements – there may have been a few percentage points of a COVID effect (reducing effect).

**Table 9: Results of Traffic Survey at 'Ballyfaskin' Pig Farm Entrance**

| Hours        | Actual Traffic Count | Expansion Factors | Adjusted for Weekly Traffic Index | Adjusted for Monthly Traffic Index | Annual Average Daily Traffic (AADT) |
|--------------|----------------------|-------------------|-----------------------------------|------------------------------------|-------------------------------------|
| 0800 – 0900* | 98                   | 0.084             | 0.99                              | 1.07                               | 1101                                |
| 0900 – 1000* | 58                   | 0.065             | 0.99                              | 1.07                               | 842                                 |

<sup>6</sup> 95% (6422t) in 230 loads and 338t in 17 loads.

| Hours                           | Actual Traffic Count | Expansion Factors                | Adjusted for Weekly Traffic Index | Adjusted for Monthly Traffic Index | Annual Average Daily Traffic (AADT) |
|---------------------------------|----------------------|----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| 1000 – 1100*                    | 60                   | 0.056                            | 0.99                              | 1.07                               | 1011                                |
| 1100 – 1200*                    | 45                   | 0.057                            | 0.99                              | 1.07                               | 745                                 |
| 1200 – 1300*                    | 65                   | 0.06                             | 0.99                              | 1.07                               | 1023                                |
| 1300 – 1400**                   | 90                   | 0.063                            | 1.16                              | 1.07                               | 1151                                |
| 1400 – 1500**                   | 71                   | 0.064                            | 1.16                              | 1.07                               | 894                                 |
| 1500 – 1600**                   | 89                   | 0.072                            | 1.16                              | 1.07                               | 996                                 |
| 1600 – 1700**                   | 72                   | 0.083                            | 1.16                              | 1.07                               | 699                                 |
| 1700 – 1800**                   | 89                   | 0.093                            | 1.16                              | 1.07                               | 771                                 |
| *September 1 <sup>st</sup> 2020 |                      | **September 4 <sup>th</sup> 2020 |                                   |                                    |                                     |
|                                 |                      |                                  |                                   | <b>Average</b>                     | <b>923</b>                          |

The projected traffic (No 16) is 1.5% of the projected daily traffic count on the R662. The construction traffic (No 6) is projected to increase this by construction period = <1% of the AADT. This will not have a significant impact.

#### c) Auto tracking

Please refer to drawing 1002 which shows the Autotrack movements for an articulated lorry entering and existing the site at the existing entrance.

#### d) Car parking / road markings

Please refer to drawing 1000 & 1001 which shows the location of the painted road marking sign and stop sign in accordance with the TII specification for road works series 1200 -traffic Signs and road markings and also dept. of transport for mandatory signs for stop sign (RUS 027) and "stop" road markings at existing exit onto public road From the existing complex.

Please refer to dwg 1003 which shows the location of the office / staff welfare building. There is a total of 10no. parking spaces provided adjacent to the building for 6 employees and 4 visitor parking spaces. Taking into account the extent of the building footprint and nature of the enterprise which has a low employee requirement relative to the floor area it would not be practical to apply the county development plan's parking requirements so therefore we have taken the approach of providing parking for all employees and allowing a 40% excess for any visitor to the site.

#### e) Surface water disposal plan

While the water generated on the roofs of the buildings to the north will continues to feed into the rainwater harvesting tank as shown on the site layout plan. This water will continue to serve part of the need of the power washing requirements on site.

Taking into account the size of the site, the areas of hard standing is limited as much of the area, i.e. internal access roads etc. are all constructed of permeable gravel paving.





=> max weekly collectable  
volume:

85.27 m3

#### f) Longitudinal Section

Please refer to drawing 1004 for storm sewer longitudinal sections.

In terms of a maintenance plan, the applicant will continue to observe good practice on site in respect of all maintenance works which may be required for the upkeep of the storm sewers as part of the of the overall management and operation of the site.

#### g) Lighting Design

Please see attached lighting design and calculations carried out by Moloney Fox Consulting Engineers.

#### 8a) Clarify proposed structures. Submit floor plans and elevations of same



The proposed structure is a single MV electrical substation. No other construction is proposed. Refurbishment of pig houses will not involve new construction. The exact specification of the single mv electrical substation will have to be agreed in advance with the ESB, but document A3D-205071-16A Rec C<sup>7</sup> (attached) indicates that this structure will be 22m<sup>2</sup> and less than 3m high – a photo example is provided in the ESB literature (above);

### 8b) Clarification of gross floor area

The gross floor area of existing structures in the planning application (571m<sup>2</sup>) is incorrect. The existing gross floor area is 14,238m<sup>2</sup>.

**Table 10: Existing Structure List at the 'Ballyfaskin' Site**

| Ref No                                 | Description                          | Length (m) | Width (m) | Height (m) | Area (m <sup>2</sup> ) | Depth of tank (m) | Slurry storage (m <sup>3</sup> ) |
|----------------------------------------|--------------------------------------|------------|-----------|------------|------------------------|-------------------|----------------------------------|
| Existing                               |                                      |            |           |            |                        |                   |                                  |
| 1                                      | Finisher house                       | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                             |
| 2                                      | Finisher house                       | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                             |
| 3                                      | Dry sow house                        | 71.7       | 21.3      | 5.1        | 1527                   | 1.8               | 2077                             |
| 4                                      | Dry sow house                        | 71.7       | 21.3      | 5.2        | 1527                   | 1.8               | 2077                             |
| 5                                      | Weaner house                         | 29.3       | 17.8      | 4.3        | 522                    | 1.2               | 443                              |
| 6                                      | Weaner house                         | 11.4       | 16.4      | 4.2        | 187                    | 1.2               | 159                              |
| 7                                      | Dry sow house                        | 23.6       | 10.4      | 4.3        | 245                    | 1.8               | 334                              |
| 8                                      | Dry sow house                        | 21.7       | 21.5      | 4.3        | 467                    | 1.8               | 635                              |
| 9                                      | Weaner house                         | 30.2       | 11.1      | 4          | 335                    | -                 | 285                              |
| 10                                     | Weaner house                         | 15.5       | 12.6      | 4          | 195                    | 1.2               | 166                              |
| 11                                     | Finisher House                       | 69.5       | 20        | 5          | 1390                   | 1.8               | 1890                             |
| 12                                     | Loading bay                          | 23         | 4.6       | -          | 106                    | -                 |                                  |
| 13                                     | Weaner house                         | 48.8       | 21.9      | 4          | 1069                   | 1.2               | 908                              |
| 14                                     | Farrowing house                      | 51.3       | 11        | 3.5        | 564                    | 1.2               | 480                              |
| 15                                     | Farrowing house                      | 52.8       | 12.8      | 3.5        | 676                    | 1.2               | 575                              |
| 16                                     | Farrowing house                      | 52.8       | 12.8      | 4          | 676                    | 1.2               | 575                              |
| 17                                     | Dry sow house                        | 52.8       | 22.5      | 5          | 1188                   | 1.8               | 1616                             |
| 18                                     | Mill Building                        | 20         | 20        | 18.3       | 400                    | -                 |                                  |
| 19                                     | Office and staff facilities          | 11         | 10        | 5          | 110                    | -                 |                                  |
| 20                                     | Septic tank                          | -          | -         | -          | 73m <sup>3</sup>       | -                 | -                                |
| 21                                     | Water Harvesting tank and pump house | 1.8        | 52.8      | 95         | 110                    | 1.8               | -                                |
| <b>Total Existing Floor Area =&gt;</b> |                                      |            |           |            | <b>14,238</b>          |                   | <b>17,336</b>                    |

<sup>7</sup> <https://www.esbnetworks.ie/tns/publications/-in-category/categories/publications/underground-networks-technical-documents/mv-substation-specifications>

**Table 11: Proposed structure List at the 'Ballyfaskin' Site**

| Ref No                                 | Description    | Length (m) | Width (m) | Height (m) | Area (m <sup>2</sup> ) | Depth of tank (m) | Slurry storage (m <sup>3</sup> ) |
|----------------------------------------|----------------|------------|-----------|------------|------------------------|-------------------|----------------------------------|
| Buildings 1 – 21 as per table 1:10     |                |            |           |            | 14260                  |                   | 17,336                           |
| 22                                     | ESB Substation | 4.9        | 4.4       | 3          | 21.7*                  | -                 | -                                |
| <b>Total Proposed Floor Area =&gt;</b> |                |            |           |            | <b>14,260</b>          |                   | <b>17,336</b>                    |

\*Exact dimensions to be agreed with ESB (see drawing A3D-205071-16A Rev C attached)

## 9: Third Party Submissions

Having read the submissions the applicant believes the main concerns of the local submissions can be addressed under the following headings;

1. Concerns regarding odour;
2. Concerns regarding noise;
3. Concern regarding traffic and road safety;
4. Damage to local environments and rivers;
5. Impact on Human Health;
6. Where will all the slurry be spread;
7. Devaluation of property;

The applicant would like to emphasise that this pig farm is managed to the highest industry standards. The pig farm achieves 'Red Tractor' and Bord Bia standards each year following audits for same. The farm is subject to un-announced inspections by inspectors of the Department of Agriculture, Food and the Marine and EPA. The farm implements an Environmental Management System to insure compliance with the requirements of its EPA License. The farm recently has been selected by EU PiG Innovation Group, as a 2020 Grand Prix Winner in a EU wide competition involving over 300 pig farms.

