



# **ENVIRONMENTAL STATEMENT – VOLUME 3 – APPENDIX 8.7**

## **Bat Building Emergence Survey Report – Repower**

### **Drax Bioenergy with Carbon Capture and Storage**

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations, 2009 - Regulation 5(2)(a)

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PUBLIC

# The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

## Environmental Statement

### Appendix 9.5 - Bat Building Emergence Survey Report



The Planning Act 2008  
The Infrastructure Planning (Applications: Prescribed Forms and Procedure)  
Regulations 2009 – Regulation 5(2)(a)

## **Drax Power Limited**

Drax Repower Project

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## Table of Contents

<b>DISCLAIMER</b>	<b>1-1</b>
<b>EXECUTIVE SUMMARY</b>	<b>1-2</b>
<b>1 INTRODUCTION</b>	<b>1-3</b>
1.1 Project Background	1-3
1.2 Legislation and Policy Context	1-3
<b>2 METHODS</b>	<b>2-5</b>
2.1 Preliminary Roost Assessment	2-5
2.2 Dusk Emergence / Dawn Re-Entry Surveys	2-6
2.3 Data Analysis	2-6
2.4 Dates of Surveys and Weather Conditions	2-6
<b>3 RESULTS</b>	<b>3-9</b>
<b>4 INTERPRETATION OF RESULTS</b>	<b>4-12</b>

## Table of Tables

<i>Table 9.5.1 - Roost Potential Categorisation (adapted from Collins, 2016)<sup>1</sup></i>	<b>2-5</b>
<i>Table 9.5.2 - Dates and personnel for dusk emergence / dawn re-entry survey visits</i>	<b>2-7</b>
<i>Table 9.5.3 - Survey times and weather conditions of the dusk emergence / dawn re-entry survey visits</i>	<b>2-7</b>
<i>Table 9.5.4 - Summary of Dusk Emergence Survey – Development parcel C Building</i>	<b>13-11</b>
<i>Table 9.5.5 - Summary of Dawn Re-Entry Survey – Development parcel F Buildings 1 and 2</i>	<b>3-11</b>

## Table of Figures

Figure 1 – Aerial Map of Site .....	<b>13</b>
Figure 2 – Dec Parcel C_B1.....	<b>14</b>
Figure 3 – Dev Parcel F_B1_B2 .....	<b>15</b>

## DISCLAIMER

This report was prepared in 2017 based on the project design, development parcels and project terminology contained within the Preliminary Environmental Information Report (PEIR).

All technical information contained within the report is still relevant and valid. See Figure 9.4 of the Environmental Statement which has updated and consolidated the figures in this document.

## EXECUTIVE SUMMARY

Drax Power Limited are submitting a Development Consent Order (DCO) application to the Planning Inspectorate for a Proposed Scheme. This will include the repowering up to two existing coal-fired units with gas at the Existing Drax Power Station Complex, along with the construction of a battery storage facility and Gas Pipeline.

Records of bats from within 5 km of the Site were identified during the desk study which forms part of the Preliminary Ecological Appraisal (PEA) undertaken by WSP in 2017. Furthermore, habitats and buildings assessed as suitable to support a range of bat species were recorded during the extended Phase 1 habitat survey. Therefore, targeted bat emergence/re-entry surveys were subsequently commissioned by Drax Power Limited for these buildings.

Three buildings were identified as having potential to support roosting bats these were; Development Parcel C Building 1 and Development Parcel F Buildings 1 and 2 (see Figures 2 and 3).

A dusk emergence survey was carried out on Development Parcel C Building 1 and Development Parcel F Buildings 1 and 2. This area of the Site was well lit throughout the survey due to the presence of artificial lighting: Development Parcel F Buildings 1 and 2 are adjacent to access roads which are used by pedestrians and vehicles during the night.

No bats, or evidence of bats, were recorded during the surveys on Development parcel C Building 1 or Development parcel F Buildings 1 and 2.

Features in Building 1 of Development Parcel C could provide cool, stable conditions that could support low numbers of hibernating or transitional roosting bats. Due to the absence of other buildings with potential roosting features (PRF) and the poor quality of the immediately surrounding habitat, Building 1 in Development Parcel C is considered of at most low suitability for roosting bats.

