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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
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MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

NYOBOLT LIMITED

PRODUCTION OF PRODUCT A

AMENITY AND ACCIDENT RISK ASSESSMENT (REDACTED)

JULY 2024

wardell armstrong

Wardell Armstrong
2 Devon Way, Longbridge, Birmingham, West Midlands, B31 2TS, United Kingdom
Telephone: +44 (0)121 580 0909 www.wardell-armstrong.com

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JULY 2024

PREPARED BY:

Jack Piercy Mineral Surveyor

REVIEWED BY:

Dominiqua Drakeford-Allen Associate Director

APPROVED BY:

Alison Cook Technical Director

CONTENTS

DRAWINGS	TITLE	SCALE
BM12404-002	Sensitive Receptor Plan	1:18,000
BM12404-003	Habitats Receptor Plan	1:80,000

1 INTRODUCTION

1.1.1 Nyobolt Limited ("Nyobolt") have commissioned Wardell Armstrong to prepare an environmental permit application for their pilot facility near to Cambridge, which will produce product A to supply the battery manufacturing sector.

1.1.2 Product A anodes have the ability to boost lithium-ion batteries leading to batteries storing large amounts of energy and could help to speed the adoption of electric vehicle technologies. Nyobolt is at the cutting edge of research and development in this area.

1.1.3 The facility is located in Unit 1a and b, Homefield Road, Homefield Industrial Estate, Haverhill, CB9 8QP.

1.1.4 Nyobolt have developed their processes in order to produce product A, which involves combining two metal oxides; niobium pentoxide and tungsten trioxide, via a sequence of process steps.

1.1.5 The niobium pentoxide and tungsten trioxide are milled, mixed, dried, baked, deagglomerated and blended to the final material specification of the product.

1.1.6 This process does not involve the addition of, nor generate, any chemicals and no organic additives are used.

1.1.7 Product A will be produced to an appropriate standard to supply the battery manufacturing sector.

1.1.8 The operation will be carried out in accordance with Nyobolt's Environmental Management System.

2 SITE SETTING AND SENSITIVE RECEPTORS

2.1 *Site Location and Setting*

2.1.1 The full site address is Unit 1a and b, Homefield Road, Homefield Industrial Estate, Haverhill, CB9 8QP.

2.1.2 The National Grid Reference (NGR) for the facility is TL 66273 44544.

2.1.3 The facility is located approximately 1.2km southwest of Haverhill town centre and 25km southeast of Cambridge City Centre.

2.1.4 The site is located within the industrial setting, with the site bound to the:

- North by deciduous woodland and the Puddle Brook Playing Fields;
- East by further industrial units;
- South by further industrial units, the A1017 and agricultural land; and
- West by the Puddle Brook Playing Fields, the A1017 and agricultural land.

2.2 *Sensitive Receptors*

2.2.1 The nearest residential receptors in proximity of the site are located toward the northeast and southeast along Norton Road (210m) and at Haverhill Hall (340m) respectively.

2.2.2 Sensitive receptors located within 2km of the site are presented in Table 2.1 below and are sorted from closest to furthest from the site boundary.

Table 2.1. Sensitive receptors located within 2km of the site boundary			
Type of Receptor	**Receptor Name**	**Distance from site boundary (m)**	**Orientation**
Industrial Receptors	Haverhill Industrial Estate	Directly adjacent	E
Infrastructure Receptors	Homefield Road	20	SE
Parks/Recreational Grounds/Playing Fields	Puddle Brook Playing Fields	30	NW
Infrastructure Receptors	A1017	160	SW
Rivers, streams and drains	Drain north of Homefield Road and Industrial Units	170	NE
Other Sensitive Receptors	Clements Community Primary School	200	N
Residential Receptors	Properties in Clements (nearest property: House No. 6 off Norton Road)	210	NE
Other Sensitive Receptors	David Holland Pharmacy	230	NNE
Infrastructure Receptors	Cleves Road	250	N
Infrastructure Receptors	Greenfields Way	260	N
Other Sensitive Receptors	Childrens Centre	270	NNE
Rivers, streams and drains	Drain by Clements Primary School	300	NW
Rivers, streams and drains	Set of drains just north of Haverhill Hall	310	SE
Rivers, streams and drains	Set of drains running along the A1017 just off Hazel Stub Farm	320	W
Ponds or other perched water bodies	Haverhill Hall Ponds (3)	340	S
Residential Receptors	Haverhill Hall	340	S
Ponds or other perched water bodies	Pond	410	E
Rivers, streams and drains	Drain leading from Pond by Industrial Estate	430	NEE
Other Sensitive Receptors	Community Centre	450	N
Allotment Gardens	Allotments off Leather Lane	510	NNE
Commercial Receptors	Londis	520	NNE
Infrastructure Receptors	Clements Lane	630	NE
Infrastructure Receptors	Duddery Hill	650	NE
Infrastructure Receptors	Moon Hall Lane	680	E
Woods/Plantations/Groves	Ladygate Wood	700	SWW
Residential Receptors	Properties off Helions Bumsptead Road (Nearest property: Moon Hall)	700	SE
Infrastructure Receptors	Helions Bumpstead Road	710	E
Infrastructure Receptors	Copy Hill	710	SE
Infrastructure Receptors	Burton End	730	NW

