



Royston Refinery (3CR) Building

Preliminary Ecological Appraisal Report

Johnson Matthey

PCT-Chemicals Finance, Gate 6, Orchard Rd, Royston, SG8 5HE

Prepared by: William Dent

SLR Consulting Limited

The Cursitor, 38 Chancery Lane, London, WC2A 1EN

SLR Project No.: 425.064874.00001

13 October 2023

Revision: dv1

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1	8 September 2023	William Dent	Richard Arnold	Richard Arnold
2	13 October 2023	William Dent	Richard Arnold	Richard Arnold
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Johnson Matthey (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



Table of Contents

Basis of Report	i
Acronyms and Abbreviations.....	iv
1.0 Introduction	1
1.1 Site Description	1
1.2 Details of the Proposed Development.....	1
1.3 Purpose of this Report.....	1
1.4 Evidence of Technical Competence and Experience	1
1.5 Relevant Legislation and Policy.....	2
1.5.1 National Legislation and Planning Policy.....	2
1.5.2 Local Planning Policy	2
2.0 Methodology	3
2.1 Baseline Data Collection	3
2.1.1 Desk Study	3
2.1.2 Field Survey	3
2.1.3 Limitations	4
2.2 Evaluation Approach.....	4
2.2.1 Important Ecological Features.....	4
3.0 Results	6
3.1 Designated Sites	6
3.1.1 Statutory Designated Sites.....	6
3.1.2 Non-statutory Designated Sites.....	6
3.1.3 Ancient Woodland and Priority Habitat.....	7
3.2 Habitats.....	9
3.2.1 u1b5: Buildings (817 – Industrial Building).....	9
3.2.2 u1b6: Developed land, sealed surface (804- Car park).....	9
3.2.3 u1b6: Developed land, sealed surface (200 – Tree).....	10
3.2.4 u1e: Built linear features (612- Fence).....	11
3.3 Species	11
3.3.1 Plants	11
3.3.2 Invertebrates.....	11
3.3.3 Amphibians.....	12
3.3.4 Reptiles.....	12
3.3.5 Birds	12
3.3.6 Mammals	12
4.0 Ecological Constraints and Opportunities.....	14
4.1 Designated Sites	14



4.2	Priority Habitats.....	14
4.3	Species	14
4.3.1	Birds	14
4.4	Recommendations for Further Surveys	14
4.5	Potential Opportunities for Biodiversity Enhancements	14
5.0	Conclusions and Recommendations	15

Tables in Text

Table 3-1	Statutory and Non-Statutory sites within 2 km radius.....	6
Table 3-2	Priority Habitat within search radius of 2 km.....	8

Figures in Text

Figure 3-1:	Northern boundaries of the car park.....	10
Figure 3-2.	Ash Tree on neighbouring site on south-western fence boundary.....	10
Figure 3-3.	Fencing on the western border of the Site.....	11

Drawings

Drawing 1 UKHab Map

Drawing 2 Designated Sites Map

Appendices

Appendix A Relevant Legislation and Planning Policy

Appendix B Proposed Development Plan



Acronyms and Abbreviations

PEA	Preliminary Ecological Appraisal
HERC	Hertfordshire Environmental Records Centre
CPERC	Cambridge & Peterborough Environmental Record Centre
MAGIC	Multi-Agency Geographic Information for the Countryside
SSSI	Site of Special Scientific Interest
EPS	European Protected Species licence
LNR	Local Nature Reserve
SINC	Sites of Importance for Nature Conservation
WCA 1981	Wildlife and Countryside Act 1981 (as amended)
GCN	Great Crested Newt
PRF	Potential Roosting Feature



1.0 Introduction

SLR Consulting Ltd (SLR) was commissioned by Johnson Matthey on 08 August 2023. A PEA has been requested to inform the BREEAM assessment for the development.

1.1 Site Description

The Site occupies approximately 0.48 hectares, centred on grid reference TL 34758 41318. It is located north of Orchard Rd, Royston, in Hertfordshire, England. The Site boundary can be seen in Drawing 1 at the end of this report.

The Site predominantly comprises of a flat tarmac surface, with two gates providing access to the site from Orchard Rd. Minor areas of the southern region of the site are comprised of pebbled curbs where a small set of vegetation can be seen growing through the pebbles. In addition to this, the canopy of an ash tree extends ~5m into the Site from the south end of the western border. The base of this tree is in the western neighbouring site and not in the focus car park.

The wider area is a mix of urban space, industrial, calcareous grassland, woodland, and farmland. The urban space is located to the south and east of the Site, comprised mostly of residential dwellings with some commercial and retail units. Surrounding farmland is located to the north and west of the Site. Therfield Heath (SSSI and LNR) is located south and southwest of the Site.

1.2 Details of the Proposed Development

The client has proposed construction of a new annexe building joined by bridge to the main facility building. In addition to this, there will be two diesel generators, a firewater runoff sump, a set of transformers, and the removal of the current boundary fencing.

1.3 Purpose of this Report

This report presents the findings of the Preliminary Ecological Appraisal. The report seeks to:

- establish baseline conditions and determine the importance of ecological features present (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the proposed development and make any recommendations to avoid potentially significant effects on important ecological features, where possible;
- to identify potential requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys;
- to identify opportunities for biodiversity enhancements as part of the project; and
- Provide the information required for the ecology components of a BREEAM assessment.

1.4 Evidence of Technical Competence and Experience

The Suitably Qualified Ecologist and approver of the report is Richard Arnold. Richard is Technical Director – Ecology at SLR Consulting Ltd. Richard has a degree in Ecology, a master's degree in environmental science, is a full member of CIEEM and a Chartered Environmentalist. He has 25 years of experience as a professional ecologist.

