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# Biodiversity Net Gain Assessment Report

Somerton Castle Energy Centre

Report on Behalf of:

**J Porter & Son**

Date: 04/03/2024

**PEG480-08C**

## Somerton Castle Energy Centre



### Document Control

Revision	Issue Status	Notes	Prepared By / Date	Reviewed By / Date
A	Draft 1	First Draft	Steph Robertson / 08.02.2024	Martin Woolley / 29.02.2024
B	Final Draft	Amendments made	Steph Robertson / 29.02.2024	Martin Woolley / 29.02.2024
C	Final Issue	Addressed Client comments	Steph Robertson / 04.03.2024	Martin Woolley / 04.03.2024

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Appendix B: Supplementary Material – Statutory Biodiversity Metric Condition Assessments  
(Read-only Excel Version)



## 1.0 Executive Summary

- 1.1 Pioneer Environment Group Ltd. was commissioned by J Porter & Son to undertake an initial Biodiversity Net Gain (BNG) assessment of a parcel of land at Somerton Castle, LN5 0LL (centered on Grid Reference SK 95413 58850).
- 1.2 This report details the methods, results and recommendations of the Biodiversity Net Gain assessment, the scope of which is:
  - To establish the total number of baseline habitat units and hedgerow units within the site.
  - To establish the total number of habitat units and hedgerow units which will be retained, created, or enhanced under the proposed landscape mitigation plan.
  - To determine whether the proposed development will result in a net loss, no net loss, or a net gain for biodiversity.
- 1.3 The BNG Assessment was undertaken using the DEFRA Statutory Biodiversity Metric (DEFRA, 2023) and following standard best practice guidance for biodiversity net gain.
- 1.4 The proposal for the site comprises the conversion of the Dutch barn and surrounding grassland into a new Energy Centre, studio and stables, with associated grazing paddocks.
- 1.5 No irreplaceable habitat or statutory designated sites will be impacted by the proposed development. Under current landscape plans, the proposed development would result in an overall net gain (+16.06%) in habitat units.
- 1.6 To supplement this report, the metric calculations have been supplied for the discretion of the Local Planning Authority.



## 2.0 Introduction

- 2.1 Pioneer Environment Group Ltd was instructed by J Porter & Son to undertake a Biodiversity Net Gain (BNG) Assessment of a parcel of land at Somerton Castle, LN5 0LL (centered on Grid Reference SK 95413 58850) in February 2024 (hereafter referred to as the 'Site').
- 2.2 The survey was undertaken to establish, as far as possible, how the proposed development will affect the Site's biodiversity, and calculations were carried out to ascertain how much biodiversity gain could be achieved following this development.
- 2.3 The following assessment is based on a preliminary ecological assessment completed by Pioneer Environment Group Ltd. in February 2024. The purpose of this survey was to identify the habitats on-site and accurately map their extent. Biodiversity Net Gain calculations were guided by the BSI British Standard 'BS8683: Process for Designing and Implementing Biodiversity Net Gain' (The British Standards Institution, 2021) and all calculations were carried out using the DEFRA Statutory Biodiversity Metric (DEFRA, 2023) and the DEFRA Statutory Biodiversity Metric User Guide (DEFRA, 2024).

### Site Description and Project Overview

- 2.4 The Site is situated approximately 3.7km northwest of Navenby village; the village of Bassingham lies approximately 5.4km to the west.
- 2.5 The Site comprised a single Dutch barn, associated hardstanding and grassland.
- 2.6 The Site is situated within the grounds of Somerton Castle and is bordered by residential dwellings and gardens. The wider landscape is dominated by intensive arable land.

### Development Proposals

- 2.7 The development proposal is for the demolition of the Dutch barn and associated hardstanding, along with retention of the surrounding grassland, to facilitate the construction of a new Energy Centre, studio and stables, with associated grazing paddocks.