Features in Building 1 and 2 of Development Parcel F may have access points large enough for smaller bats (*Pipistrellus* and *Myotis* sp.) to crawl into. The depth of the access points and assessment of any internal space could not be made from the external preliminary roost assessment. Larger bat colonies and maternity colonies could potentially be present, although this is considered very unlikely due to the poor quality of the immediately surrounding habitat and in light of the 2017 survey results.

An internal inspection of the buildings will be carried out in winter 2017/18 to confirm the internal condition of the buildings. If the internal inspection identifies evidence of bats or significant additional PRF then the survey effort will be increased accordingly. In the event that a bat roost is identified and the building cannot be retained, specific avoidance and / or mitigation measures would be required. A draft European Protected Species (EPS) licence Method Statement would also need to be submitted with the DCO application in the event of a confirmed roost being lost.

# 1 INTRODUCTION

## 1.1 Project Background

- 1.1.1. Drax Power Limited is proposing to repower up to two existing coal-fired units with gas at the Existing Drax Power Station Complex. The Proposed Scheme will also include a new battery storage facility and Gas Pipeline. It is intended that consent for the Proposed Scheme will be secured via an application to the Planning Inspectorate for a Development Consent Order (DCO).
- 1.1.2. WSP conducted a preliminary ecological appraisal (PEA) of land within and adjacent to Drax Power Station (Yorkshire, approximate central National Ordnance grid reference SE 661 272). The study also considered two potential routes for a gas pipeline (Options 4 and Option 5) (See Figure 1). The gas pipeline is required in order to connect the power station to the National Grid natural gas transmission system. These areas are hereafter collectively referred to as 'the Site'.
- 1.1.3. Buildings were assessed for having bat roost potential during the PEA. Three buildings were identified as having potential to support roosting bats these were; Development Parcel C Building 1 and Development Parcel F Buildings 1 and 2 (see Figures 2 and 3). These buildings were inspected externally to assess their potential to support bat roosts, and to search for evidence indicating the current use of the building by bats.
- 1.1.4. Habitats within the Site were identified as having potential to support bat species. The majority of the land use at the Power Station Site is infrastructure and hardstanding however, there are small areas of amenity grassland, scrub and semi-mature broadleaf woodland. The surrounding land comprises mainly arable farmland with areas of grazing pasture and broadleaf woodland. Records of bat presence were returned from the desk study element of the PEA, furthermore, habitat within a 5 km radius of the Site was assessed as suitable to support a range of bat species.
- 1.1.5. Drax Power Limited commissioned WSP to undertake bat surveys of the above mentioned buildings to determine presence or likely absence of bats.
- 1.1.6. The results of these surveys (see Sections 3.1 and 3.2) will be used to provide recommendations for impact avoidance, mitigation and enhancement so that the proposed DCO application can be delivered in compliance with legislation and planning policy.

## 1.2 Legislation and Policy Context

- 1.2.1. All bats are fully protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended) and also receive protection under the Wildlife and Countryside Act 1981 (as amended). It is an offence to kill, injure or take any bat species, damage or destroy places of rest or shelter, or disturb any bat species (whether in a resting place or not). Additionally, it is illegal to possess, transport, sell, barter or exchange any part of a bat.
- 1.2.2. Development activities that could result in impacts to bats should avoid/minimise the likelihood of an impact occurring. If impacts are unavoidable then the works may

need to be carried out under a European Protected Species (EPS) development licence issued from Natural England. Works or mitigation activities involving interference with bats or bat shelters must be carried out by a suitably qualified and licensed ecologist.