William Dent who assisted in the preparation of this report, has an MSc in Global Biodiversity Conservation. William is experienced in report writing is competent in UKHAB classification surveys.



1.5 Relevant Legislation and Policy

1.5.1 National Legislation and Planning Policy

A summary of legislation and national planning policy relevant to (onshore) biodiversity in England is provided in Appendix A. Note that the summary provided is intended for general guidance only and the original policy documents should be consulted for definitive information. For local planning policy relevant to biodiversity the relevant local plans should be consulted.

1.5.2 Local Planning Policy

The Sustainable Hertfordshire Strategy 2020

The Sustainable Hertfordshire Strategy 2020 is the planning framework for the County. The strategy outlines several goals they wish to implement across Hertfordshire include carbon neutrality by 2030, future-climate-proofing operations and services, 20% biodiversity increase by 2030, and no landfill waste by 2030.

North Hertfordshire Local Plan (2011 – 2031)

North Hertfordshire Local Plan (2011 – 2031) must adhere and work towards the collective goals set out by the Sustainable Hertfordshire Strategy 2020.

The following policies in the North Hertfordshire Local Plan are of relevance to the development at the application site:

Policy NE4: Biodiversity and geological sites

Applicants should, having regard to the status of any affected site(s) or feature(s):

a) Submit an ecological survey that is commensurate to the scale and location of the development and the likely impact on biodiversity, the legal protection or other status of the site.

b) Demonstrate that adverse effects can be avoided and / or satisfactorily minimised having regard to the hierarchy of protection below: 1. locating on an alternative site with a less harmful impact; 2. providing adequate mitigation measures; or 3. as a last resort compensated for.

c) Include appropriate measures to manage construction impacts by demonstrating how existing wildlife habitats supporting protected or priority species will be retained, safeguarded and managed during construction.

d) Integrate appropriate buffers of complimentary habitat for designated sites and other connective features, wildlife habitats, priority habitats and species into the ecological mitigation and design. The appropriateness of any buffers will be considered having regard to the status of the relevant habitat. 12 metres of complimentary habitat should be provided around wildlife sites (locally designated sites and above), trees and hedgerows. It may be necessary to exceed this distance for fragile habitats such as ancient woodland or to provide appropriate root protection for mature trees.

e) Provide a long-term management and monitoring plan including mitigation measures as necessary.

11.16 Sites allocated in this Plan that have the potential to impact on designated biodiversity sites are required to provide an ecological survey and provide mitigation and/or off-setting measures as necessary.

11.19 Development proposals will be expected to maximise opportunities for net gains, or contribute to improvements in biodiversity. This methodology will ensure that appropriate mitigation or compensation is provided to meet the aims of national policy and is commensurate to the scale and location of the development and the likely impact on biodiversity, the legal protection or other status of the site.



2.0 Methodology

2.1 Baseline Data Collection

2.1.1 Desk Study

An ecological data search was received from Hertfordshire Environmental Record Centre on 1st September 2023, and the Cambridgeshire & Peterborough Environmental Records Centre 4th September 2023. Two data packages were required as the site is close to the county border with Cambridgeshire. These records provided data on statutory and non-statutory protected sites and of protected and otherwise notable species for the Site and land within a 2 km radius of it. The terms of use of data prevent the publication of the raw data therefore a copy of the data search has not been included within this PEA.

An internet-based desk study was also undertaken, whereby the Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.gov.uk>) was searched for statutory designated sites (such as Sites of Special Scientific Interest (SSSI)), ancient woodland, priority habitats and European Protected Species (EPS) Licences granted within 2 km of the Site.

2.1.2 Field Survey

A UK Habitat Classification (UKHab) Survey (UKHab WG, 2020) was undertaken by William Dent on 31st August 2023. This method was extended to include preliminary checks for notable, protected, or rare species of both flora and fauna.

The UK Habitat Classification is a comprehensive classification system for the UK that has been developed to benefit from changes in habitat categorisation, recording analysis in recent decades. The system comprises a principal hierarchy (the Primary Habitats) which include broad habitats and priority habitats and non-hierarchical secondary codes. Habitat nomenclature and definitions have been designed to remain as close to existing systems as possible in order that data can be collected, analysed and translated without ambiguity.

This level of survey includes the documentation of habitats to a recognised standard, but also includes the recording of field evidence indicating the presence or potential presence of species that could constitute a material consideration in planning terms, such as protected or priority plant or animal species. Notes of principal habitat types, supported by photographs, were made.

Whilst not a full botanical or protected species survey, the method of survey enables experienced ecologists to obtain an understanding of the ecology of a site such that it is possible either:

- to confirm the conservation significance of the site and assess the potential for impacts on habitats/species likely to represent a material consideration in planning terms, or
- to establish the scope and extent of any additional specialist ecological surveys that will be required before such confirmation can be made.

In addition, the presence of plant species included within Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981) was searched for during the survey. Plants included within the schedule are considered derogated pest species that are pernicious or injurious, such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*. It is an offence under the Act to plant or cause the spread of these species in the wild.

The survey area was assessed for habitats and features with potential to support protected and priority species, together with any field signs of such species including but not limited to, badger *Meles meles*, bats *Chiroptera*, great crested newt (GCN) and breeding birds *Aves*.

A ground-level assessment of potential bat roosting features (PRFs) in trees and buildings was undertaken based on the Collins 2016 Bat Roosting Potential Methodology, which provides criteria for assessing the suitability of structures to support roosting bats.



2.1.3 Limitations

2.1.3.1 Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the vicinity of the site. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

2.1.3.2 Field Survey

The Site was fully accessible during the survey. The survey was undertaken in late August, which is an optimal time for conducting vegetation surveys.