### 1. Concerns regarding Odours

The applicant will introduce a more robust odour management system. The applicant will;

1. Reduce the protein in the growing pig diets by 2%. This will reduce odour emissions significantly in the re configured herd – approx. 18% reduction comparing the existing 600 sow with the proposed 1,000 sow.
2. Odour Management Plan. Increased emphasis will be given to odour management. Practical steps will be taken, such as
  - a. Truck deliveries of odorous materials should be sealed or enclosed. Leaking or dirty slurry tankers will not be allowed on site.
  - b. The storage of odorous material such as carcass waste will be in sealed skips and will be removed fortnightly from the site. The skip will be stored to the south of the site furthest distance from sensitive receptors.
  - c. The slurry extraction sites will be cleaned down daily. Slurry pumping equipment will be cleaned after use. Extraction points will drain back to the slurry tanks.
  - d. All odorous materials will be stored in sealed skips or in slurry tanks.
  - e. All spills, overflows and leaks will be cleaned up promptly with all operators aware and trained for this procedure.
  - f. A closed-door policy is enforced to prevent odorous releases through open doors.

- g. A high level of cleanliness is maintained with outdoor surfaces washed down regularly with any remaining stagnant water removed. Carcass skips will be cleaned regularly with an increased frequency in summer months.
- h. The temperature is maintained as low as possible using adequate ventilation to reduce evaporation of odorous material. This reduces airflow over the surface of slurry and pigs thus reducing the rate of evaporation.
- i. Agitation of slurry will increase the odour emission rate significantly. These activities will be avoided during weekends and evening times to minimise potential for nuisance.
- j. Slurry amendments that reduce the potential release of certain odorous compounds will be considered as they become available.
- k. Odour neutralisers / masking agents will be used if required.
- l. The ventilation system in the pig houses will be maintained and serviced regularly to ventilate air efficiently.

## 2.Concerns regarding noise levels

A noise assessment was carried out for the proposed electrical substation and this assessment concludes that there will be no significant effect from the substation on the nearest sensitive receptors. The noise emanating from the pig houses will not change significantly from the existing situation because there will not be additional pig houses on site. There is an ad-lib feeding system which reduces the noise associated with feeding events for the majority of the pigs on site. While noise impacts are within the acceptable limits the applicant is cognisant of the local submissions in respect of noise, particularly in relation to the loading of pigs. Therefore the applicant, subject to the agreement of Limerick County Council and as a condition of any permission if granted, will commit to insulate the loading bay enclosure with insulated walls and roof to mitigate noises at the point of loading.

## 3.Concerns regarding traffic levels and road safety

Traffic will increase from approx. 14 movements per day to approx. 16 movements per day. This is a very small proportion of the total traffic on the R662.

The information provided to address point No 7 of this further information request demonstrates that both the sightlines and stopping distances are safe at the pig farm entrance.

The attached EIAR has a traffic assessment which describes the existing traffic in Section 1.2.5 and the proposed traffic in 1.3.4. The estimated daily traffic on the R663 is 923 movements peaking between 0700 and 100 hours am. This pig farm will on average contribute less than 1.5% to the total traffic flow with an average of 16 movements per day predicted. The applicant acknowledges that there will be increased traffic during the construction period – but this is a temporary effect. The EIAR estimates an increase of 6 movements per day for the 4 month construction period

## 4.Damage to local environment and rivers

The water quality in the local Aherlow River compares favourably with rivers elsewhere in the County. There is no evidence that the site is having a detrimental effect on surface waters. The storm water from the site and the ground water are tested regularly to insure compliance with recognised standards.

This pig farm has been operating for more than 30 years. Pig manure is exported to 48 townlands throughout Counties Limerick and Tipperary. Pig manure is valued by the receiving farmers because it replaces expensive chemical fertiliser and it provides organic matter to soils. When farmers use it according to the relevant regulations it will not detrimentally affect the environment.

#### 5.Impact on Human Health

The applicant would like to re assure objectors that there are no effects on human health due to emissions from the existing and proposed pig farm. The dust inside the pig houses has to be controlled a level that encourages the healthy growth of pigs. Therefore the feeding systems are designed to eliminate dust. The wet feeding system takes the feed from sealed silos to a mixing tank where, after mixing with water, it is distributed dust free to the pig houses. Therefore the particulate matter and dust emissions are minimised.

The main gas emissions are Ammonia and Methane. Methane is a relatively harmless gas from a human health point of view. It dissipates to the atmosphere where it is recognised as a greenhouse gas. Ammonia can be harmful to human health, but not at the levels emitted from this (or any other) pig farm. Typically levels adjoining pig farms will be more than 1,500 times less than the limit specified by the Occupational Safety and Health Administration (OSHA) in the USA (ATSDR, 2004) <sup>8</sup> for 8 hours exposure. Even without mitigation there are no known significant effects on rural dwellings at these acceptably low levels and it is proposed to reduce ammonia by 11% by using low protein diets for the growing pigs. This will also reduce odour emissions.

#### 6.Where will slurry be spread?

The application is for a reconfiguration of the pig herd which involves an increase in sow numbers and a decrease in finisher pigs. The result is that slurry volumes will remain more or less the same (+1%). There are 48 townland through Counties Limerick and Tipperary where the pig manure is currently being delivered. The details of this are provided in point No 1 of the further information request. The pig manure will be applied in accordance the regulations that every farmer is obliged to adhere to.

#### 7.Devaluation of property

The applicant does not accept that there is a reduction in the value of property due to proposed development.

Yours sincerely, on behalf of the applicant, 'Ballyfaskin' Enterprise Ltd



Con Curtin (B.Agric.Sc)

<sup>8</sup> Table 2.1 EPA Report No 193 *Ambient Atmospheric Ammonia in Ireland*, 2013-2014





