Appendix 5.1 EIA Scoping Report

Land North East of Harpenden

Environmental Impact Assessment Scoping Report

On behalf of

Project Ref: 35429/A5/EIAScoping | Rev: 01 | Date: September 2024

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For and on behalf of Stantec UK Limited					

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1 Introduction

1.1.1 This Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec[i], on behalf of Crest Nicholson Partnerships and Strategic Land (the 'Applicant') in relation to an outline planning application for the development on land north east of Harpenden (the 'Site).

1.1.2 This report has been prepared to accompany a request for an EIA Scoping Opinion from St Albans City and District Council (SACDC) with respect to the outline planning application for a residential development (the 'Proposed Development') .

1.1.3 In accordance with the EIA Regulations, a person who is minded to submit an EIA application may ask the relevant planning authority in accordance with Regulation 15 of the *Town and Country Planning (Environmental Impact Assessment) Regulations 2017*, as amended[ii] (the 'EIA Regulations') to state in writing their opinion as to the information to be provided in the Environmental Statement (ES) (a 'Scoping Opinion').

1.1.4 Regulation 15(2) of the EIA Regulations states that a Scoping request must be accompanied by:

- *"A plan sufficient to identify the land;*
- *A brief description of the nature and purpose of the proposed development, including its location and technical capacity;*
- *An explanation of the likely significant effects of the proposed development on the environment; and*
- *Such other information or representations as the person making the request may wish to provide or make."*

1.1.5 The purpose of this EIA Scoping Report is to provide sufficient information on the Proposed Development and its potentially significant environmental effects to allow SACDC to adopt an informed Scoping Opinion. EIA Scoping is a not a mandatory process, however it is best practice and ensures that any future planning application is accompanied by a suitably proportionate and focused ES. Consultation with statutory consultees is a requirement of the EIA Scoping process and will inform SACDCs Scoping Opinion on the content and methodology of the EIA process.

2 The Site and Proposed Development

2.1 Site Context and Description

2.1.1 The Site (see **Appendix A**: Site Location Plan) is located immediately north east of the settlement of Harpenden and comprises of pasture fields with further fields, hedgerows and woodlands to the north, east and west. The Site encompasses approximately 32.84 hectares (ha) of land. An unnamed track bisects the northern and southern areas of the Site. It runs along the middle of the Site from the west to east. The track links up B652 Bower Heath Road and Common Lane.

2.1.2 The Site is bordered to the north by the B652 Bower Heath Road; the east by the B653 Lower Luton Road; to the south by the residential dwellings and gardens located on Nokeshot, Saxon Close, Dane Close, and Turners Close; and to the east by Common Lane. An equestrian facility is located in the north-westernmost corner of the Site; and three Public Rights of Way (PRoW) cross the Site, footpath 'Harpenden 034' runs from Bower Heath Road to Turners Close, footpath 'Harpenden 061' runs from Common Lane to Whitings Close and footpath 'Harpenden043' / 'Wheathampstead 061' runs east west from Common Lane[iii].

2.1.3 The closest residential property lies within Noke Shot, immediately south of the Site. Porters Hill Park lies immediately south of the Site which also encompasses Porters Hill Playground and Porters Hill Park Allotments.

2.1.4 The surrounding area to the north and east of the Site is predominantly characterised by agricultural fields; residential properties; farms and associated buildings; hedgerows; and the local road network. There are various residential properties located along the B652 Bower Heath Lane and within Sauncey Wood. Additionally, there are two farms located to the north east of the Site: Hornbeam Wood Farm (approximately 100m from the Site) and Four Oaks Farm (approximately 320m from the Site). Hornbeam Wood Hedgehog Sanctuary & Rescue facility is located approximately 100m north east.

2.1.5 The surrounding area to the south and west of the site is predominantly characterised by the hamlet of Bower Heath to the immediate south; an equestrian centre; Porters Hill Park; hedgerows; nearby residential properties; a local park; and the local road network.

2.2 Environmental Baseline Conditions

2.2.1 A desk study review has identified key environmental baseline conditions within the Site and surrounding area. Sources used within the desk study have been fully referenced.

2.2.2 The desk study indicated that there are no internationally or nationally designated nature conservation sites are presented within or immediately adjacent to the Site including, Sites of Special Scientific Interest, Ramsar sites, Special Areas of Conservation, or Special Protection Areas[iv]. The nearest statutory designation is Batford Springs Local Nature Reserve (LNR), located approximately 580m to the south of the Site. The nearest non-statutory designation is Holcroft's Springs Local Wildlife Site (LWS), which is separated from the Site by Common Lane, which forms the north-eastern boundary of the Site.

2.2.3 The Site comprises horse stables and associated grazed pasture, supporting a range of species diversity from modified grassland to other neutral grassland. Hedgerows and trees are present at the field boundaries, whilst other habitats such as woodland, scrub and hardstanding/buildings are also present. Initial survey work has identified potential for the Site

to support a number of protected and notable species including bats, Badger, birds, Great Crested Newt and reptiles.

2.2.4 There are no areas of ancient woodland on the Site. The closest area of ancient woodland is 'Sauncy Wood', located approximately 190m to the south east of the Site[v].

2.2.5 A Soils and Agricultural Land Quality survey has been undertaken for the Site. The Agricultural Land Classification (ALC) system grades land from 1-5, with Grade 1 being defined as excellent quality agricultural land, and Grade 5 as very poor agricultural land. Grades 1, 2 and 3a comprise the 'Best and Most Versatile' (BMV) land. The survey identified that that all the land within the site is classified as Subgrade 3b, which is not BMV land.

2.2.6 The following Listed Buildings are located within 1km of the Site:

- Grade II 'The Red Cow Public House' (Ref: 1102963) 100m to the west.
- A cluster to the north:
- Grade II 'Main Barn at Dane Farm' (Ref: 1103662) 960m to the north.
- Grade II 'Dane Farmhouse' (Ref: 1308129) 995m to the north.
- Grade II 'Old Raisins Farm' (Ref: 1346875) 910m to the north east.
- A cluster to the east:
- Grade II 'Holly Bush Cottage' (Ref: 1346900) 910m to the east.
- Grade II 'Turnershall Farmhouse' (Ref: 1176000) 940m to the east.
- A cluster to the south east:
- Grade II 'Well House at Mackerye End' (Ref: 1175976) 760m to the south east.
- Grade I 'Mackerye End' (Ref: 1175984) 775m to the south east.
- Grade II 'Barn South of Mackerye End' (Ref: 1175984) 775 m to the south east.
- Grade II 'Stables, Coach House and Cottage South East of Mackerye End' (Ref: 1103673) 830m to the south east.
- Grade II 'North East at Mackerye End' (Ref: 1175992) 830m to the south east.
- Grade II 'West Barn at Mackerye End Farm' (Ref: 1103632) 800m to the south east.
- Grade II 'Mackerye End Farmhouse' (Ref: 1308091) 830m to the south east.
- A cluster to the south:
- Grade II 'The Thatched Cottage (on Corner of Lower Luton Road)' (Ref: 1102990) 775m to the south.
- Grade II 'Marquis of Granby' (Ref: 1103001) 930m to the south.

2.2.7 There are no conservation areas, or scheduled monuments on, or directly adjacent to, the Site. Mackeyre Conservation Area is approximately 500m to the east of the Site, and Harpenden Conservation Area is 600m to the west. Luton Hoo Grade II* Registered Park and Garden is over 3.5km to the north west of the Site[vi].

2.2.8 The Site is not in a National Landscape but is within a locally designated Landscape Conservation Area. Trees protected under a Tree Preservation Order are located immediately north of the Site[vii].

2.2.9 The Site is bound to the north by Common Lane, which wraps around the north eastern corner of the Site. It is bound to the south by Lower Luton Road which provides access towards Harpenden. The Site is in an accessible location with a number of Public Rights of Way (PRoW) and cycle routes within the vicinity of the Site. Three bus services operate within close proximity to the Site, with the most local bus stops situated at the Lower Luton Road/Westfield Road junction to the west of the Site. Harpenden railway station is located approximately 2.6km from the Site and provides frequent railway services to destinations including Luton, Bedford, and London. Lower Luton Road provides the primary access link by road and runs along the south western boundary of the Site.

2.2.10 The Site includes multiple potential human health receptors, including:

- Jobs;
- Employment (specifically for residents of SACDC);
- Housing delivery;
- Household expenditure;
- Health and well-being of the current and future population;
- Early years education;
- Primary education;
- Secondary education; and
- GP provision.

2.2.11 The majority of the Site is located within Flood Zone 1 (≤0.1% chance of flooding from rivers or sea in any given year). A small section of the north-westernmost corner of the Site is located within Flood Zone 2 (1%-0.1% chance of flooding from rivers or sea in any given year). The River Lee is located to the west of Lower Luton Road which forms part of the Site's western boundary. Flooding from reservoirs and from groundwater is unlikely within the Site. There are two small sections of the Site, particularly the westernmost corner, which have a ‘high’ risk of surface water flooding. The high likelihood is associated with on-site ditches[viii]. The rest of the Site has a ‘very low’ or ‘low’ risk of surface water flooding.

2.2.12 The Site is not located within or in close proximity to an Air Quality Management Area. The closest is Luton AQMA No.3 which is located approximately 7km north west of the Site. It was designated for annual mean nitrogen dioxide in May 2016[ix].

2.2.13 As shown on the Department for Environment, Food and Rural Affairs (DEFRA) Noise Important Areas (NIA) mapping service, the Site is not located within or near to a NIA. The nearest NIA is

situated on the rail line adjacent to Westfield Road, approximately 750m south west of the Site[x]. The main noise sources at the Site are vehicular movements on the surrounding road network and occasional rail and aircraft noise.

2.3 The Proposed Development

2.3.1 The Applicant intends to submit:

> *"Outline application for up to 520 residential units, 60 bed extra care facility, new neighbourhood centre (c.1 acre of commercial / community use) and 2FE Primary School (including early years provision)."*

2.3.2 The construction timeline for the project is for construction to start in April 2028 and to be completed by 2036.

2.3.3 The buildings would be predominantly 2 storey houses. Some three storey buildings (apartment blocks) would be provided, and the height would not exceed 13m above finished floor level. Vehicular access into the Site will be accessed from B653 Lower Luton Road.

3 Scoping

3.1 Introduction

3.1.1 This Scoping exercise has been informed by desk-based research and existing information collated for the Site. **Table 3.1** provides a summary of the Scoping exercise.

Table 3.1: EIA Scoping Summary

Topics	Potential Construction Phase Effects	Potential Operational Phase Effects	Proposed Reporting
Population and Human Health	✓ - T	✓ - P	ES Chapter to be prepared.
Landscape Character and Visual Amenity	✓ - T	✓ - P	
Biodiversity	✓ - T/P	✓ - P	
Transport and Access	✓ - T	✓ - P	
Noise and Vibration	✓ - T	✓ - P	
Air Quality	✓ - T	✓ - P	
Cultural Heritage	X	X	Topic scoped out of the ES. Further technical reporting will be submitted for scoped out topics.
Climate Change	X	X	
Water Resources and Flood Risk	X	X	
Agricultural Land	X	X	
Daylight, Sunlight and Overshadowing	X	X	
Wind Microclimate	X	X	
Waste	X	X	
Accidents and Disasters	X	X	
Ground Conditions and Land Contamination	X	X	

Key: ✓ Likely Significant Effect / x No Likely Significant Effect.
T – Temporary Effect / P – Permanent Effect

3.2 Environmental Topics Scoped Out

Cultural Heritage

3.2.1 There are no designated cultural heritage features located within the Site; however, within the study area (1km radius) there is one Grade I Listed Building, several Grade II Listed Buildings, and two Conservation Areas. The closest Listed Building is 'The Red Cow Public House' (Grade II) which is located 200m to the west of the Site. Given the distance of the Site from the designated feature, the Proposed Development will not result in any direct effects.

3.2.2 Mitigation measures will be included in the design of the Proposed Development in order to prevent significant effects. Additionally, a Heritage Statement and Archaeology Assessment will be submitted as part of the planning application which will set out appropriate mitigation measures so that significant effects are avoided. Additional mitigation measures such as a site investigation, archaeological mitigation strategy, and trial trenching will be secured via planning condition if required. Therefore, this topic is proposed to be scoped out of the ES.

Climate Change

3.2.3 The Proposed Development is being brought forward in accordance with the principles of sustainable development. It will be designed to ensure that it is resilient to changes in climate and will not adversely impact on climate (i.e. carbon emissions). New homes associated with the Proposed Development will be built in accordance with Future Home Standard 2025 which aims to ensure that all new build homes are future-proofed in relation to energy efficiency and low carbon heating. This means that when the electricity grid has been decarbonised, they will become zero carbon homes[xi]. The embedded landscape design will provide climate resilience through new planting and use of sustainable drainage systems (SuDS). Transport mitigation, discussed in more detail in Chapter 7: Transport and Access, will reduce reliance on single use journeys by car and will place more focus on active travel, all of which will ensure a reduction in carbon emissions.

3.2.4 Additionally, a Sustainability Statement will be prepared and submitted as part of the planning application which will detail commitments such as measures to reduce energy consumption. Therefore, this topic is proposed to be scoped out of the ES.

