



HELIOS RENEWABLE
ENERGY
PROJECT

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Planning Statement Appendix 2: Alternative Site Assessment

June 2024



Helios Renewable Energy Project

Alternative Site Assessment

Planning Inspectorate Reference: EN010140

June 2024

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Alternative Site Assessment Planning Inspectorate Reference: EN010140

Prepared on behalf of Enso Green Holdings D Limited

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1. Introduction

1.1. Overview

- 1.1.1. This Alternative Site Assessment (ASA) has been prepared on behalf of Enso Green Holdings D Limited (the 'Applicant') in relation to an application for a Development Consent Order (DCO) for the Helios Renewable Energy Project (the 'Proposed Development'). The application for the DCO (the 'DCO Application') is submitted to the Planning Inspectorate, which will provide a recommendation on whether to grant a DCO. The Secretary of State (SoS) for Energy Security and Net Zero will make a final decision pursuant to the Planning Act 2008 (PA 2008).
- 1.1.2. The purpose of this ASA is to outline the robust site selection process undertaken by the Applicant. An assessment of the environmental and operational constraints of the Site and alternative sites was conducted in order to facilitate the Proposed Development.

1.2. Site

- 1.2.1. The Development Area is the area within the Order Limits where the solar PV arrays, onsite substation, BESS and associated infrastructure and accesses will be located. This area generally comprises agricultural land.
- 1.2.2. The Underground Cable Connection Area is the area within the Order Limits where the underground cable connections will be located. These are the cables that transfer the electricity generated from the solar PV arrays to the onsite substation and electricity infrastructure. The Underground cable connection area is located within the centre of the Site and comprises agricultural land.
- 1.2.3. The Underground Grid Connection Cable Area is the area within the Order Limits where the underground grid connection cables will be located. These cables transfer the electricity generated on Site to the National Grid substation located at Drax Power Station. The Underground Grid Connection Cable Area comprises the A645 road corridor, part of the access road to Drax Power Station identified as Station Road, part of New Road, as well as the National Grid substation itself. The cable itself will be located beneath New Road, with Station Road providing construction access.

1.3. Proposed Development

- 1.3.1. The Proposed Development comprises the installation of ground mounted solar arrays, battery energy storage system (BESS) and associated development comprising grid connection infrastructure and other infrastructure integral to the construction, operation (including maintenance) and decommissioning of the development for the delivery of over 50 megawatts (MW) of electricity.
- 1.3.2. The DCO Application Order Limits comprise 475 hectares (ha) of land (the 'Site'), located wholly within the host authority area of North Yorkshire Council (NYC). The Proposed Development has a design life of 40 years.
- 1.3.3. All of the works that form part of the Proposed Development are listed in Schedule 1 of the draft **DCO [EN010140/APP/3/1]**.
- 1.3.4. The key infrastructure for the Proposed Development is shown on **ES Figure 3.2: Parameter Plan [EN010140/APP/6.2.3.2]** and includes:
- Solar PV modules;
 - Mounting structures;
 - Field stations;
 - On-Site Substation and BESS compound;
 - Distribution cables;
 - Grid connection cables;
 - Fencing, security and ancillary infrastructure;
 - Access;
 - Landscape and ecological enhancements; and
 - Archaeological mitigation.
- 1.3.5. Further details of the Proposed Development are discussed in **Planning Statement [EN010140/APP/7.1]**.

2. Alternative Site Assessment Methodology

2.1.1. This section details the methodology and process the Applicant has followed in bringing forward the Proposed Development through the site selection process. It considers Government guidance and the site selection process before detailing the specific approach undertaken by the Applicant for the Proposed Development.

2.2. Guidance

2.2.1. On alternatives, the NPS for Energy (EN-1) (January 2024)¹ ('NPS EN-1') states at paragraph 4.3.9:

'As in any planning case, the relevance or otherwise to the decision-making process of the existence (or alleged existence) of alternatives to the proposed development is, in the first instance, a matter of law. This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective. Although there are specific requirements in relation to compulsory acquisition and habitats sites, the NPS does not change requirements in relation to compulsory acquisition and habitats sites.'

2.2.2. However, at paragraphs 4.3.15 to 4.3.17, it states:

'Applicants are obliged to include in their ES, information about the reasonable alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility.'

In some circumstances, the NPSs may impose a policy requirement to consider alternatives.'

Where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered in compliance with these requirements.'

2.2.3. Paragraph 4.3.22 of the NPS EN-1 goes on to state that:

¹ Available at: <https://assets.publishing.service.gov.uk/media/65bbfbd709fe1000f637052/overarching-nps-for-energy-en1.pdf> Accessed: April 2024

‘Given the level and urgency of need for new energy infrastructure, the Secretary of State should, subject to any relevant legal requirements (e.g. under the Habitats Regulations) which indicate otherwise, be guided by the following principles when deciding what weight should be given to alternatives:

- the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner; and*
- only alternatives that can meet the objectives of the proposed development need to be considered’*

2.2.4. Paragraphs 4.3.23 to 4.2.29 state:

‘The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security, climate change, and other environmental benefits) in the same timescale as the proposed development.

The Secretary of State should not refuse an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site, and should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals.

Alternatives not among the main alternatives studied by the applicant (as reflected in the ES) should only be considered to the extent that the Secretary of State thinks they are both important and relevant to the decision.

As the Secretary of State must assess an application in accordance with the relevant NPS (subject to the exceptions set out in section 104 of the Planning Act 2008), if the Secretary of State concludes that a decision to grant consent to a hypothetical alternative proposal would not be in accordance with the policies set out in the relevant NPS, the existence of that alternative is unlikely to be important and relevant to the Secretary of State’s decision.

Alternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not

commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the Secretary of State's decision.

Alternative proposals which are vague or inchoate can be excluded on the grounds that they are not important and relevant to the Secretary of State's decision.

It is intended that potential alternatives to a proposed development should, wherever possible, be identified before an application is made to the Secretary of State (so as to allow appropriate consultation and the development of a suitable evidence base in relation to any alternatives which are particularly relevant). Therefore, where an alternative is first put forward by a third party after an application has been made, the Secretary of State may place the onus on the person proposing the alternative to provide the evidence for its suitability as such and the Secretary of State should not necessarily expect the applicant to have assessed it.'

2.2.5. Chapter 2.10 of the NPS for Renewable Energy Infrastructure (EN-3)² ('NPS EN-3') identifies a range of factors which may influence the siting of a proposed solar farm. These include irradiance and site topography, proximity to dwellings, site capacity, grid connection, agricultural land classification and land type, PRowS, security and lighting, and accessibility, as well as the ability to mitigate environmental impacts and flood risk. These are identified to provide the SoS with information on the criteria that applicants may consider when selecting a development site. NPS EN-3 also notes at paragraph 2.3.5 that *'It is for applicants to decide what applications to bring forward. In general, the government does not seek to direct applicants to particular sites for renewable energy infrastructure'* (except in relation to offshore wind).

2.2.6. With specific reference to the site selection process and flooding, paragraph 5.8.36 of EN-1 includes the requirement to apply and satisfy the Sequential Test.

2.2.7. Paragraph 5.8.21 of EN-1 states:

'the Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding,

² Available at: <https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf>
Accessed: April 2024

³ Available at: <https://questions-statements.parliament.uk/written-statements/detail/2024-05-15/hcws466>
Accessed: May 2024

taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites with medium risk areas and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas.'

2.2.8. Paragraph 5.8.23 of EN-1 states:

Consideration of alternative sites should take account of the policy on alternatives set out in Section 4.3 above. All projects should apply the Sequential Test to locating development within the site.

2.2.9. Paragraph 168 of the NPPF states:

'The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.'

2.2.10. Paragraph 028 of the Flood Risk and Coastal Change PPG sets out 'What is a "reasonably available" site?' and states:

'Reasonably available sites' are those in a suitable location for the type of development with a reasonable prospect that the site is available to be developed at the point in time envisaged for the development.

2.2.11. These could include a series of smaller sites and/or part of a larger site if these would be capable of accommodating the proposed development. Such lower-risk sites do not need to be owned by the applicant to be considered 'reasonably available'.

2.2.12. With regards to locating sites on Best and Most Versatile Land, NPS EN-3 states, *'Whilst the development of ground mounted solar arrays is not prohibited on Best and Most Versatile agricultural land, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered and are discussed'* (paragraph 2.10.30)

2.2.13. The Solar and Protecting our Food Security and Best and Most Versatile (BMV) Land Written Ministerial Statement³ published May 2024 reaffirms that *'Applicants for*

Nationally Significant Infrastructure Projects should avoid the use of Best and Most Versatile agricultural land where possible.’ And that ‘applicants should seek to minimise impacts on the best and most versatile agricultural land’.

- 2.2.14. The NPPF states under footnote 62 that *‘The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development.’* This is an important consideration which the Applicant has acknowledged.
- 2.2.15. The NPS EN-3 does not impose a policy requirement on applicants for solar projects to demonstrate the alternatives that have been considered nor does it require them to undertake a BMV sequential site analysis. With respect to agricultural land, the NPS EN-3 does, however, require applicants to *‘explain their choice of site’* (paragraph 2.10.31).

2.3. Site Selection Process Overview

- 2.3.1. Prior to undertaking a detailed site selection process, there are a number of regional considerations that must be taken into account when seeking to develop a solar PV project. The most prominent of these considerations is good levels of irradiation and large flat open areas of land.
- 2.3.2. Further to these physical considerations, a solar farm requires proximity to an available connection to the national electricity transmission system (NETS) or grid. This Point of Connection (POC) is required to have sufficient capacity for electricity generated by a proposed scheme or a local energy user with a consistent demand for electricity that exceeds the maximum generation capacity.
- 2.3.3. Once an appropriate POC has been identified, a more detailed site selection approach can be undertaken, generally defined by the following process:
- Stage 1 – Upon identification of an appropriate grid connection, establish a study area based on operational criteria, using a fixed radius from the POC, proportionate to the scale of the Proposed Development (the larger the MW generation, the wider the study area);
 - Stage 2 – Within the study area identified in Stage 1, apply exclusionary and discretionary planning and environmental criteria to discount land unsuitable for a solar scheme;

- Stage 3 – Following Stage 2, apply operational inclusionary criteria from NPS EN-3, to remaining land. Criteria include site size, land assembly, site topography, access requirements as well as the availability of brownfield land. In essence this step identifies land suitable for solar development;
- Stage 4 – Of the land identified as suitable for solar development, undertake a comprehensive desktop assessment to consider the identified locations. This process will identify the most suitable land opportunities potentially available for the siting of a solar scheme, should the land be available for development.