FI\_Fig 2: Site Location showing storm water

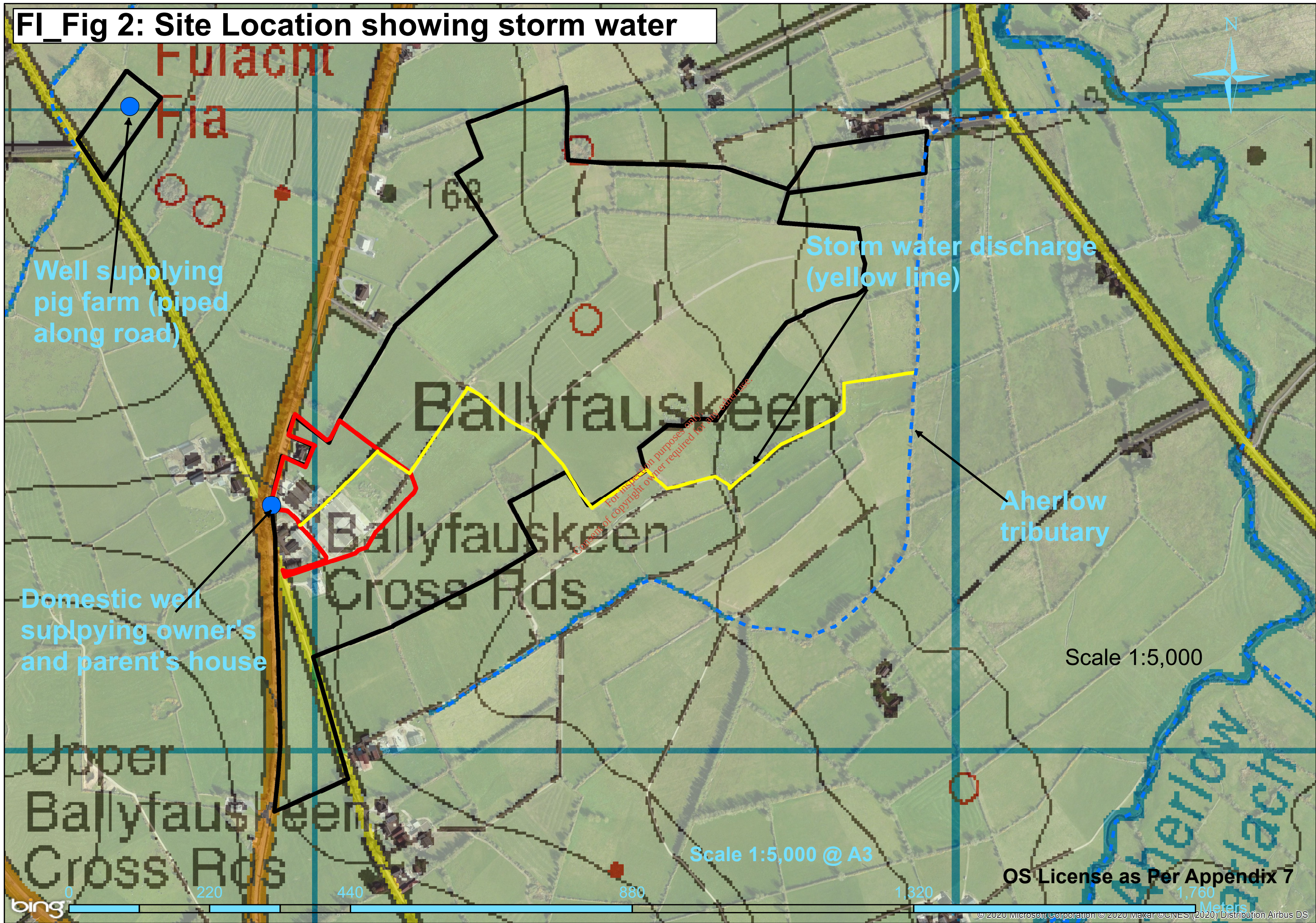




Figure1

Legend



Study area



Study area townlands

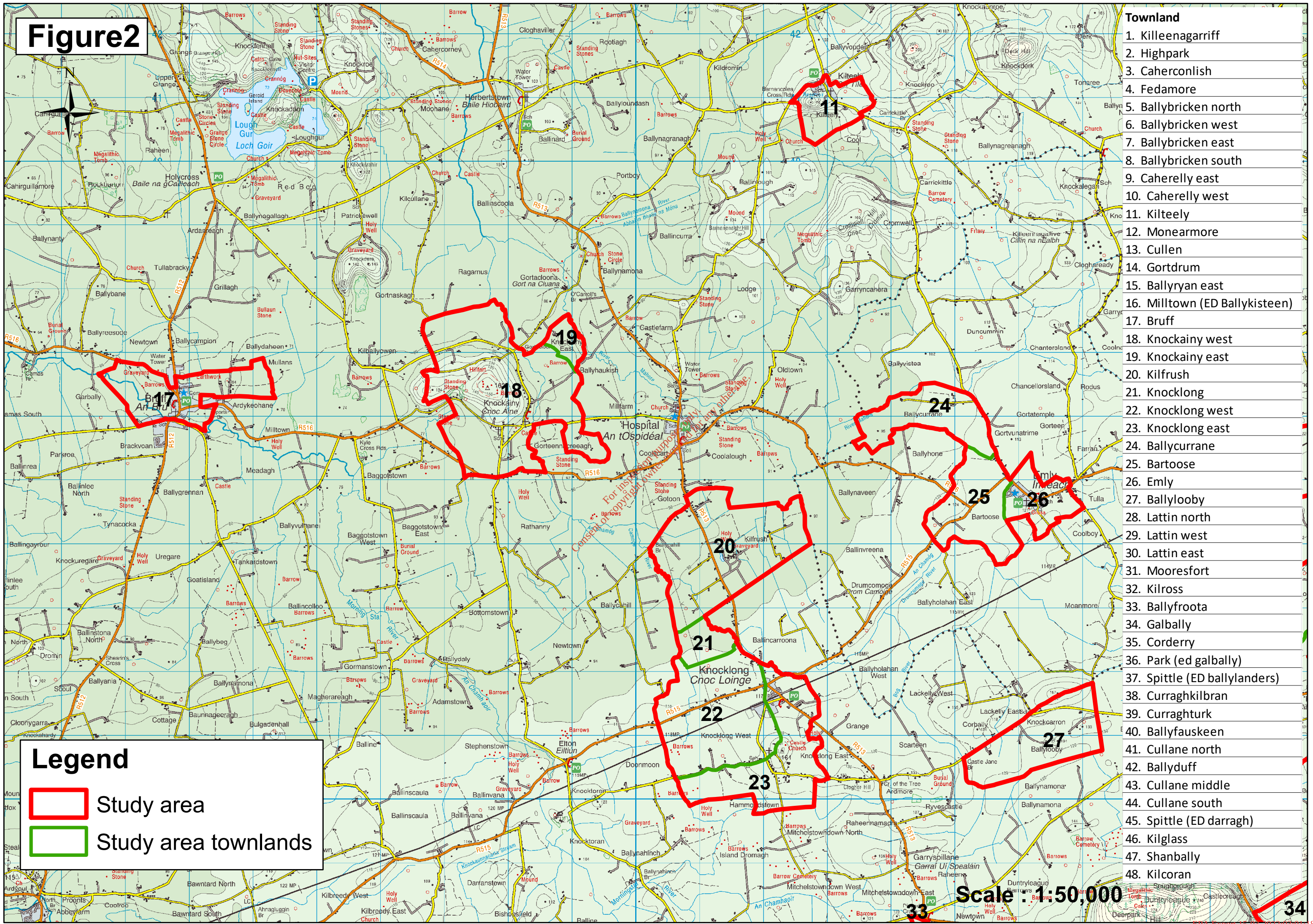
Townland

1. Killeenagarriff
2. Highpark
3. Caherconlish
4. Fedamore
5. Ballybricken north
6. Ballybricken west
7. Ballybricken east
8. Ballybricken south
9. Caherelly east
10. Caherelly west
11. Kilteely
12. Monearmore
13. Cullen
14. Gortdrum
15. Ballyryan east
16. Milltown (ED Ballykisteen)
17. Bruff
18. Knockainy west
19. Knockainy east
20. Kilfrush
21. Knocklong
22. Knocklong west
23. Knocklong east
24. Ballycurrane
25. Bartoose
26. Emly
27. Ballylooby
28. Lattin north
29. Lattin west
30. Lattin east
31. Mooresfort
32. Kilross
33. Ballyfroota
34. Galbally
35. Corderry
36. Park (ed galbally)
37. Spittle (ED ballylanders)
38. Curraghkilbran
39. Curraghturk
40. Ballyfauskeen
41. Cullane north
42. Ballyduff
43. Cullane middle
44. Cullane south
45. Spittle (ED darragh)
46. Kilglass
47. Shanbally
48. Kilcoran

Scale : 1:50 000



Figure2



- Townland**
1. Killeenagarriff
  2. Highpark
  3. Caherconlish
  4. Fedamore
  5. Ballybricken north
  6. Ballybricken west
  7. Ballybricken east
  8. Ballybricken south
  9. Caherelly east
  10. Caherelly west
  11. Killeely
  12. Monearmore
  13. Cullen
  14. Gortdrum
  15. Ballyryan east
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  43. Cullane middle
  44. Cullane south
  45. Spittle (ED darragh)
  46. Kilglass
  47. Shanbally
  48. Kilcoran