## 3.0 Methodology

### Biodiversity Net Gain

- 3.1 A site visit was conducted by Steph Robertson and Meg Utton, on behalf of Pioneer Environment Group Ltd., on the 8<sup>th</sup> of February 2024, to advise on the habitats present and to be able to accurately create a baseline habitat plan (Figure 1) and proposed habitat plan (Figure 2).
- 3.2 The assessment was carried out using BSI British Standard BS8683 and CIEEM's Good Practice Principles of BNG (Chartered Institute for Ecology and Environmental Management, 2016) and calculates the change in ecological value at a site by comparing the number of 'biodiversity units' within the site pre- and post-construction for both linear habitats and area habitats.
- 3.3 Existing biodiversity units (pre-development) are calculated by assessing the size or area, and the 'Distinctiveness' and 'Condition' of the habitat. Future biodiversity units (post-development) are calculated by assessing the retained, created, and enhanced habitat areas using similar metrics of 'Target Distinctiveness' and 'Target Condition'. Other Factors also considered include habitat connectivity, spatial importance, and temporal delivery risk.
- 3.4 The habitats on site were classified using the UK Habitat Classification System (UKHab Ltd, 2023) and the Statutory Biodiversity Metric Technical Supplement (DEFRA, 2023). The Habitats Condition Sheet, from within the technical supplement, was used to assess the condition of each habitat on site, where appropriate. The habitat areas are measured in hectares and linear habitats in kilometres.
- 3.5 Maps of the site were created for pre- and post-development in QGIS. To measure habitats, they were mapped on Site using QField, a mobile version of QGIS. Post-development plans were made by accessing CAD files and overlaying these onto the habitat maps to accurately assess the level of habitat loss resulting from the development.
- 3.6 This report is based on CIEEM's Biodiversity Net Gain Report and Audit Template (2021).

### Assumptions and Limitations

- 3.7 It should be noted that whilst every effort has been made to describe the features on site as accurately as possible, this report reflects the habitat conditions noted at the time the ecology survey was undertaken. The UKHab survey was undertaken outside of the optimal survey season for plants.
- 3.8 The accuracy of habitat area measurements is limited to baseline data collection and quality of available mapping resources. In addition, post-development calculations were obtained by using illustrative designs and in the absence of detailed planting plans, reasonable assumptions have been made with regards to the type/condition of habitats.
- 3.9 Drawing '110.SK173' was used to inform the calculations. Should plans change, the calculations of Biodiversity Net Gain will no longer be accurate, and this report will require amendments.



## 4.0 Results

### Baseline Results (Figure 1)

- 4.1 The site predominantly comprised 0.23ha of hardstanding ('Developed Land; Sealed Surface') which included the access road the Dutch barn location. Elsewhere, 0.08ha of 'Modified Grassland' was present around the Dutch barn. Other habitats present included 'Artificial Unvegetated, Unsealed Surface' (0.02ha), and a patch of 'Ruderal/Ephemeral' vegetation (0.01ha) to the east of the site.

### Habitat Overview and Baseline Biodiversity Units

- 4.2 The habitats on-site ranged from 'Very Low' distinctiveness (e.g. Developed Land; Sealed Surface) to 'Low' distinctiveness (e.g. Modified Grassland).
- 4.3 The baseline score for the site is 0.23 habitat units.

**Table 1: Summary of Baseline Area Calculations**

Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition
Grassland	Modified Grassland	0.0837	Low	Poor
Sparsely Vegetated Land	Ruderal/Ephemeral	0.0104	Low	Good
Urban	Artificial Unvegetated, Unsealed Surface	0.0248	V. Low	N/A - Other
Urban	Developed Land; Sealed Surface	0.2256	V. Low	N/A - Other

## 5.0 Post-Development Habitats

### Proposed development (Figure 2)

- 5.1 The proposed development consists of the conversion of a Dutch barn and surrounding grassland into a new Energy Centre, studio and stables, with associated grazing paddocks.

### Retained and Enhanced Habitats

- 5.2 0.08ha of 'Modified Grassland' will be retained, along with 0.22ha of 'Developed Land; Sealed Surface'.
- 5.3 No further retention or enhancement of existing habitat is anticipated within the scope of development.