2.4. Grid Connection

- 2.4.1. As noted, prior to undertaking the site selection process, regional considerations must be taken into account when seeking to develop a solar PV project. This was the case for the Proposed Development, where it was determined that in comparison to some other parts of the UK, specific areas within North Yorkshire have a combination of good levels of irradiation and large flat open areas of land. The specific area where the Proposed Development Site eventuated also has a significant amount of pre-existing transmission infrastructure, namely the national electricity transmission system (NETS) at National Grid's Drax Substation.
- 2.4.2. The North Yorkshire region is considered to have good site topography, which can support the production of energy by maximizing irradiance, which is consistent with Paragraphs 2.10.19-2.10.20 of NPS EN-3. Further, in accordance with Paragraphs 2.10.21-2.10.26 of NPS EN-3, which state that a site location may be chosen based on the availability and capacity of a nearby grid connection, the Applicant focused their search for a site suitable for a large-scale solar farm in the North Yorkshire region. Given the proximity to the National Grid Drax 132kV Substation, this region had the additional benefit of reducing the need for additional overhead infrastructure (with associated commercial costs and landscape and visual impacts), or other supporting infrastructure to connect the generator to the national grid.
- 2.4.3. This approach was considered to be consistent with Paragraphs 2.10.25 and 2.10.60 of NPS EN-3, which discusses siting large scale solar developments based on available grid capacity. *'Larger developments may seek connection to the transmission network if there is available network capacity and/or supportive infrastructure...In either case the connection voltage, availability of network capacity,*

and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal. 'To maximise existing grid infrastructure, minimise disruption to existing local community infrastructure or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity.'

- 2.4.4. In 2020 the Applicant engaged with National Grid to identify substations within England and Wales which had available capacity.
- 2.4.5. The National Grid Drax 132kV Substation was identified by National Grid as having suitable capacity and the Applicant signed a Bilateral Connection Agreement to secure a 190MW connection in December 2020.

2.5. Stage 1: Search Area

- 2.5.1. Upon identification and securing the PoC at the Drax 132kV National Grid Substation, the search for an appropriate site could begin in earnest.
- 2.5.2. As there is no Government guidance on what a reasonable search area is, each application should be considered on its own facts, taking commercial, planning and environmental and practical constraints into account. On this basis, a number of considerations relevant to the necessary cable route length and connection to the PoC, resulted in a 5km search radius (search area), which considered the following:
- A longer cable route would result in greater disturbance to the environment, stakeholders and community;
 - A longer cable route would result in increased inefficiency of the Proposed Development, leading to increased electrical transmission losses; and
 - The longer the cable route, and hence distance from the PoC, the greater the capital cost, which would have a significant impact on the viability of the project.
- 2.5.3. Further consideration of this search radius was driven by the need for the Proposed Development's connection to the grid to be energised as one, rather than in a series of smaller projects. From a viability perspective, this further limited distance from the PoC.

2.6. Stage 2: Environmental Constraints

2.6.1. An initial feasibility assessment was carried out for a study area within 5km of the Drax Substation to identify the presence or absence of key environmental and social constraints. The search was used to identify potential contiguous developable areas with the ability to accommodate an NSIP scale solar scheme and meet the conditions of the Bilateral Connection Agreement. The environmental and social constraints explored below were used to further guide selection of an appropriate site within the search area.

Topography and Natural Landforms

2.6.2. As noted previously, the topography within the search area and wider area is generally flat. Within the search area, the elevation changes minimally throughout. In addition to this not resulting in overshadowing from topography, which would affect solar irradiation, the flat nature of the topography within the search area itself generally supports the Proposed Development.

2.6.3. There are two rivers which bisect the search area. The River Ouse to the north of the grid connection point and its tributary the River Aire to the south. The flow of these rivers is shown on **Figures 2.1 – 2.6**. Bringing forward the Proposed Development on the opposite side of the river opposite to the grid connection point would result in unnecessary complexity for the Proposed Development's engineering solution. This would have additional disbenefits, likely resulting in potential programme delays with unknown commercial implications, which ultimately could be avoided if the Proposed Development was located elsewhere nearby. As such, this constraint aided the decision to dismiss the search area north of the River Ouse and south of the River Aire as part of the site selection process.

Landscape Designations and Green Belt

2.6.4. No National Landscapes (formerly Areas of Outstanding Natural Beauty), National Parks or Country Parks or areas of Green Belt are present within the search area, as shown on **Figure 2.1: Statutory Landscape Designations**.

2.6.5. As such, landscape designations and green belt were not considered an issue for site selection.

Ecological Designations

- 2.6.6. Ecological designations include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Local Nature Reserves (LNR), Local Wildlife Sites (LWS), Site of Important for Nature Conservation (SINCs) and ancient woodland. Generally, these areas are not considered appropriate for solar development, on the basis of the potentially significant adverse effects.
- 2.6.7. **Figure 2.2: Ecological Designations** demonstrates the extent of ecological designations within the search area, including the River Derwent SAC and SSSI, located in the northeast of the search area, and the Eskamhorn Meadows SSSI, which comprises four individual fields, located approximately 2.7km south of the search area. Isolated areas of SINCs are located in the south, southwest and west of the search area and a LNS is located in the northwest quadrant of the search area. Two non-statutory designated nature reserves are located directly west and 3.25km west of Drax, both north of the A1041. Similarly these have been avoided to reduce the potential for impacts.
- 2.6.8. The absence of designated or proposed SPAs, Ramsar Sites or National Nature Reserves from the search area should be noted.
- 2.6.9. **Figure 2.2: Ecological Designations** demonstrates that where any designations may be present, particularly disparate SINCs, the site selection process has sought to avoid these.

Heritage Designations

- 2.6.10. All designated heritage assets including Conservation Areas, Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Registered Battlefields within the search area have been identified, as shown on **Figure 2.3: Statutory Heritage Designations**.
- 2.6.11. **Figure 2.3 Statutory Heritage Designations** demonstrates how the site selection process has sought to avoid spatial impacts on these heritage designations, with specific reference to listed buildings. This has been achieved by focusing development to the west of the search area, away from the clusters of listed buildings in Snaith, Rawcliffe and Hemingbrough and scheduled monuments to the north and east of the PoC. These listed buildings are generally located in built up areas, which

has further assisted in their avoidance.

- 2.6.12. Where in closer proximity to listed buildings in Camblesforth and Carlton, the site selection process has sought to minimise impacts on the nearest Grade I listed buildings and their settings (Camblesforth Hall (Listing ref: 1173983) and Carlton Towers (Listing ref: 1295955)) by implementing appropriate buffer distances.

Flood Risk

- 2.6.13. A review of the flood zone mapping shows that the bulk of the search area is subject to flooding, with much of it in Flood Zone 3. The general exception to this in the search area are small pockets of land associated with built up areas, as shown on **Figure 2.4: Flood Risk**.

- 2.6.14. On this basis, it was generally unavoidable for the site selection process to avoid land subject to flooding. This sentiment is echoed in the **Flood Risk Assessment [EN010140/APP/7.5]**. This was generally not considered a typical constraint to development, as many aspects of solar are considered to be compatible or resilient to flooding, for example, solar panels can be 'stowed' above flood waters and typically feature a permeable ground surface, reducing the risk of increased flooding elsewhere.

Local Allocations, Designations and Consented Schemes

- 2.6.15. A review of current and emerging Local Plans within the search area identified local allocations and designations that were required to be taken in account in the site selection process and hence influenced the layout of the Proposed Development.
- 2.6.16. As shown on **Figure 2.5: Local plan designations**, there are a series of allocated sites and areas identified in the Local Plan which would restrict development. Specific reference is given to three sites allocated for residential development, two in Carlton and one in Camblesforth. Similar to heritage assets, these areas are generally avoided by the nature of the Proposed Development avoiding built up residential areas. Within the emerging Local Plan there is further draft allocated land for residential development in Hemingbrough, which the site selection process has avoided.
- 2.6.17. **Figure 2.5: Local plan designations** shows that within the search area there are 15 non-statutory locally designated wildlife areas, which the site selection process has

avoided, to negate adverse effects. Similarly, the site selection process has avoided any local landscape designations, including a Historic Park and Garden immediately east of Carlton.

- 2.6.18. In addition to local designations, there are also a series of schemes either recently consented or in the early planning stages, which influenced the site selection process. These are shown on **Figure 2.6: Other schemes**.
- 2.6.19. Of these schemes, the most influential in the site selection process the two solar schemes located between the Proposed Development and the PoC and land associated with the Barlow Ash Mound, to the immediate northwest of the PoC, identified as follows:
- Land North and South of Camela Lane, Camblesforth, Selby, North Yorkshire (2021/0788/EIA) approved in July 2022;
 - Land South of A645, Wade House Lane, Drax (2022/10054/SCN, now 023/0128/EIA) approved in April 2024; and
 - Barlow Ash Mound, Park Lane, Barlow, Selby YO8 8JW (2022/0107/NYSCO), approved in 2022.
- 2.6.20. The proximity of these sites to the PoC make them an attractive proposition. However given the progressed nature of these respective planning applications, the Applicant was required to look further afield.

Agricultural Land Classification

- 2.6.21. Planning policy seeks to minimize impacts on BMV agricultural land, defined as Grades 1, 2 and 3a of the Agricultural Land Classification (ALC), with a preference for developers to use land that is not classified as BMV (that is, Grades 3b, 4 and 5). BMV generally is discussed further in **Section 4: Legislation, Policy and Need** and **Section 5: Planning Appraisal**.
- 2.6.22. **Figure 2.7: Agricultural Land Classification** identifies the provisional ALC status of land within the search area. It shows that within the 5km search radius from the PoC, 78.78% of land is either Grade 1 or Grade 2. There is no distinction between 3a (BMV) and 3b (non-BMV), as this requires on-the-ground testing. Further, with regards to testing, it should be noted that BMV land classification is considered provisional, until confirmed via testing. Under these circumstances, from a site selection perspective, it would be ideal for the Proposed Development to be located

on the Grade 3 ALC land within the search area – as on further investigation some of this land may be classified as Grade 3b ALC land (and hence non-BMV). Alternatively, generally, you may seek out non-BMV land for your development, only to still come across it following field surveys.