**Legend**

 Study area

 Study area townlands

Scale : 1:50,000



Figure3

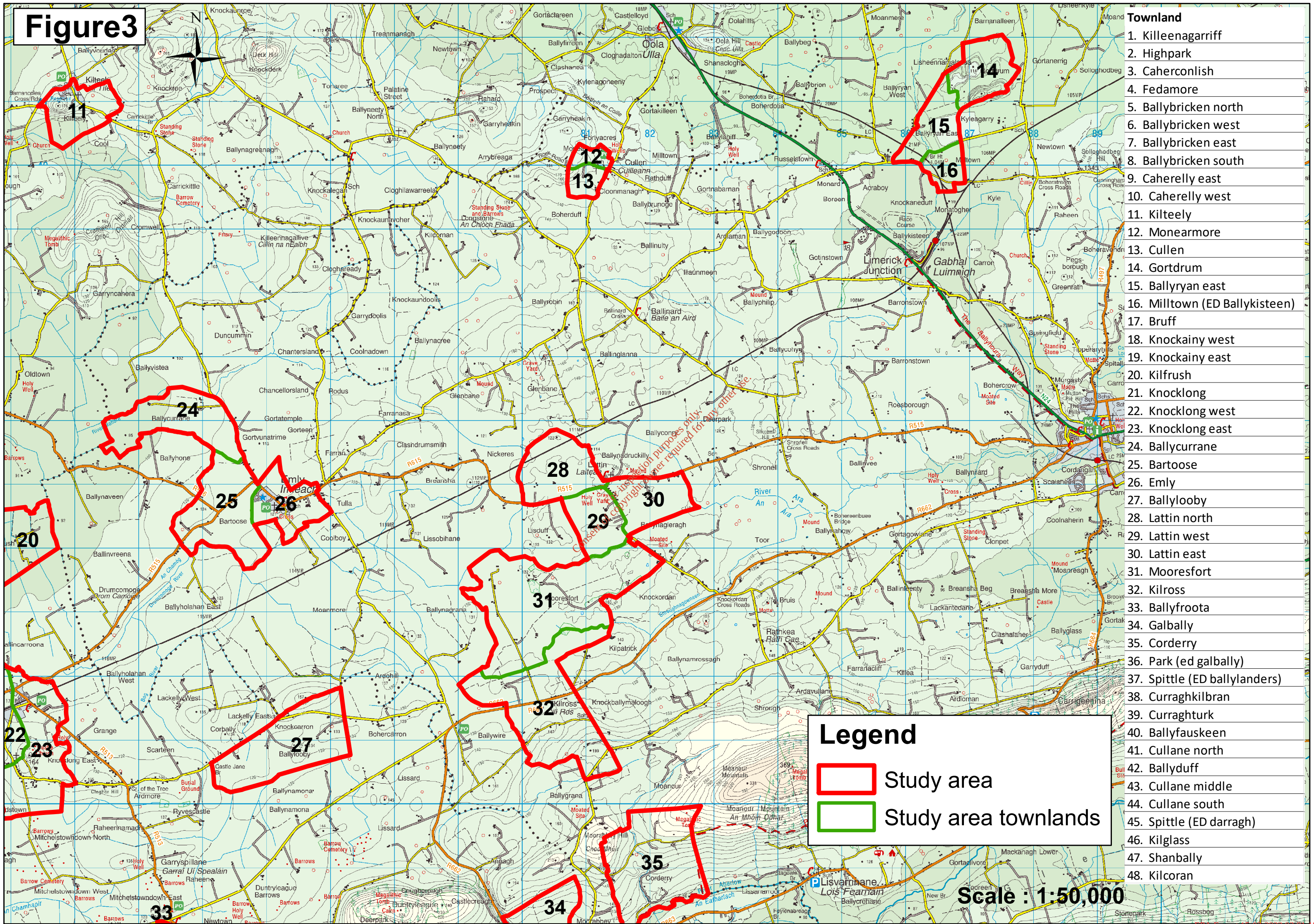
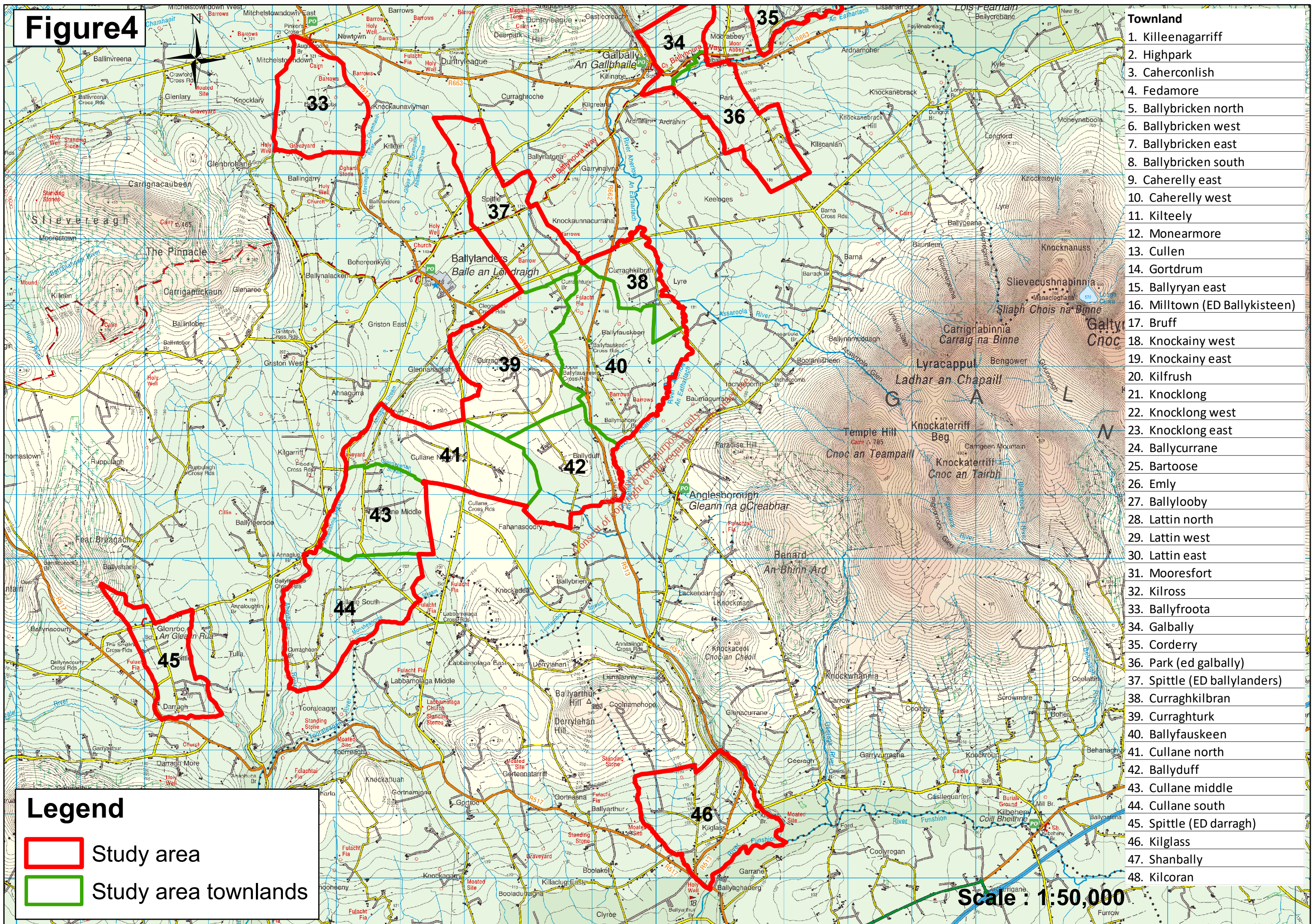




Figure4





**Figure 5**

**Legend**

- Study area
- Study area townlands

**Scale: 1:50,000**

**Townland**

1. Killeenagarraiff
2. Highpark
3. Caherconlish
4. Fedamore
5. Ballybricken north
6. Ballybricken west
7. Ballybricken east
8. Ballybricken south
9. Caherelly east
10. Caherelly west
11. Kiltelly
12. Monearmore
13. Cullen
14. Gortdrum
15. Ballyryan east
16. Milltown (ED Ballykisteen)
17. Bruff
18. Knockainy west
19. Knockainy east
20. Kilrush
21. Knocklong
22. Knocklong west
23. Knocklong east
24. Ballycurrane
25. Bartoose
26. Emly
27. Ballylooby
28. Lattin north
29. Lattin west
30. Lattin east
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39. Curraghturk
40. Ballyfauskeen
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42. Ballyduff
43. Cullane middle
44. Cullane south
45. Spittle (ED darragh)
46. Kilglass
47. Shanbally
48. Kilcoran

# Legend

 Study area

 Study area townlands

- Figure 5**

**Legend**

  - Study area
  - Study area townlands

**Scale: 1:50,000**

**Townland**

  1. Killeenagarraff
  2. Highpark
  3. Caherconlish
  4. Fedamore
  5. Ballybricken north
  6. Ballybricken west
  7. Ballybricken east
  8. Ballybricken south
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  25. Bartoose
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  46. Kilglass
  47. Shanbally
  48. Kilcoran