Ponds or other perched water bodies	Moon Hall Pond	740	SE
Other Sensitive Receptors	Burton End Community Primary School	740	NW
Residential Receptors	Properties within School lane, Burton End and Castle Lane (nearest propety: House No. 128 off Burton End)	750	NNW
Parks/Recreational Grounds/Playing Fields	Haverhill Recreation Ground	760	N
Allotment Gardens	Allotments off School Lane	790	NNW
Residential Receptors	Properties in Hazel Stub Farm and Houses	790	NW
Infrastructure Receptors	Rookwood Way	820	NE
Allotment Gardens	Allotments off Burton End	830	N
Ponds or other perched water bodies	Pond	830	NW
Infrastructure Receptors	Chivers Road	830	NW
Other Sensitive Receptors	St Felix Roman Catholic Primary School	830	NW
Residential Receptors	Properties off Chivers Road (nearest property: House No. 1 off Strawberry Fields)	850	NW
Residential Receptors	Horsham Hall	920	S
Woods/Plantations/Groves	Poplar Wood	940	SSW
Infrastructure Receptors	Crowland Road	940	NNE
Other Sensitive Receptors	Brown House (Mosque)	960	NE
Infrastructure Receptors	Hollands Road	980	NE
Allotment Gardens	Allotments off Manor Road	990	NE
Ponds or other perched water bodies	Horsham Hall Ponds (2)	990	S
Other Sensitive Receptors	Place Farm Primary Academy	1010	NE
Parks/Recreational Grounds/Playing Fields	Recreation Ground off Queensway Road	1030	NE
Other Sensitive Receptors	St Felix Catholic Church	1050	NNW
Other Sensitive Receptors	Haverhill Methodist Church	1050	NE
Parks/Recreational Grounds/Playing Fields	Recreation Ground off School Lane	1060	NW
Residential Receptors	Properties along Camps Road, Crowland Road and Withersfield Road (nearest property: House No. 30 off Camps Road)	1060	NE
Other Sensitive Receptors	Haverhill Health Centre	1060	NE
Rivers, streams and drains	Drain by a factory off Duddery Hill	1070	NE
Commercial Receptors	Haverhill Rugby Football Club	1080	NNW
Other Sensitive Receptors	Ambulance Station	1080	NE
Residential Receptors	Properties off Hamlet Road, High Street and Beaumont Court (nearest property: House No. 4 off Fennels Close)	1090	NE

Residential Receptors	Properties along Eastern Avenue, Withersfield Road and Castle Manor Academy (nearest property: House No. 23 off Eastern Avenue)	1100	N
Commercial Receptors	The Mat Factory converted into Offices	1130	NE
Industrial Receptors	Factory	1140	NE
Other Sensitive Receptors	Christmas Maltings Surgery	1150	NE
Rivers, streams and drains	Set of drains by the Haverhill Business Park and off Bumpstead Road	1160	E
Residential Receptors	Copy Farm	1160	S
Other Sensitive Receptors	Downs Baptist Church	1190	NE
Other Sensitive Receptors	Library	1220	NE
Ponds or other perched water bodies	Copy Farm Pond	1230	S
Rivers, streams and drains	Drain between Copy Farm and Copse Hall Farm	1240	SE
Commercial Receptors	Commercial Outlets (nearest outlet: The Drabbet Smock - JD Wetherspoon)	1240	NE
Other Sensitive Receptors	St Mary's Church	1250	NE
Ponds or other perched water bodies	Newt Pond (Fishing Lake)	1270	NW
Commercial Receptors	Baltic Amber Restaurant and Bar	1280	SEE
Other Sensitive Receptors	Castle Manor Academy	1280	N
Infrastructure Receptors	Chimswell Way	1290	NW
Residential Receptors	Properties off Chimswell Way and Bergamot Road (nearest property: House No. 1 off White Caville Road)	1300	NW
Infrastructure Receptors	Hamlet Road	1300	NE
Residential Receptors	Copse Hall	1300	SE
Infrastructure Receptors	Mount Road	1320	NE
Commercial Receptors	Travelodge Haverhill	1320	SEE
Rivers, streams and drains	Set of Darins by Castle Manor Academy Parkway	1330	NNW
Other Sensitive Receptors	Old Independent United Reformed Church	1330	NE
Rivers, streams and drains	Stour Brook River	1340	NE
Infrastructure Receptors	A1307	1360	NE
Infrastructure Receptors	Bumpstead Road	1360	SEE
Other Sensitive Receptors	West End Church	1360	NE
Other Sensitive Receptors	Police Station	1360	NE
Other Sensitive Receptors	Stourview Medical Centre	1360	NE
Woods/Plantations/Groves	Millennium Wood	1410	NW
Infrastructure Receptors	A143	1410	NE

Residential Receptors	Copse Hall Farm	1410	SE
Other Sensitive Receptors	Haverhill Cemetery and Chapel	1410	NNE
Industrial Receptors	Haverhill Business Park	1420	E
Other Sensitive Receptors	West Suffolk College in Haverhill	1450	NW
Rivers, streams and drains	Drain close to Kirkley Court	1500	NW
Rivers, streams and drains	Drain by Duncey Plantation	1510	NWW
Residential Receptors	Properties off Park Road and Spindle Road (nearest property: House No. 14 off Willow Close)	1510	NNW
Infrastructure Receptors	Manor Road	1540	NE
Parks/Recreational Grounds/Playing Fields	Recreation Ground off Ingham Road	1550	NE
Rivers, streams and drains	Set of drains off Goodwoods Farm	1560	SW
Residential Receptors	Properties within Wratting Road and Howe Road (nearest proeprty: House No. 56 off Dove House Road)	1570	NE
Residential Receptors	Properties in Chalkstone, along Millfields Way (nearest property: House No. 27 off Vange Place)	1580	NE
Commercial Receptors	Haverhill Air Training Corps	1600	N
Woods/Plantations/Groves	Duncey Plantation	1650	NW
Allotment Gardens	Allotments off Hollands Road	1650	NE
Other Sensitive Receptors	Community Centre and Church	1650	NE
Ponds or other perched water bodies	Pond	1660	NW
Other Sensitive Receptors	Cleves Place Care Home	1660	NE
Rivers, streams and drains	Drain off Spindle Road	1710	N
Infrastructure Receptors	Park Road	1710	NW
Residential Receptors	Properties off Sturmer Road (nearest proprty: House No. 1 off Coupals Close)	1710	NEE
Infrastructure Receptors	Millfields Way	1720	NE
Industrial Receptors	Sewage Works	1740	NE
Other Sensitive Receptors	New Cangle Community Primary School	1740	NNE
Residential Receptors	White's Farm	1780	S
Residential Receptors	Hilltop Farm	1800	SE
Woods/Plantations/Groves	Barsey Groves	1810	NW
Commercial Receptors	Domino's Pizza	1840	NW
Rivers, streams and drains	Set of Drains off Park Road	1840	NW
Other Sensitive Receptors	The Meadows Care Home	1860	NW
Infrastructure Receptors	Chalkstone Way	1910	NEE
Woods/Plantations/Groves	Greatley Wood	1930	SE