- 2.6.23. However as noted previously, there are two solar schemes planned for sites on or partially on, this band of provisional Grade 3 land (later surveyed and found to be a combination of Grades, 1, 2, 3a and 3b). There are also three SINC's to the north of Camblesforth and a designated historic park and garden to the east of Carlton also within this band of Grade 3 land. Additionally, there is an area of Grade 3 land adjacent the Drax Power Station, however much of this is subject to a planning application associated with the Barlow Ash Mound and is not available for development. Combined, these limit the Applicant's ability to locate the Proposed Development on Grade 3 land within the search area.
- 2.6.24. Within the search area, areas to the north and northeast of the PoC are identified as Grade 1 BMV. This is the least preferable agricultural land from an ALC perspective and when partnered with the technical difficulties of crossing the River Ouse, the Applicant discounted these areas from the site assessment process. Similarly, the pocket of Grade 1 land wedged between the River Ouse and River Aire were excluded from the site search due to its BMV status.
- 2.6.25. As such, taking into account the search area, BMV and other factors, for the Applicant to maintain a congruent layout, it is necessary for the Proposed Development to be located on provisional Grade 2 land.

Proximity to dwellings

- 2.6.26. **Figure 2.8: Built Up Areas in Proximity of the Point of Connection** identifies built up areas within the search area. These are typically residential areas but also feature some industrial land uses, associated with Drax Power Station. To minimise impacts on the local population, it is preferable to locate solar development away from areas of population density.
- 2.6.27. To allow for a sufficient setback from the Proposed Development, areas in close proximity to settlements have been excluded from the site selection process.

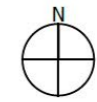
Brownfield Land

- 2.6.28. As discussed in **Section 4: Legislation, Policy and Need** and **Section 5: Planning Appraisal** and in a similar vein to the use of BMV, government guidance is that development on previously developed land, or brownfield land, should be prioritised over the use of BMV.
- 2.6.29. **Figure 2.9: Brownfield Land** identifies the known brownfield sites within the search area. With the largest identified brownfield site just under 3ha, these sites are small in nature and disparate and therefore unsuitable for large scale solar development.
- 2.6.30. There is a significant land holding associated with the Drax Power Station, some of which includes perceived brownfield land, not identified on **Figure 2.9: Brownfield Land**. The reason for this omission is due to much of this land remaining in Drax ownership and it being required for operations or in the case of the Barlow Ash Mound, subject to ongoing rehabilitation and nature conservation.







Revision
C Red Line Updated

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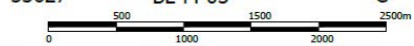
LEGEND

-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary

Project
Helios Renewable Energy Project

Drawing Title
Landscape Statutory Designations

Date 17.06.24	Scale 1:50,000@A3	Drawn by KT	Check by TE
Project No 33627	Drawing No BL-M-03	Revision C	



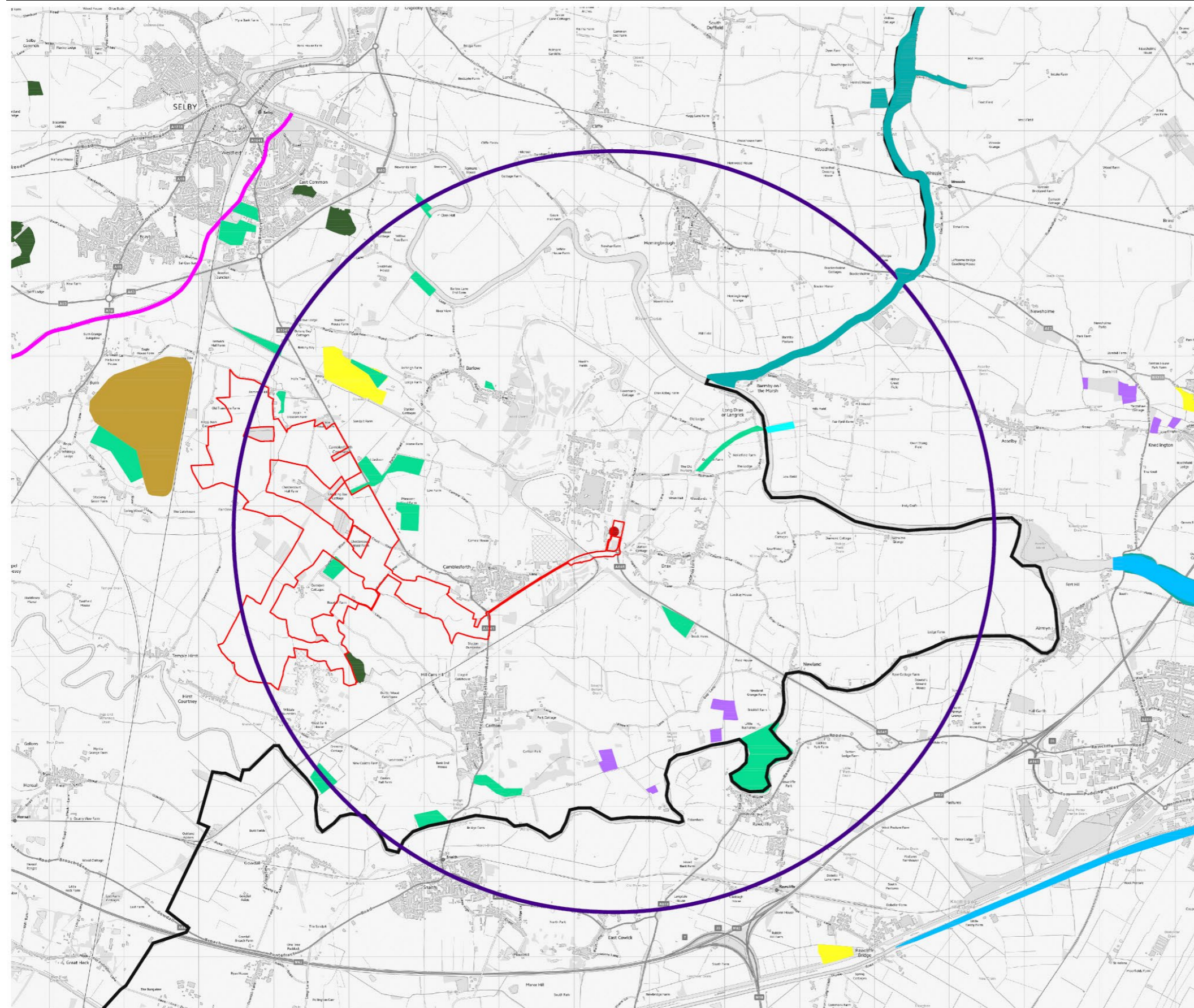
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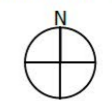
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Figure 2.1: Statutory Landscape Designations

**Helios Renewable Energy Project
Alternative Site Assessment**



Revision D Plan updates Date 17.06.2024 Dm KT Ckd JG



LEGEND

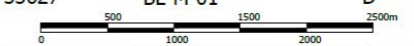
-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary
-  Site of Importance for Nature Conservation
-  Special Area of Conservation
-  Special Protection Area
-  Local Nature Reserve
-  LWS
-  Site of Special Scientific Interest
-  Ancient Woodland
-  Burn Disused Airfield
-  Selby Canal and Towpath
-  Humber Estuary

Project
Helios Renewable Energy Project

Drawing Title
Biodiversity Statutory Designations

Date 17.06.2024 Scale 1:50,000@A3 Drawn by KT Check by JG

Project No 33627 Drawing No BL-M-01 Revision D




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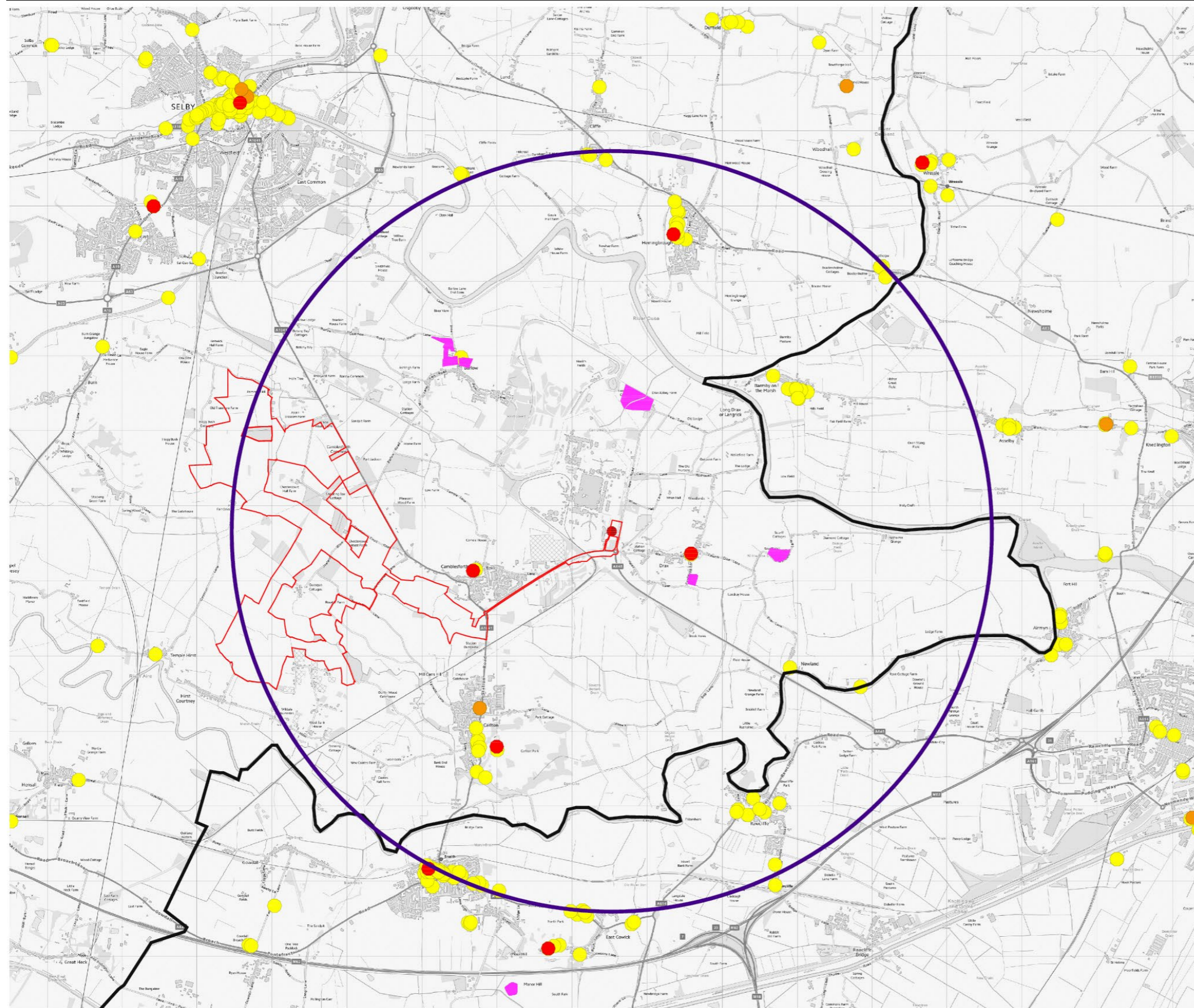
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