The survey did not seek to identify all plant species within the study area and as such, this report does not provide an exhaustive list of flora found within the study area. However, it is considered that the survey results are representative of the habitats and flora of the application site and include the dominant and characteristic species.

Whilst it is felt unlikely that significant factors have been overlooked, due to the nature of the subjects of ecological surveys it is feasible that species that use the Site may not have been recorded by virtue of their seasonality, cryptic behaviour, habit, or random chance. It should be noted that lack of evidence of any one protected species during survey visits does not necessarily preclude its presence at the site either at this current time or in the future. It is considered that the survey was suitable for conducting protected species risk assessments based on habitat type, collected data and local knowledge.

2.2 Evaluation Approach

The ecological evaluation approach used in this report is based on Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines") (CIEEM, 2018).

2.2.1 Important Ecological Features

Ecological features can be important for a variety of reasons and the rationale used to identify them is explained in the text. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and/ or species rarity; the extent to which such habitats and/or species are threatened throughout their range, or to their rate of decline.

2.2.1.1 Determining Importance

The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this case, relying on known/ published accounts of distribution and rarity where available, and professional experience:

- International;
- National (i.e. England, etc.);
- Regional (i.e. SE England);
- County (i.e. Hertfordshire); and
- Local (i.e. within circa 5 km)
- Negligible.

The above frame of reference is applied to the ecological features identified during the desk study and surveys to inform this report.



The value of habitats has been measured against published selection criteria where available. Examples of relevant criteria include: Guidelines for the Selection of Biological SSSIs and Local Wildlife Site Selection Criteria. Examples of relevant lists include: habitats listed on Annex 1 of the Habitats Directive; habitats of principal importance for biodiversity under Section 41 of Natural Environment and Rural Communities (NERC) Act 2006 (priority habitats); and habitats with Habitat Action Plans (HAPs) contained within Local Biodiversity Action Plans.

In assigning a level of value to the population of species, it is necessary to consider the species distribution and status, including a consideration of trends based on available historical records. Reference has therefore been made to published lists and criteria where available. Examples of relevant lists include: plants and animal species listed on Annexes II, IV and V of the Habitats Directive; birds listed on Annex 1 of the Birds Directive; species of principal importance for biodiversity under Section 41 of the NERC Act 2006 (priority species); and Birds of Conservation Concern¹.

For the purposes of this report, ecological features of local importance or greater and/or subject to legal protection have been subject to detailed assessment. Effects on other ecological features are considered unlikely to be significant in legal or policy terms.



3.0 Results

3.1 Designated Sites

3.1.1 Statutory Designated Sites

The HERC and CPERC data records search confirms that there are two biological statutory sites within 2km of the site.

3.1.2 Non-statutory Designated Sites

The HERC and CPERC data search shows that there are seven sites of Importance for Nature Conservation (SINCs) within the 2 km search area as well as three noted mature trees of ecological significance.

SINCs are recognised by the local councils as important wildlife sites. Descriptions of these sites can be found in Table 3-1. The descriptions have been provided by the HERC/CPERC data searches.

Table 3-1 Statutory and Non-Statutory sites within 2 km radius

Site Name	Distance (m) and direction from Site	Site Description	Value
Statutory Sites			
Therfield Heath SSSI TL 337400	720 SW	SSSI Nature reserve based on calcareous grassland, home to many rare and protected chalk-specialist species including the Chalk Hill Blue Butterfly (<i>Polyommatus coiridon</i>) and the Down Shieldbug (<i>Canthophorus impressus</i>). The site is important for protected species.	National
Holland Hall (Melbourn) Railway Cutting SSSI TL364428	1770 NE	A steeply sloping chalk grassland with an operational railway line running through it. Chalky flora are present, some species quite uncommon such as Wild Candytuft (<i>Iberis amara</i>) and Great Pignut (<i>Bunium bulbocastanum</i>).	National
Non-Statutory Sites			
Royston Chalk Pit SINC TL 361403	1580 SE	Chalk pit with a former lime kiln dominated by mature stand of deciduous scrub, mainly Beech (<i>Fagus sylvatica</i>), Sycamore (<i>Acer pseudoplatanus</i>), Ash (<i>Fraxinus excelsior</i>) and hybrid Elm (<i>Ulmus glabra x minor</i>). A chalky woodland flora is present, including Wood False-brome (<i>Brachypodium sylvaticum</i>), Yellow Archangel (<i>Lamium galeobdolon</i>) and Sanicle (<i>Sanicula europaea</i>). Yew (<i>Taxus baccata</i>) is well established in places. Remnant chalk grassland flora survives on an overgrown plateau at the top of the pit face. The site is important for protected species.	County
Therfield, South of Tumulus	1400 SSW	Experimental chalk grassland plot supporting indicators of unimproved grassland including	County