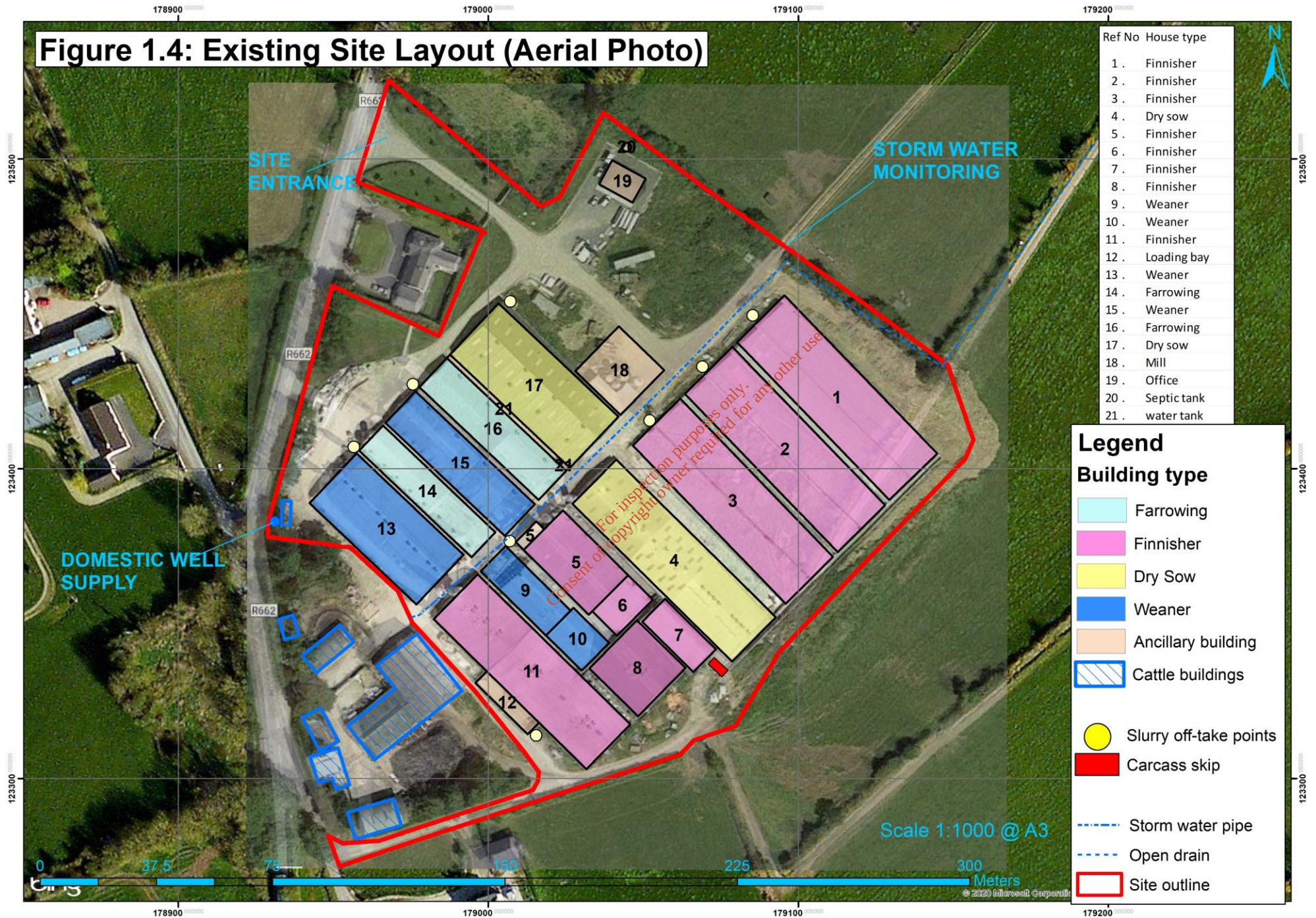
# Legend

 Study area

 Study area townlands

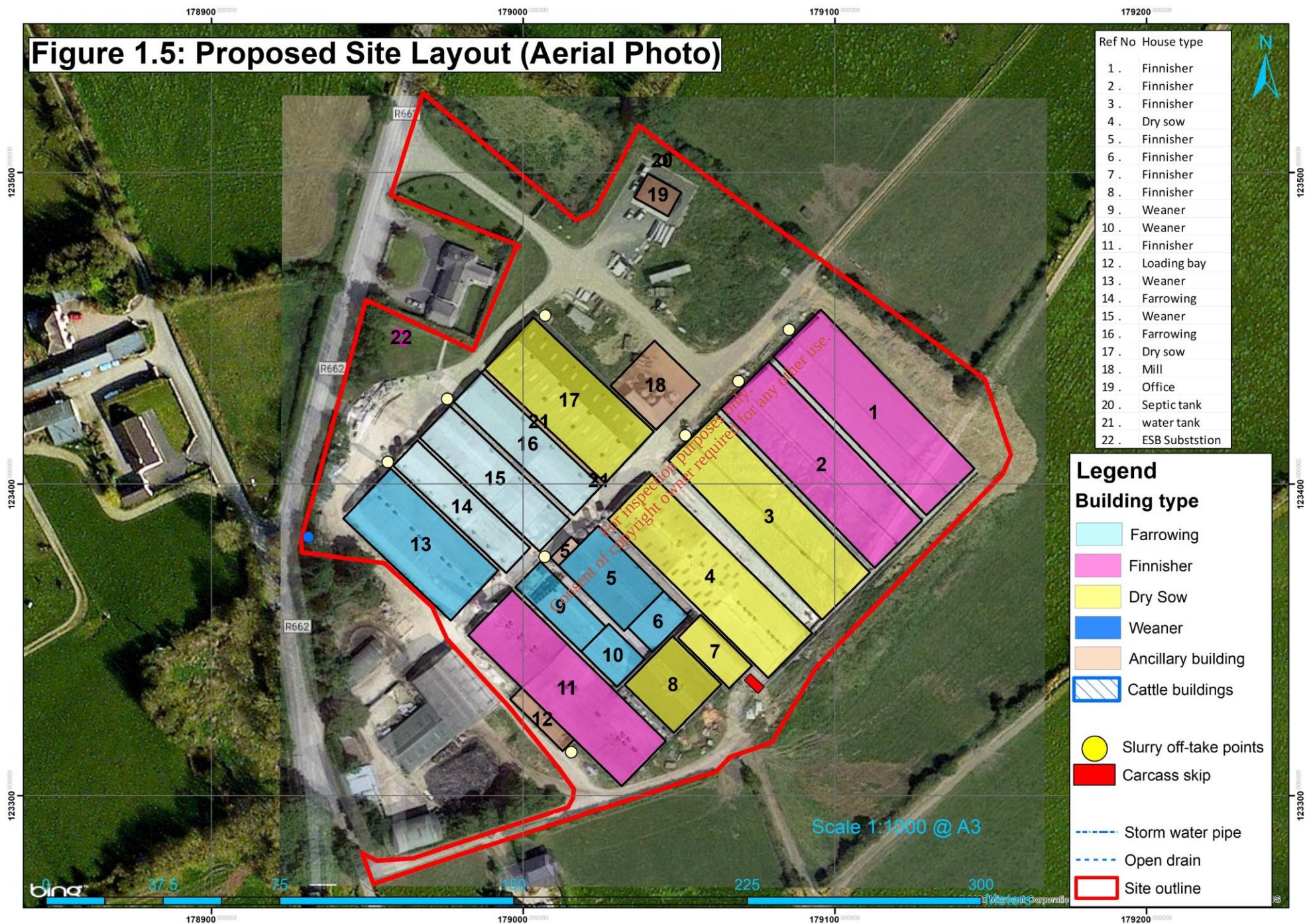


**Figure 1.4: Existing Site Layout (Aerial Photo)**

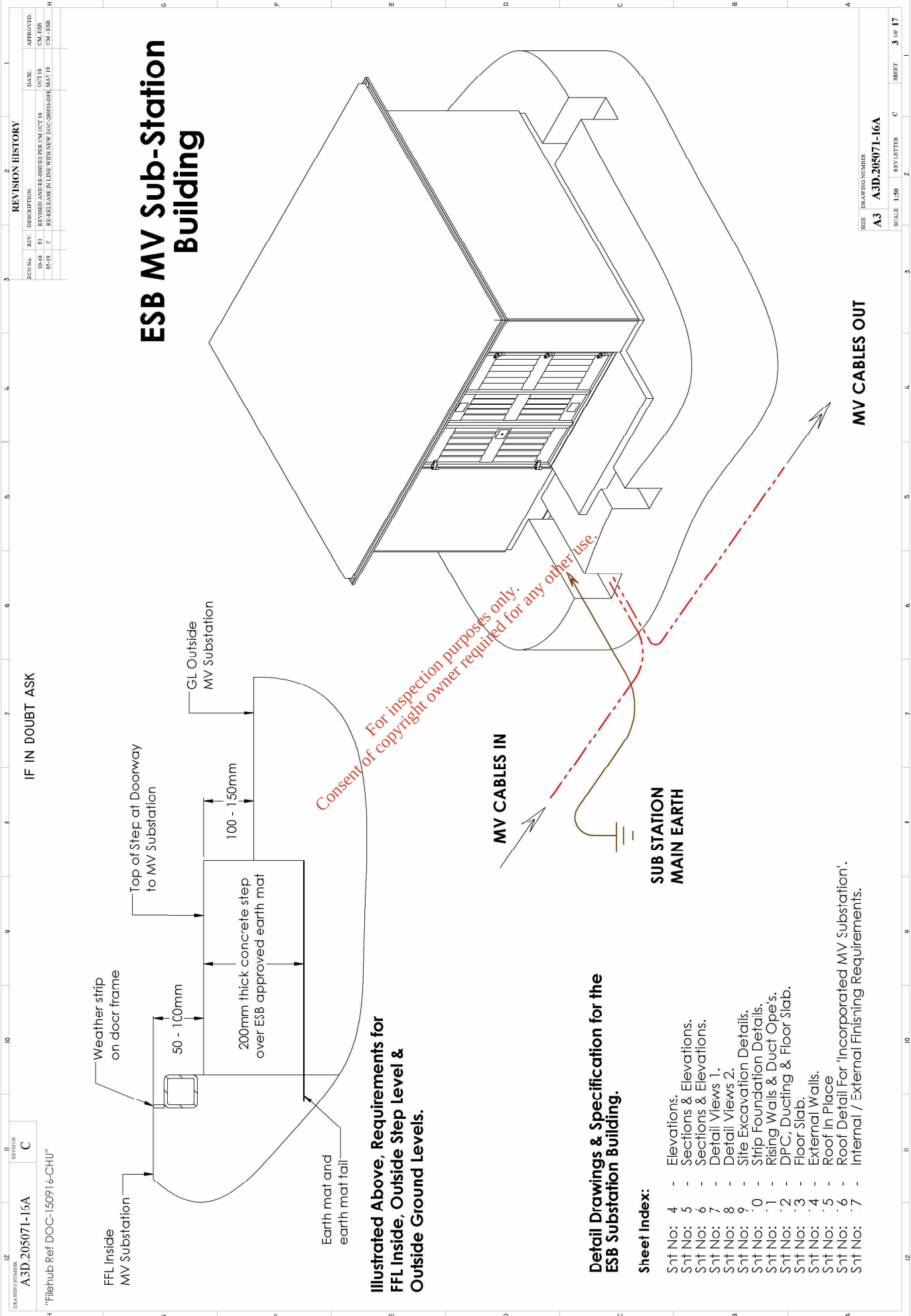