Figure 2.2: Statutory Ecological Designations

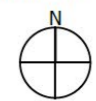
**Helios Renewable Energy Project
Alternative Site Assessment**



Revision D Legend updated Date 17.06.24 Drn KT Ckd JG

LEGEND

-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary
-  Listed Building Grade I
-  Listed Building Grade II*
-  Listed Buildings Grade II
-  Scheduled Monuments

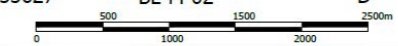


Project
Helios Renewable Energy Project

Drawing Title
Cultural Heritage
Statutory Designations

Date 17.06.24 Scale 1:50,000@A3 Drawn by KT Check by TE

Project No 33627 Drawing No BL-M-02 Revision D



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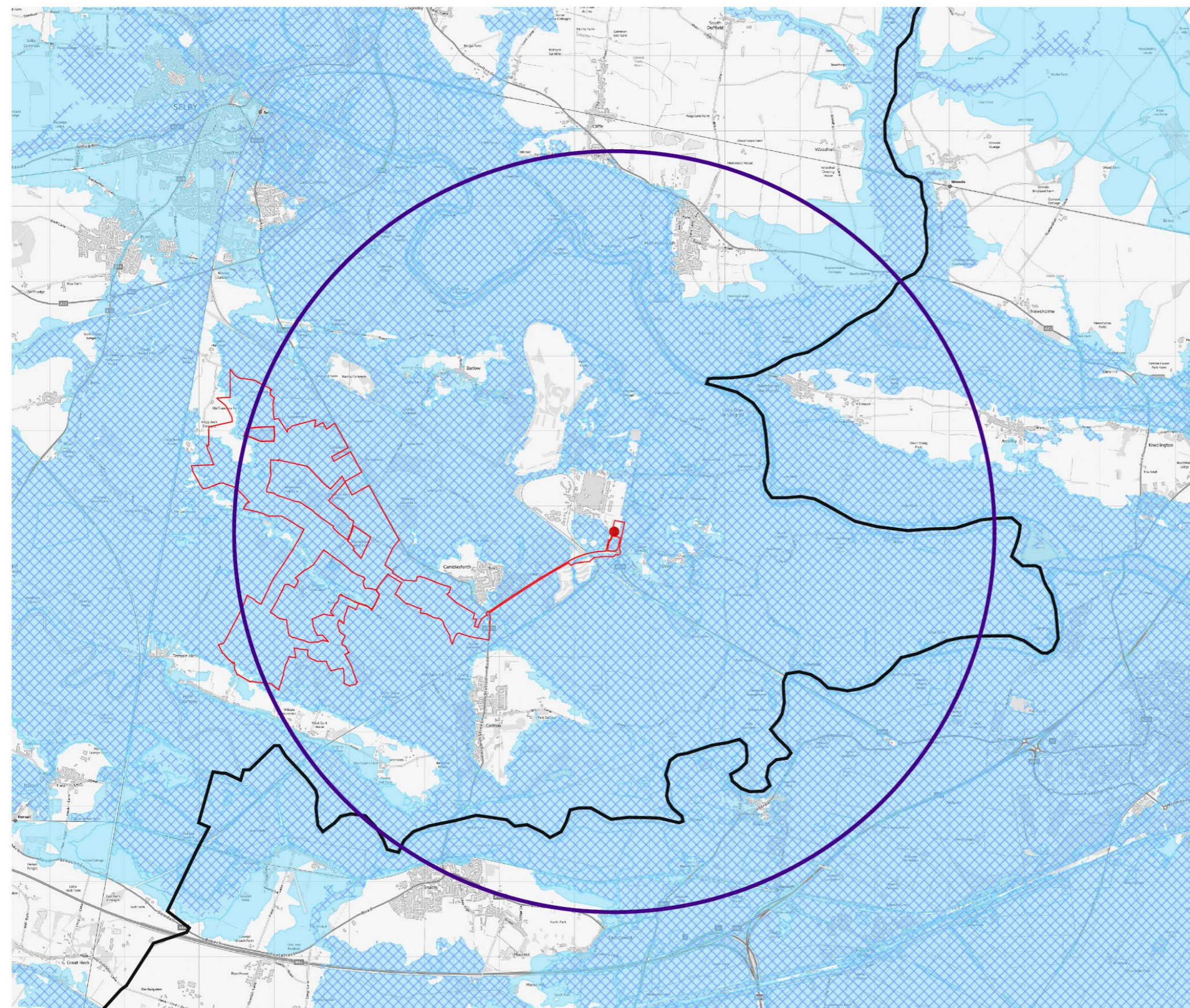


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




Figure 2.3: Statutory Heritage Designations



Revision C Red Line Updated Date 17.06.24 Dm KT Ckd JG



LEGEND

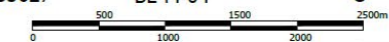
-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary
-  Flood Zone 2
-  Flood Zone 3

Project
Helios Renewable Energy Project

Drawing Title
Flood Map

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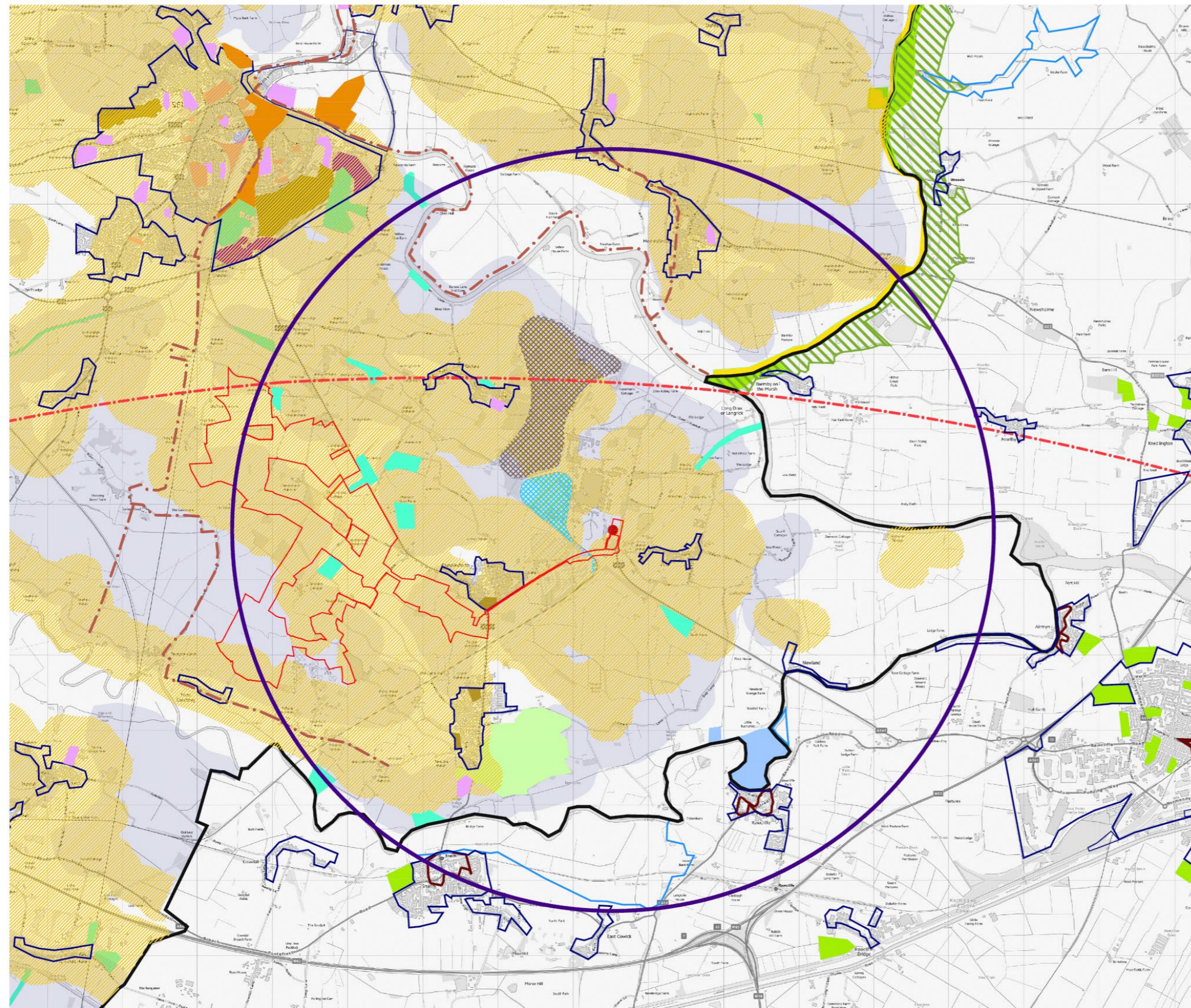