Water Resources and Flood Risk

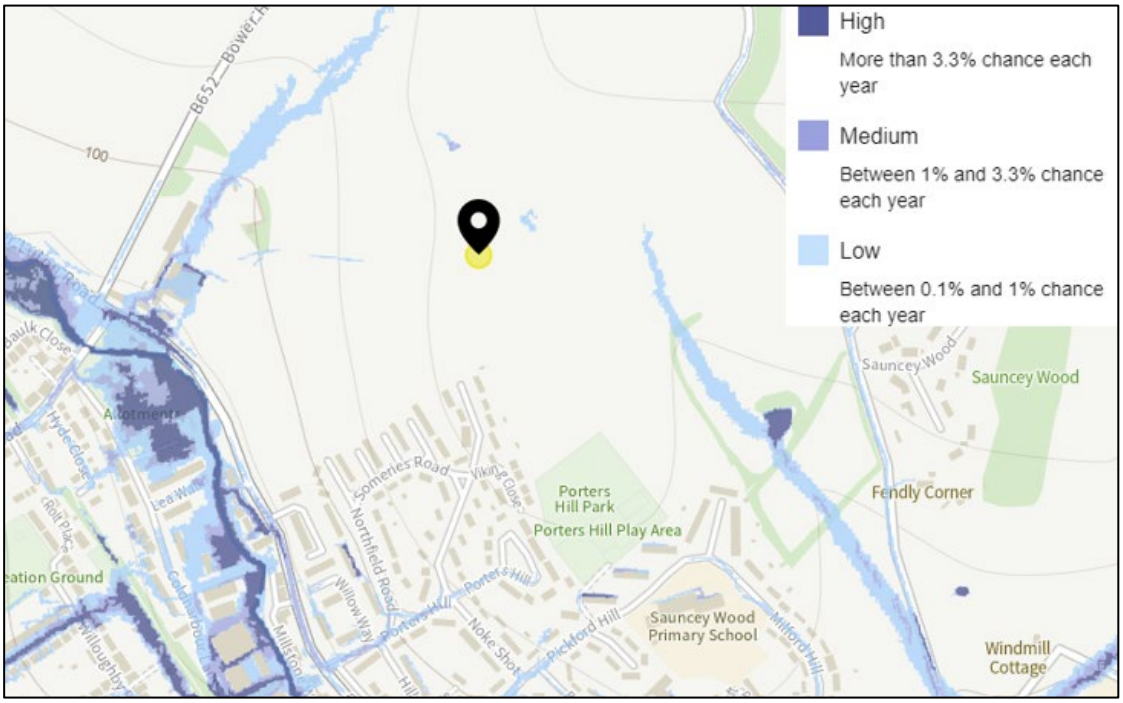
3.2.5 The majority of the Site is located within Flood Zone 1 (≤0.1% chance of flooding from rivers or sea in any given year). A small section of the north-westernmost corner of the Site is located within Flood Zone 2 (1%-0.1% chance of flooding from rivers or sea in any given year). The Site is not located within any floodplain associated with the River Lee which is located to the west of the Site, west of Lower Luton Road (as shown in **Figure 3.1**). Flooding from reservoirs and from groundwater is unlikely within the Site. There are two small sections of the Site, particularly the westernmost corner, which have a 'high' risk of surface water flooding, one runs parallel to Bower Health Road and a second runs north-south in the east/south-eastern part of the Site (as shown in **Figure 3.2**). The rest of the Site has a 'very low' or 'low' risk of surface water flooding. The Site is not located within or close to a groundwater Source Protection Zone. No other water bodies would be expected to be significantly affected by the Proposed Development.

3.2.6 The planning application will include a Sustainable Drainage Strategy and a Flood Risk Assessment to identify suitable mitigation so the proposals are not affected by flooding nor exacerbate flooding off-site. Hydrocarbons will be used as part of the construction phases of the Proposed Development. These would typically involve plant and vehicle fuel and lubricants. A Construction Environmental Management Plan (CEMP) will be secured through planning conditions to prevent significant construction effects.

3.2.7 Sustainable drainage measures will be incorporated into the development and secured through planning conditions. Once the Proposed Development is occupied, significant effects from contamination of land or water are not expected given they are not associated with this type of land use. Therefore, this topic is proposed to be scoped out of the ES.

Figure 3.1: Flood Mapping (fluvial)[xii]

Figure 3.2: Flood Mapping (Surface Water)

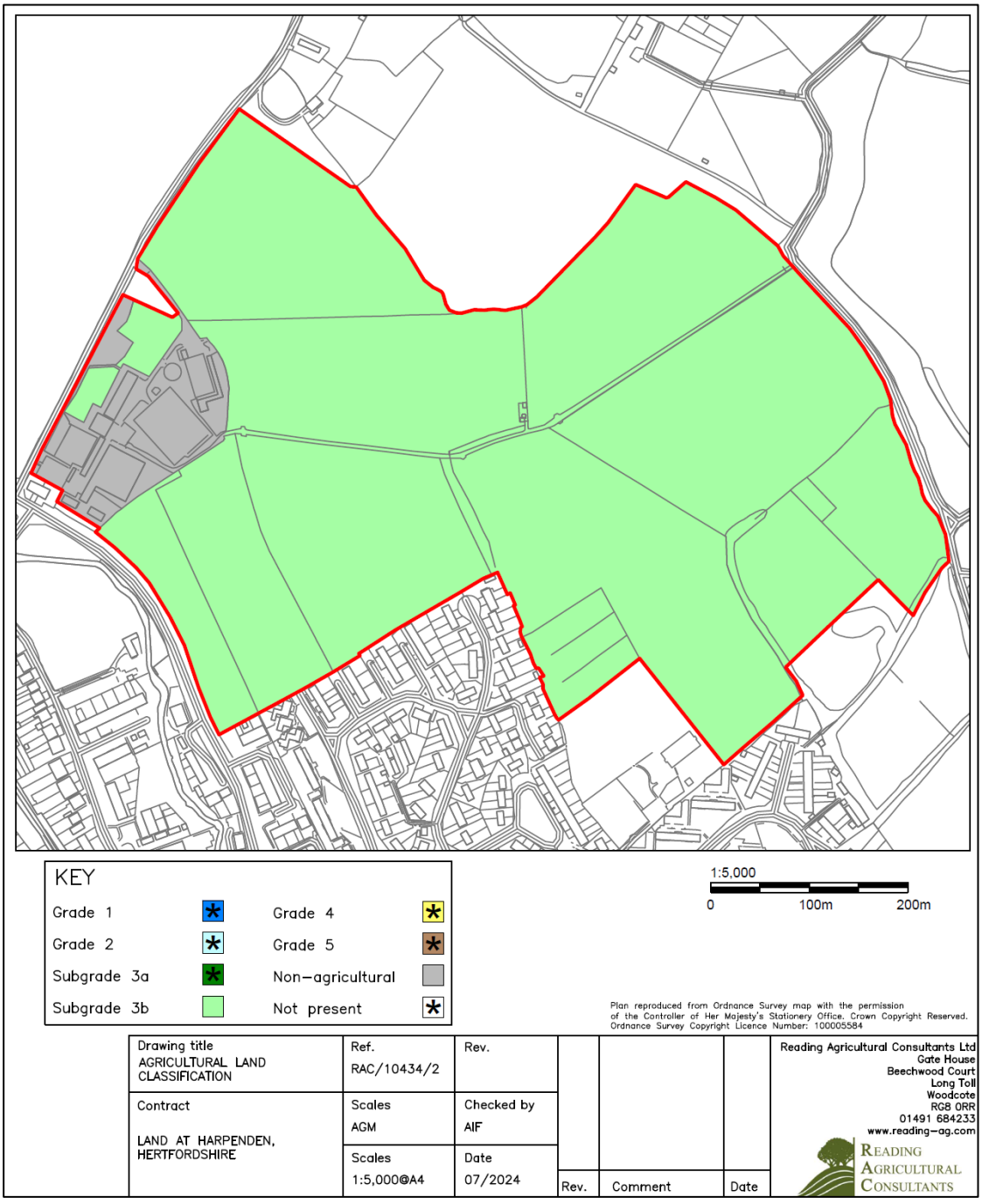


Agricultural Land

3.2.8 The majority of the Site is or has been most recently in agricultural use. Local planning authorities are required to take into account the presence of BMV land (defined as land in Grades 1, 2 and 3a of the ALC) alongside other sustainability considerations when determining planning applications. A Soils and Agricultural Land Quality survey has been undertaken for the Site which identified that all the land is classified as Subgrade 3b (as shown in **Figure 3.3**

below), which is not BMV land. Significant environmental effects with respect to Agricultural Land are therefore considered to be unlikely and this topic is proposed to be scoped out of the ES.

Figure 3.3: Agricultural Land Classification (Reading Agricultural Consultants, 2024)



Daylight, Sunlight and Overshadowing

3.2.9 The scale and massing of the Proposed Development will not cause any changes to daylight or sunlight availability or cause overshadowing of residents or amenity space due to the low-rise nature of the buildings and the majority of the land surrounding the Site comprises agricultural land. Therefore, this topic is proposed to be scoped out of the ES.

Wind Microclimate

3.2.10 The Proposed Development will not include any high-rise buildings which could influence wind patterns, with a maximum height of three storeys proposed. Consequently, the Proposed Development will not cause any changes in the wind microclimate for residential receptors or the surrounding highway infrastructure. Therefore, this topic is proposed to be scoped out of the ES.

Waste

3.2.11 The CEMP, to be secured via a planning condition, will implement measures which follow the waste hierarchy (prevention, reuse, recycling, recovery and disposal) to reduce construction waste alongside other best practice measures.

3.2.12 The Proposed Development is not anticipated to produce substantial amounts of waste. Waste arisings will be reused and recycled where possible to minimise waste sent to landfill. The intention is to achieve a balance in the amount of materials imported and exported from the Site, without the need to remove any materials etc., from the Site. The end-use (residential dwellings) will generate typical municipal waste once complete and occupied. Operational waste would be disposed of in line with SACDC requirements and managed in accordance with all applicable legislation.

3.2.13 The Proposed Development is not likely to result in significant effects in terms of waste and therefore this topic is proposed to be scoped out of the ES.

Accidents and Disasters

3.2.14 The Proposed Development will provide residential dwellings and supporting infrastructure. The proposed end uses are not hazardous, and the Site is not in a location which is at risk of disasters such as land instability (see further information in the 'Ground Conditions and Land Contamination section below) or earthquakes. During construction, which is considered the only element which could be considered as hazardous, all applicable health and safety legislation will be compiled with in accordance with best practice. This topic is therefore proposed to be scoped out of the ES.

Ground Conditions and Land Contamination

3.2.15 According to the British Geological Survey (BGS) Geology Viewer[xiii], the Site is likely underlain by the following geological succession:

- Bedrock geology: Lewes Nodular Chalk Formation and Seaford Chalk Formation – Chalk;
- Bedrock: Chalk Rock Member – Chalk; and
- Superficial deposits: Clay-with-flints Formation - Clay, silt, sand and gravel.

3.2.16 The Site is not within a Coal Mining Reporting Area[xiv]. Therefore, there is no risk of coal mining instability on the Site.

3.2.17 Given the geology of the site, chalk dissolution is a potential ground conditions hazard. A Phase 1 Ground Investigation will be submitted with the planning application and will set out mitigation measures for ground conditions.

3.2.18 In terms of Unexploded Ordnance (UXO)[xv], due to the location of the Site there is a moderate (west of the Site) to low (east of the Site) UXO risk. No visual or olfactory evidence of contamination was found in the vicinity of the Site. Overall associated risks are considered to be moderate. Consequently, a UXO risk assessment will be secured through an appropriately worded planning condition.

3.2.19 The Site is not located within an historic landfill. The closest historic landfill is named 'Dell Hole' and is located approximately 625m west of the Site[xvi].

3.2.20 Prior to the construction phase, a programme of site investigations will be undertaken to confirm the geotechnical and geoenvironmental conditions on the Site which will inform of any necessary mitigation measures to minimise any potentially significant effects. If required, a remedial strategy will be devised for the Site in accordance with the Environment Agency Model Procedures and the Environment Agency Guiding Principles to meet the development objectives. If required, the strategy will be developed and agreed with SACDC and the Environment Agency and will be secured through an appropriately worded planning condition. During construction, appropriate measures will be implemented via the CEMP, in accordance with all relevant legislation, to prevent accidental spillages of contaminants.

3.2.21 Once operational, the land uses proposed are not highly contaminative. Therefore, significant effects with respect to ground conditions and land contamination are not likely, and this topic is proposed to be scoped out of the ES.

4 Population and Human Health

4.1 Introduction

4.1.1 An assessment will be undertaken of the likely significant effects of the Proposed Development on the environment with respect to population and human health. The chapter is titled 'Population and Human Health' to include the assessment of effects in relation to the population's health but will also assess the likely socio-economic effects of the Proposed Development.

4.1.2 The chapter will be prepared by Stantec's Development Economics Team who have an established track record in the preparation of both Socio-Economic and Population and Human Health ES chapters.

4.2 Baseline

4.2.1 A desktop study will be undertaken to determine baseline conditions at site, local and borough level. Existing baseline conditions will focus on:

- The size and age profile of the resident population;
- The current housing stock profile by tenure and type of accommodation;
- Expenditure from existing households;
- Identifying (and mapping) existing non-domestic, registered early years facilities, primary and secondary schools and GP practices, and establishing current and forecast capacities of this provision where possible;
- The local employment profile including economic activity, the number of jobs and industrial/occupation profile from a resident-based and workplace-based perspective; and
- The health profile of the resident population.

4.2.2 The existing baseline will be established using a combination of data sources including nationally published statistics from the Office for National Statistics (ONS), Experian, Department for Education (DfE), Ofsted, National Health Service (NHS), Ordnance Survey (OS) and DBC where relevant. This includes the Census 2021, Sub National Population Projections (SNPP), Mid-Year Population Estimates (MYPE), Household Expenditure data, GP Workforce Statistics, Childcare Providers and Inspections and School Capacity data. Relevant policy and supplementary planning guidance produced by SACDC will be consulted.