2.2.3 The facility is not located within an Air Quality Management Area (AQMA).

2.2.4 The facility is located within a Zone III Source Protection Zone (SPZ) which is classified as Total Catchment. The Government website defines SPZ3 as the region surrounding a supply source where the groundwater ends at an abstraction point (point where all the water is taken) and may extend far from the source point.

3 RISK ASSESSMENT

3.1.1 This section provides an assessment of the potential environmental risks that may arise from the manufacturing of product A, with consideration to the possible receptors and pathways. The risk assessment shows how these risks are minimised by preventing the hazard at source or by providing measures to break the pathway and prevent pollution migrating toward receptors.

3.1.2 This risk assessment demonstrates how all identified hazards, including those caused by accidents, that could cause harm will be subject to strict preventative and control measures, minimising the risk to an acceptable level.

3.1.3 There is one point source emissions to air from the facility from the furnace. An assessment has been carried out using the Environment Agency's H1 Screening Tool, which demonstrates the emissions are minimal. A copy of the assessment along with a technical note is provided as part of the application.

3.1.4 The site will be subject to frequent visual monitoring and inspection (at least once per day) to ensure mitigation measures remain effective. Records will be kept of inspections and any actions taken to resolve any identified emissions.

3.2 Staff will be trained to understand the potential environmental risks associated with the facility, and their role in managing those risks. An induction will also be required for contractors, so that they are aware of any environmental requirements.

3.2.1 Table 3.1 below provides the Amenity Risk Assessment, and Table 3.2 which follows provides the Accident Risk Assessment.

Table 3.1 Amenity Risk Assessment							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation measures**	**Residual risk**
Particulate Matter							
Fugitive releases of particulate matter during mixing of niobium pentoxide and tungsten trioxide	Facility staff, nearby residential and commercial receptors, local wildlife	Through the air	Respiratory issues to both those on and off site. Dust emissions may affect vegetation by smothering of leaves.	High	High	• Powders will be tipped from bags to tank of water. Bag/tank connection can be sealed to avoid escape of dust. • Extractor unit with a fine filter and movable arm can be used to control dust. • Any equipment used for powder processing is equipped with HEPA filtration and dust collection systems.	Low
Fugitive releases of particulate matter during crushing and milling of product A	Facility staff, nearby residential and commercial receptors, local wildlife	Through the air	Respiratory issues to both those on and off site. Dust emissions may affect vegetation by smothering of leaves.	High	High	• Potential dust formation points on equipment (feed points) will be contained and extracted • Exits of the vessels/hoppers are blocked and extracted through HEPA filtration systems • Fines are collected in filtration systems (both stationary and mobile)	Low
Fugitive releases of particulate matter during homogenisation	Facility staff, nearby residential and commercial receptors, local wildlife	Through the air	Respiratory issues to both those on and off site. Dust emissions may affect vegetation by smothering of leaves.	High	High	• Blended material is discharged into a bag or large container via a sealed valve with a HEPA filtration system to capture any dust escaping.	Low
Point source emissions to air	Facility staff, nearby residential and commercial receptors, local wildlife	Through the air	Respiratory issues to both those on and off site. Dust emissions may affect vegetation by smothering of leaves.	High	High	• A H1 Screening Assessment has been carried out following emission testing, to ensure that the emission to air from the furnace will not cause significant pollution. This assessment has been provided as part of the permit application and screens out the emission as insignificant.	Low

Noise							
Noise emissions from processing equipment	Facility staff, nearby residential and commercial receptors, local wildlife	Through the air	Disturbance to nearby residents, businesses, and local wildlife. Prolonged exposure to excessive noise may have a detrimental psychological effect on people	High	High	• All operations will be carried out inside an enclosed building which will provide a degree of noise attenuation to nearby receptors.	Low
Odour							
Odour	Facility staff, nearby residential and commercial receptors	Through the air	Disturbance to those on site and local residents, strong odours may cause people to feel unwell	Low	Low	• niobium pentoxide is a refractory metal oxide and tungsten trioxide is a chemical compound of oxygen and tungsten – neither are expected to cause odour emissions. • No organic chemicals are added to the production process.	Low
Litter / Waste							
Litter or waste generated through the production process	Nearby residential and commercial receptors, local wildlife	Through the air/across the ground	Loss of amenity, nuisance to local businesses and residents, harm to wildlife	Low	Low	• The process uses raw niobium oxide and 100% recycled tungsten trioxide, and no waste will be accepted to the facility. • Any used containers, carboard, paper and plastic packaging for which feedstock materials arrive at the site will be stored securely in a manner which will not present a risk of materials being windswept beyond the installation boundary. • Wastes arising from the process are expected to comprise of an aqueous slurry waste from tank cleaning. Nyobolt is in touch with Anglian Water with regards to the correct disposal of such waste. While the preferred route is re-using the slurry and have zero waste, Nyobolt is prepared to purify the aqueous waste via filtration/flocculation to result in a solid product A waste and clean water, should Anglian Water require it. To this end, Nyobolt will carry out sampling and analyses of wastes to determine which route is more environmentally appropriate. Additionally, Nyobolt will	Low