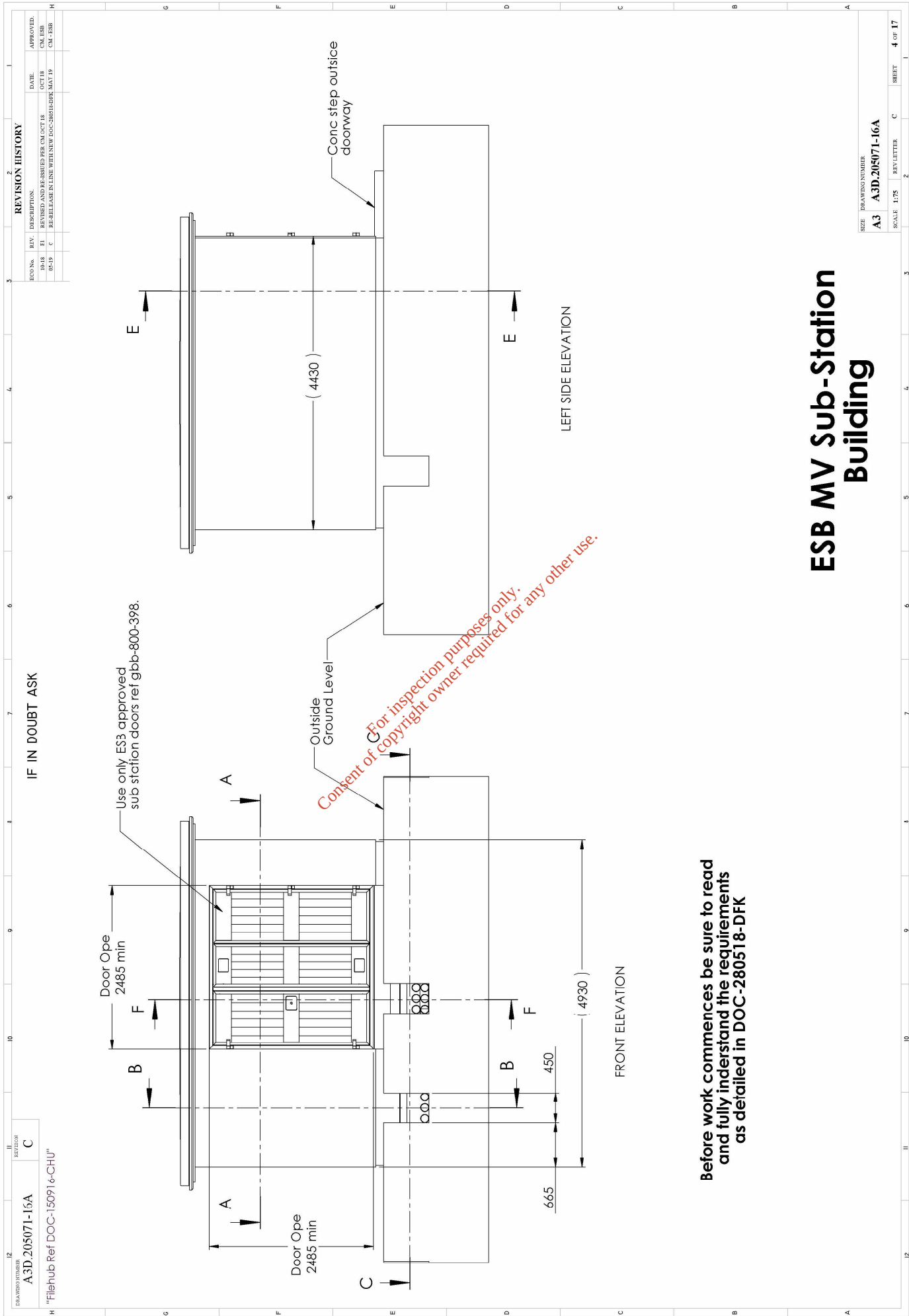
**Figure 1.5: Proposed Site Layout (Aerial Photo)**





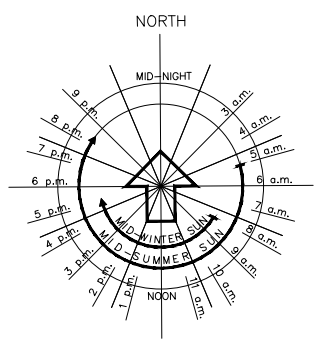




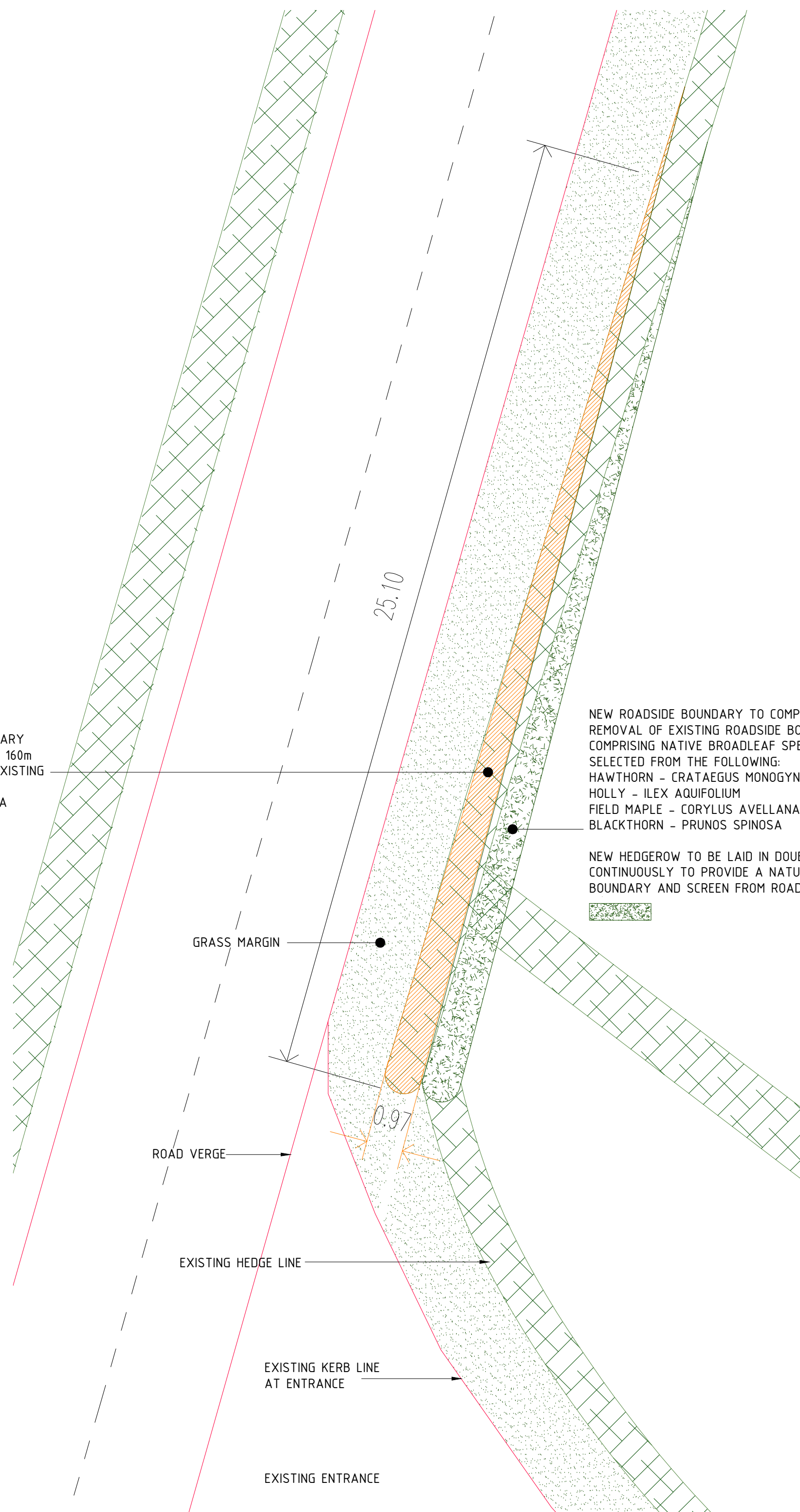
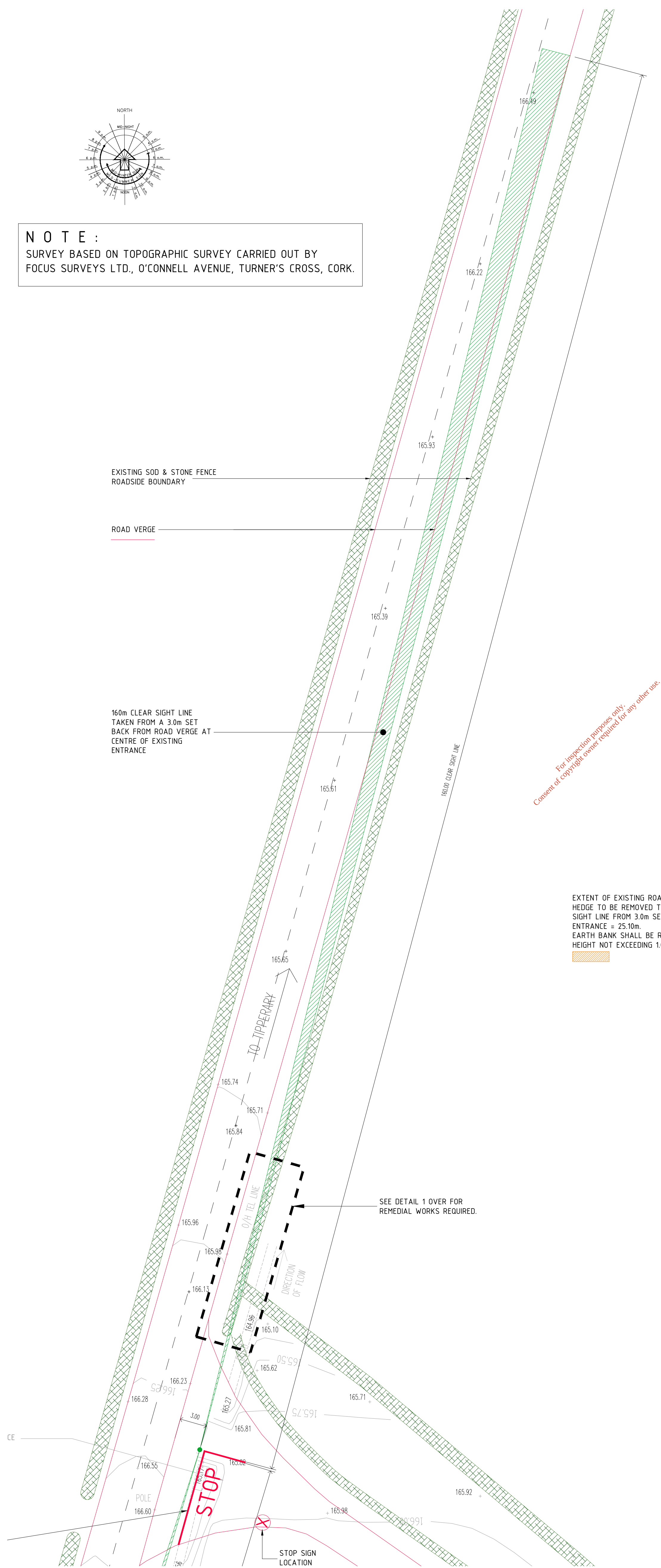