4.2.3 Given the Site context (detailed in **Chapter 2**) and the residential-led mixed use nature of the Proposed Development, the following receptors have been identified for inclusion in the Population and Human Health assessment.

Receptors

- Jobs;
- Employment (specifically for residents of SACDC);
- Housing delivery;

- Household expenditure;
- Health and well-being of the current and future population;
- Early years education;
- Primary education;
- Secondary education; and
- GP provision.

4.3 Approach

4.3.1 The assessment will consider the likely significant effects of the Proposed Development during the construction and operational phases.

4.3.2 Assessment will be made using quantitative and qualitative methods as summarised in **Table 4.1**.

Table 4.1: Methodology for Population and Human Health Effects

Receptor	Methodology
Employment	The number of direct jobs generated during the construction phase will be calculated using the Construction Industry Training Board and Labour Forecasting Tool which is regarded as an industry standard. The number of direct jobs generated during the operational phase will be calculated having regard to job/floorspace densities published in the Homes and Communities Agency (HCA) (now Homes England) Employment Density Guide (2015)[1]. Where the Density Guide provides a range of values, the density which results in the lowest number of jobs will be used, to represent a reasonable worst-case scenario. Additionality factors (leakage, displacement and multipliers) will be applied to the number of construction and operational direct jobs, to calculate net additional employment. Additionality will be applied following guidance from the HCA, Additionality Guide (2014)[2] and the HM Treasury Green Book (2022)[3].
Housing	Effects on housing delivery will be assessed quantitively based on the contribution that the development will make to the identified housing needs established by local planning policy.
Household Expenditure	Household expenditure (convenience, comparison and leisure) will be calculated using current spend per household for the SACDC area sourced from Experian and applied to the proposed number of households (it will be assumed than one dwelling represents one household).
Population	The number of people expected to live in the Proposed Development will be calculated using household size for SACDC according to the 2021 Census.
GP Provision	The assessment will assume that all residents of the Proposed Development will need to register with a local health practitioner. Capacities of existing GP provision will be based on the HUDU standard of 1 GP for 1,800 patients.
Wider Human Health	A qualitative assessment of the potential for the Proposed Development to lead to likely significant effects with respect to wider human health issues will be undertaken. Health is a multidisciplinary topic and many individual technical documents submitted in support of the planning application are relevant to health. The assessment of wider human health effects will be desk-based, using information available in the public domain.
Education	Demand for early years, primary and secondary school places arising from the Proposed Development will be determined using pupil yield multipliers published by Hertfordshire

[1] Homes and Communities Agency (November 2015), Employment Density Guide 3rd Edition

[2] Homes and Community Agency (2014), Additionality Guide 4th Edition

[3] HM Treasury (March 2022), The Green Book

Receptor	Methodology
	County Council (HCC) (the Local Education Authority for SACDC) with reference to HCC's Demographic Model 2021[4] and assessed against forecast capacities for the relevant School Planning Areas.

4.3.3 There are no published assessment guidance and/or technical significance criteria to assess population and human health effects. Accordingly, the evaluation of effects will be undertaken based on professional experience and judgement, having regard to the existing baseline position using the criteria summarised in **Table 4.2**.

Table 4.2: Significance Criteria Population and Human Health

Significance	Criteria
Major Beneficial/Adverse	The Proposed Development would cause a large change to the existing baseline position (+10% or for economic variables +2.5%) and the receptor is of significant importance to the SACDC economy and/or there is no available capacity in the community infrastructure.
Moderate Beneficial/Adverse	The Proposed Development would cause a moderate change to the existing baseline position (between +5% to +9.9% or for economic variables between +1% and +2.4%) and the receptor is of some importance to the SACDC economy and/or there is limited capacity in the community infrastructure.
Minor Beneficial/Adverse	The Proposed Development would cause a minor change to the existing baseline position (between +0.1% to +4.9% or for economic variables between +0.1% and +0.9%) and the receptor is of low or no importance to the SACDC economy and/or there is available capacity in the community infrastructure.
Negligible	The Proposed Development would cause no discernible change to the existing baseline position (providing less than 0.1% change).

4.3.4 Those effects classified as moderate or major beneficial/adverse will be considered as significant and, where effects are established as significant adverse, appropriate mitigation measures will be identified to inform the assessment of residual effects.

Geographical Scope

4.3.5 The population and human health effects of the Proposed Development will be felt across different spatial areas depending on the receptor. For example, economic and housing effects of the Proposed Development have the potential to impact and contribute to policy targets for the whole of SACDC, whereas effects on human health and community infrastructure (education and healthcare) will be more localised to the Site. **Table 4.3** summarises the spatial assessment areas proposed for each receptor.

Table 4.3: Proposed Receptor Spatial Assessment Areas

Receptor	Spatial Area	Justification
Jobs/Employment	SACDC	Both the construction and operational phase of the Proposed Development will support jobs and provide employment opportunities for SACDC residents.
Housing	SACDC	The homes provided by the Proposed Development will contribute towards the Local Plan housing requirement for SACDC.

[4] https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/developer-infrastructure-contributions-guide/guide-to-the-hertfordshire-demographic-model.pdf

Receptor	Spatial Area	Justification
Household Expenditure	SACDC	The Proposed Development will create additional households who will generate expenditure through spending on day-to-day services in shops and businesses in SACDC.
GP Provision	Local Study Area (LSA)*	Integrated Care Boards (ICBs) will consider the GP practices nearest to the Proposed Development when determining the impact of new development. Therefore, it is proposed that this assessment considers all GP provision within the LSA as the provision most likely to be impacted upon by the Proposed Development.
Wider Human Health	LSA	Effects on the population's health have the potential to be greatest amongst those populations living closest to the Site.
Primary Education	1 x primary planning area: Harpenden Primary.	HCC group schools into planning areas for school place planning. The nearest primary schools to the Site are located in Harpenden Primary Planning Area (13 primary schools in total). It is proposed that the effects of the Proposed Development on primary education should be considered within the context of this planning area as it represents the primary school provision which has the potential to be most likely impacted upon by the Proposed Development's new residential population, given it contains the closest primary schools to the Site.
Secondary Education	1 x secondary planning area: Harpenden Secondary.	The nearest secondary schools to the Site are located in Harpenden Secondary Planning Area (four secondary schools in total). It is proposed that the effects of the Proposed Development on secondary education should be considered within the context of this planning area as it represents the secondary school provision which has the potential to be most likely impacted upon by the Proposed Development's new residential population, given it contains the closest secondary schools to the Site.

* The Local Study Area is proposed to be defined as comprising of four electoral wards: Harpenden East; Harpenden North & Rural; Harpenden South; and Harpenden West.

Likely Significant Effects

Construction Phase

4.3.6 The likely significant effects during the construction phase are predominantly related to employment (creation) and human health (impacts on health from construction activities). Construction effects on other receptors identified in **Table 4.3** above are to be scoped out of the ES.

Operational Phase

4.3.7 The operational phase has the potential for significant effects on all of the population and human health receptors outlined in **Section 4.2** through: housing delivery; demand from the new residential population for local community services and infrastructure including school and GP places; delivery of commercial and community floorspace creating jobs and supporting employment for SACDC residents; and overall health and wellbeing of the population.

Impacts Scoped Out of the Assessment

4.3.8 Effects on housing, household expenditure, education and GPs during the construction phase are proposed to be scoped out of the assessment as it is anticipated that the construction workforce will not move to the area and therefore not place any additional demand on these services. There would either be no effect during the construction phase on these receptors or effects would be so small as to be insignificant.

4.4 Summary

4.4.1 **Table 4.4** summarises the population and human health receptors identified for inclusion within the assessment.

Table 4.4: Population and Human Health Effects

Receptor	Effects	Scoped In	
		Construction	Operation
Housing	Increase in housing stock and contribution towards policy requirements for the SACDC area	x	✓
Household Expenditure	Increase in expenditure from the development's resident population for the SACDC area	x	✓
Early years Education	Increased demand for early years places, increasing pressure on existing provision in the LSA	x	✓
Primary Education	Increased demand for primary school places, increasing pressure on existing primary schools in the LSA	x	✓
Secondary Education	Increased demand for secondary school places, increasing pressure on existing secondary school in the LSA	x	✓
GP Provision	Increased demand for GP places, increasing pressure on existing provision in the LSA	x	✓
Human Health	Potential effects on human health from the development including noise, air quality and transport in the LSA	x	✓
Employment	Increase in jobs and employment opportunities for residents of SACDC	✓	✓
Household Expenditure	Increase in housing stock and contribution towards policy requirements for the SACDC area	✓	✓

5 Landscape Character and Visual Amenity

5.1 Introduction

5.1.1 An assessment will be undertaken of the likely significant effects of the development on the environment with respect to landscape character and visual amenity.

5.1.2 The Landscape & Visual Impact Assessment (LVIA) chapter of the EIA will be prepared by Bradley Murphy Design Limited (BMD), a Landscape Institute Registered Practice with extensive experience in undertaking LVIA for a broad range and scale of developments in various contexts across the UK.

5.2 Baseline

5.2.1 The baseline landscape and visual conditions summarised below have been identified by a combination of desk based and field study.

5.2.2 A preliminary Zone of Theoretical Visibility (ZTV) was prepared, modelled to reflect the summer and winter scenario as described in the LVIA Methodology at **Appendix B**, to assist in the identification of an appropriate Study Area and range of representative viewpoints for the LVIA. This is based on a radius of 2km from the boundary of the Site. Following the ZTV study (see **Figure 8** at **Appendix C**) and field work (and given the nature of topography and extent of intervening vegetation and built form), a study area of 2km is considered appropriate, with any effects beyond 2km considered insignificant and so not included as part of the assessment.

5.2.3 The LVIA Baseline Figures are included at **Appendix C**.

Landscape Character

5.2.4 The preliminary study included a review of the following existing landscape character assessments, which describe National and District character within the study area:

- The Character of England: Landscape, Wildlife and Natural Features (2014), Natural England;
- Central Bedfordshire Character Assessment (2015); and
- Hertfordshire Landscape Character Area Statements – St Albans District.

5.2.5 The Site lies within National Landscape Character Area 110: Chilterns. However, this character area covers a substantial part of the region and the influence on its character would be to the Site and its close proximity, therefore any effects on the overall character of this large area would be negligible at most, and so this character area would not be considered further as part of the LVIA.

5.2.6 The Site lies within the following district landscape character areas (see **Figure 7** at **Appendix C**), which will be considered as part of the LVIA:

- Hertfordshire Landscape Character Area 34: Blackmore End Plateau; and
- Hertfordshire Landscape Character Area 104: Thrales End Plateau.

5.2.7 Given the distance from the Site, combined with the extent of existing intervening urban form and green infrastructure in the context surrounding the Site, the effect on all other district landscape character areas identified by the assessments noted above would be negligible at most, therefore these would not be considered further as part of the LVIA.

5.2.8 There are a number of designated features within 2km of the Site boundary (see **Figures 3, 4, 5 & 6** at **Appendix C**), which include the following:

- Site lies within a Landscape Conservation Area (Policy 104 of the City & District of St Albans Local Plan), which extends into the surrounding context of the Site - up to the existing settlement edge of Harpenden, the authority boundary with Central Bedfordshire and close to the authority boundary with North Hertfordshire;
- Site straddles a Woodland Enhancement Zone and Chalk Valleys Conservation Zone, along with the south west boundary adjoining the River Valleys Project (all identified by the St Albans District Green Infrastructure Plan, March 2011);
- Bower Heath Common Land, which lies approximately 185m to the north of the Site (at its closest point); and
- Conservation Areas of Mackeyre End (approximately 550m to the east of the Site) and Harpenden (approximately 630m to the south west of the Site, albeit with 20th & 21st Century parts of the settlement between this area and the Site).

5.2.9 There are numerous Listed Buildings (mostly associated with the Conservation Areas), along with areas of Ancient Woodland and Local Nature Reserves scattered within 2km of the Site. Further information on heritage assets within the study area of the Site is available in **Chapter 2** of this scoping report.

5.2.10 Porters Hill Park (undesignated recreation area) lies directly adjacent to the southern boundary of the Site and Westfield Recreation Ground lies approximately 410m to the south west of the Site. Westfield Road Cemetery also lies approximately 500m to the south west of the Site.

5.2.11 The contribution made by these features and policy areas, to the value and character of the landscape, will also be considered by the LVIA. Effects that are more specific to other environmental topics such as biodiversity will be addressed in the specific biodiversity ES chapter to avoid double counting of effects in the ES.

Landscape Resource

5.2.12 The Site covers approximately 32.84 hectares and is located to the north east settlement edge of Harpenden.

5.2.13 Approximately 90% of the Site comprises seven medium sized agricultural pastoral fields used for grazing. Some of the fields are bound or divided by mature hedgerow with trees, whereas most are divided by agrarian fencing.

5.2.14 The remaining approximate 10% of the Site (westernmost part, abutting the B653 Lower Luton Road and B652 Bower Heath Lane) comprises a cluster of agricultural buildings with small paddocks, the Greenacres Equestrian Centre and a handful of small residential properties. The wider Site is split by a private farm track heading roughly east from this complex.

5.2.15 The landform of the Site falls from approximately 131m AOD at its north eastern point, to approximately 118m AOD to the southern boundary and approximately 89m AOD on the

western boundary with the B653 Lower Luton Road, around Greenacres Equestrian. The landform is a notable feature of the Site, with the land rising from the Lea Valley in the north west towards the edge of the plateau in the north east.