Site Name	Distance (m) and direction from Site	Site Description	Value
SINC TL 340400		Agrimony (<i>Agrimonia eupatoria</i>), Kidney Vetch (<i>Anthyllis vulneraria</i>), Common Knapweed (<i>Centaurea nigra</i>), Lady's Bedstraw (<i>Galium verum</i>), Bird's-foot Trefoil (<i>Lotus corniculatus</i>), Wild Marjoram (<i>Origanum vulgare</i>), Cowslip (<i>Primula veris</i>) and Salad Burnet (<i>Sanguisorba minor</i>).	
Layston Park Footpath, RIGS TL 35900 40300	1530 SE	285cm girth mature beech tree (last recorded 02/10/2000)	Local
Layston Park Footpath, RIGS TL 35900 40300	1530 SE	381cm girth mature horse chestnut tree (last recorded 02/10/2000)	Local
Green Lane, South of Royston SINC TL 353397	1570 SSE	Green Lane and adjoining field margins supporting calcareous grassland with a rich diversity of species including Common Knapweed (<i>Centaurea nigra</i>), Greater Knapweed (<i>C. scabiosa</i>), Agrimony (<i>Agrimonia eupatoria</i>), Dwarf (or Stemless) Thistle (<i>Cirsium acaule</i>), Field Scabious (<i>Knautia arvensis</i>), Common Rest-harrow (<i>Ononis repens</i>) and Knapweed Broomrape (<i>Orobanche elatior</i>).	County
A10 Melbourne Road, SINC TL 362420	1610 ENE	Neutral/calcareous grassland on a protected road verge (PRV).	County
Shaftesbury Green SINC TL 361404	1650 SE	A remnant area of semi-improved calcareous grassland supporting an Upright Brome (<i>Bromus erecta</i>) NVC community type with a variable sward. Plants recorded include Agrimony (<i>Agrimonia eupatoria</i>), Common Knapweed (<i>Centaurea nigra</i>), Bird's-foot-trefoil (<i>Lotus corniculatus</i>), Quaking-grass (<i>Briza media</i>) and Small Scabious (<i>Scabiosa columbaria</i>).	County
Icknield Way, A505 North of Gallows Hill	1690 SW	Rough calcareous grassland and scrub established on disturbed ground along the road verge. Low hedge on north-west side of road.	Local



Site Name	Distance (m) and direction from Site	Site Description	Value
SINC TL 305386		Site with Purple Milk-vetch (<i>Astragalus danicus</i>) and other chalk species.	
Bridleway adjacent to Royston Hospital RIGS TL 35520 39720	1770 SSE	300cm girth mature lime species tree (last recorded 02/10/2000)	Local
Therfield Green Land SINC TL 343382	1870 SSW	Green lane supporting calcareous grassland and substantial hedges for part of its length. Species present include Greater Knapweed (<i>Centaurea scabiosa</i>), Common Knapweed (<i>Centaurea nigra</i>) and Devil's-bit Scabious (<i>Succisa pratensis</i>).	County

3.1.3 Ancient Woodland and Priority Habitat

The HERC/CPERC data search and MAGIC confirmed that there are no ancient woodlands¹ within 2 km of the Site.

There are several priority habitats located in the vicinity including Deciduous Woodland, and Lowland Calcareous Grassland. Further information on these habitats, including the distance to the closest parcel of each priority habitat, can be found in Table 3-2 below.

Table 3-2 Priority Habitat within search radius of 2 km

Site Name	Distance (m) and direction from site	Area (ha)
Therfield Heath Calcareous grassland (unimproved)	1120m SSE	52.96
Therfield Calcareous grassland (semi-improved)	1120m SSE	56.73
Therfield Heath Broadleaved Woodland (plantation)	1310m SSE	6.34
Therfield Heath Broadleaved Woodland (semi-natural)	1310m SSE	13.53
B1039 Broadleaf Woodland	1790m SW	21.59

¹ Ancient Woodland is not a formal designation as such, but is a term applied to sites in England and Wales whose documented history shows them to have been continuously wooded since approximately 1600, and which are by extension considered likely to have been continuously wooded since the last Ice Age. Ancient Woodland sites and their mature soils are considerably more complex and biodiverse ecosystems than secondarily wooded sites, and therefore represent environmental capital that should be considered to be a finite resource, as it is not renewable in a human timescale.



Site Name	Distance (m) and direction from site	Area (ha)
Royston Station Car Park Calcareous Grassland (semi-improved)	415m SW	0.32
Tesco Extra Broadleaved Woodland (plantation)	515m NNW	0.15
A505 Broadleaved woodland (plantation)	1720m WNW	0.14
A505/A10 Roundabout Calcareous Grassland (unimproved)	1710m WNW	0.07

3.2 Habitats

The results of the UKHab Survey are illustrated in map form in Drawing 1 at the end of this report and are described below. It has been mapped using the fine scale minimum mapping unit MMU (25 m², 5 m length), in accordance with the UK Habitat Classification User Manual².

In summary, the following habitats were recorded within the application area, listed approximately in order of dominance:

- u1b5: Buildings (817 – Industrial Building)
- u1b6: Developed Land – Sealed Surface (804 – Car Park)
- u1b6: Developed Land – Sealed Surface (200 – Tree)
- u1e: Built Linear Features (612 – Fence)

3.2.1 u1b5: Buildings (817 – Industrial Building)

The only building on the site is one small security office. The building is a one-storey rectangular annex with a flat roof. There were several doubled glazed windows on the building. There were no aspects of the building that could support roosting bats or nesting birds.

3.2.2 u1b6: Developed land, sealed surface (804- Car park)

There are two access gates leading from Orchard Road into the car park composing the majority of the Site. The roadside curbs are lined with pebbles with some sparse vegetation emerging (<5% scrub coverage). See Figure 3-1.

² The UK Habitat Classification Working Group (September 2020) The UK Habitat Classification User Manual Version 1.1.





Figure 3-1: Northern boundaries of the car park (Left, NW; Right, NE)

3.2.3 u1b6: Developed land, sealed surface (200 – Tree)

A small part of the Site is canopied by a neighbouring mature Ash tree from the south-western border. The tree's canopy extends ~5m in an arc onto the site. See Figure 3-2.



Figure 3-2. Ash Tree on neighbouring site on south-western fence boundary. (Left, shot taking facing South; Right, west-facing looking at tree canopy)



3.2.4 Built linear features (612- Fence)

The Site is bordered by metal fencing. This fence also bisects the Site, splitting the eastern and western halves. See Figure 3-3.



Figure 3-3. Fencing on the western border of the Site.