						analyse whether particulates collected in the particulate abatement systems can be reintroduced back into the production process. • Additionally, particulate matter captured in the dust abatement system may be reintroduced into the process as well, if feasible. • Any waste generated by Nyobolt staff will be collected and placed into an appropriate receptacle pending removal off site to a suitably licenced facility.	
Pests and Vermin							
Pests or vermin	Nearby residential and commercial receptors, local wildlife	Across the ground	Nuisance, spread of disease	Low	Low	• The facility will not deal with materials that could degrade and attract vermin or pests. • The facility will be subject to a routine cleaning schedule and operate a good housekeeping policy. • In the unlikely event that signs of pest or vermin infestations are evident, a suitably qualified pest controller will be contacted.	Low
Groundwater and Surface Water							
Pollution to surface water or groundwater	Groundwater or surface water	Across the ground (run off), infiltration through the ground	Ground contamination, pollution to groundwater or surface waters	Low	Low	• The facility is wholly within a building which has impermeable surfacing with a sealed drainage system. • The production process deals with solid materials (metal oxides) only, and the use of water is limited to the initial mixing phase and cleaning of tanks/vessels. • Non-hazardous aqueous slurry wastes will be re-introduced into the process or disposed of in accordance with the procedure dictated by Anglian Water.	Low

Table 3.2: Accident Management Plan

Hazard	Receptor	Pathway	Consequence	Probability of exposure	What is the overall risk	Mitigation measures	Residual risk

Spills or leaks of hazardous liquids	Site staff, local environment	Through the ground	Inhalation, injury, damage to infrastructure	Low	Low	• There are no chemicals to be added to the production process. • In the event of a spill or leak, this would comprise of either water or water which contains metal oxide particles which would not be hazardous or reactive. • The facility is within an enclosed unit, with impermeable flooring impervious to leaks and spills with a sealed drainage system.	Low
Failure of equipment including abatement systems	Site staff, local environment	Through the air, across the ground	Escape of particulates, leaks and spills	Low	Low	• The equipment to be installed will be state-of-the-art and will be installed by a suitably qualified engineer. • During operation, if an equipment failure is identified, operations will cease immediately to identify the fault. • Any repairs will be carried out by a suitably qualified person. • A defects log will be maintained to record and register any issues encountered, and detail of any remedial actions taken. The log will be held on site and electronic copies made.	Low
Operator error	Site staff, local environment	Through the air, across the ground	Injury, damage to infrastructure, leaks and spills	Low	Low	• All facility still will undergo training suitable for their role and responsibilities. • Refresher training will be delivered to staff in accordance with Nyobolt's training policy.	Low
Extreme weather events (e.g. flooding of facility, very high winds)	Site staff, nearby residents/businesses, local environment, site infrastructure and equipment	Through the air, across the ground	Damage to equipment and infrastructure, escape of particulate matter impacting on nearby residents/businesses	Low	Low	• The facility is wholly contained within a building, protected from extreme weather conditions including high winds. • Incoming raw materials and outgoing products will arrive and leave the site in secure containment.	Low
Fire	Site staff, nearby residents/businesses, local environment	Smoke through the air, contaminated fire water across the ground	Smoke inhalation, fire water run-off polluting nearby watercourses	Low	Low	• The metal oxides used in the process are non-flammable. • Product A will be ultrapure solid oxide and will be baked under ambient atmosphere in air. • Plant and equipment will be maintained in accordance with manufacturer's recommendations. Repairs will only be carried out by a suitably qualified engineer.	Low

						• Smoking is strictly prohibited within the facility.	
Vandalism	Site infrastructure and equipment	Unauthorised access to the facility	Fugitive releases of particulate matter, damage to equipment including dust abatement system	Low	Low	• The site benefits from a secure yard/car park area at the front of the unit, enclosed by security gates. • Only authorised personnel will be permitted access into the facility. • The facility has secure roller shutter doors to the entrance/exit.	Low

4 HABITATS RISK ASSESSMENT

4.1 *Designated Habitats*

4.1.1 There are no designated European Sites within 2km of the facility, however there are a number of Sites within 10km of the facility. A review on DEFRA's Magic Map Tool identifies nine Sites of Scientific Interest (SSSIs) within 10km of the facility, which are:

- Balsham Wood;
- Carlton Wood;
- Hales (also a desginated National Nature Reserve (NNR)) and Shadwell Wood;
- Out and Plunder Wood;
- Over and Lawn Wood;
- Trundley and Wadgell's Woods, Great Thurlow;
- Ashdon Meadows;
- Langley Wood; and
- Nunn Wood.

4.1.2 There is also a Local Nature Reserve (LNR) located within 2km called Haverhill Railway Walks.

4.1.3 The above designated sites are shown on drawing BM12404-002.

4.1.4 The Natural England citation for Balsham Woods describes it as a broadleaved, mixed, and yew woodland with extensive canopy cover, ancient trees, dead wood, and specific plant species like oxlips. It lacks saplings, non-native species cover, evidence of browsing, and coppice regrowth. The new Woodland Improvement Grant (WIG) aims to manage these issues. Originally a conifer plantation, it was converted back to semi-natural woodland in the 1980s, but sycamore now requires management.