5.2.16 Public access through the Site is limited to one Public Right of Way (PRoW), footpath Harpenden 034, which runs from Bower Heath Lane, along the east boundary of the Greenacres Equestrian Centre and along the western boundary of the Site, to adjoin the settlement edge of Harpenden (see **Figure 3** at **Appendix C**). Footpaths Wheathampstead 060 and 061 pass near / adjacent to the north eastern and south eastern boundaries of the Site, connecting to Common Lane, directly east of the Site.

5.2.17 There is a much more extensive network of PRoW beyond the Site boundary (see **Figure 3** at **Appendix C**), including National Cycle Routes 6 & 57 that run through the existing settlement of Harpenden, parallel to the River Lee (approximately 165m to the south west of the Site), along with the Chiltern Way Long Distance Footpath (approximately 1.2km to the west of the Site).

Visual Amenity

5.2.18 As part of the preliminary study, initial summer and winter ZTVs were modelled digitally, to define the scope of the visual impact assessment. Likely visual barriers were included, with the ZTVs used to identify those areas of the landscape that theoretically would be visually connected to the Proposed Development (see **Figure 8** at **Appendix C**). **Appendices D** and **E** provide the viewpoint photographs and site viewpoints collected during the site visit.

5.2.19 Following a site visit in July 2024 several viewpoints were visited to test intervisibility with the Site and the potential for views of the Proposed Development. A number of the viewpoints were discounted as illustrated on **Figure 8** at **Appendix C**, with the rationale for discounting at **Appendix F**.

5.2.20 Key visual receptors (places with potential views of the Site) include the following:

- A range of receptors / viewpoints within the existing settlement of Harpenden:
- Porters Hill Park, playground and allotments directly to the south of the Site;
- Westfield Road, approximately 60m to south west of the Site;
- Westfield Recreation Ground, approximately 400m to south west of the Site; and
- Westfield Road Cemetery, approximately 500m south west of the Site.
- A small number of footpaths, bridleways and other rights of way surrounding the Site, including the Lee Valley Walk, National Cycle Network 6 and the Chiltern Way Long Distance Footpath on Cooters End Lane.
- Vehicle users on Bower Heath Lane and Common Lane, respectively adjacent to north west and north east boundaries of the Site.

5.3 Approach

5.3.1 The landscape and visual effects chapter of the ES will aim to identify and describe the nature and significance of the effects likely to arise, as a result of the Proposed Development, on the existing landscape character and the visual amenity of people.

5.3.2 Whilst the methodology used throughout the EIA with be adhered to for consistency, it will be adapted for the LVIA to ensure the assessment accords with the principles of best practice set out in the following relevant published guidance:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013), (GLVIA3), Landscape Institute and the Institute of Environmental Management & Assessment;
- GLVIA3 Statements of Clarification (2013 - 2015), Landscape Institute;
- Natural England's 'An Approach to Landscape Character Assessment' (2014);
- An Approach to Landscape Sensitivity Assessment (Natural England, 2019);
- Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals (LI, 2019); and
- Landscape Institute Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations (LI, 2021).

5.3.3 As required by GLVIA3, the LVIA will assess the contribution that these resources make to the character and value of the landscape (including landscape quality / condition, scenic quality, rarity, representativeness, conservation interests, recreation value, perceptual aspects and any cultural associations), along with the likely impact and effect on this landscape resource.

5.3.4 Whilst linked, an assessment of the effects of development on landscape character and visual amenity are treated separately in LVIA. The overall approach used to identify and assess landscape and visual effects is summarised as follows:

- Agree the scope of the assessment as set out within this scoping report (to be discussed as part of EIA scoping with SACDC and relevant statutory consultees);
- Collate baseline information through desk study research and field-based survey work, select appropriate landscape and visual receptors and establish their value;
- Review the Proposed Development and determine the susceptibility of landscape and visual receptors to the nature of development proposed;
- Combine value with susceptibility to determine sensitivity of landscape and visual receptors to the nature of development proposed;
- Judge magnitude of impact likely from Proposed Development and combine with sensitivity to judge likely significance of effect without mitigation measures;
- Describe mitigation measures to avoid / reduce magnitude of adverse impact;
- Assess the significance of residual effects following implementation of mitigation; and
- Identify those effects that are considered significant and important to decision making.

5.3.5 The LVIA will include an assessment of the likely effects for both the construction phase and for the operation of the Site. Operational effects will be considered for both the year on completion of the development and for 15 years in the future when proposed mitigation planting would be maturing.

5.3.6 The LVIA will include judgements regarding any potential for variation in effects during the winter and summer, along with a judgement on potential effects during the daytime and night time.

5.3.7 The LVIA will also include a review of relevant legislation and key National, Regional and Local Planning Policies – of relevance to the consideration of judgements on the value and sensitivity of the landscape or specific views.

5.4 Summary

5.4.1 **Table 5.1** summarises the landscape and visual receptors identified for inclusion within the assessment (as illustrated on **Figure 7** Landscape Character Areas and **Figure 8** Viewpoint Locations at **Appendix C**).

5.4.2 The ES chapter will undertake a cumulative assessment of the committed schemes identified in **Chapter 10** of this Scoping Report, and any further cumulative schemes that SACDC may request in the EIA scoping opinion.

Table 5.1: Landscape Character and Visual Amenity Effects

Receptor	Effects	Scoped In	
		Construction	Operation
Landscape Effects			
Landscape Character Area 34: Blackmore End Plateau. Landscape Character Area 104: Thrales End Plateau. Landscape Resource of Site.	Changes to character during construction. Changes to character during operation. Removal of features (positive and negative). Incorporation of additional features (positive and negative).	✓	✓
Visual Effects			
Views from representative Viewpoints: 1: Footpath Wheathampstead 060. 2: Porters Hill Park. 3: Footpath Harpenden 034 & Bower Heath Lane. 4: Westfield Road. 5: Footpath Wheathampstead 093. 6: Westfield Recreation Ground. 7: Westfield Road Cemetery. 8: Lee Valley Walk & National Cycle Network 6. 9: Chiltern Way Long Distance Footpath.	Changes to character, amenity and extent of views (negative) during construction. Changes to character, amenity and extent of views (positive and negative) during construction. Removal of features (positive and negative). Incorporation of additional features (positive and negative).	✓	✓

6 Biodiversity

6.1 Introduction

6.1.1 An assessment will be undertaken of the likely significant effects of the Proposed Development on biodiversity and nature conservation.

6.2 Baseline

6.2.1 No statutory nature conservation designations are present within or immediately adjacent to the Site. The nearest statutory designation is Batford Springs Local Nature Reserve (LNR), located approximately 580m to the south of the Site, and designated for the presence of chalk streams and ponds.

6.2.2 The nearest European-level designation is Chiltern Beechwoods Special Area of Conservation (SAC), located approximately 15.2km to the west of the Site. At this distance, the Site is located outside of the identified zone of influence associated with this designation.

6.2.3 The Site does not fall within any Site of Special Scientific Interest (SSSI) Impact Risk Zone, in relation to residential development, with no SSSIs within 5km of the Site.

6.2.4 No non-statutory nature conservation designations are present within or immediately adjacent to the Site. The nearest non-statutory designation is Holcroft's Springs Local Wildlife Site (LWS), which is separated from the Site by Common Lane, which forms the north-eastern boundary of the Site. The LWS is designated as potentially comprising ancient woodland (albeit it is noted that this woodland is not identified as comprising ancient woodland on Natural England's Ancient Woodland Inventory). Further LWSs and ancient woodland are also located in the wider site surrounds.

6.2.5 The Site comprises horse stables and associated grazed pasture, supporting a range of species diversity from modified grassland to other neutral grassland. Hedgerows and trees are present at the field boundaries, whilst other habitats such as woodland, scrub and hardstanding/buildings are also present.

6.2.6 Initial survey work has identified potential for the Site to support a number of protected and notable species including bats, Badger, birds, Great Crested Newt and reptiles. On this basis, further Phase 2 survey work is being undertaken. Bat survey works ill be completed by the end of October 2024. Badger surveys are also proposed to take place in Autumn 2024 when vegetation cover is less dense.

6.3 Approach

6.3.1 A desktop study has been undertaken, contacting both the local records centre (Herts Environmental Records Centre and Bedfordshire & Luton Biodiversity Recording & Monitoring Centre) and reviewing electronic resources (e.g. MAGIC database) to identify known ecological constraints such as statutory or non-statutory designations, or known sites for protected species.

6.3.2 The Site was surveyed based on standard Phase 1 Habitat Survey methodology[5], whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. Habitats were classified in accordance with the UK Habitat Classification system.

6.3.3 Based on the habitats present at the Site and the identified potential for protected and notable species, Phase 2 survey work is being undertaken for bats, Badger, birds, Great Crested Newt and reptiles, in accordance with standard guidance, as set out below:

- Bats (foraging and commuting) – to assess use of the Site by foraging and commuting bats, seasonal night-time bat walkover surveys and monthly automated surveys are being undertaken between May and October, based on 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Bat Conservation Trust, 2023)[6].

- Bats (roosting) – buildings identified to support potential for roosting bats have been subject to emergence surveys assisted by infrared (IR) cameras between July and August, based on 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Bat Conservation Trust, 2023)[7].

- Badger – surveys will be undertaken to record presence of Badger setts and other evidence at the Site, based on 'Occasional Publication No. 9 – Surveying Badgers[8]'.

- Birds – Common Bird Census surveys have been undertaken comprising three surveys based on methodology within 'Breeding Birds in the Wider Countryside: their conservation status[9]'.

- Great Crested Newt – A single pond is located within 250m of the Site boundary and as such specific presence/absence survey work has been undertaken using environmental DNA (eDNA), following the procedure set out by Biggs et al. (2014)[10].

- Reptiles – Presence / absence surveys have been undertaken within suitable habitat comprising a minimum of 7 check surveys between May and June, based on 'Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation'[11].

6.3.4 It is considered that these Phase 2 surveys will ensure that all significant habitat and faunal issues are assessed and that no other surveys are required to inform the baseline assessment.

6.3.5 The EIA assessment will be undertaken following the principles set out described by the Chartered Institute of Ecology and Environmental Management (CIEEM)[12], and will include an

[5] Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'
[6] Bat Conservation Trust (2023) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn).'
[7] Ibid 5.
[8] Mammal Society (1989) 'Occasional Publication No. 9 – Surveying Badgers'
[9] Baille et al. RA (2010) 'Breeding Birds in the Wider Countryside: their conservation status', BTO Research Report No. 385, BTO, Thetford.
[10] Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. (2014). 'Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA'. Freshwater Habitats Trust, Oxford.
[11] Froglife Advice Sheet 10 (1999) 'Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.'
[12] CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.2, Chartered Institute of Ecology and Environmental Management, Winchester

assessment of cumulative effects, details of appropriate mitigation measures, and details of any residual effects (should any exist following mitigation).

6.4 Summary

6.4.1 **Table 6.1** summarises the biodiversity receptors identified for inclusion within the assessment. No evidence of reptiles or Great Crested Newt have been recorded during the course of survey work undertaken and so this species/group is therefore scoped out of the assessment.

6.4.2 Fauna that is not listed in **Table 6.1** below, such as reptiles, hedgehogs, great crested newts are considered to be scoped out of the ES assessment by virtue of the Proposed Development being unlikely to result in significant environmental effects on these receptors.

6.4.3 The ES chapter will undertake a cumulative assessment of the committed schemes identified in **Chapter 10** of this Scoping Report, and any further cumulative schemes that SACDC may request in the EIA scoping opinion.

Table 6.1: Biodiversity Effects

Receptor	Effects	Scoped In	
		Construction	Operation
Ecological Designations	Dust deposition, noise pollution, light pollution, water pollution, recreational pressure and cat predation	✓	✓
Habitats	Habitat damage, degradation or loss	✓	✓
Bats (foraging/commuting)	Loss of foraging habitats, loss of commuting habitats (hedgerows); increased levels of external lighting	✓	✓
Bats (roosting)	Roost loss or damage; increased levels of external lighting	✓	✓
Badger	If present, potential loss of sett(s) and foraging habitat	✓	✓
Birds	Loss of suitable habitat; disturbance	✓	✓

7 Transport and Access

7.1 Introduction

7.1.1 It is considered that there is the potential for likely significant effects relating to transport and access and so this topic shall be 'scoped in' to the EIA. The Transport assessment will be undertaken by SLR.

7.1.2 The ES shall:

- Define the transport baseline conditions;
- Identify relevant transport receptors;
- Assess:
  - The potential for transport impacts throughout the enabling and construction works and as a result of the completed development and resultant transport effects;
  - The likely significant transport effects;
  - Any required mitigation or monitoring to address any likely significant adverse transport effects and residual effects; and
  - The potential for cumulative effects in relation to transport with other agreed upon schemes in the surrounding area.

7.2 Baseline

Current Baseline Conditions

7.2.1 The Site is located in the north eastern edge of Harpenden. The Site is bound to the north by Common Lane, which wraps around the north eastern corner of the Site. It is bound to the south by Lower Luton Road which provides access towards Harpenden. The Site itself is currently undeveloped, comprising of mainly agricultural land.

Existing Site Accessibility

7.2.2 The Site is in an accessible location with a number of Public Rights of Way (PRoW) and cycle routes within the vicinity of the Site. This includes PRoW 31 which routes through the Site. National Cycle Network (NCN) route 6 is accessible within a short distance of the Site and is accessible from Westfield Road. Additional local cycle routes pass the northern boundary of the Site and follow Common Lane.