- 1.2.3. Further legal protection is afforded to Barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros* which are listed on Annex II of the Habitats Directive.
- 1.2.4. Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat and barbastelle are identified as Species of Principal Importance (SPI) via the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Under Section 40 of the NERC Act 2006 public bodies have a duty to have regard to the conservation of SPI when carrying out their statutory functions. Bats are also listed as priority species in the Selby Local Biodiversity Action Plan



## 2 METHODS

### 2.1 Preliminary Roost Assessment

- 2.1.1. Development Parcel C Building 1 and Development Parcel F Buildings 1 and 2 were inspected externally to assess their suitability for supporting bat roosts.
- 2.1.2. A ground-based visual inspection of the exterior of the buildings was undertaken using binoculars and a high-powered torch. Where suitable features for roosting bats were recorded, the location and a brief description of the feature was noted. Additionally, each feature was visually inspected, where possible, for evidence indicating use by roosting bats such as droppings, urine staining and scratch marks / characteristic staining (from fur oils).
- 2.1.3. An internal inspection of the buildings was not undertaken during the survey, owing to access limitations, but will be conducted and this report updated accordingly.
- 2.1.4. Buildings were categorised in line with the descriptions provided in Table 9.5.1. Based on the features present and the location of the buildings, the suitability of different types of bat roost was also considered. For the purpose of this preliminary roost assessment, potential roost types were grouped as follows (Collins, 2016)<sup>1</sup>:
- Maternity (breeding roost).
  - Summer / transitional (to include transitional, satellite, night and day roosts).
  - Hibernation.

Table 9.5.1 - Roost Potential Categorisation (adapted from Collins, 2016)<sup>1</sup>

Category	Description
Confirmed	Building with features confirmed to be used by roosting bats either by historic recorded (verified appropriately), or evidence recorded during survey.
High	Building with highly suitable features capable of supporting larger roosts, and/or multiple roost locations. Generally, these buildings are located in proximity to highly suitable foraging/commuting habitat such that the presence of a roost is considered highly probable.
Moderate	Building exhibiting features with definite bat roost potential, but with only one or two suitable features suitable for larger roosts, or multiple features with the potential to be used by individual/small numbers of bats. Surrounding area includes good quality foraging habitat for bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland such that the presence of a roost is considered probable.
Low	Building with single, or few features capable of supporting individual/small numbers of bats e.g. external roosting features such as fascia or soffit boards, in which bats are considered less likely to be present. Or, a greater number or variety of features located in sub-

<sup>1</sup> Collins J. (ed.) (2016). Bat Surveys for Professional Ecologists, Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.



- 2.4.1. The dusk emergence and dawn re-entry surveys were carried out by multiple surveyors, all of which are suitably experienced and qualified at undertaking dusk emergence and dawn re-entry surveys.
- 2.4.2. Table 9.5.2 below details the dates and numbers of surveyors undertaking dusk emergence and dawn re-entry surveys.

*Table 9.5.2 - Dates and personnel for dusk emergence / dawn re-entry survey visits*

Building Number	Visit Number	Date of Survey	Survey Type	Number of Surveyors
Development Parcel C Building 1	1	13/09/2017	Dusk	4
Development Parcel F Building 1 and Building 2	1	14/09/2017	Dawn	4

- 2.4.3. The dusk emergence / dawn re-entry survey start and end times and weather conditions are summarised in Table 9.5.3 below. Cloud cover is measured in oktas and wind speed is measured on the Beaufort scale. Rainfall is assessed based on the following criteria as: 0=none, 1=drizzle, 2=light, 3=moderate, 4=heavy.

*Table 9.5.3 - Survey times and weather conditions of the dusk emergence / dawn re-entry survey visits*

Building Number	Visit Number	Date of Survey	Survey Times	Weather Conditions
Development Parcel C Building 1	1	13/09/2017	Start: 19:11 End: 20:56 Sunset: 19:26	Temperature: 12.0°C Cloud cover:0-3/8 Wind speed: 2 Rain: 0
Development Parcel F Building 1 and Building 2	1	14/09/2017	Start: 05:06 End: 06:51 Sunrise: 06:36	Temperature: 10°C Cloud cover: 2-8/8 Wind speed: 2 Rain: 0

### Limitations

- 2.4.4. Although the surveys were undertaken outside of the optimal months for undertaking dusk emergence and dawn re-entry surveys (May to August inclusive, weather dependent) in this instance the timing of the surveys is not thought to be a significant constraint. It is considered that the survey undertaken in mid-September in suitable conditions has yielded an accurate roost characterisation. On balance, the slight

seasonal constraint is unlikely to have significantly affected the accuracy of the assessment given the low quality habitat directly surrounding the buildings.