### Habitat Creation Opportunities

- 5.4 Across the site, 0.03ha of 'Modified Grassland' will be created of 'Low' condition and utilised as part of the horse-grazing paddocks.



- 5.5 An additional 0.01ha of 'Developed Land; Sealed Surface' will be created in the form of a new access into the Energy Centre.
- 5.6 Four new native trees will be planted within the Site.

**Summary of Habitat Change**

- 5.7 A summary of the on-site change is presented in Table 2. Overall, the proposed scheme will achieve 0.04 habitat units.

**Table 2: On-Site Change By Broad Habitat Type**

Habitat group	Baseline		Post-development on-site		On-site change	
	On-site existing area (ha)	On-site existing value	On-site proposed area (ha)	On-site proposed value	On-site area change (ha)	On-site unit change
Grassland	0.08	0.17	0.11	0.22	0.03	0.05
Sparsely Vegetated Land	0.01	0.06	0.00	0.00	-0.01	-0.06
Urban	0.25	0.00	0.23	0.00	-0.02	0.00
Individual Trees	0.00	0.00	0.02	0.05	0.02	0.05





## 6.0 Conclusion

- 6.1 No irreplaceable habitat or statutory designated sites will be impacted by the proposed development. Under current landscape plans, the proposed development would result in an overall net gain (+16.06%) in habitat units (Table 3).

**Table 3: Headline Results**

FINAL RESULTS				
<b>Total net unit change</b> (Including all on-site & off-site habitat retention, creation & enhancement)		<i>Habitat units</i>	0.04	
		<i>Hedgerow units</i>	0.00	
		<i>Watercourse units</i>	0.00	
<b>Total net % change</b> (Including all on-site & off-site habitat retention, creation & enhancement)		<i>Habitat units</i>	16.06%	
		<i>Hedgerow units</i>	0.00%	
		<i>Watercourse units</i>	0.00%	
<b>Trading rules satisfied?</b>		Yes ✓		
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
<i>Habitat units</i>	10.00%	0.23	0.25	0.00
<i>Hedgerow units</i>	10.00%	0.00	0.00	0.00
<i>Watercourse units</i>	10.00%	0.00	0.00	0.00



## 7.0 References

Chartered Institute for Ecology and Environmental Management, 2016. *Good practice principles for development*, s.l.: s.n.

CIEEM, 2021. *Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management*, Winchester, UK: s.n.

DEFRA, 2023. *Statutory Biodiversity Metric*, s.l.: s.n.

DEFRA, 2023. *Statutory Biodiversity Metric Condition Assessments*, s.l.: s.n.

DEFRA, 2024. *Statutory Biodiversity Metric User Guide*, s.l.: s.n.

The British Standards Institution, 2021. *BS8683: Process for designing and implementing biodiversity net gain - Specification*, s.l.: s.n.