3.3 Species

3.3.1 Plants

HERC/CPERC returned records of 114 notable plant species within the 2 km search radius. Of these, 33 have been recorded in the last 20 years, including Wild Candytuft *Iberis amara*, Cornflower *Centaurea cyanus*, Field Fleawort *Tephrosia intergrifolia* subsp. *intergrifolia*, and Red Hemp-Nettle *Galeopsis angustifolia*, both of which are priority species.

No protected, priority or otherwise notable plant species were observed during the visit as site vegetation is minimal. Adjacent habitats have been modified (e.g. through active management) and used for ornamental purposes and are unlikely to support notable plant species. The Site is also within an urban environment. Therefore, the Site is considered to have **negligible** potential for protected, priority or otherwise notable plant species.

HERC/CPERC returned no records of non-native species.

3.3.2 Invertebrates

The HERC/CPERC data search returned 531 records of notable invertebrate species within 2 km of the Site. Of these, 327 records are from within the last two decades, including small heath butterflies *Coenonympha pamphilus*, which is listed in Section 41 of NERC.



Although the Site contains a tree, the Site is considered to have **negligible** potential for priority invertebrate species.

3.3.3 Amphibians

HERC/CPERC returned data on one species of amphibian: the common toad *Bufo bufo*, Common toads are listed in Schedule 5 of the WCA 1981 and protected from trade, their overall protection is limited under this licence. This data was from within the last decade.

There are no waterbodies within 500 m of the Site, and there is no suitable habitat or vegetation on Site. Therefore, the Site is considered to have **negligible** potential for priority amphibian species.

3.3.4 Reptiles

HERC/CPERC returned one species of reptile: the common lizard *Zootoca*, recorded within the last decade, within 2 km of the Site. Common lizards are Sect.41 and Schedule 5 listed.

There is no suitable habitat for reptiles within the Site, as any nearby grasslands are mown regularly. Therefore, the Site is considered to have **negligible** potential for priority reptilian species.

3.3.5 Birds

HERC/CPERC returned 125 species of birds found within 2 km of the Site. Data was all collected within the last decade and 22 of these species are listed in Schedule 1 of the WCA 1981, including red kite *Milvus milvus*, and redwing *Turdus iliacus*.

There is only one suitable habitat on Site for nesting, the tree, therefore this Site is considered to have **negligible** potential for priority bird species.

3.3.6 Mammals

3.3.6.1 Bats

The HERC/CPERC data report identified six bat species within 2 km of the Site within the last decade, including brown long-eared bat *Plecotus auratus*, common pipistrelle *Pipistrellus pipistrellus* and Natterer's bat *Myotis nattereri*.

An external inspection of the building on Site was undertaken as part of a preliminary roost assessment, the one building suggests is unsuitable for roosting bats. The adjoining tree also did not have any features suitable for roosting bats. Therefore, the Site is considered to have **negligible** potential for roosting bat species.

The Site itself does not provide suitable habitat for commuting and foraging bats, as the Site is comprised of developed/sealed surfaces, and the adjoining tree is unlikely to attract foraging bats due to its isolation. Therefore, the Site is considered to have **negligible** potential to support foraging and commuting bats.

3.3.6.2 Badger

HERC/CPERC recorded 12 instances of Eurasian badgers *Meles meles*, 11 of which were in the last 20 years and 6 of which were between 2019 and 2021.

The habitats on Site are sub-optimal for badger due to the high levels of development, and no evidence of the species including setts was found during the field survey. Therefore, the Site is considered to have **negligible** potential for this species.

3.3.6.3 Water Vole

HERC/CPERC returned no records of water vole *Arvicola amphibius* within 2 km of the Site. The site does not have suitable habitat to support water vole and is therefore considered to have **negligible** potential to support this species.



3.3.6.4 Other Mammals

HERC/CPERC returned 7 records of notable mammalian species not including bats or badgers. These species included West European hedgehogs *Erinaceus europaeus*, and brown hares *Lepus europaeus* which are both Sect.41 species. The closest recorded hedgehog was 280 m from Site. Hedgehogs are closely associated with residential gardens and woodlands; the site is hard standing so unsuitable for hedgehogs. Therefore, the Site is considered to have **negligible** potential for this species.



4.0 Ecological Constraints and Opportunities

The assessment site and its surroundings have potential to support the following ecological receptors of note, which could therefore be impacted upon by any future prospective development proposals.

4.1 Designated Sites

The Site is located <1 km away from two statutory designated sites, further investigation would be required to assess any permissions or licences regarding the project's impact on air quality to either of these sites, it is unlikely that either designated site would be negatively impacted by sound or light pollution as they are >200 m from the focus Site.

4.2 Priority Habitats

The wider area surrounding the Site is composed of scattered priority habitats nestled within an urban environment. The closest parcels of priority habitat are within 500m so construction effects would need further investigation in accordance site-specific legislation.

4.3 Species

4.3.1 Birds

The tree adjacent to the Site has the potential to support nesting birds. This will be retained and therefore the development should not impact nesting birds.

4.4 Recommendations for Further Surveys

Recommendations for further surveys include the following:

- No further recommendations.

4.5 Potential Opportunities for Biodiversity Enhancements

The recommendations listed below to provide nature conservation enhancements, as required under local planning policy.

Opportunities for biodiversity enhancement include:

- Wildlife-friendly planting: new landscaping should introduce neutral grassland to reasonable available locations on site such as the pebble-covered curbs at **TL 34797 41293** and **TL 34780 41289**.