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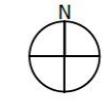
Figure 2.4: Flood Risk



Revision
C Red Line Updated

Date 17.06.24
Drm KT
Ckd JG

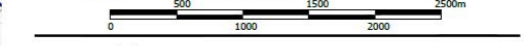
- LEGEND**
- Site Location
 - Helios Red Line Boundary
 - 5km Study Area
 - Selby District Boundary
 - Development Limits
 - Employment Development site
 - Historic Park and Garden
 - International Wildlife Site
 - National Wildlife Site
 - Recreational Open Space
 - Local Amenity Space
 - Special Policy Area
 - Residential Development Site
 - Site of Importance for Nature Conservation
 - Trans Pennine Trail
 - Conservation areas ENV3
 - Flood Storage Areas
 - Strategic Aviation Consultation Zone ENV6
 - Important Landscape Area
 - Open Space C3
 - Minerals - Brick Clay Safeguarded Area region
 - Minerals - Sand Gravel Safeguarded Area region
 - Minerals - Waste Safeguarding 2019 SDC region
 - Minerals - Wharf and Rails SDC region



Project
Helios Renewable Energy Project

Drawing Title
Local Plan Designations

Date 17.06.24	Scale 1:50,000@A3	Drawn by KT	Check by TE
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Figure 2.5: Local plan designations

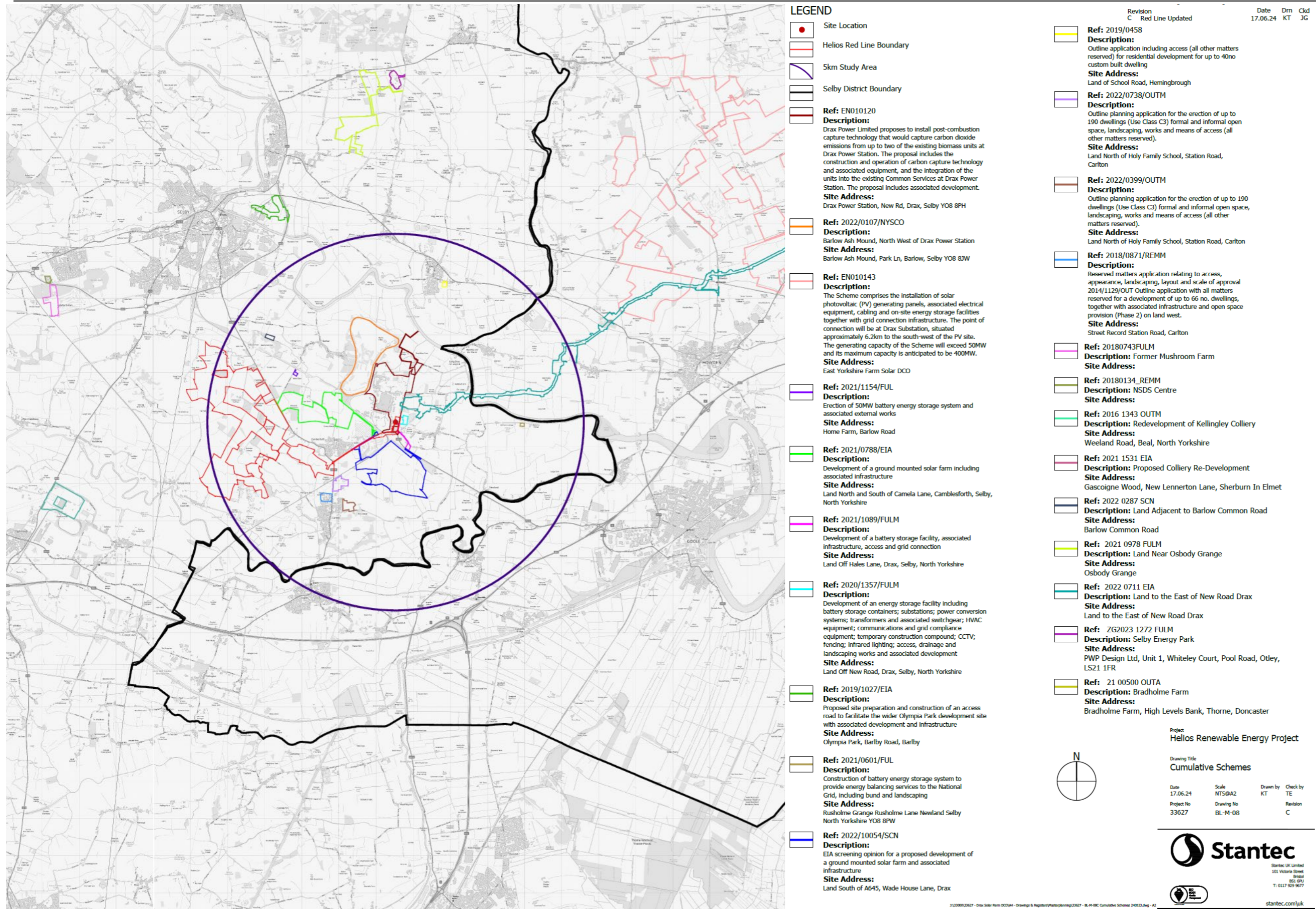
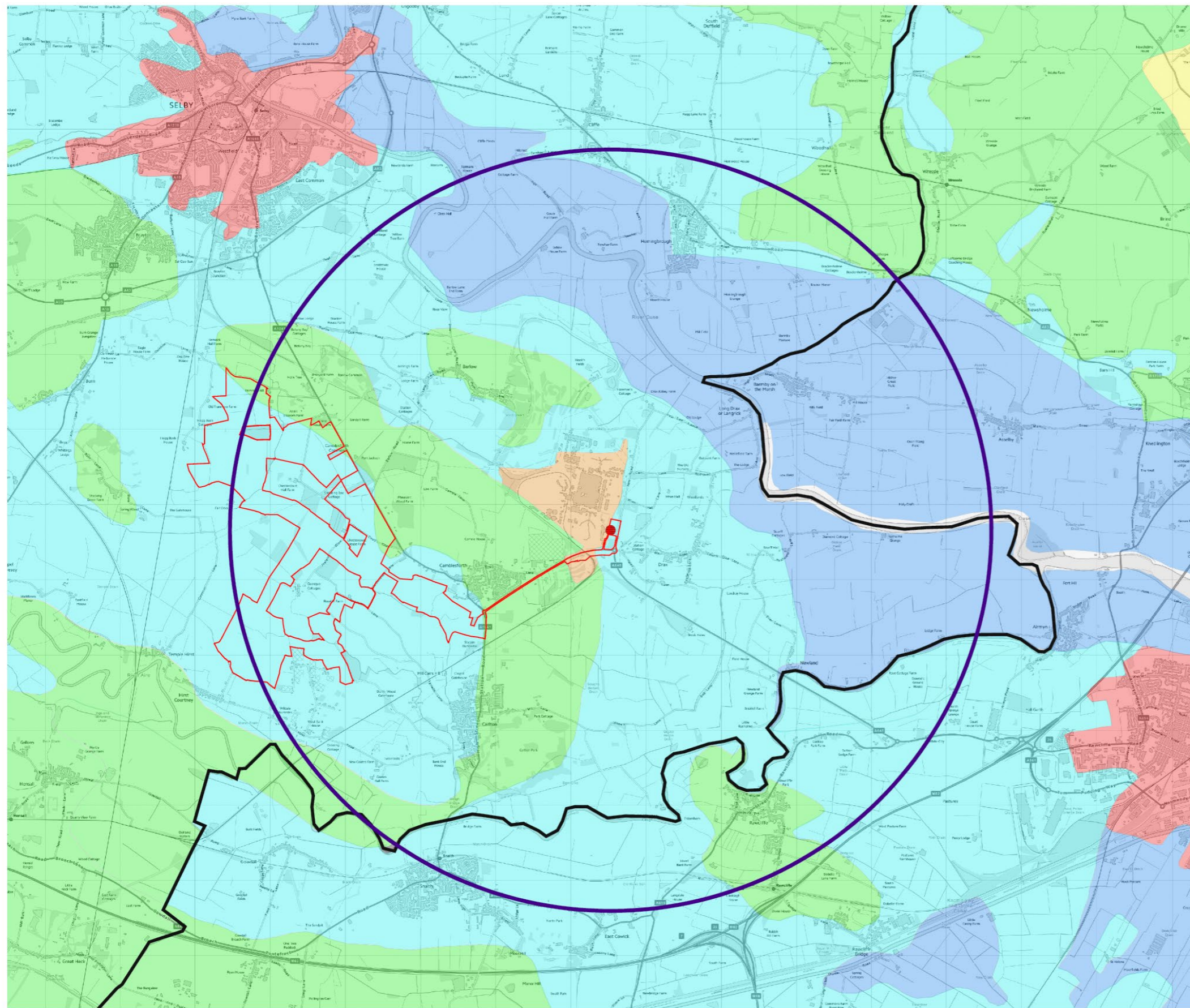
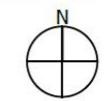






Figure 2.6: Other Schemes



Revision C Red Line Updated Date 17.06.24 Dm KT Ckd JG






LEGEND

-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary

Grade	Description	Percentage
1	Excellent	28.63%
2	Very Good	50.15%
3	Good to Moderate	18.54%
4	Poor	0.00%

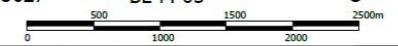
Other and primarily in non-agricultural use

	Other and primarily in non-agricultural use	1.81%
	Land predominantly in urban use	0.00%
	Watercourse	0.87%

Project
Helios Renewable Energy Project

Drawing Title
Agricultural Land Classification

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Project No 33627 Drawing No BL-M-05 Revision C