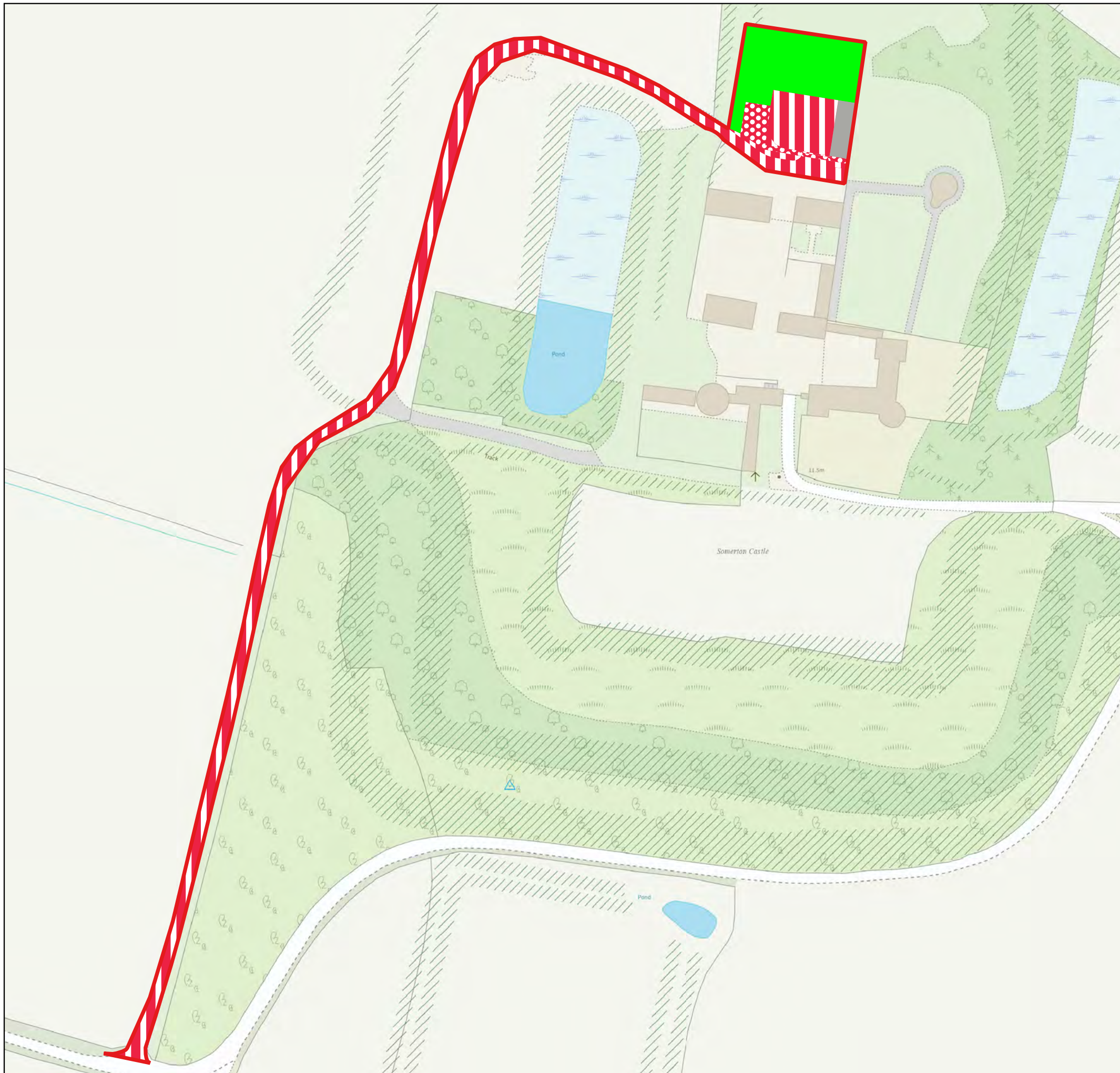
UKHab Ltd, 2023. *UK Habitat Classification Field Key*, s.l.: s.n.