- 2.4.5. An internal inspection of the buildings has not yet been completed. This will be carried out in winter 2017 / 2018.

### 3 RESULTS

- 3.1.1. The results from the preliminary roost assessment and dusk emergence surveys are provided below.

#### Preliminary Roost Assessment Results

- 3.1.2. Building 1 in Development Parcel C was assessed as having low suitability for roosting bats during the Preliminary Roost Assessment. One type of feature was recorded on the building exterior, namely slits in the brick work above all windows.
- 3.1.3. The habitat surrounding Building 1 in Development Parcel C is predominantly hard standing, featuring access roads and paving. Surrounding areas include the existing power station cooling towers with some amenity grassland adjacent and scattered broad-leaved trees.
- 3.1.4. Photograph 1 (below) shows these features.



Photo 1 – Photo Building 1, Development Parcel C bat roosting opportunities

- 3.1.5. Building 1 and 2 in Development Parcel F were assessed as having low suitability for roosting bats during the Preliminary Roost Assessment. Gaps under the timber eaves of **Building 1** could provide suitable conditions for roosting bats. Building 2 had one hole in the north-east corner located in the eaves that could also have provided roosting opportunities for bats (See photographs 2 and 3 below).
- 3.1.6. The habitat surrounding Building 1 and 2 in Development Parcel F is predominantly hard standing, featuring access roads, paving and buildings.



*Photo 2 - Building 1, Development Parcel F*



*Photo 3- Building 2, Development Parcel F*

### Dusk Emergence / Dawn Re-Entry surveys

- 3.1.7. Development Parcel C Building 1 and Development Parcel F Buildings 1 and 2 were all assessed as having low bat roosting potential during the Preliminary Roost Assessment. In accordance with best practice survey guidance<sup>2</sup> one dusk emergence or dawn activity survey was therefore required.
- 3.1.8. A single dusk emergence survey was carried out on Development Parcel C Building 1. No bats were recorded emerging from or re-entering the building during the survey.
- 3.1.9. A single dawn re-entry Site was carried out on Development Parcel F Buildings 1 and 2. No bats were recorded emerging from or re-entering either of the buildings during the survey.
- 3.1.10. This area of the Site was well lit throughout the survey due to the presence of artificial lighting: Buildings 1 and 2 are adjacent to access roads which are used by pedestrians and vehicles.
- 3.1.11. No bat activity was recorded by any of the surveyors during either survey. This suggests that habitats in the vicinity of the buildings are of limited importance to local bat populations, albeit the survey was carried out on only one night.
- 3.1.12. The results are summarised in Table 9.5.4 below.

*Table 9.5.4 - Summary of Dusk Emergence Survey – Development parcel C Building 1*

Survey Type	Species Roosting	Roost Type	Roost Location
Dusk (Visit 1 of 1) - 13/09/2017	None	N/A	N/A
Incidental bat activity: No bat activity was recorded.			

*Table 9.5.5 - Summary of Dawn Re-Entry Survey – Development parcel F Buildings 1 and 2*

Survey Type	Species Roosting	Roost Type	Roost Location
Dawn (Visit 1 of 1) 14/09/2017	None	N/A	N/A
Incidental bat activity: No bat activity was recorded.			