4.1.5 The Natural England citation for Carlton Wood SSSI describes it as an ancient, semi-natural woodland that features one of the best hornbeam stands in the county. Additionally, both the hornbeam and ash-maple stands include a nationally rare variant that contains oxlip (Primula elatior). However, there is concerns of the structure of the main ride vegetation, cover of the shrub layer and regeneration from seed and coppice. Hopefully, the new WIG will help manage these concerns in the future.

4.1.6 The Natural England citation for Hales and Shadwell Woods SSSI describes them as being located less than half a mile apart in northwest Essex. They are both ancient woods of the wet Ash-Maple type, managed using the coppice-with-standards method. Situated on Chalky Boulder Clay, these woods are actively coppiced and host a diverse range of flora and fauna, including two plant species that are nationally uncommon. Shadwell Wood also features several herb-rich grass rides, offering valuable additional habitats for invertebrates. Hales Wood is also designated as an NNR.

4.1.7 The Natural England citation for Out and Plunder Woods SSSI identifies them as ancient wet ash-maple woods on chalky Boulder Clay, with diverse plant and animal communities, including the oxlip. The site includes Out Wood, Sparrows Grove, and Plunder Wood, managed traditionally as coppice-with-standards.

4.1.8 The Natural England citation for Over and Lawn Woods SSSI describes them as ancient woodlands with diverse plant and animal communities on chalky Boulder Clay. They feature hazel-ash, wet ash-maple, and hazel-pedunculate oak stands. The system of rides and glades enhances habitat diversity.

4.1.9 The Natural England citation for Trundley and Wadgell's Woods SSSI describes them as ancient, semi-natural woodlands with newer additions on chalky boulder clay soils. The ancient wood is mainly old coppice with standard trees, and the newer parts have various forest types. The wood hosts ash, maple, hazel, and some elm. Some parts of the ancient woods have been cleared and replanted with broadleaved and conifer trees. Conifers are being thinned to allow original vegetation to recover. Ganwicks Wood retains its standard trees but has conifers planted underneath, which are also being thinned to preserve woodland vegetation. The older secondary woodland in Trundley Wood is similar in composition to the ancient wood, but the newer plantations are less diverse. In Wadgell's Wood, there are areas with Sycamore trees, while the Trundley complex has mixed areas with Larch, Sycamore, and other species. Both woods have wide, grassy paths with plant species such as oxlip, bugle, creeping jenny, and meadowsweet. The edges and path margins are trimmed to form dense hedges, providing additional habitat and supporting shrub species like the wayfaring tree.

4.1.10 The Natural England citation describes Ashdon Meadows SSSI (located near Saffron Walden), as a small yet noteworthy instance of unenhanced neutral to calcareous grassland, which is maintained as hay meadows. It encompasses various habitats,

ranging from arid calcareous grassland on the inclines to marshy grassland, fen, and willow scrub. Positioned on Chalky Boulder Clay, this site provides unique support for these grassland varieties, which are singularly found in north-west Essex.

4.1.11 The Natural England citation describes Langley Wood SSSI an ancient woodland, features clusters of ash-maple woodland alongside sections of hornbeam. These woodland varieties are primarily found in lowland England and have experienced a significant decrease since the early 20th century. Noteworthy in a Cambridgeshire setting, Langley Wood stands out for its substantial size and relatively unchanged condition, as well as for hosting hornbeam near the edge of its geographical distribution. The woodland pathways/rides contain species-rich neutral grassland holding plants typical of such ancient habitats.

4.1.12 The Natural England citation describes Nunn Wood SSSI, as an historic forest of Pedunculate Oak-Hornbeam, which is located north of Saffron Walden in the Chalky Boulder Clay region of north-west Essex. Within, it hosts a significant population of Early-purple Orchid, along with the rare Oxlip, primarily found in East Anglia. The open pathways/rides are herb-rich and contain vegetation such as Wild Strawberry.

4.1.13 The LNR Haverhill Railway, is now largely overgrown with shrubs and mature trees, serves as an important wildlife corridor. It supports a diverse array of birds, animals, insects, and plants by providing essential food and shelter. The entire five-kilometre (three-mile) stretch of this abandoned line has been incorporated into the Haverhill Local Nature Reserve.

4.1.14 Magic Maps also identifies seven priority habitats including: Coastal and floodplain grazing marsh; deciduous woodland; good quality semi-improved grassland; lowland calcareous grassland; lowland fens; lowland meadows and traditional orchards. Each of SSSI's mentioned have been designated as deciduous woodland. An identified area of deciduous woodland is found adjacent to the site boundary to the northwest and overlaps with the Puddle Brook Playing Fields.

4.1.15 Table 4.1 below provides both the protected habitats and designated European sites within 10km of the facility.

Table 4.1. Land Designation List within 10km of the site boundary

Designation	Name	Distance from site boundary (m)	Orientation	Hectarage (ha)
SSSIs	Balsham Wood SSSI	8550	NW	34.96
	Carlton Wood SSSI	8240	N	10.45

	Hales and Shadwell Woods SSSI	9290	SW	10.83
	Out and Plunder Woods SSSI	9700	N	3.80
	Over and Lawn Woods SSSI	4070	NW	45.32
	Trundley and Wadgell's Woods Great Thurlow SSSI	5740	NE	79.40
	Ashdon Meadows SSSI	8160	SW	1.43
	Langley Wood SSSI	5620	SW	31.57
	Nunn Wood SSSI	9860	W	1.86
LNR	Haverhill Railway Walks	1470	NEE	14.09
NNR	Hales Wood	9860	SW	3.67

4.2 *Species*

4.2.1 MagicMaps also identifies two priority bird species being Corn Bunting and Lapwing. Areas of Lapwing can be found within 7km of the site to the north and west. The closest area is to the east being 3.8km. A similar pattern can also be observed with the Corn Bunting species.