# ESB MV Sub-Station Building

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SURVEY BASED ON TOPOGRAPHIC SURVEY CARRIED OUT BY  
FOCUS SURVEYS LTD., O'CONNELL AVENUE, TURNER'S CROSS, CORK.



DETAIL 1 - PROPOSED REMEDIAL  
WORKS REQUIRED AT EXISTING  
ENTRANCE LOOKING NORTH

Scale 1:100

|                                                     |           |                 |      |
|-----------------------------------------------------|-----------|-----------------|------|
| REV.                                                | AMENDMENT | BY              | DATE |
| JOB: BALLYFASKIN ENTERPRISES PIG UNIT               |           | Stage: PLANNING |      |
| AT BALLYFAUSKEEN, BALLYLANDERS, Co. LIMERICK        |           |                 |      |
| Title: PROPOSED REMEDIAL WORKS AT EXISTING ENTRANCE |           | Drawing No:     | Rev: |
| Scale: 1:100                                        | Drawn: SL | 1000            | P0   |
| Date: 2020                                          |           | JUNE 2020       |      |

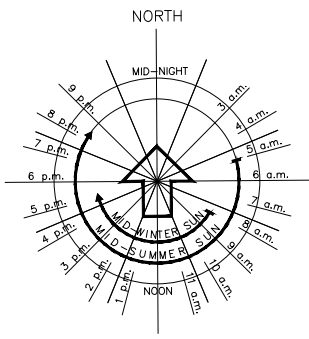
**Séamus Lynch**  
t/a Corroville Designs.  
Planning & Design Consultant

**t/a Corroville Designs.**  
Planning & Design Consultant  
mob: 087-9486000  
e-mail: [seamus.lynch@gmail.com](mailto:seamus.lynch@gmail.com)



- NOTES

N O T E :



REFER TO TII SPECIFICATION FOR  
ROAD WORKS SERIES 1200 -TRAFFIC  
SIGNS AND ROAD MARKINGS  
AND ALSO DEPT. OF TRANSPORT —  
FOR MANDATORY SIGNS FOR STOP  
SIGN (RUS 027) AND "STOP" ROAD  
MARKINGS AT EXISTING EXIT ONTO  
PUBLIC ROAD

EXISTING SOD & STONE FENCE  
ROADSIDE BOUNDARY

ROAD VERGE

140m CLEAR SIGHT LINE  
TAKEN FROM A 3.0m SET  
BACK FROM ROAD VERGE AT  
CENTRE OF EXISTING  
ENTRANCE

PROPOSED SIGHT LINES AT  
EXISTING ENTRANCE LOOKING NORTH

Scale 1:250

DETAIL 2 - PROPOSED REMEDIAL  
WORKS REQUIRED AT EXISTING  
ENTRANCE LOOKING SOUTH

Scale 1:100

DETAIL 3 - PROPOSED REMEDIAL  
WORKS REQUIRED AT EXISTING  
ENTRANCE LOOKING SOUTH

Scale 1:100

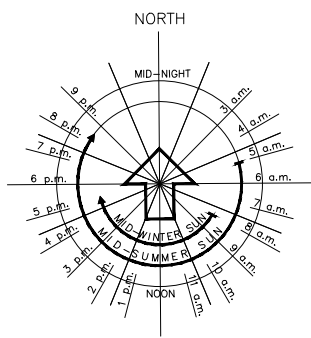
[illegible]

**Séamus Lynch**  
t/a Corroville Designs.  
Planning & Design Consultant

mob.087-9486000  
e-mail: seamus.lynch@gmail.com



- NOTES



VEHICLE TRACKING ENTERING  
FROM THE NORTH



VEHICLE TRACKING ENTERING  
FROM THE SOUTH



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Consent of copyright owner required for any other use.

VEHICLE TRACKING EXISTING TO  
THE NORTH



VEHICLE TRACKING EXISTING TO  
THE SOUTH

**N O T E :**  
SURVEY BASED ON TOPOGRAPHIC SURVEY CARRIED OUT BY  
FOCUS SURVEYS LTD., O'CONNELL AVENUE, TURNER'S CROSS, CORK.

[illegible]

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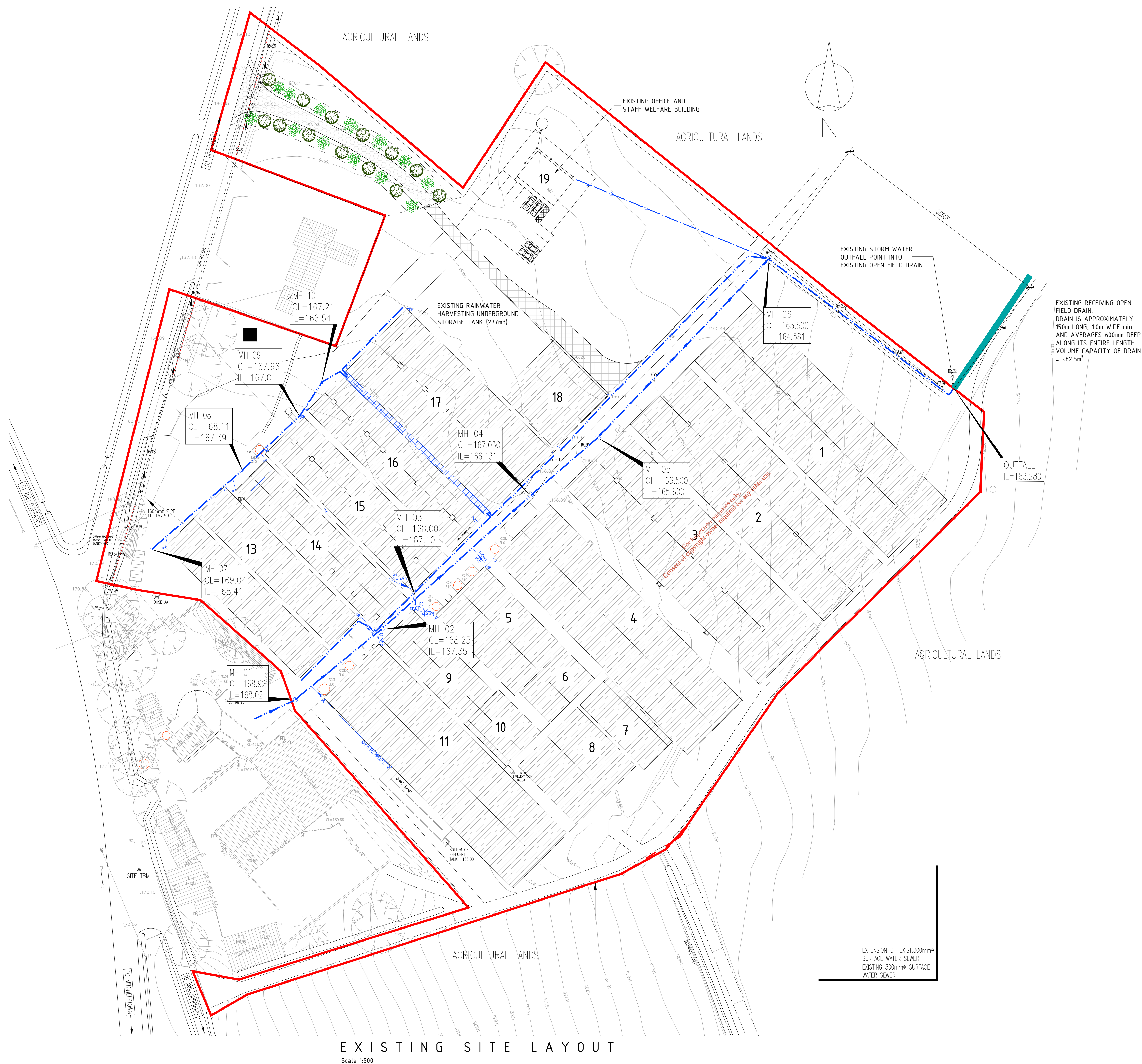


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7. CONTOURS ARE AT 25M INTERVALS.
8. ALL INTERNAL ROADS, SERVICES & BUILDINGS ARE RELATIVE TO IRISH TRANSVERSE MERCATOR CO-ORDINATE REFERENCE SYSTEM.