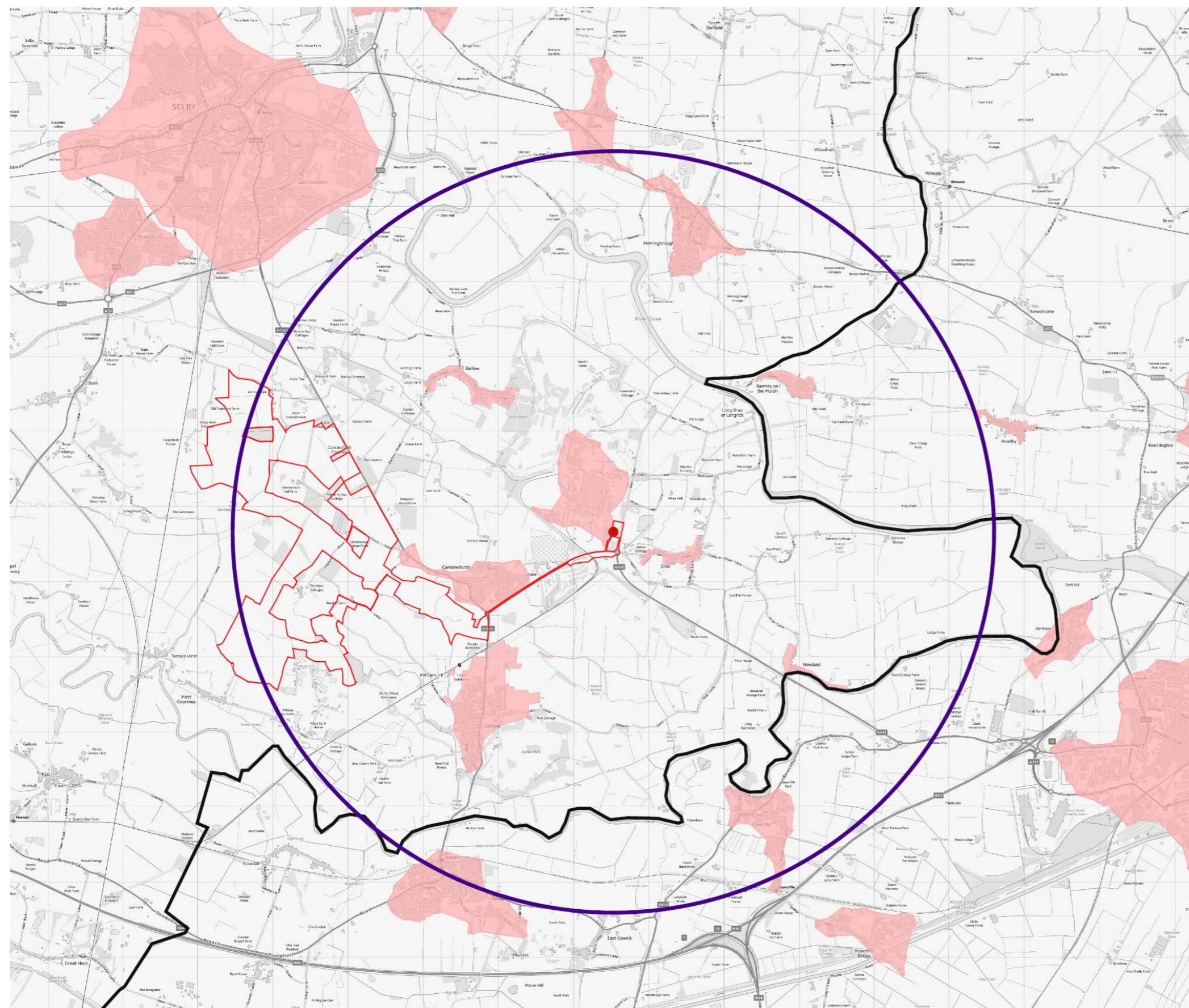

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J:\33000\33627 - Drax Solar Farm DC\A4 - Drawings & Registers\Masterplanning\33627 - BL-M-05C Agricultural Land Classification Map.dwg - A3

Figure 2.7: Agricultural Land Classification




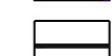
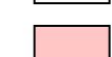
**Helios Renewable Energy Project
Alternative Site Assessment**



Revision C Red Line Updated Date 17.06.24 Dm KT Ckd JG



LEGEND

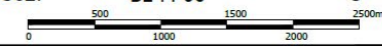
-  Site Location
-  Helios Red Line Boundary
-  5km Study Area
-  Selby District Boundary
-  Built Areas

Project
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Drawing Title
Built Area

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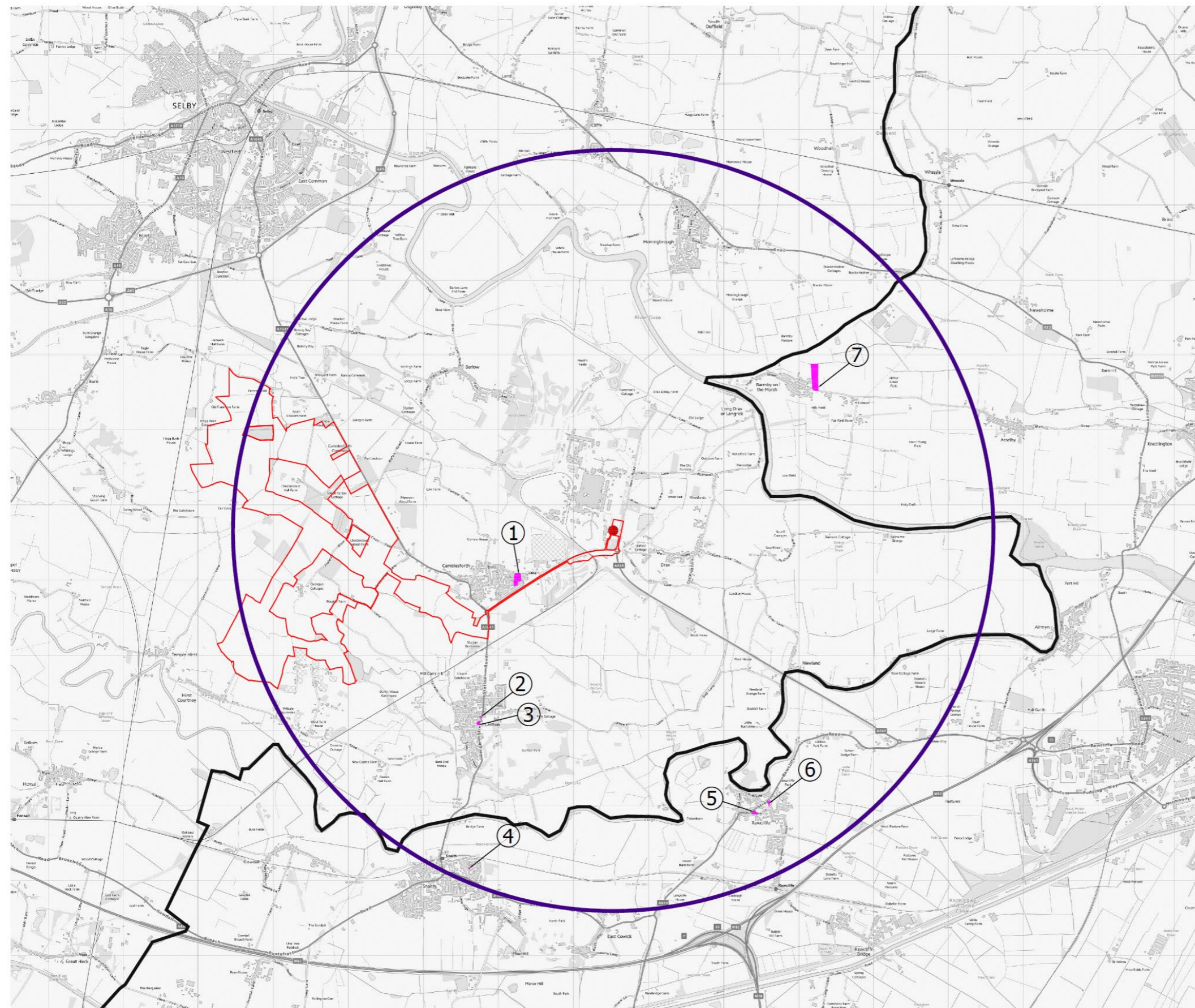
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J:\33000\33627 - Drax Solar Farm DC0\A4 - Drawings & Registers\Masterplanning\33627 - BL-M-06C Houses (Built Area).dwg - A3

Figure 2.8: Built Up Areas in Proximity of the Point of Connection

**Helios Renewable Energy Project
Alternative Site Assessment**

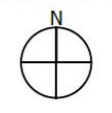


Revision C Red Line Updated Date 17.06.24 Drn KT Ckd JG

LEGEND

- Site Location
- Helios Red Line Boundary
- 5km Study Area
- Selby District Boundary
- Brownfield Sites

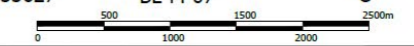
①	1.26ha
②	0.03ha
③	0.13ha
④	0.04ha
⑤	0.20ha
⑥	0.14ha
⑦	2.96ha