<sup>2</sup> Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

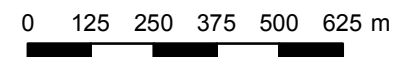
## 4 INTERPRETATION OF RESULTS

- 4.1.1. No bats, or evidence of bats, were recorded during the surveys on Development Parcel C Building 1 or Development Parcel F Buildings 1 and 2.
- 4.1.2. The slits in the brick work above the windows in Building 1 of Development Parcel C may create access points large enough for smaller bats (*Pipistrellus* and *Myotis* sp.) to crawl into. These features are considered likely to provide cool, stable conditions that could support low numbers of hibernating or transitional roosting bats. Due to the absence of other buildings with potential roosting features and the poor quality of the immediately surrounding habitat, Building 1 in Development Parcel C is considered of at most low suitability for roosting bats.
- 4.1.3. The gaps under eaves (timber) in Building 1 of Development Parcel F and the hole in the eaves of Building 2 of Development Parcel F may create access points large enough for smaller bats (*Pipistrellus* and *Myotis* sp.) to crawl into. The depth of the access points and assessment of any internal space could not be made from the external preliminary roost assessment. Larger bat colonies and maternity colonies could potentially be present, although this is considered very unlikely due to the poor quality of the immediately surrounding habitat and in light of the 2017 survey results.
- 4.1.4. An internal inspection of the buildings will be carried out in winter 2017/18 to confirm the internal condition of the buildings. If the internal inspection identifies evidence of bats or significant additional PRF then the survey effort will be increased accordingly. In the event that a bat roost is identified and the building cannot be retained, specific avoidance and / or mitigation measures would be required. A draft European Protected Species (EPS) licence Method Statement would also need to be submitted with the DCO application in the event of a confirmed roost being lost.

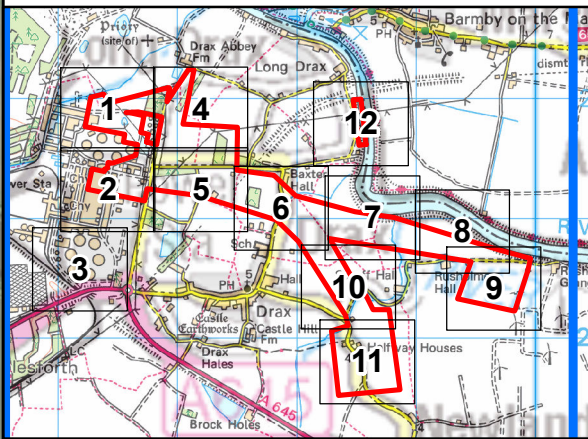




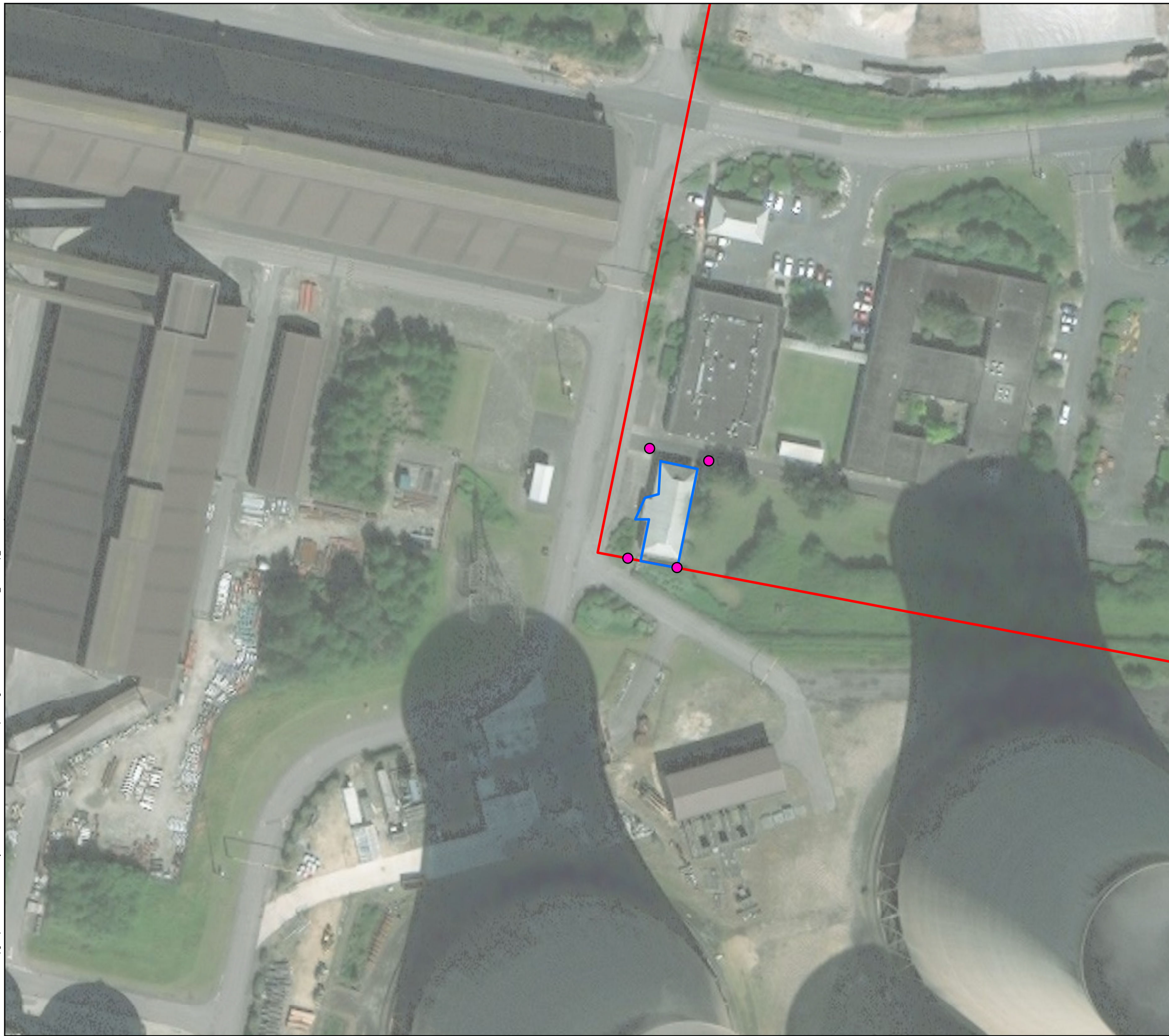
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- Buildings Surveyed
  - Site Boundary
  - 4 — Route Option 4
  - 5 — Route Option 5