7.2.3 Three bus services operate within close proximity of the Site, with the most local bus stops situated at the Lower Luton Road/Westfield Road junction to the west of the Site. This is within a short distance of the proposed location of the site access.

7.2.4 **Figure 7.1** shows the proximity of local PRoWs in relation to the Site, whilst **Figure 7.2** shows the location of cycle routes in the vicinity of the Site.

Figure 7.1: Existing PRoW Provision

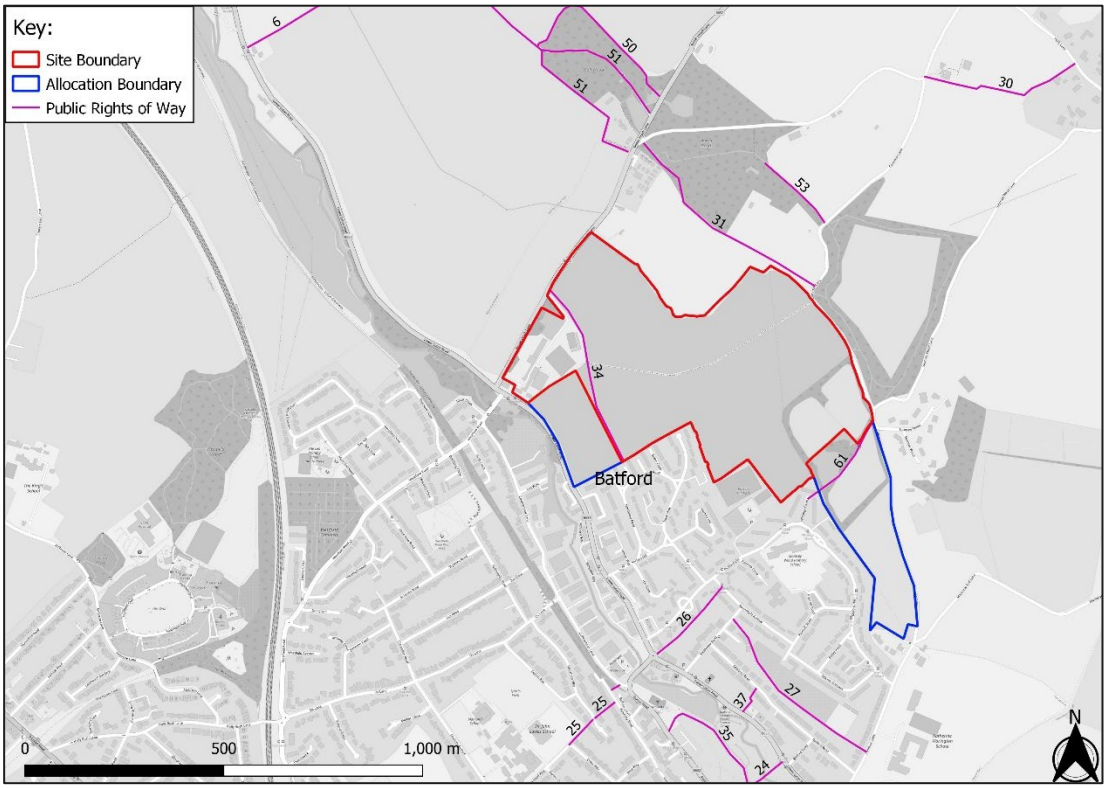
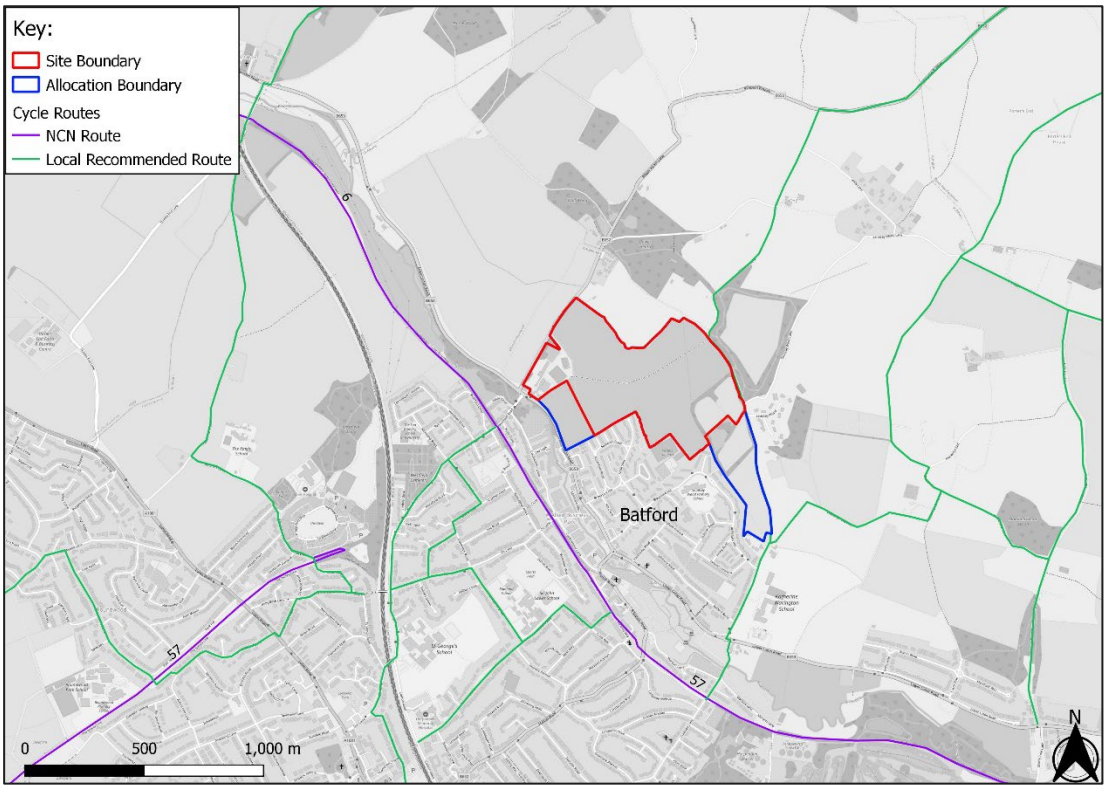


Figure 7.2: Existing Cycle Route Provision



7.2.5 Harpenden railway station is located approximately 2.6km from the Site and provides frequent railway services to destinations including Luton, Bedford, and London.

7.2.6 Based on the above, the Site is considered to be accessible by active travel modes and public transport modes at present.

Highway Network

7.2.7 Lower Luton Road provides the primary access link by road and runs along the south western boundary of the Site.

7.2.8 Lower Luton Road provides the connection between the Site and the centre of Harpenden, and more regional destinations including Luton and Wheathampsted.

7.2.9 Common Lane is located to the north of the Site. This road is rural by nature and provides a link between Lower Luton Road and Kimpton.

7.2.10 Further afield, the most local link to the strategic road network is the M1 and Junction 10, which is located approximately 5 miles to the west of the Site.

Future Surveys

7.2.11 The intention to make use of the baseline data available from DfT. Alongside this, Manual Classified Count (MCC) for turning movements and queues at junctions during weekday traffic peak periods (to provide classification) and Automated Traffic Count (ATC) surveys for 24 hours, seven days a week will be undertaken (to provide volume, speed and classification) of the highway network as shown above.

Future Baseline Conditions

7.2.12 As part of the continuous scoping study, key stakeholders will be asked to advise on committed improvements that will change the transport baseline. These may be walking, cycling, public transport or highways improvements. Alongside these, any committed changes to the local area will also be included.

7.3 Approach

Receptors

7.3.1 The traffic and transport impacts of the Proposed Development will be assessed in line with the IEMA guidelines (2023) and informed by scoping discussions with Hertfordshire County Council (HCC).

7.3.2 The scope of the transport assessment will include consideration of:

- The sensitivity of each receptor;
- Assessment Year and Time;
- Temporal Scope; and,
- Magnitude of Change.
- Potential Sensitive Receptors

7.3.3 Sensitive receptors that have been identified which are relevant to transport within the study area will be based on the principles set out within **Table 7.1**.

7.3.4 The sensitivity of affected receptors will be considered on a scale of high, medium, low or very low. The sensitivity of a road can be defined by the vulnerability of the user groups who may use it, e.g. elderly people, or children.

7.3.5 A sensitive area may be where pedestrian activity may be high, for example in the vicinity of a school or where there is already an accident issue. It also takes account of the existing nature of the road e.g. an existing 'A' road is likely to have a lower sensitivity than a minor residential road as it is already used by a larger volume of traffic therefore a small increase would have a smaller change in the nature of the road.

Table 7.1: Sensitivity of Receptors

Receptor Type	Receptor Sensitivity
Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians	High
Traffic flow sensitive receptors: congested junctions, doctors' surgeries, hospital, shopping areas with roadside frontage, roads with narrow footways, recreation facilities	Medium
Receptors with some sensitivity to traffic flow: place of worship, public open space, tourist attractions and residential areas with adequate footway provision	Low
Receptors with low sensitivity to traffic flows and those sufficiently distance from affected roads and junctions: links where no pedestrian activity occurs and where there is no provision for pedestrians. For example, strategic roads such and motorways and trunk roads or rural roads where there are no pedestrian-generating land uses within the vicinity	Very Low

7.3.6 A review of each highway link within the study area in relation to the key factors which affect the sensitivity of that link will be undertaken.

7.3.7 The scope of the highway network assessed will be agreed with HCC and a more defined study area will be set out in the ES Chapter.

7.3.8 For the purpose of the Transport ES chapter, this is likely to include assessment of flows on the following roads in the vicinity of the Site, subject to agreement with HCC.

- Lower Luton Road;
- Westfield Road;
- Bower Heath Lane;
- Common Lane; and
- Station Road.

Assessment of Effects

7.3.9 Under the IEMA guidelines, it is recommended that the impacts of major developments are considered under each category:

- Severance of communities;
- Road vehicle driver and passenger delay;

- Pedestrian and cycle delay;
- Pedestrian and cycle amenity;
- Fear and Intimidation; and
- Accidents and Safety.

7.3.10 In relation to public transport, the effects of any changes in bus flows will be assessed within the traffic-based assessment. In terms of Overground and Rail, there will be no environmental effects of additional passengers using these services. The predicted demand for the use of these services will be reviewed to ensure that they can accommodate increase generated by the Proposed Development and whether there is a need for additional services. No physical changes are proposed to the rail stations as part of the Proposed Development.

7.3.11 For clarity the topics not covered within the ES chapter will be:

- Hazardous loads: In relation to hazardous loads, as there are no expected movements within either the construction or operational phases of development of such material.

Methodology

7.3.12 The methodology for the assessment of transport impacts will utilise weekday annual average daily traffic (AADT) flows, to reflect the peak operational demand of the Proposed Development. The assessment will utilise observed traffic flows, presenting the actual peak hours to assess the peak traffic impact on the operational highway network.

Screening

7.3.13 The assessment will be undertaken in accordance with the IEMA Guidelines and will also be used within the ES chapter. Within the IEMA Guidelines, two broad rules are suggested which can be used as a screening process to limit the scale and extent of the assessment which in turn assists in identifying links which need to be assessed. These comprise:

- *"Rule 1: include highway links where traffic flows will increase more than 30% (of the number of heavy goods vehicles (HGV) will increase by more than 30%) and,*
- *Rule 2: include any other specifically sensitive areas where traffic flows have increase by 10% or more."*

7.3.14 Where the predicted increase in traffic flows is lower than the above thresholds, the IEMA Guidelines suggest the significance of the effects can be stated to be negligible and further detailed assessments are not warranted. Furthermore, increases in traffic flows below 10% are generally considered to be insignificant in environmental terms given that daily variations in background traffic flow may vary by this amount.

Assessment

7.3.15 The traffic and transport impacts of the Proposed Development will be assessed in line with the IEMA guidelines and informed by scoping discussions with HCC.

7.3.16 The scope of the transport assessment will include consideration of:

- The sensitivity of each receptor;

- Assessment Year and Time;
- Temporal Scope; and,
- Magnitude of Change.

Assessment Years

7.3.17 The ES chapter will assess the following scenarios:

- Baseline;
- Baseline plus Construction;
- Core Assessment: Future Baseline;
- Core Assessment: Future Baseline plus Development.

7.3.18 The year used for each assessment year is currently subject to future technical discussions with HCC.

7.3.19 The description of each of the scenarios is set out below for further information.

Construction Assessment Scenarios

7.3.20 The construction assessment will provide an understanding of the performance of the local highway network on the day of peak construction along with construction related transport movements.

7.3.21 At this time a detailed construction methodology has not been produced but this will be undertaken over the coming period and the assessment will assess the movements of materials by all relevant modes on the transport network.

Core Assessment Scenarios

7.3.22 The Core Assessment Scenarios provide an understanding of the performance of the local highway network with the known committed developments and infrastructure improvements (i.e. those with planning permission) included. The committed developments will be informed by SACDC. This is the assessment that any planning application should be assessed against to determine the required infrastructure and is the future baseline (see **Chapter 10**).

7.3.23 As part of the core assessment, a multi modal trip generation assessment will be undertaken to identify the quantum of movements by mode by time as a result of the development and these will then be assigned to the transport network and assessed against the future baseline.

Assessment Times

7.3.24 The ES chapter will assess the following time periods for each scenario:

- AM Peak Hour;
- PM Peak Hour; and,
- 24 Hour AADT.