Project
Helios Renewable Energy Project

Drawing Title
Brownfield Sites

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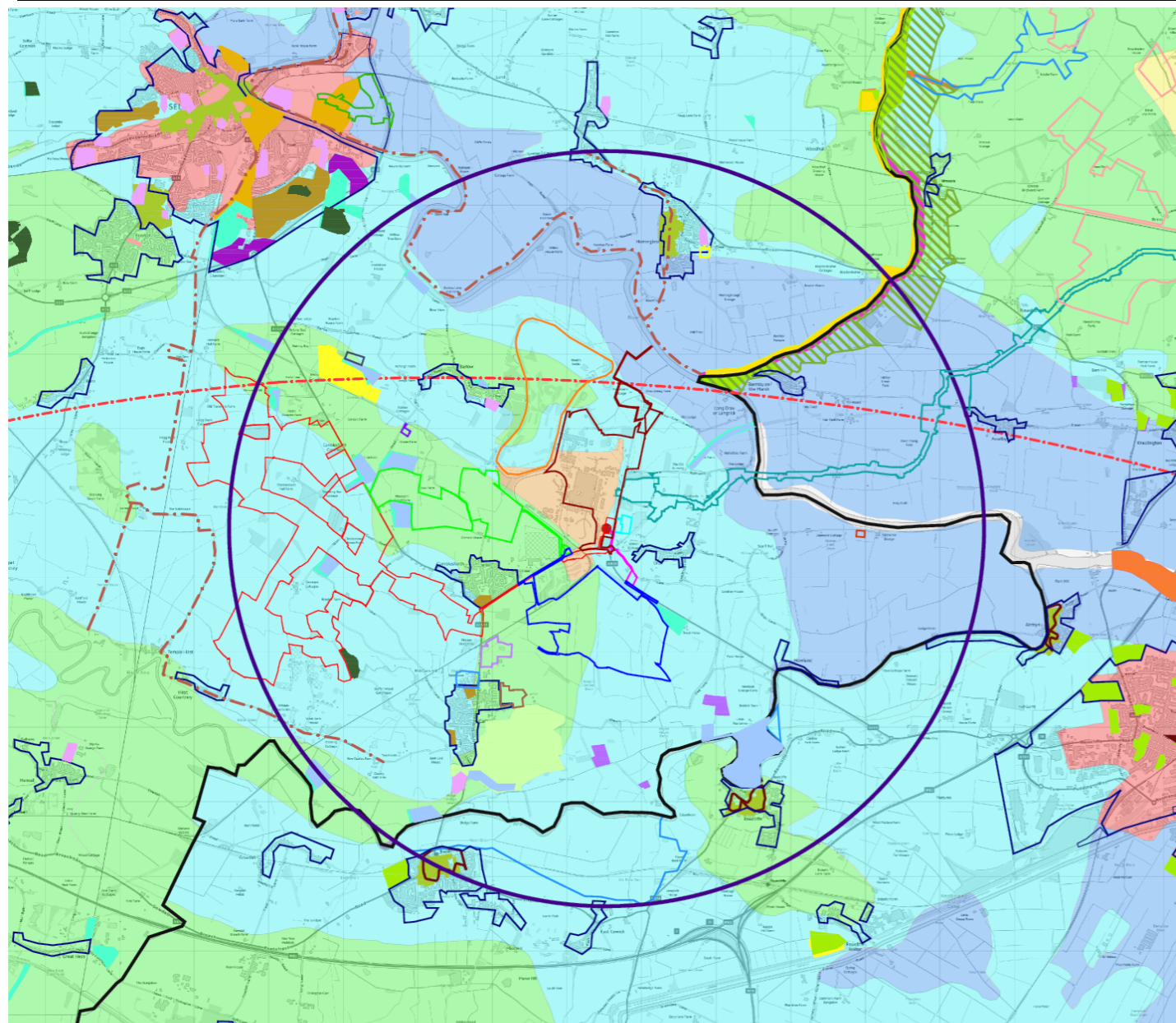
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J:\33000\33627 - Drax Solar Farm DC\A4 - Drawings & Registers\Masterplanning\33627 - BL-M-07C Brownfield Sites.dwg - A3

Figure 2.9: Brownfield Land

**Helios Renewable Energy Project
Alternative Site Assessment**

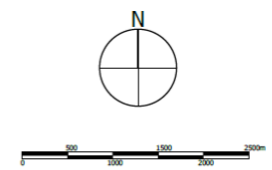


- Ref: EN010120**
Description: Drax Power Limited proposes to install post-combustion capture technology that would capture carbon dioxide emissions from up to two of the existing biomass units at Drax Power Station. The proposal includes the construction and operation of carbon capture technology and associated equipment, and the integration of the units into the existing Common Services at Drax Power Station. The proposal includes associated development.
Site Address: Drax Power Station, New Rd, Drax, Selby YO8 8PH
- Ref: 2021/0601/FUL**
Description: Construction of battery energy storage system to provide energy balancing services to the National Grid, including bund and landscaping
Site Address: Rusholme Grange Rusholme Lane Newland Selby North Yorkshire YO8 8PW
- Ref: 2022/0107/NYSCO**
Description: Barlow Ash Mound, North West of Drax Power Station
Site Address: Barlow Ash Mound, Park Ln, Barlow, Selby YO8 8JW
- Ref: EN010143**
Description: The Scheme comprises the installation of solar photovoltaic (PV) generating panels, associated electrical equipment, cabling and on-site energy storage facilities together with grid connection infrastructure. The point of connection will be at Drax Substation, situated approximately 6.2km to the south-west of the PV site. The generating capacity of the Scheme will exceed 50MW and its maximum capacity is anticipated to be 400MW.
Site Address: East Yorkshire Farm Solar DCO
- Ref: 2022/0738/OUTM**
Description: Outline planning application for the erection of up to 190 dwellings (Use Class C3) formal and informal open space, landscaping, works and means of access (all other matters reserved).
Site Address: Land North of Holy Family School, Station Road, Carlton
- Ref: 2021/1154/FUL**
Description: Erection of 50MW battery energy storage system and associated external works
Site Address: Home Farm, Barlow Road
- Ref: 2022/0399/OUTM**
Description: Outline planning application for the erection of up to 190 dwellings (Use Class C3) formal and informal open space, landscaping, works and means of access (all other matters reserved).
Site Address: Land North of Holy Family School, Station Road, Carlton
- Ref: 2021/0788/EIA**
Description: Development of a ground mounted solar farm including associated infrastructure
Site Address: Land North and South of Camela Lane, Camblesforth, Selby, North Yorkshire
- Ref: 2018/0871/REMM**
Description: Reserved matters application relating to access, appearance, landscaping, layout and scale of approval 2014/1129/OUT Outline application with all matters reserved for a development of up to 66 no. dwellings, together with associated infrastructure and open space provision (Phase 2) on land west.
Site Address: Street Record Station Road, Carlton
- Ref: 2021/1089/FULM**
Description: Development of a battery storage facility, associated infrastructure, access and grid connection
Site Address: Land Off Hales Lane, Drax, Selby, North Yorkshire
- Ref: 2022 0287 SCN**
Description: Land Adjacent to Barlow Common Road
Site Address: Barlow Common Road
- Ref: 2020/1357/FULM**
Description: Development of an energy storage facility including battery storage containers; substations; power conversion systems; transformers and associated switchgear; HVAC equipment; communications and grid compliance equipment; temporary construction compound; CCTV; fencing; infrared lighting; access, drainage and landscaping works and associated development
Site Address: Land Off New Road, Drax, Selby, North Yorkshire
- Ref: 2021 0978 FULM**
Description: Land Near Osbody Grange
Site Address: Osbody Grange
- Ref: 2019/1027/EIA**
Description: Proposed site preparation and construction of an access road to facilitate the wider Olympia Park development site with associated development and infrastructure
Site Address: Olympia Park, Barlby Road, Barlby
- Ref: 2022 0711 EIA**
Description: Land to the East of New Road Drax
Site Address: Land to the East of New Road Drax

LEGEND

Site Location	National Wildlife Site	Flood Storage Areas	AGRICULTURAL LAND CLASSIFICATION	
Helios Red Line Boundary	Recreational Open Space	Strategic Aviation Consultation Zone ENV6	Grade	Description
5km Study Area	Local Amenity Space	Important Landscape Area	1	Excellent 28.63%
Selby District Boundary	Special Policy Area	Open Space C3	2	Very Good 50.15%
Development Limits	Residential Development Site	Special Area of Conservation	3	Good to Moderate 18.54%
Employment Development site	Site of Importance for Nature Conservation	Special Protection Area	4	Poor 0.00%
Historic Park and Garden	Trans Pennine Trail	Local Nature Reserve	Other and primarily in non-agricultural use	
International Wildlife Site	Conservation areas ENV3	Site of Special Scientific Interest	Other and primarily in non-agricultural use	1.81%
		Ancient Woodland	Land predominantly in urban use	0.00%
			Watercourse	0.87%

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Project
Helios Renewable Energy Project

Drawing Title
Local Plan Designations, ALC,
Cumulative Schemes and Statutory designations

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Figure 2.10: Combined Constraints Plan

2.7. Stage 3 – Identification of potential solar development areas

- 2.7.1. Following the environmental and social constraints feasibility assessment within the 5km study area around the PoC, areas of land were identified as potentially suitable to accommodate a proposed solar development. This was further refined with the application of the following inclusionary criteria:
- a) Topography – the site needs to be flat or with gently south facing slopes;
 - b) Site size and pattern – a suitable size of site is required for economic viability and the fields of a large and regular shape;
 - c) Access – ease of access for construction and decommissioning stages; and
 - d) Landowner – preference for a small number of willing landowners that could form a contiguous site.
- 2.7.2. Irregular and numerous topographic levels would be a hindrance for development of a contiguous solar farm, with a flat and undulating topography favoured. The topography within the search area is relatively flat, with the elevation changing minimally throughout the 5km radius. Due to the flat topography within the 475 hectares of land proposed for the Proposed Development, there is no overshadowing that would affect solar irradiation. This favorable terrain supports the development of a large scale solar development.
- 2.7.3. Large areas of land are ideal for large scale solar development, as contiguous sites reduce the need for excessive cabling. Further, open fields without vegetated boundaries mean less vegetation will be removed during construction. A land assembly of larger, fewer fields also means the buffering around field edges for tree root protection and the avoidance of shading can be reduced. Therefore, sites with larger open fields of a regular shape which were within the search area were preferred at this stage.
- 2.7.4. The construction of NSIP-scale solar development requires appropriate access for large vehicles to be available. Whilst construction access via a single access track can be achieved using traffic management, two-way access roads are preferred. Sites within proximity to two access roads were included at this stage.
- 2.7.5. Once potentially suitable locations have been identified, the Applicant engaged with

the landowners in the area, to ascertain their interest in being involved with a potential solar scheme. These conversations involved:

- Landowners having the ability and desire to lease their land; and
- Landowners having sufficient areas of land to host a viable development either on its own, or in combination with other nearby landowners.