LEGEND

— — — — — EXISTING 300mmØ STORM SEWER LINE

— — — — — EXISTING 150mmØ STORM SEWER LINE

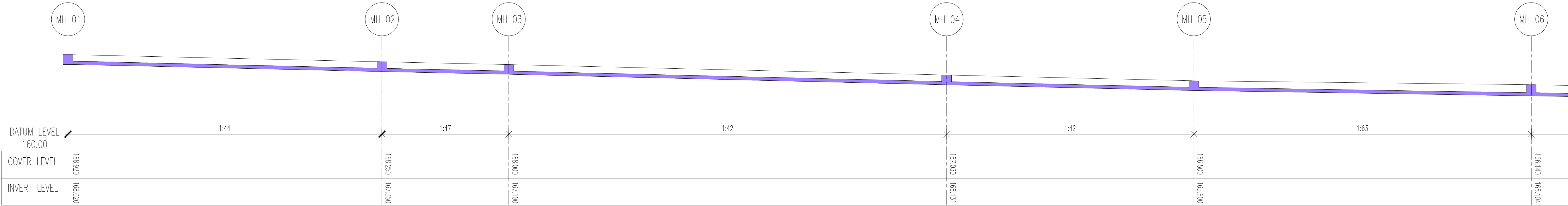


|              |                                                                                  |                 |                  |
|--------------|----------------------------------------------------------------------------------|-----------------|------------------|
| REV.         | AMENDMENT                                                                        | BY              | DATE             |
|              |                                                                                  |                 |                  |
|              |                                                                                  |                 |                  |
| Job:         | BALLYFASKIN ENTERPRISES PIG UNIT<br>AT BALLYFAUSKEEN, BALLYLANDERS, Co. LIMERICK |                 | Stages: PLANNING |
| Title:       | EXISTING STORM SEWER LAYOUT                                                      |                 | Drawn No. 1003   |
| Scale (BAF): | Drawn by: C. J. O'SHEA                                                           | Date: 1.10.2000 | Rev: P0          |

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Belvi  
Kilmee  
Co. Limeri

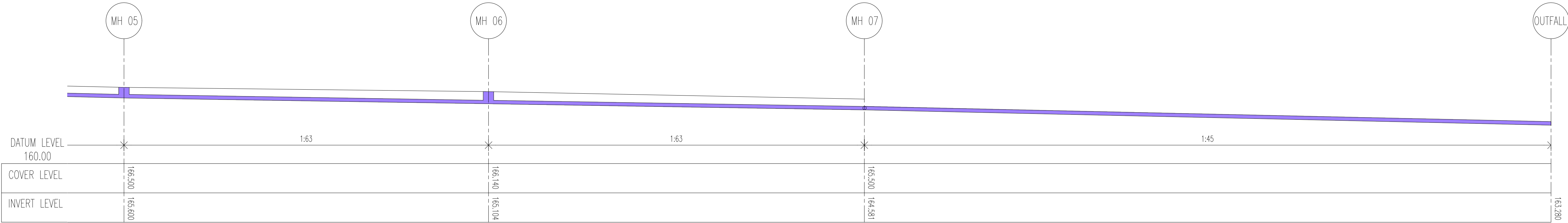




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  7. CONTOURS ARE AT 25M INTERVALS.
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STORM SEWER LONGITUDINAL SECTION

Scale 1:500



STORM SEWER LONGITUDINAL SECTION ( c o n t ' d )

Scale 1:500

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| REV. | AMENDMENT | BY | DATE |
|------|-----------|----|------|
|      |           |    |      |
|      |           |    |      |

|                                                                                       |           |                  |         |
|---------------------------------------------------------------------------------------|-----------|------------------|---------|
| Job: BALLYFASKIN ENTERPRISES PIG UNIT<br>AT BALLYFAUSKEEN, BALLYLANDERS, Co. LIMERICK |           | Stage: PLANNING  |         |
| Title: EXISTING STORM SEWER LONG SECTION                                              |           | Drawing No: 1004 | Rev: P0 |
| Scale: BMT, as shown                                                                  | Drawn: SL | Date: JUNE 2020  |         |

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e-mail: seamus.lynch@gmail.com

Belville  
Kilmesedy  
Co. Limerick





Grid 1 - Road  
Results - Horizontal Illuminance (lux)  
Eav= 11,24  
Emin= 2,21  
Emax= 29,00  
Emin/Emax= 0,08  
Emin/Eav= 0,20

Luminaire Data  
Luminaire A 3291 Sella 1 - STWB

- Key
- Luminaire A Column
  - Beam Aiming Target
  - Photometric Centre

All Dimensions in metres



**NOTES:**  
The lighting design complies with BS5489:2013 / BS EN 13201:2003  
Lighting Columns shall be designed and installed in accordance with BS EN 40  
LED output shall be minimum of 150lumens/ watt  
LED LAMP Colour Temperature to be 4000K  
Public Micro pillar locations are subject to change with future planning applications and ESB approval.  
Micro pillars shall be connected to the ESB Local Network on the Castletroy link road.

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**General notes:**  
This drawing to be read in conjunction with all relevant architectural drawings and specifications.  
This drawing to be read in conjunction with all relevant structural drawings and specifications.  
This drawing to be read in conjunction with all relevant mechanical and electrical drawings and specifications.  
All dimensions in millimeters. do not scale from this drawing. only use figured dimensions only.  
Contractor must verify all dimensions on site prior to installation of services and production of working drawings.

|                                                                                                           |                                                             |                                         |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|
| P1                                                                                                        | Issued for Planning                                         | 01/04/20                                |
| Rev                                                                                                       | Description                                                 | Date                                    |
| <br>48 O'Connell Street, Limerick   T: 061277881<br>E: info@MFConsulting.ie   www.MoloneyFoxConsulting.ie |                                                             |                                         |
| Client:                                                                                                   | BALLYFUSKEEN PIG FARM<br>LIMERICK                           |                                         |
| Architect:                                                                                                | MEHS<br>KILLEEDY, LIMERICK                                  |                                         |
| Project:                                                                                                  | BALLYFUSKEEN PIG FARM<br>LIMERICK                           |                                         |
| Drawing:                                                                                                  | ELECTRICAL INSTALLATION<br>LIGHTING SERVICES<br>FLOOR LEVEL |                                         |
| Proj Ref                                                                                                  | 19.0000                                                     | Dwg Ref   E100                          |
| Scale                                                                                                     | 1:100 A1                                                    |                                         |
| Drawn                                                                                                     | GJA                                                         | Checked   JM                            |
| Approved                                                                                                  | MF                                                          |                                         |
| Drawing Status:                                                                                           |                                                             |                                         |
| Preliminary                                                                                               | <input type="checkbox"/>                                    | For Approval <input type="checkbox"/>   |
| For Information                                                                                           | <input checked="" type="checkbox"/>                         | For Comment <input type="checkbox"/>    |
|                                                                                                           |                                                             | Tender Issue <input type="checkbox"/>   |
|                                                                                                           |                                                             | Contract Issue <input type="checkbox"/> |



- | NOTES                                                                                                                                                                                    |
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NOTE:

- THIS LAYOUT SHOWS THE LAYOUT OF ALL EXISTING BUILDINGS CURRENTLY ON THE SITE.
- THERE ARE NO NEW BUILDINGS ASSOCIATED WITH THIS APPLICATION.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

LOCATION OF PROPOSED ESB SUBSTATION.  
ESB SUBSTATION WILL BE DESIGNED AND  
CONSTRUCTED IN ACCORDANCE WITH ESB  
SPECIFICATIONS AND REGULATIONS.



# EXISTING BUILDING / SITE PLAN

SCALE 1:500

|                                      |                                                                                  |                        |                          |
|--------------------------------------|----------------------------------------------------------------------------------|------------------------|--------------------------|
| REV.                                 | AMENDMENT                                                                        | BY                     | DATE                     |
|                                      |                                                                                  |                        |                          |
|                                      |                                                                                  |                        |                          |
| Job:                                 | BALLYFASKIN ENTERPRISES PIG UNIT<br>AT BALLYFAUSKEEN, BALLYLANDERS, Co. LIMERICK |                        | Stage: <b>PLANNING</b>   |
| Title:                               | EXISTING BUILDING / SITE PLAN                                                    |                        | Drawing No: <b>C-002</b> |
| Scale: <b>80%</b><br><i>as shown</i> | Drawn: <b>SL</b>                                                                 | Date: <b>JUNE 2008</b> | Rev: <b>P0</b>           |



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