Temporal Scope

7.3.25 The temporal scope of the study is essential to consider within the assessment and will identify whether the resultant effects of the Proposed Development will be permanent or temporary in nature and categorised as follows:

- Permanent – these are effects that will remain even when the Proposed Development is complete, although these effects may be caused by environmental changes that are permanent or temporary.

- Temporary – these are effects that are related to environmental changes associated with an activity and that will cease when that activity finishes (construction activity). Temporary effects can be further categorised by the time period of which they will last; short-term (0-2 year impact), medium-term (3-5 year impact) and long-term (5-10 year impact).

Determining the Magnitude of Change

7.3.26 The Institute of Environmental Management and Assessment (IEMA) has published Guidance Notes No:1 Guidelines for the Environmental Assessment of Road Traffic (2023) commonly referred to as the IEMA guidelines. The guidelines provide a thorough approach to the assessment of environmental effects of traffic associated with proposed major developments.

7.3.27 The categories to be assessed as part of the ES chapter are identified in **Section 7.3.9** above.

7.3.28 The following paragraphs cover each of the impacts that will be considered within the ES chapter and how the magnitude of change has been derived.

Severance of Communities

7.3.29 Severance is defined as the perceived division that can occur within a community when it becomes separated by a major traffic artery and describes a series of factors that separate people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road and a physical barrier created by the road itself.

7.3.30 The measurement and prediction of severance is difficult, but relevant factors include road width, traffic flow, speed, the presence of crossing facilities and the number of movements across the affected route.

7.3.31 IEMA guidelines refer to the DfT's 'Manual of Environmental Appraisal', which states that *"changes in traffic flow of 30%, 60% and 90% are regarded as producing slight, moderate and substantial changes in severance respectively."* It is advised that these broad indicators should be used with care and regard paid to specific local conditions. These indicators will be used as the basis of assessing the significance of the effect, along with the application of professional judgement to take account of local conditions and the character of each link.

Road Vehicle Driver and Passenger Delay

7.3.32 IEMA guidelines note that driver delay can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system.

7.3.33 The TA will contain a detailed assessment of the highway network. These assessments will be summarised in the ES chapter where necessary and used to determine the significance of the effect, whilst applying professional judgement.

Pedestrian and Cycle Delay

7.3.34 IEMA guidelines note that changes in the volume, composition and/or speed of traffic may affect the ability and time required for people to cross roads. Typically, increases in traffic levels result in increased pedestrian delay, although increased pedestrian activity itself also contributes. The guidelines do not set any thresholds, recommending instead that assessors use their judgement to determine the significance of the effect.

7.3.35 The IEMA guidelines refer to a report published by the Transport Research Laboratory (TRL) as providing a useful approximation for determining pedestrian delay. The TRL research concluded that mean pedestrian delay was found to be 8 seconds at flows of 1,000 vehicles per hour and just below 20 seconds at 2,000 vehicles per hour for various types of crossing condition.

7.3.36 A two-way flow of 1,400 vehicles per hour has been adopted as a lower threshold for assessment (equating to a mean 10 second delay for a link with no pedestrian facilities) in the TRL report. Below this flow pedestrian delay is unlikely to be a significant factor and therefore will be discounted from further assessment. This flow will be used to determine which links require further assessment, taking into account the characteristics of each link i.e. motorways and trunk roads with no pedestrian facilities and where pedestrians are not permitted will not be assessed. These will be assessed in further detail and professional judgement will be used to determine the significance of the effect on each link.

Pedestrian and Cycle Amenity

7.3.37 IEMA guidelines define pedestrian amenity as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity. The guidelines suggest a tentative threshold for judging the significance of change in pedestrian amenity where traffic flow/ HGV flow is halved or doubled, which would be considered a high change in magnitude. A change of less than half or double would be low and will therefore be discounted from further assessment. These thresholds will be used as the basis of assessing the significance of the effect along with professional judgement. Links where pedestrians are not permitted i.e. motorways, trunk roads etc. and where there are no pedestrian facilities will not be taken forward for further assessment.

Fear and Intimidation

7.3.38 Fear and Intimidation can be summarised as the impact that traffic has on pedestrians. It is dependent on the:

- Volume of traffic;
- HGV composition;
- Proximity to people; and
- Level of protection – i.e. narrow footways.

7.3.39 It is noted that there are no commonly agreed thresholds and therefore the assessment of the level of fear and intimidation will be made based on professional judgement, accounting for the factors identified above.

Accidents and Safety

7.3.40 The IEMA guidelines do not include any definition in relation to accidents and safety, necessitating professional judgement to assess the implications of local circumstance, or factors which may increase or decrease the risk of accidents. Professional judgement has therefore been applied when assessing existing accident records and whether the Proposed Development will have any effect which may increase or decrease the risk of accidents. A review of recorded accidents within the Study Area will be undertaken within the TA and will be summarised in the ES chapter in order to make a professional judgement regarding the significance of the effect.

Summary of Magnitude of Change Derivation

7.3.41 Based on the definitions of each impact identified above, a summary of the criteria that have been used to determine magnitude of change from the baseline conditions as a result of the Proposed Development are set out in **Table 7.2** below.

7.3.42 It should also be noted, however, that the absolute effect is also important e.g. the total flow of traffic or HGVs on a link. This is because an increase of 100% in the traffic flow on a road is likely to lead to an insignificant impact if the existing flows are low. Where this is applicable, professional judgement will be applied and commentary will be clearly provided within the ES chapter.

Table 7.2: Definitions of Magnitude of Change

	Very Low	**Low**	**Medium**	**High**
Severance	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of 60-90%	Change in total traffic or HGV flows over 90%
Driver and passenger delay	A judgement based on the journey time assessment within the traffic model			
Pedestrian and cycle delay	Two-way traffic flows < 1,400 vehicles per hour		A judgement based on the road links with two-way traffic flow exceeding 1,400 vehicles per hour in the context of the individual characteristics	
Pedestrian and cycle amenity	Change in total traffic or HGV < 100%		A judgement based on the routes with > 100% change in the context of their individual characteristics	
Fear and intimidation	A judgement based on the volume of traffic, HGV composition, proximity to people and the level of protection and summarised in the ES chapter			
Accidents and Safety	A judgement based on quantitative analysis as set out in the Transport Assessment and summarised in the ES chapter			

Determining the Significance of Effects

7.3.43 Appropriate criteria will be used to determine whether the potential transportation effects of the Proposed Developed are significant or not. The following terms have been used to define the significance of the effects:

- Major effect: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity. This effect is considered to be 'Significant';
- Moderate effect: where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited

adaptability, tolerance or recoverability. This effect is considered more likely to be 'Significant' but will be subject to professional judgement;

- Minor effect: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the proposed development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change. This effect is considered less likely to be 'Significant' but will be subject to professional judgement; and

- Negligible: where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change. This effect is 'Insignificant.'

7.3.44 The significance of the effect is judged on the relationship of the magnitude of impact to the assessed sensitivity and/ or importance of the receptor. The predicted significance of the impacts is summarised in **Table 7.3** below.

Table 7.3: Significance Evaluation Matrix

Magnitude of Change	**Receptor Sensitivity**			
	High	**Medium**	**Low**	**Very Low**
High	Major (Significant).	Major (Significant).	Moderate (Significant or not significant).	Minor (Not significant).
Medium	Major (Significant).	Moderate (Significant or not significant).	Minor (Not significant).	Minor (Not significant).
Low	Moderate (Significant or not significant).	Minor (Not significant).	Minor (Not significant).	Negligible (Not significant).
Very Low	Minor (Not significant).	Minor (Not significant).	Negligible (Not significant).	Negligible (Not significant).

7.3.45 Potential effects are therefore concluded to be of negligible, minor, moderate or major significance. For each effect, it has been concluded whether the effect is 'beneficial' or 'adverse'. Major significance effects are considered to be significant in terms of EIA guidance. Moderate significance effects require further investigation to determine whether they are significant in terms of EIA guidance.

7.4 Summary

7.4.1 **Table 7.4** summarises the receptors identified for inclusion within the assessment.

7.4.2 The effects of the receptors will be considered in light of the impact of the cumulative impacts of the scheme, including identified committed developments.

7.4.3 The ES chapter will undertake a cumulative assessment of the committed schemes identified in **Chapter 10** of this Scoping Report, and any further cumulative schemes that SACDC may request in the EIA scoping opinion.

Table 7.4: Transport and Access Effects

Receptor	**Effects**	**Scoped In**	
		Construction	**Operation**
Severance	Net change in traffic patterns; daily link flows; traffic speed; effect on personal injury accidents Net change in traffic and effect on severance, delay and amenity for pedestrians and cyclists. Effect on personal injury accidents.	✓	✓
Driver Delay		✓	✓
Pedestrian Delay		✓	✓
Pedestrian Amenity		✓	✓
Fear and Intimidation		✓	✓
Accidents and Safety		✓	✓

8 Noise and Vibration

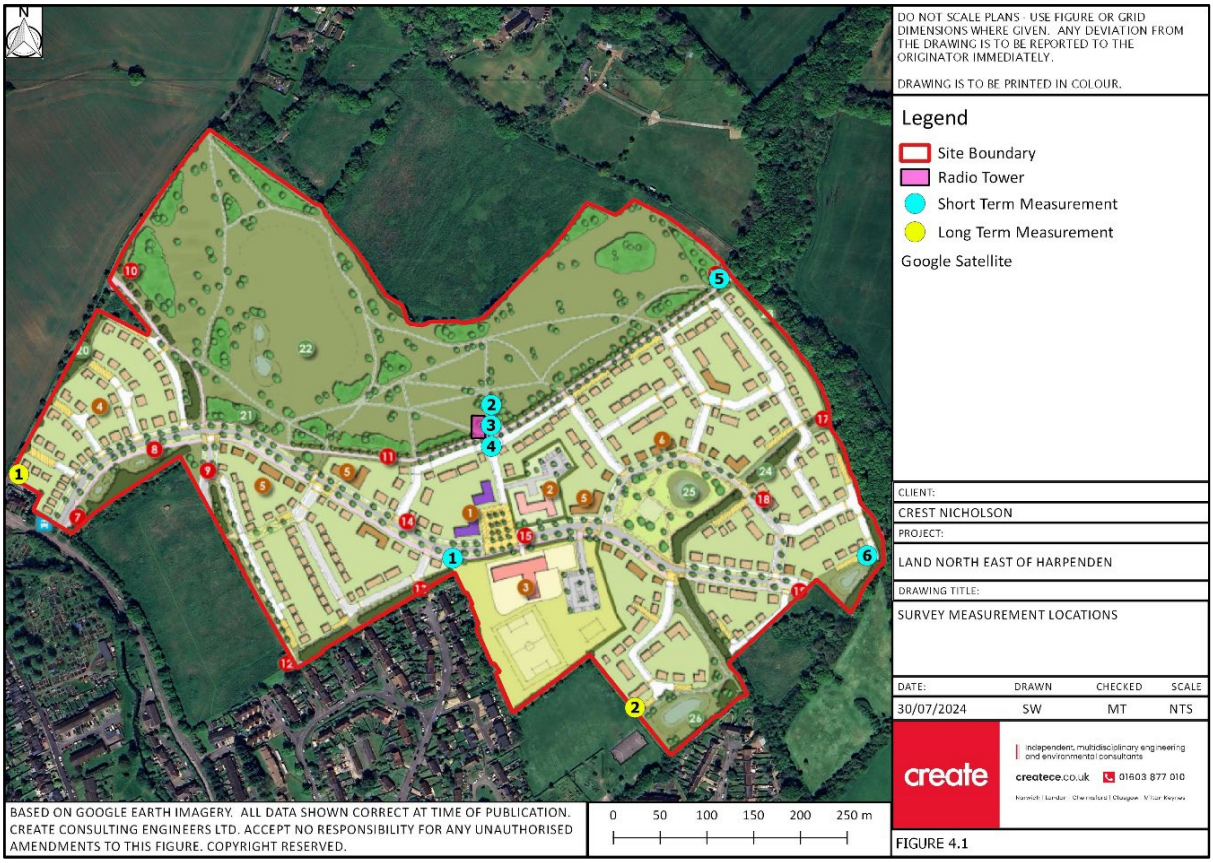
8.1 Introduction

8.1.1 It is considered that there is the potential for likely significant effects relating to noise and vibration and so this topic shall be 'scoped in' to the EIA.

8.1.2 A noise and vibration assessment (NVA) has been carried out, which will support the planning application. The NVA includes measurements of background and ambient noise monitoring at two locations.

8.1.3 Surveys were undertaken for 5 days and nights continuously, as well as a series of manned short term noise monitoring, at the locations depicted in **Figure 8.1** below.

Figure 8.1: Baseline Noise Monitoring Locations



8.2 Baseline Conditions

8.2.1 At Long Term position 1, the majority of the noise was subjectively generated by the road traffic noise, as well as some limited transportation noise associated with the livery. At all other locations, the soundscape was predominantly distant road traffic, although occasional rail noise and aircraft noise could be witnessed.

8.2.2 The average ambient daytime noise levels over the course of the monitoring period were **54 dB $L_{Aeq,16h}$** and **47 dB $L_{Aeq,16h}$** at Long Term positions 1 and 2 respectively.

8.2.3 The average ambient night time sound levels over the course of the monitoring period were **47 dB $L_{Aeq,8h}$** and **37 dB $L_{Aeq,8h}$** at Long Term positions 1 and 2 respectively.

8.2.4 The 50th highest maximum event level (based on the 10th highest for 5 nights) was measured to be **68 dB $L_{AFmax,1\text{-}minute}$** and **55 dB $L_{AFmax,1\text{-}minute}$** at Long Term positions 1 and 2 respectively.