- 2.7.6. As part of the land ownership due diligence exercise undertaken by the Applicant, further investigations are undertaken to screen suitability of landowners who respond, to evaluate whether willing owners are likely to be proceedable (taking into account considerations such as restrictive covenants, ownership/tax issues, identifying whether negotiating with third party interests on a likely grid connection corridor are likely to be necessary, whom are known to have difficult bespoke insurance/commercial requirements that can render connection costs unviable).
- 2.7.7. The Applicant then sought to negotiate and conclude Acceptable terms with the preferred landowner(s). This allowed the Applicant to agree terms and engage solicitors to prepare contracts.

2.8. Stage 4 – Assessment of Helios Renewable Energy Project Site Against Site Exclusionary and Inclusionary Criteria

- 2.8.1. Having regard to the above environmental constraints in Stage 2 and the inclusionary criteria at Stage 3, the Proposed Development's Site was identified as being suitable for solar PV development.
- 2.8.2. The Proposed Development Site met the majority of criteria and avoided those areas likely to lead to a policy requirement to consider whether alternative sites would be preferable, with the exception of flooding as discussed in Section 2.2. However, at all stages of the EIA process, alternatives have been considered to maximise benefits of the Proposed Development and minimise adverse environmental and social impacts.
- 2.8.3. The following outlined how the Proposed Development Site performs against the criteria identified in Stages 1-3.
- 2.8.4. Figure 2.10 shows the location of the Proposed Development Site against the exclusionary criteria discussed in Stage 2.

Grid Connection

- 2.8.5. The Site is located within the defined 5km radius search area from the grid connection at the Drax National Grid Substation. The close proximity to the grid connection ensures the impacts on the environment and community associated with the grid connection works are minimised, requiring a shorter grid connection and associated impact.
- 2.8.6. The secured grid connection at Drax 132kV National Grid Substation is 2.1km from the closest part of the proposed solar farm and 5.6km from the most distant part of it. The on-site substation is approximately 3.4km from the grid connection, although when taking into account the road network and onsite cabling this is increased to approximately 4.5km.

Topography

- 2.8.7. The topography of the site is in matching with the topography of the study area. The landform is virtually flat and deemed appropriate for solar development. Therefore there has been no need to search for alternative sites within the study area based on topography.

Landscape Designations

- 2.8.8. The Site is not designated in landscape terms and there are no national designations for landscape or scenic beauty within the Site.

Ecological Designations

- 2.8.9. Whilst ecological designations are present within the search area, the red line boundary of the Proposed Development has been drawn to avoid impacts.

Heritage Designations

- 2.8.10. There are no heritage designations within the order limits. There are several cultural heritage receptors within vicinity of the Site which have been considered as the landscaping proposals and placement of solar infrastructure have evolved.

Flood Risk

- 2.8.11. As shown on **Figure 2.4: Flood Risk**, the majority of the search area is within Flood Zone 3a. There are small patches of Flood Zone 2, however these are located closer to settlements or on Grade 1 BMV land.
- 2.8.12. Due to the nature of solar development requiring large land take, within the search area it was generally unavoidable for the Proposed Development to be located outside Flood Zone 3. From a practical site selection perspective, this was not seen as a completely limiting factor, as many aspects of solar development are considered to be compatible or resilient to flooding (for example, solar panels can be 'stowed' above flood waters and typically feature a permeable ground surface, reducing the risk of increased flooding elsewhere).
- 2.8.13. Further, as detailed in the **FRA [EN010140/APP/7.5]**, subject to appropriate mitigation, the Proposed Development would not result in an unacceptable increase in flood risk within the Order Limits or elsewhere, including accounting for climate change allowances. With specific reference to the sequential test process, this ASA as a whole, demonstrates that there are no alternative sites suitable for the Proposed Development within the search area. As such with regards to flooding it can be concluded that there are no reasonably available sites appropriate for the Proposed Development in the search area, with a lower risk of flooding and therefore the Sequential Test can be satisfied.

- 2.8.14. By locating development in areas of Flood Zone 2 and 3a, the scheme maximises the renewable energy generation potential of the Site and makes use of available capacity in the National Electricity Grid at this location, taking into account other material planning and design considerations.
- 2.8.15. On this basis it is considered the Sequential Test is satisfied and that a solar farm is compatible at this location subject to satisfying the requirements of the Exception Test, as detailed further in the **FRA [EN010140/APP/7.5]**.

Land Allocations, Designations and consented schemes

- 2.8.16. The Site does not contain any allocated land from the Selby Local Plan, or the emerging Selby Local Plan. The Site itself is not subject to any other approvals or applications.
- 2.8.17. Whilst the site itself contains no consented schemes, as demonstrated on **Figure 2.6: Other Schemes**, there are several consented and validated solar schemes within the site selection area. The presence of these schemes therefore removes these areas of land from those that may be potentially chosen as suitable for the Proposed Development, further reducing the land available for site selection.

Agricultural Land

- 2.8.18. As shown in **Figure 2.7: Agricultural Land Classification**, the provisional mapping shows the site is predominantly Grade 2, with a small amount of Grade 3 along the northern boundary of the site. The majority of the land within the study area is also mapped as either Grade 1 or Grade 2, with some Grade 3 areas further from the grid connection or in inappropriate locations for a solar farm.
- 2.8.19. Areas of undifferentiated Grade 3 land include the built-up areas of Camblesforth, Carlton, the A1041 and adjacent properties, isolated patches of woodland and a historical parks and garden to the east of Carlton. Much of this provisional Grade 3 land is also subject to planning approval for other solar schemes or the Barlow Ash Mound. Due to this, the location of the Site on Grade 2 BMV agricultural land was inevitable.
- 2.8.20. In accordance with Paragraph 2.10.30, solar development on BMV is not strictly prohibited, on the basis sound reasoning can be provided, as contained within this site selection assessment. As such, the presence of BMV was not considered criteria

for complete exclusion from the search area. The use of the Site for solar does not result in a land use change (to industrial). The use of BMV land can further be justified through mitigation and management measures. An example of this being the ongoing sheep grazing on-site throughout the Proposed Development's lifespan.

- 2.8.21. Following decommissioning of the Proposed Development, land can be returned to agricultural use, with potential improvements to yields as a result of the land not being farmed for a long period of time. Therefore, no agricultural land is permanently lost. Selecting a site nearer to the grid connection point also reduces the amount of agricultural land potentially affected temporarily by the grid connection. Overall, no alternative sites within the search area were identified with a lower impact on Best and Most Versatile land.

Proximity to Dwellings

- 2.8.22. Consideration has been taken to ensure that the Proposed Development minimises its impact on residential amenity. This involved avoiding major human settlements as much as possible.
- 2.8.23. The Proposed Development is located outside major urban areas. The landscape is interspersed with several isolated dwellings, farms and agricultural businesses. To create an economical and efficient solar farm, a large amount of land is required, so it is a challenge to avoid all dwellings. The existing dwellings within the general area of the Site form a sporadic pattern, the Proposed Development has been designed to accommodate for this. Due to this, no alternative sites within the search area were identified with a lower impact on human settlements.

Brownfield Land

- 2.8.24. No suitable areas of brownfield land of the appropriate scale were identified within the search area that could form a reasonable alternative to the Order limits.
- 2.8.25. The brownfield site closest to the grid connection lies within the village of Camblesforth, incorporating this brownfield site into the Proposed Development would be inappropriate.

Site Size and Pattern

- 2.8.26. The Site size meets the requirements for the new solar farm and is considered appropriate for the area. The Site comprises a developable area of 475ha. This area

is considered to be of a suitable size so as to ensure adequate space for solar PV provision that may generate energy for the required capacity of 190 MW.

- 2.8.27. The Site contains 44 fields, as shown on **ES Figure 3.1 Field Boundaries Plan [EN010140/APP/6.2.3.1]**. The development area, as shown on **Figure 3.2 Parameter Plan [EN010140/APP/6.2.3.2]** is bound to the north-east by the A1041, to the west by agricultural fields between the Site and the Selby Branch of the East Coast Mainline railway further west, and to the south by agricultural fields, and agricultural and horticultural development surrounding Moss Green Lane. The surrounding landscape is characterised by large, irregular-shaped fields delineated by partially denuded hedgerows and drainage ditches. Occasional woodland blocks and tree belts are also present, but the landscape is primarily flat and open.

Access

- 2.8.28. In considering traffic and transport impacts, the Applicant identified that the land to the west of the grid connection point had an existing network of relatively extensive single track roads and farm tracks that could be utilised without resulting in the need to construct new roads through hedgerows. The Site also benefits from a good network of A Roads, with particular reference to the A1041, which the Proposed Development's main access are located off. This existing road network would be well suited and result in less environmental impact than if the Site was to be positioned in the south of the search area, where the extent of the road network is extremely limited.
- 2.8.29. The surrounding road network that will be utilised as part of the construction route to the Proposed Development has been fully considered, including the A614, A645, A1041 Bawtry Road, Hardenshaw Lane and Jowland Winn Lane. Impacts on transport and access were assessed in accordance with guidance prepared by the Department for Transport, the IEMA Guidelines for Road Traffic and the DMRB by National Highways.
- 2.8.30. Based on this, it was determined that this site location was appropriate in the context of transport and access.

3. Conclusion

3.1.1. The Applicant has identified land for the Proposed Development which includes flat large fields in agricultural use, away from major settlements.

3.1.2. In summary, the main reasons for selecting the site for Proposed Development are that the land chosen:

- a) Is within a suitable distance from the identified point of connection;
- b) Is not located within internationally and nationally designated biodiversity sites;
- c) Is not located within designed Green belt, or other designated land from local policy;
- d) Avoids direct physical impact on designated heritage assets;
- e) Is capable of appropriately managing flood risk;
- f) Does not spatially conflict with other consented schemes or local plan designations;
- g) Does contain provisional Grade 2 BMV land, however no alternative lesser grade was available and this BMV land will only be used temporarily and can be returned to its previous state upon decommissioning;
- h) Is situated away from major settlements;
- i) Has topography which meets the requirements for the Proposed Development to efficiently generate significant amounts of electricity;
- j) Has good transport access for construction;
- k) Is of suitable size to generate significant amounts of electricity;
- l) Is available to the Applicant during the period of construction and operation of the scheme.

3.1.3. The Applicant has also confirmed that it has identified land for the Proposed Development in accordance with the sequential test policy requirements.