4.3 *Habitats Risk Assessment*

4.3.1 The Environment Agency's guidance identifies the following potential impacts that may be caused by on-site activities:

- Pollution from contaminated runoff, including impact on surface waters including eutrophication and toxic contamination;
- Habitat loss caused by pollutants and physical damage, for example from litter;
- Smothering by particulates;
- Disturbance by noise, smoke and odour.

4.3.2 The remainder of this section describes how each of these potential impacts will be negligible from Nyobolt's pilot facility activities with specific regard to nearby protected and sensitive habitat receptors.

Pollution from Contaminated Run-Off

4.3.3 Both materials used in the production process, niobium pentoxide and tungsten trioxide, as well as the final product (product A), are unreactive with, and insoluble, in water.

4.3.4 The facility is wholly contained within a building unit, comprising of impermeable surfacing impervious to leaks, run off or spills.

4.3.5 The mixing of materials with water will be carried out in a sealed tank. The intention is to recirculate water as much as possible within the process. Wastes arising from the process are expected to comprise of an aqueous slurry waste from tank cleaning. Nyobolt is in touch with Anglian Water with regards to the correct disposal of such waste. While the preferred route is re-using the slurry and have zero waste, Nyobolt is prepared to purify the aqueous waste via filtration/flocculation to result in a solid product A waste and clean water, should Anglian Water require it. To this end, Nyobolt will carry out sampling and analyses of wastes to determine which route is more environmental.

4.3.6 All equipment and materials are contained within the enclosed building, ensuring no exposure to rainwater.

4.3.7 Any accidental leaks or spillages will be contained within the building, and spill kits will be available in the event they are required to be used.

4.3.8 There are no watercourses in proximity, or in continuity, to the site.

Habitat Loss and Physical Damage

4.3.9 All material handling and storage, and processing of the materials will be carried out wholly inside an enclosed building. The site boundary does not encroach upon the nearest protected habitat, the area of deciduous woodland to the east of the facility.

4.3.10 No waste will be accepted onto site as part of the production process. Any litter generated by Nyobolt personnel will be placed within a suitable receptacle pending off site removal. The risk of litter becoming windblown from the site and impacting nearby wildlife is negligible.

Smothering by Particulates

4.3.11 Airbourne particulates have the potential to disperse onto sensitive habitats and smother leaves and foliage.

4.3.12 The facility is wholly within a building which has been designed to contain particles from incoming delivery and storage of raw material, the production process and the storage of final product. Localised dust extraction will be utilised and is mobile to allow targeted dust extraction at points in the process which may give rise to releases of

dust (e.g. tipping of powders into vessels/hoppers). The dust extraction will be fitted with HEPA filters.

4.3.13 There is a point source emission to air associated with the facility, which is connected to the furnace. The Environment Agency's H1 Tool has been completed and screens out the emissions as insignificant.

4.3.14 The facility will operate in accordance with an approved Dust and Emissions Management Plan.

Disturbance

4.3.15 The facility is located on an existing industrial estate, and the operations are not expected to generate noise detectable beyond the facility boundary.

4.3.16 Processes generating noise will be housed within acoustic enclosures to ensure noise level reduction.

4.3.17 All activities will be carried out inside an enclosed building, which provides a degree of noise attenuation.

5 CONCLUSION

5.1.1 Whilst the production process, if no abatement systems were implemented, would give rise to dust and air emissions and noise at levels which may cause nuisance, Nyobolt have carried out commissioning testing and has established the most suitable methods to prevent the risk of pollution at source. These include containment at source (sealing, blocking), process filtration as well as local extraction (both HEPA).