8.2.5 The representative daytime background sound level was measured to be **46 dB $L_{A90,1hour}$** and **37 dB $L_{A90,1hour}$** at Long Term positions 1 and 2 respectively.

8.2.6 The representative night time background sound level was considered to be **30 dB $L_{A90,15mins}$** at both of the Long Term monitoring locations.

8.3 Approach

8.3.1 A detailed noise and vibration assessment, which will be submitted with the planning application, has been undertaken which includes a description of the Site and the proposed works to be carried out; a summary of international and local policies and standards; the results of the measurements taken on Site; an assessment of external and internal sound levels against the relevant standards; appropriate mitigation requirements at outline design stage and an assessment of construction noise and vibration to the surrounding receptors.

8.3.2 The relevant national and local policies which have been referred to include the National Planning Policy Framework (NPPF); National Planning Practice Guidance (PPG-N); Noise Policy Statement for England (NPSE), Policy 9 of the City and District of St Albans District Local Plan Saved and Deleted Policies Version (July 2020) *"Non-Residential Uses Within Residential Areas";* Policy 57 *"Service Uses*"; and Policy 65 *"Education Facilities".*

8.3.3 Guidance documents which have been referred to within the Acoustic Assessment include ProPG: Planning and Noise – New Residential Development (2017); WHO Environmental Noise Guidelines (2019); WHO: Guidelines on Community Noise (1999); BS 8233 Guidance on Sound Insulation and Noise Reduction in Buildings (2014); and BS 4142 (2014) +A1 (2019) Methods for Rating and Assessing Industrial and Commercial Sound.

8.4 Summary

8.4.1 **Table 8.1** summarises the noise and vibration effects to be included for detailed assessment within the ES.

8.4.2 Operational vibration will be scoped out of the ES for all identified receptors.

8.4.3 The ES chapter will undertake a cumulative assessment of the committed schemes identified in **Chapter 10** of this Scoping Report, and any further cumulative schemes that SACDC may request in the EIA scoping opinion.

Table 8.1: Noise and Vibration Effects

Receptor	Effects	Scoped In
102 Lower Luton Road	Construction Noise	✓
	Construction Vibration	✓
	Operational Noise	✓
64 – 66 Noke Shot	Construction Noise	✓
	Construction Vibration	✓
	Operational Noise	✓

Receptor	Effects	Scoped In
9 – 12 Whitings Close	Construction Noise	✓
	Construction Vibration	✓
	Operational Noise	✓
1 Sauncey Wood	Construction Noise	✓
	Construction Vibration	✓
	Operational Noise	✓

9 Air Quality

9.1 Introduction

9.1.1 It is considered that there is the potential for likely significant effects relating to air quality and so this topic shall be 'scoped in' to the EIA.

9.2 Baseline

9.2.1 An initial understanding of the baseline air quality and ecological conditions and the potential significant effects that could arise are explained below.

Baseline Air Quality Conditions

9.2.2 As required by the Environment Act (1995), St Albans City and District Council (SACDC) has undertaken a review and assessment of air quality within their administrative area. There is one designated AQMA for elevated annual mean NO_2 and 24-hour mean PM_{10} concentrations above their respective AQOs.

9.2.3 This AQMA is not located within close proximity of the Site. There are no other neighbouring AQMA's within close proximity of the Site.

Air Quality Monitoring Data

9.2.4 Data was taken from SACDC's 2023 Air Quality Annual Status. Concentrations measured in 2020 and 2021 should be perceived with caution due to the COVID-19 pandemic where lockdown would have disrupted usual traffic patterns in the UK. These concentrations are likely to be lower than expected in an ordinary year.

Automatic Monitoring Locations

9.2.5 There is currently no automatic monitoring undertaken by SACDC in 2022.

Non-Automatic Monitoring Locations

9.2.6 SACDC operated 50 passive monitoring stations (diffusion tubes) within the area in 2022. **Table 9.1** shows diffusion tube monitoring results within 4km of the Site. **Table 9.1** shows there have been no exceedances of the annual mean NO_2 AQO at any monitoring station in recent years.

9.2.7 The diffusion tubes are located in urban areas. These are not indicative of concentrations at the Site, where concentrations are likely to be lower. These monitoring stations may be indicative of the operational development.

Table 9.1: Diffusion Tube Monitoring Results

Site ID	Site Name	NGR		Site Type	Annual Mean NO_2 Concentrations ($\mu g/m^3$)				
		X	Y		2018	2019	2020	2021	2022
SA110	Crabtree JMI Crabtree Lane Harpenden	514438	214353	Kerbside	21.0	21.2	12.3	12.9	13.0
SA109	High Street Harpenden	513427	214308	Kerbside	25.0	26.9	15.9	18.0	19.3
SA112	High Street Wheathampstead	517727	214041	Kerbside	26.7	26.1	19.6	20.6	19.7
SA159	Marford Road Wheathampstead	517727	213901	Roadside	29.7	28.8	19.4	21.1	20.2

DEFRA Mapped Background Concentrations

9.2.8 Predictions of background pollutant concentrations on a 1km-by-1km grid basis have been produced by DEFRA for the entire of the UK to assist Local Authorities (LAs) in their Review and Assessment of air quality.

9.2.9 The Site is located in grid squares NGR: 514500, 216500. The predicted background concentrations for the baseline year (2022), present year (2024), and 2030 are shown in **Table 9.2**. There is no background data for 2036 when the Proposed Development is expected to be completed and therefore 2030 has been used to provide the furthest predicted data available.

9.2.10 As shown in **Table 9.2**, background concentrations do not exceed the relevant AQOs. All concentrations are predicted to reduce further in the opening year.

Table 9.2: DEFRA Predicted Background Concentrations

Pollutant	Predicted Background Concentration ($\mu g/m^3$)		
	2022	2024	2030
NO_X	12.93	12.10	10.45
NO_2	9.86	9.20	8.07
PM_{10}	14.30	13.95	13.76
$PM_{2.5}$	9.15	8.88	8.73

Baseline Ecological Conditions

9.2.11 Ecological receptors were determined using Magic Maps website which provides authoritative geographic information about the natural environment from across government. This application is managed by Natural England. The application showed that the Site boundary and trackout route is within London Area Greenbelt, titled St. Albans District (B)

9.2.12 The ecological receptors within 2km of the Site are shown in **Table 9.3**.

Table 9.3: Ecological Features Nearby the Proposed Development

Ecological Features	Name
Designated Sites	• Barford Springs LNR- circa.580 m from the Site • Marshalls Heath LNR- circa. 1,500 km from the Site
Habitat: Ancient Woodland	• Deciduous woodland • National Forest Inventory: Broadleaved

Species	• Arable Assemblage Farmland Birds • Grassland Assemblage Farmland Birds • Grey Partridge • Turtle Dove • Yellow Wagtail • Granted European Protected Species: Bat

9.2.13 In addition to the above ecological features, River Lee is located 163m west of the Site, with part of the river within Barford Springs LNR. Air Pollution Information System (APIS) was used to obtain predicted levels of nutrient nitrogen and total acid deposition at Barford Springs LNR. This indicated that critical loads for nitrogen deposition have not been assigned to the designated features. As such, the designations are not considered sensitive to changes in air quality as a result of the Proposed Development and further assessment will not be undertaken in the EIA.

9.3 Approach

9.3.1 The scope of the assessment in accordance with the Institute of Air Quality Management (IAQM) best practice guidance will include:

- Identification of sensitive receptors (including ecological receptors);
- Review of monitoring data and background pollutant maps;
- Determination of construction-related impacts;
- Detailed air quality dispersion modelling using ADMS-Roads Extra (version 5.0.1.3) for modelling traffic related emissions impacts;
- Assessment of impacts on sensitive receptors;
- Mitigation measures for construction and operational phases;
- Residual effects for construction and operational phases; and
- Cumulative effects for construction and operational phases.

9.3.2 An Air Quality Assessment (AQA) will be undertaken to assess the potential air quality impacts associated with both the construction and operation of the Proposed Development. Likely changes to air quality in the area, as a result of the Proposed Development will be considered in relation to the UK Air Quality Objectives (AQOs). Also, where required, the AQA considers mitigation measures to reduce the effect of the Proposed Development on local air quality.

9.3.3 In terms of the construction impacts, the Proposed Development will have the potential to generate dust, particulate matter (PM_{10}) during the construction phase. This has been assessed to provide an adequate level of dust mitigation and practices during the construction phase.

9.3.4 Vehicle movements generated during the operation of the Proposed Development will give rise to NO_2, PM_{10} and $PM_{2.5}$ emissions which will have potential impacts to worsen air quality within the area. Therefore, the assessment includes a traffic emission dispersion modelling study that predicts traffic-related pollutants at local receptors and across the Site.

9.3.5 The significance of an effect is generally determined as the combination of the sensitivity and/or value of the affected environmental receptor and the predicted extent and /or magnitude of the

impact or change. The assessment of significance ultimately relies on professional judgement, although comparing the extent of the impact with criteria and standards specific to each environmental topic can guide judgment.

Sensitive Receptors

9.3.6 In line with the guidance from the EPUK-IAQM, sensitive receptors will be considered for both the construction and operational phases of the Proposed Development.

9.3.7 As the Proposed Development introduces new residential receptors into a new area, consideration will be given to the likely conditions for its future occupants, as well as existing receptors within the area.

9.3.8 Human sensitive receptors will be modelled at onsite and offsite locations across the modelling extent. These receptors will be modelled at 1.5m to represent human height at ground level.

9.3.9 Additionally, ecological receptors surrounding the Proposed Development will be modelled at 0m to represent water level and vegetation at ground level.

Construction Phase Assessment Methodology

9.3.10 The effects of the Proposed Development on air quality during construction (i.e., dust) have been assessed qualitatively in accordance with the IAQM's 'Guidance on the assessment of dust from demolition and construction'.

9.3.11 The IAQM guidance provides guidance on a five-step process to assess the potential impacts of construction dust pre mitigation, provide mitigation measures specific to the risk, and assess the post-mitigation impacts.

9.3.12 The guidance considers the risk of dust emissions from unmitigated activities to cause human health (PM_{10}) impacts, dust soiling impacts, and ecological impacts. The outcome of construction-based risks are based on the scale and types of activities and on the sensitivity of receptors. The outcome of the risk is used to determine the level of good practice mitigation required for adequate control of dust.

9.3.13 Human receptors up to 250m from the Site boundary and within 50m of trackout route from the Site have been assessed in line with IAQM.

9.3.14 Ecological receptors within 50m of the routes used by construction vehicles on the public highway, and up to 250m from the site entrance have been assessed in line with IAQM.

9.3.15 The predicted dust emission magnitude has been combined with the defined sensitivity of the area to determine the risk of impacts during the construction phase, prior to mitigation. **Table 9.4 provides** a summary of the risk of impacts for the Proposed Development. The highest risk category identified for each construction activity has been used to determine the level of mitigation required.

Table 9.4: Summary of Potential Unmitigated Dust Risks

Potential Impact	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust Soiling	High	High	High
Human Health	Low	Low	Low

Ecological	Low	Low	Low

9.3.16 As indicated in **Table 9.4**, the highest risk for dust generating activities during all activities is a high. The overall dust risk level is classed as a high risk for all non-specified activities.

9.3.17 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the Site boundary closest to each sensitive area. Therefore, the actual risk is likely to be lower than that predicted during the majority of the construction phase.

9.3.18 The IAQM guidance provides a number of potential mitigation measures to reduce impacts during the construction phase. These measures have been adapted for the Proposed Development.

Operational Phase Assessment Methodology

9.3.19 Additional vehicle movements associated with the operation of the Proposed Development will generate exhaust emissions, such as NO_2, PM_{10} and $PM_{2.5}$ on the local and regional road networks. An assessment will be undertaken using dispersion modelling in order to quantify potential changes in pollutant concentrations at sensitive human receptor locations in the vicinity of the Site.

9.3.20 The pollutant concentration changes on ecological sensitive receptors, due to vehicular emissions will be determined by modelling the dispersion of the emissions. This is known as the process contribution (PC). The maximum PC is used to determine whether the impacts will be insignificant so that they can be 'screened out'. A predicted environmental concentration (PEC) should be calculated for each substance that is not screened out.

9.3.21 The detailed air quality dispersion modelling will provide predictions of the annual mean concentrations of pollutants with and without the Proposed Development. The modelled annual mean concentrations will be compared with the UK air quality objectives and be aligned with the guidance assessment criteria set out within LAQM TG.22 and the EPUK-IAQM best practice guidance.

9.3.22 The traffic data that will be used in this assessment will be provided by the project transport consultants in the AADT and HGV% formats. For the relevant transport links and committed developments, this data will be provided for the following scenarios:

- Baseline flows in 2022;
- Without the Proposed Development, 2036; and
- With the Proposed Development, 2036.

9.3.23 Without development traffic, and with development traffic flows in 2036, will both take account of the committed developments identified within the traffic data provided by the transport consultants.

9.3.24 **Table 9.5** summarises the air quality effects to be scoped in for detailed assessment within the ES.