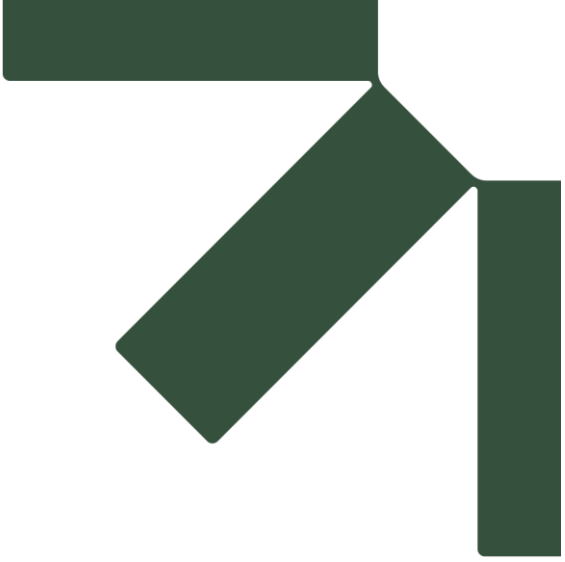
5.0 Conclusions and Recommendations

The Site is located within an urban area, surrounded by suburbs, and comprises developed, sealed land and areas of modified grassland. The Site is almost entirely a sealed surface with no ecological importance. There is one nearby Ash tree that should be protected during construction with limited potential to support nesting birds. No further surveys are recommended as the site is deemed **negligible** value for habitats and protected and priority species.

It was however identified that the Site is <1 km from two designated sites as well as priority habitats (deciduous woodland, and lowland calcareous grassland). These have the potential to be impacted by air pollution. It is understood however that only clean air would be released through the operations of the proposal. Further investigation would only be required therefore in the event that this were to change.

Recommendations for biodiversity enhancements are for native grassland creation; the parallel BREEAM assessment suggests that the creation of two small grass patches at **TL 34797 41293** and **TL 34780 41289** and the protection of the existing tree should provide a sufficient increase in biodiversity to meet local and national requirements and provide credits for BREEAM.





Drawing 1 UKHab Map

Royston Refinery (3CR) Building

Preliminary Ecological Appraisal Report

Johnson Matthey, Royston

13 October 2023 425.064874.00001



LEGEND

 Site Boundary

 Target Note

UK Habitat Classification

 u1e - Built Linear Feature

 u1b5 - Buildings

 u1b6 - Other Developed Land

 w1g - Other Woodland, Broadleaved

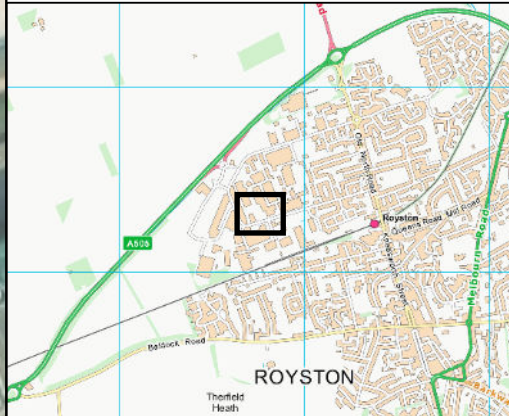
Secondary Code

200 - Tree

612 - Fence

804 - Car Park

817 - Industrial Building

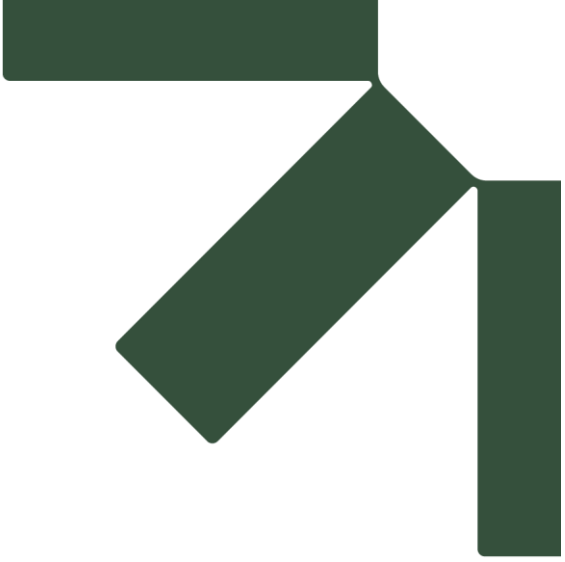


4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH
T: +44 (0)131 335 6830
www.slrconsulting.com

ROYSTON REFINERY (3CR) BUILDING
PRELIMINARY ECOLOGICAL APPRAISAL
UK HABITAT CLASSIFICATION

DRAWING 01

Scale 1:750 @ A3 Date SEPTEMBER 2023



Drawing 2 Designated Sites Map

Royston Refinery (3CR) Building

Preliminary Ecological Appraisal Report

Johnson Matthey, Royston

13 October 2023 425.064874.00001



LEGEND

Site Boundary

Site Boundary 2 km Buffer

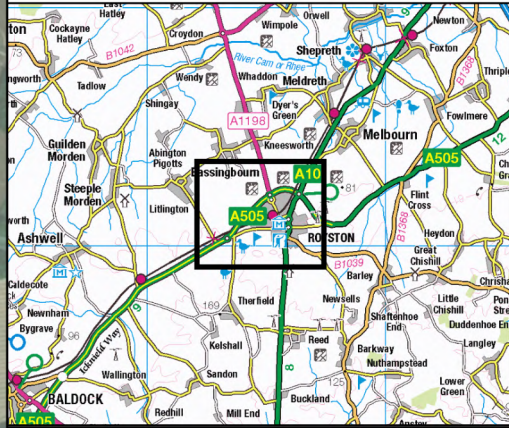
Designation

Site of Special Scientific Interest (SSSI)

Local Nature Reserve (LNR)