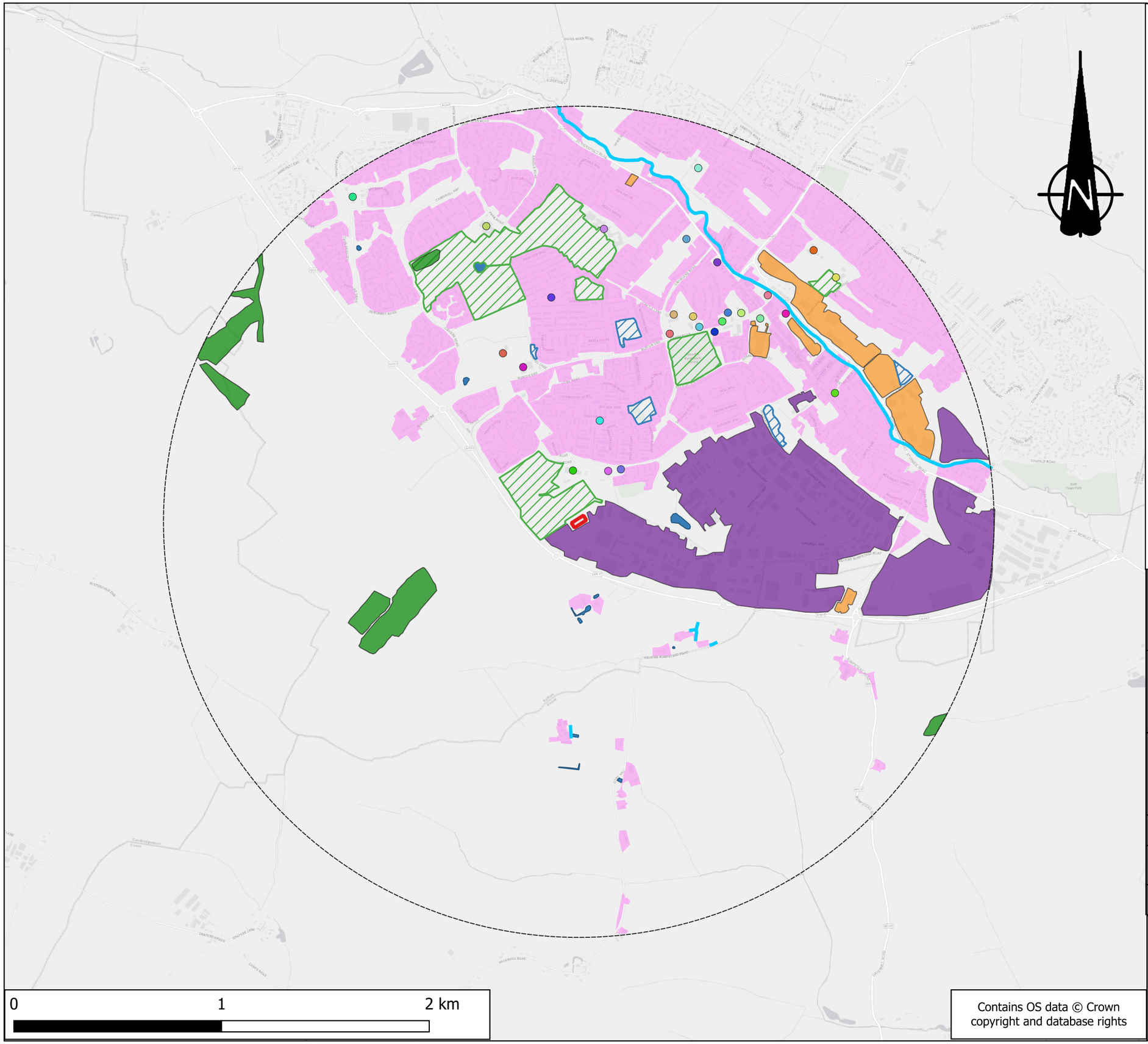
5.1.2 The materials used in the process will be carefully managed and Nyobolt will look to recirculate materials captured in dust filters and water used within the process.

5.1.3 The facility will operate in accordance with a Dust and Emissions Management Plan.

5.1.4 The risk of odour arising from the materials and production process are considered to be very low. The risk of litter, pests and vermin is also considered to be a very low risk, considering the materials to be processed not being putrescible or able to biodegrade, no waste will be accepted to the facility and all operations will be conducted wholly inside a state-of-the-art facility.

5.1.5 Nyobolt will operate the facility in accordance with their Environmental Management System.

DRAWINGS



Key

- Site Boundary
- 2km BOUNDARY OFFSET FROM SITE
- Commercial Receptors
- Industrial Receptors
- Residential Receptors
- Woods/Plantations/Groves
- Parks/RG/PF
- Allotment Gardens
- Surface Water Features

Community Receptors

- Clements Community Primary School
- David Holland Pharmacy
- Childrens Centre
- Community Centre
- Burton End Community Primary School
- St Felix Roman Catholic Primary School
- The Meadows Care Home
- West Suffolk College in Haverhill
- Castle Manor Academy
- New Cangle Community Primary School
- Cleves Place Care Home
- Stourview Medical Centre
- St Mary's Church
- Library
- Downs Baptist Church
- Haverhill Health Centre
- Ambulance Station
- Place Farm Primary Academy
- Brown House (Mosque)
- Haverhill Cemetery and Chapel
- West End Church
- Community Centre and Church
- Police Station
- Old Independent United Reformed Church
- Haverhill Methodist Church
- Christmas Maltings Surgery
- St Felix Catholic Church