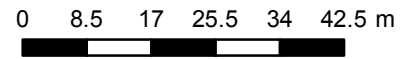
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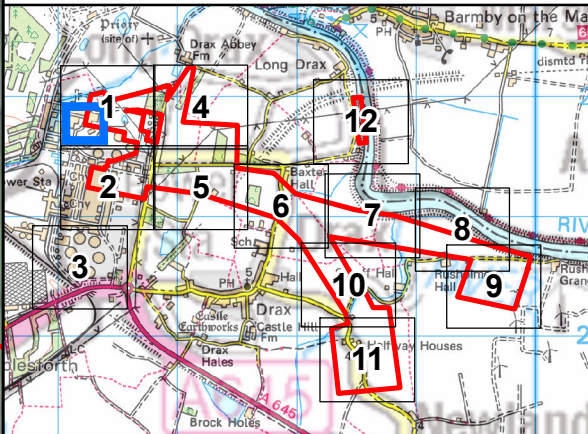
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- Key
- Surveyor Positions
  - Development Parcel C Building1
  - Site Boundary



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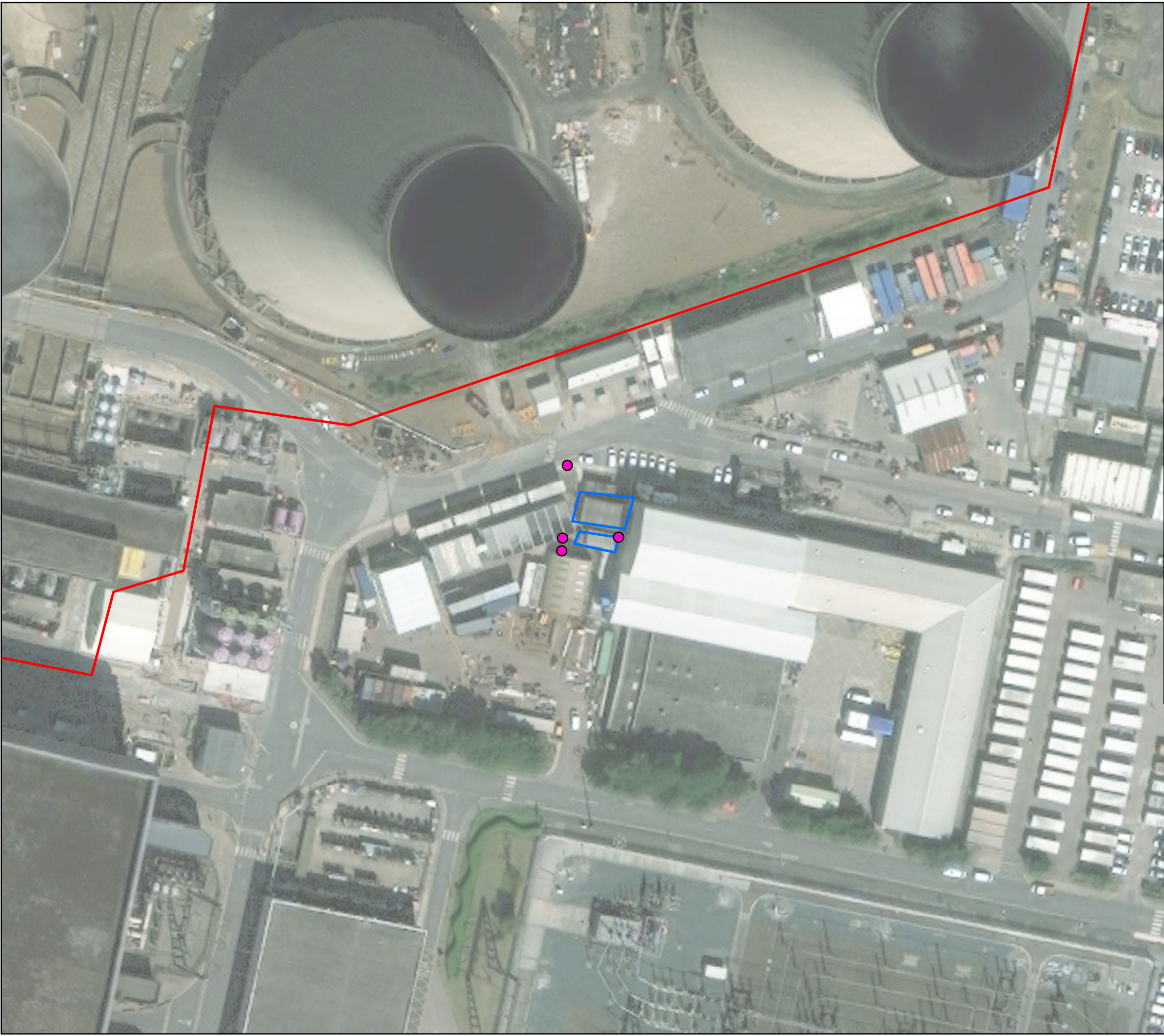


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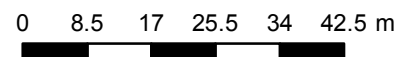
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**FIGURE 2 - DEVELOPMENT  
PARCEL C BUILDING 1**

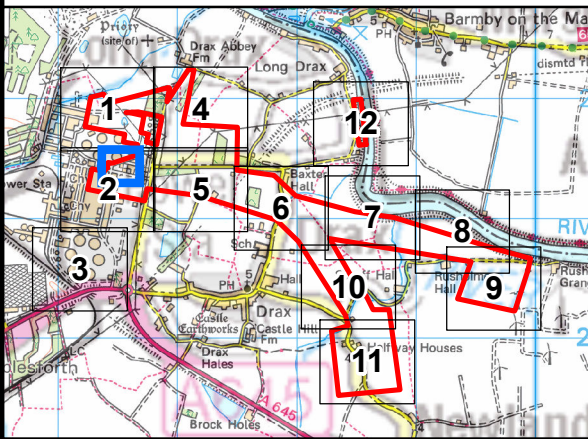
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- Key
- Surveyors Position
  - Development Parcel F Buildings 1 & 2
  - Site Boundary



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Project:  
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Title:  
**FIGURE 3 - DEVELOPMENT  
PARCEL F BUILDINGS 1 & 2**

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