Scheduled Monument

Historic Landfill Site

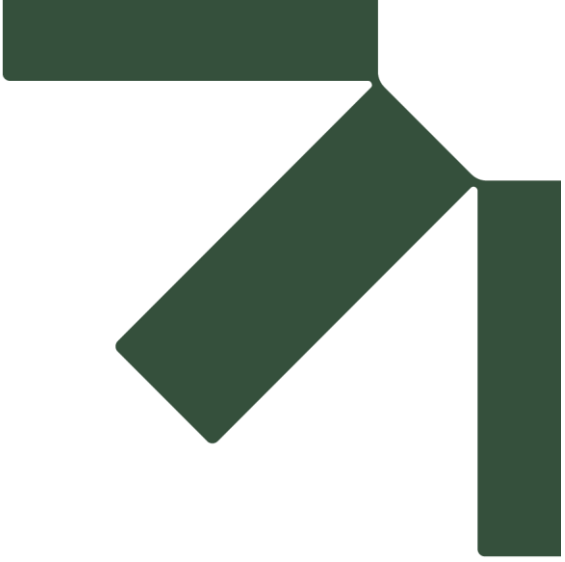


4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH
T: +44 (0)131 335 6830
www.slrconsulting.com

ROYSTON REFINERY (3CR) BUILDING
PRELIMINARY ECOLOGICAL APPRAISAL
DESIGNATED SITES WITHIN 2 KM

DRAWING 1

Scale	1:16,000 @ A3	Date	SEPTEMBER 2023
-------	---------------	------	----------------



Appendix A Relevant Legislation and Planning Policy

Royston Refinery (3CR) Building

Preliminary Ecological Appraisal Report

Johnson Matthey, Royston

13 October 2023 425.064874.00001

Relevant Legislation and Planning Policy

Legislation

A summary of legislation relevant to (onshore) biodiversity in England and Wales is provided below. Note that the summary provided here is intended for general guidance only and the original legislation should be consulted for definitive information.

Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. Under the Habitats Regulations it is an offence to deliberately capture, kill or disturb¹ wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

Wildlife & Countryside Act 1981

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act;
- Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act;
- Intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act; or
- Plant or cause to grow in the wild any plant species listed under Schedule 9 of the Act.

Protection of Badgers Act 1992

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

¹ Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

Natural Environment & Rural Communities (NERC) Act 2006

Section 40 of the NERC Act 2006 places a duty on public authorities to have regard to the purpose of conserving biodiversity to have due regard for biodiversity and nature conservation during the course of their operations. Public authorities include government departments, local authorities and statutory undertakers.

Section 41 of the Act (Section 42 in Wales) requires the publication of a list of habitats and species publish which are of principal importance for the purpose of conserving biodiversity. The Section 41 list is used to guide authorities in implementing their duty to have regard to the conservation of biodiversity.

Note that Sections 40 and 42 were superseded in Wales by the Environment (Wales) Act 2016 (see below).

Environment (Wales) Act 2016

The Environment (Wales) Act puts in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined-up way. Part 1 Section 6 of the Act introduces a new biodiversity duty, which replaces and enhances the biodiversity duties set out in the NERC Act 2006 and requires public authorities to seek to maintain and enhance biodiversity in the exercise of their functions and in so doing promote the resilience of ecosystems.

Section 7 of the Act lists living organisms and types of habitat in Wales, considered to be of key significance to sustain and improve biodiversity in relation to Wales.

Planning Policy

A summary of national planning policy relevant to (onshore) biodiversity in England and Wales is provided below. Note that the summary provided here is intended for general guidance only and the original policy documents should be consulted for definitive information. For local planning policy relevant to biodiversity the relevant local plans should be consulted.

National Planning Policy (England)

The National Planning Policy Framework (NPPF)² sets out guidance for local planning authorities and decision-makers in how to apply planning policies when drawing up plans and making decisions about planning applications. Along with Government Circular 06/05³, the broad policy objectives in relation to the protection of biodiversity and geological conservation in England through the planning system are set out. Specific policies relating to habitats and biodiversity are set out in paragraphs 131, 174 and 179-182 of the NPPF.

Paragraph 131 states that:

“Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users”

² Ministry of Housing, Communities and Local Government. 2021. National Planning Policy Framework. July 2021.

³ Office of the Deputy Prime Minister. 2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. ODPM Circular 06/2005.

Paragraph 174 states that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development f) should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate”.*

Paragraph 179 states that:

“To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*

Paragraph 180 of the NPPF states that:

“When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

Paragraphs 181-182 relate to European sites (referred to as habitats sites) and state:

“The following should be given the same protection as habitats sites:

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.”

National Planning Policy (Wales)

Planning Policy Wales (PPW)⁴ sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales. Section 6.4 of PPW relates to biodiversity and ecological networks.

Paragraph 6.4.3 of PPW states that:

“The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.”

It goes on to state that:

“Development plan strategies, policies and development proposals must consider the need to:

- *support the conservation of biodiversity, in particular the conservation of wildlife and habitats;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;*
- *ensure statutorily and non-statutorily designated sites are properly protected and managed;*
- *safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and*
- *secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.”*

Section 6.4 goes on to set out policy in respect of:

- The Biodiversity and Resilience of Ecosystems Duty, as set out in Section 6 of the Environment (Wales) Act 2016;
- Designated Sites, including:
 - Sites of Special Scientific Interest;
 - Special Protection Areas, Special Areas of Conservation and Ramsar Sites;
 - Proposed Special Areas of Conservation, Special Protection Areas and Ramsar sites; and

⁴ Welsh Government. 2018. Planning Policy Wales. Edition 10, December 2018.