CLIENT

NYOBOLT LIMITED

PROJECT

NYOBOLT PERMIT APPLICATION

DRAWING TITLE

SENSITIVE RECEPTOR PLAN

DRG No. BM12404-001		REV: A
DRG SIZE: A3	SCALE: 1:18,000	DATE: May 2024
DRAWN: JP	CHECKED BY: DDA	APPROVED BY: CR

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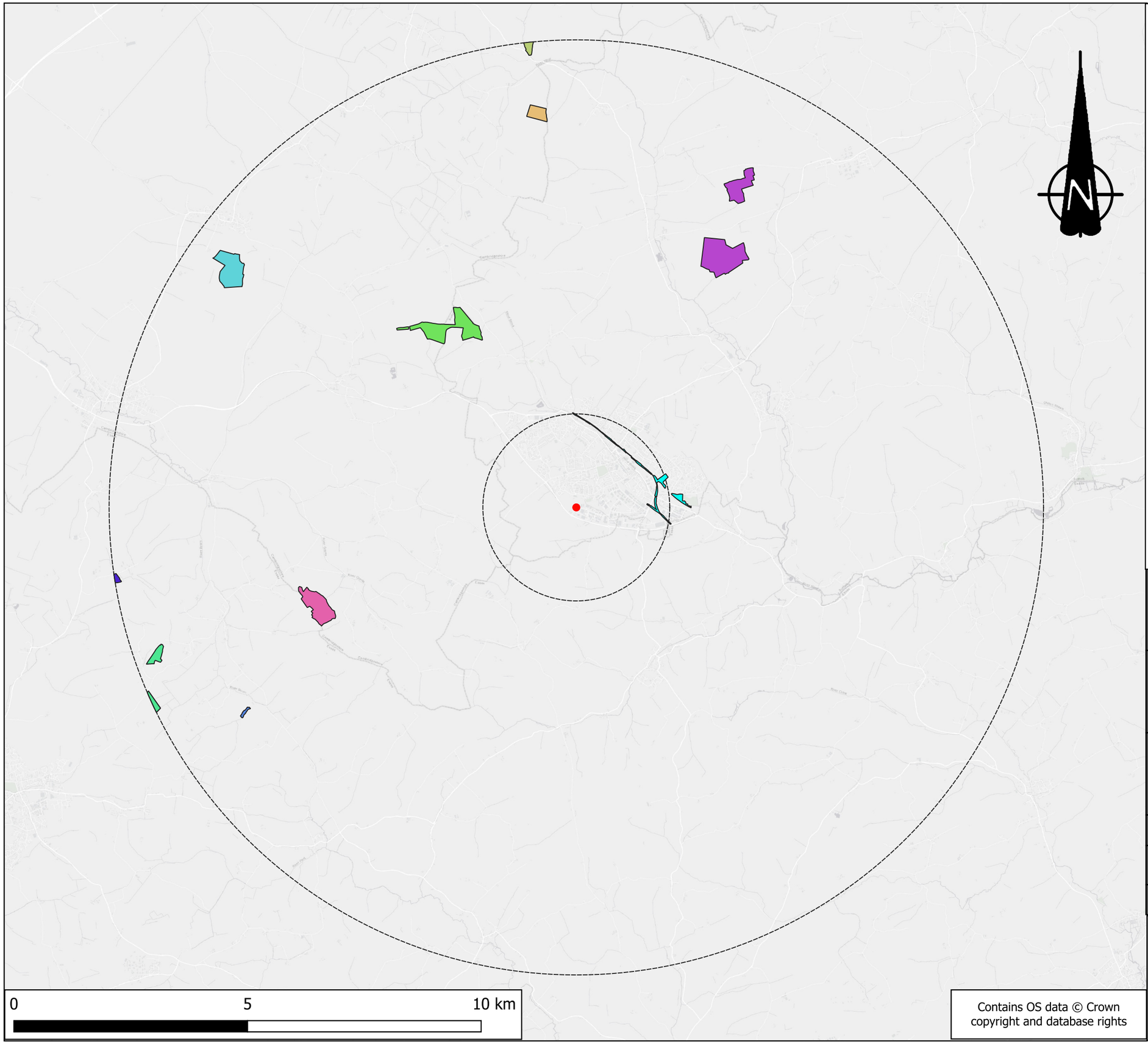

Key

- Site Location
- 2km BOUNDARY OFFSET FROM SITE
- 10km BOUNDARY OFFSET FROM SITE

SSSI

- Ashdon Meadows
- Balsham Wood
- Carlton Wood
- Hales and Shadwell Woods
- Langley Wood
- Nunn Wood
- Out and Plunder Woods
- Over and Lawn Woods
- Trundley and Wadgell's Woods, Great Thurlow

NNR

- Hales Wood

LNR

- Haverhill Railway Walks

CLIENT

NYOBOLT LIMITED

PROJECT

NYOBOLT PERMIT APPLICATION

DRAWING TITLE

HABITATS PLAN

DRG No. BM12404-002		REV: A
DRG SIZE: A3	SCALE: 1:80,000	DATE: May 2024
DRAWN: JP	CHECKED BY: DDA	APPROVED BY: CR

wardell armstrong

wardell-armstrong.com

STOKE-ON-TRENT
Sir Henry Doulton House
Forge Lane
Etruria
Stoke-on-Trent
ST1 5BD
Tel: +44 (0)1782 276 700

BIRMINGHAM
Two Devon Way
Longbridge Technology Park
Longbridge
Birmingham
B31 2TS
Tel: +44 (0)121 580 0909

BOLTON
41-50 Futura Park
Aspinall Way
Middlebrook
Bolton
BL6 6SU
Tel: +44 (0)1204 227 227

BRISTOL
Temple Studios
Temple Gate
Redcliffe
Bristol
BS1 6QA
Tel: +44 (0)117 203 4477

BURY ST EDMUNDS
Armstrong House
Lamdin Road
Bury St Edmunds
Suffolk
IP32 6NU
Tel: +44 (0)1284 765 210

CARDIFF
Tudor House
16 Cathedral Road
Cardiff
CF11 9LJ
Tel: +44 (0)292 072 9191

CARLISLE
Marconi Road
Burgh Road Industrial Estate
Carlisle
Cumbria
CA2 7NA
Tel: +44 (0)1228 550 575

EDINBURGH
Great Michael House
14 Links Place
Edinburgh
EH6 7EZ
Tel: +44 (0)131 555 3311

GLASGOW
24 St Vincent Place
Glasgow
G1 2EU
Tel: +44 (0)141 428 4499

LEEDS
36 Park Row
Leeds
LS1 5JL
Tel: +44 (0)113 831 5533

LONDON
Third Floor
46 Chancery Lane
London
WC2A 1JE
Tel: +44 (0)207 242 3243

NEWCASTLE UPON TYNE
City Quadrant
11 Waterloo Square
Newcastle upon Tyne
NE1 4DP
Tel: +44 (0)191 232 0943

TRURO
Baldhu House
Wheal Jane Earth Science Park
Baldhu
Truro
TR3 6EH
Tel: +44 (0)187 256 0738

International office:

ALMATY
29/6 Satpaev Avenue
Hyatt Regency Hotel
Office Tower
Almaty
Kazakhstan
050040
Tel: +7(727) 334 1310

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