**Appendix A: Supplementary Material – Statutory Biodiversity Metric  
(Read only Excel Version)**

**Appendix B: Supplementary Material – Statutory Biodiversity Metric  
Condition Assessments (Read only Excel Version)**





**Key**

Red Line Boundary

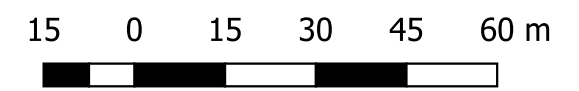
**HABITATS**

Artificial unvegetated, unsealed surface

Developed land; sealed surface

Modified grassland

Ruderal/Ephemeral



Project Name: **Somerton Castle Energy Centre**

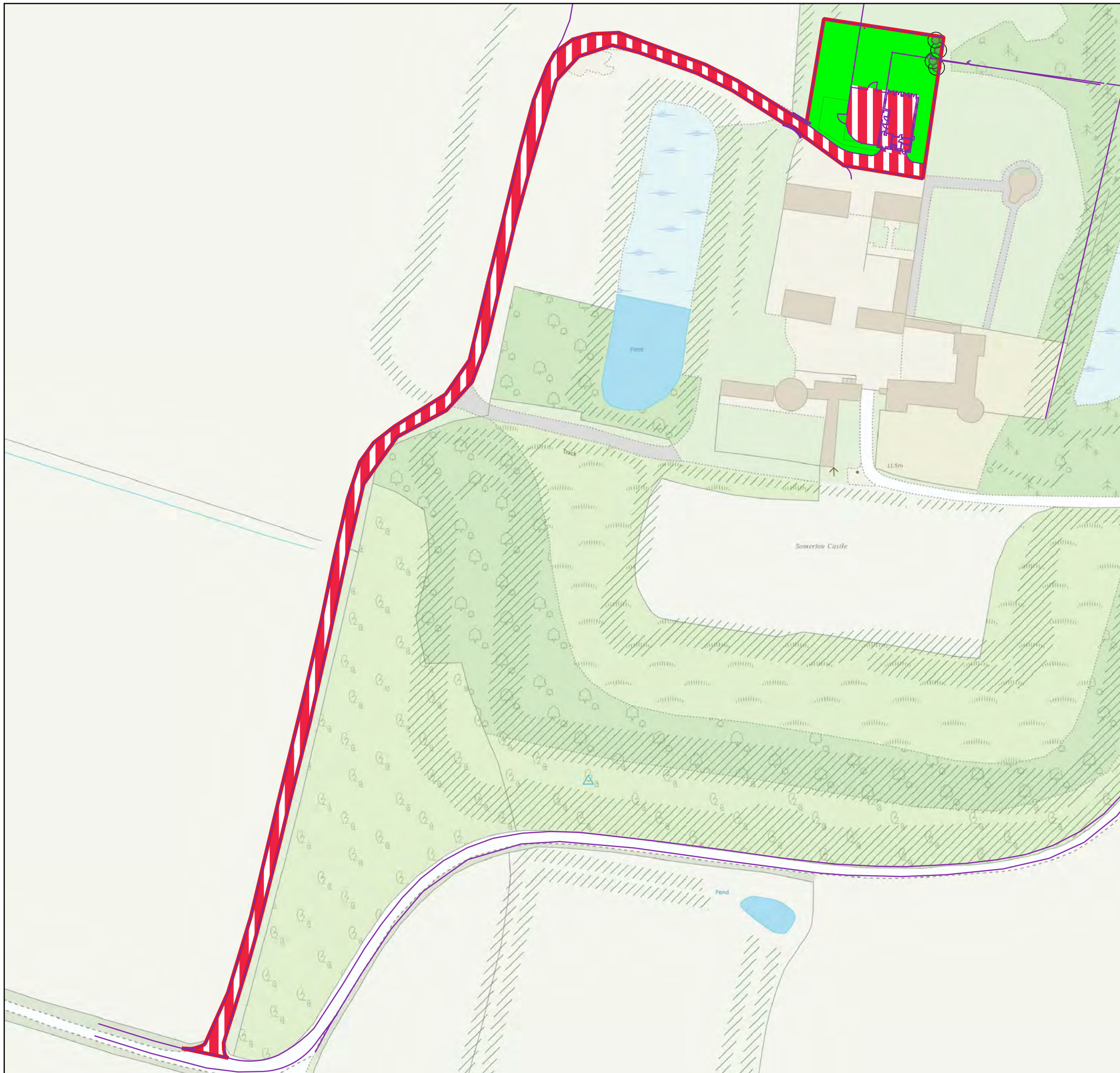
Client: **J Porter & Son**

Figure No: **Figure 1**



Date: 22.02.2024

Title: BIODIVERSITY NET GAIN BASELINE PLAN







**Key**

-  Red Line Boundary
-  Proposed Plan

**HABITATS**

-  Developed land; sealed surface
-  Modified grassland

**INDIVIDUAL TREES**

-  Proposed Small Rural Tree

Project Name:		<b>Somerton Castle Energy Centre</b>
Client:		<b>J Porter &amp; Son</b>
Figure No:		<b>Figure 2</b>
Date:	Title:	BIODIVERSITY NET GAIN PROPOSED PLAN
26.02.2024		