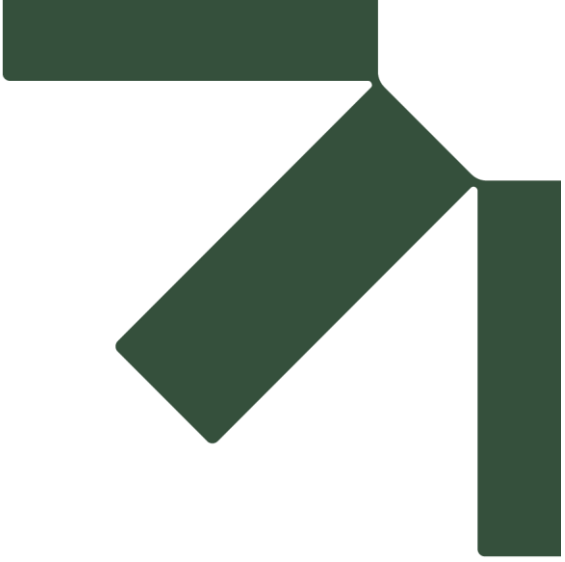
-
- Non-statutory Designations.
 - Protected Species; and
 - Trees, Woodlands and Hedgerows.

PPW is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. TAN 5⁵ deals with Nature Conservation and Planning and states in paragraph 2.4:

“When considering policies and proposals in local development plans and when deciding planning applications that may affect nature conservation, local planning authorities should:

- *Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective;*
- *Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;*
- *Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;*
- *Ensure that appropriate weight is attached to designated sites of international, national and local importance;*
- *Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;*
- *Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;*
- *Ensure that the range and population of protected species is sustained;*
- *Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.”*

⁵ Welsh Assembly Government. 2009. Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning. September 2009.



Appendix B Proposed Development Plan

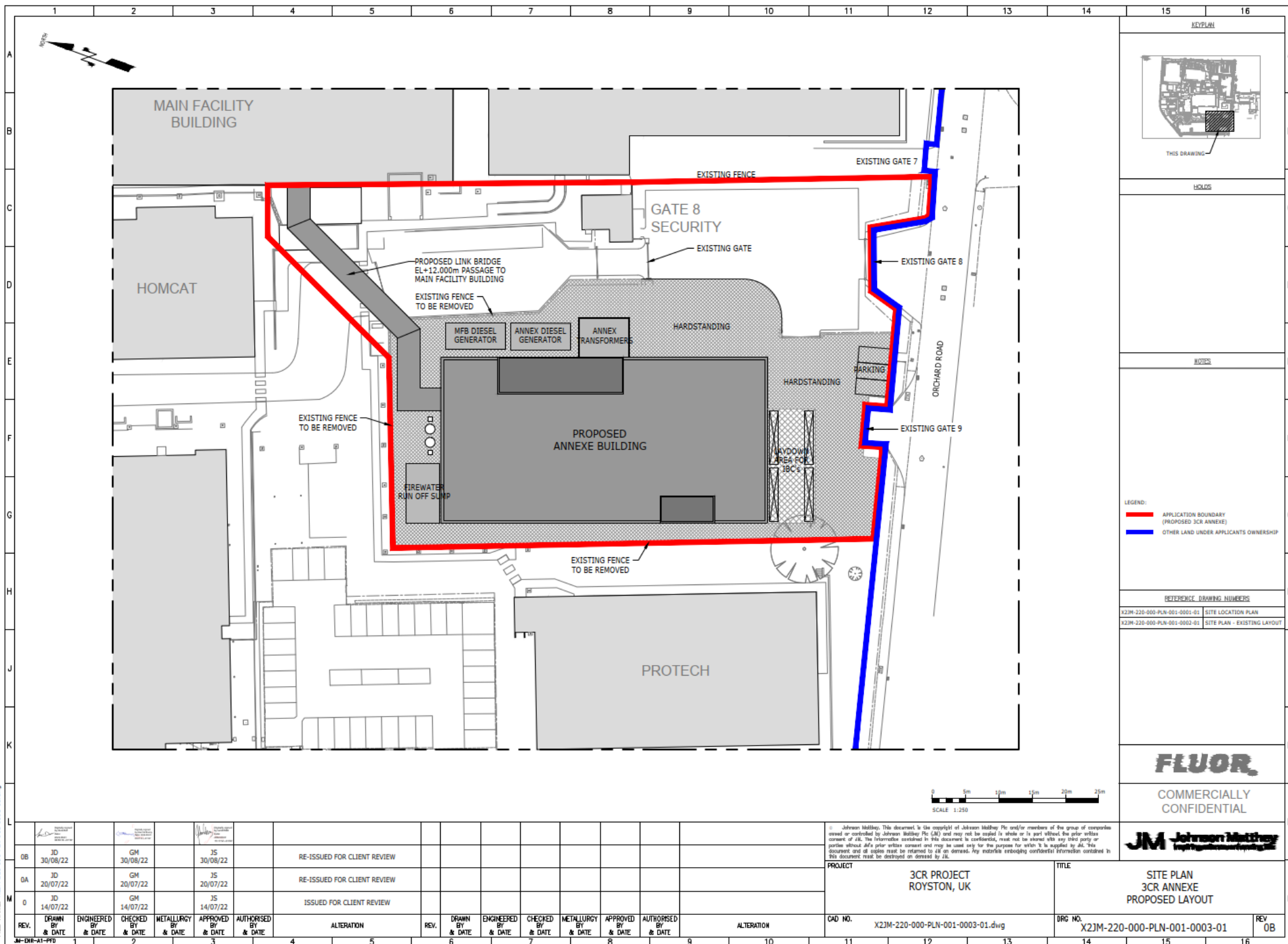
Royston Refinery (3CR) Building

Preliminary Ecological Appraisal Report

Johnson Matthey, Royston

13 October 2023 425.064874.0000

FILE NAME: X2JM-220-000-PLN-001-0003-01.dwg





Making Sustainability Happen