Table 9.5: Air Quality Effects

Receptor	Effects	Scoped In
Human Receptors	Construction activities	✓
	Operation of the development	✓
	Impact on existing residents	✓
Ecological Receptors	Construction activities	✓
	Operation of the development	✓
	Impact on existing residents	✓

10 Cumulative Effects

10.1.1 The ES will consider the potential for likely significant effects on the environment resulting from committed developments in the area. Schedule 3 (1)(b) of the EIA Regulations states that the characteristics of the Proposed Development must be considered with particular regard to:

> *"…cumulation with other existing development and/or approved development…"*

10.1.2 PPG identifies that:

> *"…There are occasions where other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development..."*

10.1.3 A search of SACDC's planning register undertaken in September 2024 has identified the projects in **Table 10.1** for the assessment of likely significant cumulative effects on the environment. There is no formally agreed methodology as to how to assess cumulative schemes in proximity to the Proposed Development . For the purposes of the Proposed Development, a proximity of 2km within the Site boundary has been chosen when searching for cumulative schemes.

Table 10.1: Cumulative Schemes

Planning Reference	**Address**	**Description of Development**	**Approx. Distance from the Site**	**Status**
5/2023/0327	Land at Cooters End Lane and Ambrose Lane Harpenden Hertfordshire	Construction of up to 550 dwellings including circa. 130 Class C2 integrated retirement homes, 40% affordable housing, early years setting, public open space, allotments and publicly accessible recreation space	1km	Validated 01/03/2023 Decision: Pending

10.1.4 Confirmation of these schemes for cumulative assessment is sought from SACDC as part of the EIA Scoping Opinion.

11 Environmental Statement Structure

11.1 Introduction

11.1.1 The ES will comprise 12 chapters and will be supported by figures (located at the back of each chapter within Volume 1) and technical appendices (within a separate Volume 2).

11.1.2 A Non-Technical Summary (NTS) of the full ES will be provided as a separate standalone document. **Table 11.1** sets out the structure of the ES.

Table 11.1: Environmental Statement Structure

Volume 1: ES Main Text and Figures		
Chapter No.	**Chapter Title**	**Description**
1	Introduction	Introduction to the ES, EIA requirements, details of project team, ES organisation and availability.
2	EIA Methodology	Methods used to prepare each chapter, description of ES structure and content, generic significance criteria, Scoping and consultation.
3	Site and Development Description	Site description and details of the Proposed Development.
4	Alternatives and Design Evolution	Outline of the main alternatives considered by the Applicant including a high-level comparison of environmental effects.
5	Construction Methodology and Phasing	Details of anticipated programme for development and construction methodology.
6	Population and Human Health	Assessment of the effects of the Proposed Development on population and human health.
7	Landscape Character and Visual Amenity	Assessment of the effects of the Proposed Development on landscape character and visual amenity.
8	Biodiversity	Assessment of the effects of the Proposed Development on biodiversity.
9	Transport and Access	Assessment of the effects of the Proposed Development on transport and access.
10	Noise and Vibration	Assessment of the effects of the Proposed Development on noise and vibration.
11	Air Quality	Assessment of the effects of the Proposed Development on air quality.
12	Summary and Residual Effects	Summary of the residual and interactive effects of the Proposed Development.
Volume 2	Technical Appendices	Technical data and reports to support the chapters in Volume 1.
Standalone Document		
Non-Technical Summary		Summary of the ES in non-technical language.

11.1.3 The first five chapters of the ES would be introductory and provide essential information for the subsequent technical chapters. Further information on these chapters is set out below.

11.2 ES Structure

ES Chapter 1: Introduction

11.2.1 This chapter will provide background to the EIA, describe the structure of the ES and identify the project team.

ES Chapter 2: EIA Methodology

11.2.2 This chapter will set out the methodology used in the EIA, state the assumptions applicable to all environmental topics, summarise the EIA Scoping process undertaken and summarise the public consultation process. Bespoke methodologies, limitations and assumptions will be contained in the technical chapters of the ES where required.

11.2.3 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. Generic criteria to be used in carrying out this process are detailed below. Some technical chapters will use discipline-specific criteria with their own terms for magnitude, sensitivity and significance. This will be explained in the relevant chapter.

Prediction of Impact Magnitude

11.2.4 The methodology for determining the scale or magnitude of impact is set out in **Table 11.2** below.

Table 11.2: Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for assessing impact
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

11.2.5 The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out in **Table 11.3** below.

Table 11.3: Methodology for Determining Sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Assessment of Effect Significance

11.2.6 Effect significance will be calculated using the matrix in **Table 11.4**. This illustrates the interaction between impact magnitude and receptor sensitivity.

11.2.7 Generally, in EIA, effects that are moderate (adverse/beneficial) or above are considered to be significant in EIA terms. However, where individual discipline methodologies may differ from what is explained here, this will be clearly explained in the ES chapter.

Table 11.4: Effect Significance Matrix

Magnitude	**Sensitivity**		
	High	**Moderate**	**Low**
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

Statutory Consultation

11.2.8 The following statutory and other consultees will be consulted through the EIA process:

- Historic England;
- Natural England;
- Environment Agency;
- SACDC (various departments); and
- Any other stakeholder that SACDC nominates.

ES Chapter 3: Site and Development Description

11.2.9 This chapter will describe the setting of the Site and the existing baseline conditions (including the future baseline) on the Site, as well as explaining the Proposed Development and setting out the Proposed Development parameters. The parameter plans will be included as figures to the chapter.

ES Chapter 4: Alternatives

11.2.10 This chapter would describe the evolution of the Proposed Development based on environmental constraints of the schemes considered by the Applicant.

ES Chapter 5: Construction Methodology and Phasing

11.2.11 This chapter will outline the anticipated construction programme, phasing and methodology and explain the assumptions made. This chapter will form the basis of the construction phase assumptions documented in each of the technical chapters of the ES.

11.3 Technical Assessments

11.3.1 Each ES chapter will follow the headings set out below to ensure the final document is transparent, consistent and accessible.

- Introduction;
- Planning Policy Context;
- Assessment Methodology;
- Baseline Conditions;
- Likely Significant Effects;
- Mitigation Measures;
- Residual Effects;
- Cumulative Effects; and
- Summary.

11.3.2 Each chapter sub-heading is explained in further detail in **Table 11.5**.

Table 11.5: Technical Chapter Format and Content

Sub-Heading	Content
Introduction	This section will introduce the assessment discipline and the purpose for which it is being undertaken.
Planning Policy Context	This section will include a summary of national, regional and local policies of relevance to the environmental discipline and assessment. Where applicable, relevant legislation will also be summarised.
Assessment Methodology	This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria will also be discussed. It will also outline any difficulties encountered in compiling the required information.
Baseline Conditions	This will include a description of the environment as it is currently (2023) and as it is expected to change given the project were not to proceed (i.e. future baseline scenario). The method used to obtain baseline information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted. This section will also consider the future baseline i.e., how the Site or study area may change in the future should the Proposed Development not proceed.
Likely Significant Effects	This section will identify the likely significant effects on the environment resulting from the construction and operational phases of the Proposed Development. This section also identifies primary (embedded) mitigation measures that are modifications to the location or design of the Proposed Development. These measures are considered an inherent part of the Proposed Development, such as ensuring that a key habitat or will be unaffected by

Sub-Heading	Content
	the Proposed Development layout and operation. The first assessment of magnitude, sensitivity, and significance of effect takes all embedded mitigation measures into account as an integral part of the Proposed Development.
Mitigation Measures	Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of the project, compensation and the provision of alternative solutions (including alternative technology). • Secondary: actions that require further activity to achieve a particular outcome, secured for example through development consent requirements or section 106 obligations, such as lighting limits that will be subject to the submission of a detailed lighting layout for approval; or • Tertiary (Additional): actions that would occur regardless of the EIA, including those undertaken to meet other existing legislative requirements, or actions that are standard practice to manage commonly occurring environmental effects. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions. Clear details of when and how the mitigation measures will be carried out will be given. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable subsequent adjustment of mitigation measures, as necessary. The opportunity for enhancement measures will also be considered, where appropriate. Information will be included on the mechanism by which the mitigation will be secured (e.g. by planning condition) with outline arrangements for monitoring and responsibilities for doing so, where necessary.
Residual Effects	The residual effects, i.e. the effects of the Proposed Development assuming implementation of proposed mitigation, will be determined. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.
Cumulative Effects	The inter-project cumulative effects of the Proposed Development combined with identified committed developments will be assessed. Intra-project effects (effects of one environmental discipline with another on the same receptor) will be considered in the Summary and Residual Effects ES Chapter.
Summary	A summary of the assessment and conclusions will be provided at the end of each technical chapter.

Summary and Residual Effects

11.3.3 The residual effects of the Proposed Development will be summarised in one table at the end of the ES setting out the overall beneficial and adverse effects of the Proposed Development.

Appendix A Site Location Plan

KEY

Land Controlled by Crest

N

0 20 40 60 80 100m

Rev.	Description.	Date.	Initial.

Site:

Lower Luton Road
Harpenden

Drg Title:

Land Controlled by Crest

Scale: (A1) 1:1250	Date: 18.10.22	Drawn: CN	Checked: BO

Drawing No: HPD-GN-005

Revision: -

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Appendix B LVIA Methodology

A. APPENDIX A: LVIA ASSESSMENT METHODOLOGY

A.1 Introduction

A.1.1 This assessment aims to identify and describe the nature and significance of the effects likely to arise as a result of the Proposed Development on the existing landscape and the visual amenity of people.

A.2 Approach

A.2.1 This methodology has been developed in accordance with the principles of good practice set out in the following published guidance produced by the relevant professional organisations concerned with landscape and visual assessment:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013), (GLVIA3), Landscape Institute and the Institute of Environmental Management & Assessment;
- GLVIA3 Statements of Clarification (2013 - 2015), Landscape Institute;
- Natural England's 'An Approach to Landscape Character Assessment' (2014);
- An Approach to Landscape Sensitivity Assessment (Natural England, 2019);
- Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals (LI, 2019); and
- Landscape Institute Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations (LI, 2021).

A.2.2 The GLVIA3 states that:

"Landscape and Visual Impact Assessment (LVIA) is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity."

A.2.3 Whilst linked, the assessment of landscape and visual effects are treated separately in LVIA. The overall approach used to identify and assess landscape and visual effects is summarised as follows:

- Determine the scope of assessment;
- Collate baseline information through desk study research and field-based survey work, select appropriate landscape and visual receptors and establish their value;
- Review the proposal and determine susceptibility of landscape and visual receptors to the nature of development proposed;
- Combine value with susceptibility to determine the sensitivity of landscape and visual receptors to the nature of development proposed;
- Describe the nature and magnitude of change likely to be experienced by landscape and visual receptors as a result of the Proposed Development;
- Describe any measures to avoid or reduce the magnitude of any adverse change;
- Assess the significance of effects for landscape and visual receptors in relation to the Proposed Development through a clear description of judgements on sensitivity and magnitude; and
- Identify those effects that are considered relevant to decision making.

Purpose of LVIA

A.2.4 The overriding aim of LVIA is to draw out the key landscape and visual issues that are likely to arise as a result of a Proposed Development and to ensure that the significance of effects and the scope for reducing any adverse effects are properly understood by the public and the competent authority. Whilst it is important to identify the range of effects likely to be experienced by receptors, the aim should be to identify and describe in detail any significant effects that are likely to be most relevant to decision making.

Professional Judgement in LVIA

A.2.5 The GLVIA3 asserts that professional judgement is a very important part of LVIA as much of the assessment must rely on qualitative judgements about the nature of change and whether it is positive, neutral or negative. However; professional judgement must be informed by clear and transparent methods, as clarified in paragraph 2.24 of the GLVIA3:

"In all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others."

Limitations of LVIA

A.2.6 Landscape results from the interplay between the natural, physical and cultural components of the environment and as such the assessment of landscape and visual effects is a process closely linked with other topics, notably ecology and the historic environment. The LVIA considers the contribution heritage and ecological features make to the character and value of the landscape and visual receptors, along with an assessment of the likely effect of the Proposed Development on the landscape character and views associated with heritage features. The LVIA has been carried out in landscape and visual terms only, as an assessment of effects on heritage assets and their wider cultural setting (e.g. impacts on cultural and historic associations) are considered to be beyond the remit of this LVIA. The LVIA does not assess direct or any other indirect effects on heritage or ecological resources.

A.2.7 The LVIA is based on views from publicly accessible locations. Where an impact on residential and other private views (e.g. commercial properties) is noted this has, necessarily, been estimated (unless access is provided by a landowner). The viewpoints identified in the LVIA are illustrative of the worst-case potential impact from a representative range of receptors including residences, rights of way, public open spaces, private open space, commercial operations, the road and rail network etc. This LVIA does not necessarily identify all locations from where the Proposed Development would potentially be visible.

A.2.8 In the absence of a detailed design and layout the effects of lighting cannot be accurately determined however an assessment is provided on: the likely effects of temporary lighting resulting from construction; the change to the baseline sky glow; and, the change to the landscape and views as a result of the introduction of lighting as part of the Proposed Development.

A.3 Scope of Assessment

Spatial Scope

A.3.1 A preliminary study area has been identified, the extent of which considers the nature and scale of the Proposed Development in relation to the existing physical characteristics of the landscape as well as existing landscape studies and assessments. The preliminary study area is based on an approximate radius of 3km from the boundary of the site, which is considered to be sufficient to account for potential significant effects that may arise as a result of the Proposed Development.

Zones of Theoretical Visibility

A.3.2 Zones of theoretical visibility (ZTV) have been modelled digitally to identify those areas of the landscape that theoretically are visually connected with the Proposed Development, in order to refine the extent of the study area further. Two ZTVs have been modelled that illustrate both worst case and more realistic scenarios.

A.3.3 ZTV 1: represents the proposed built form within the Application Site that would theoretically be visible, based on the building heights for the Proposed Development, taking account of the effect that settlements and significant woodland blocks / belts would have on views toward the Proposed Development and therefore illustrates a reasonably realistic area within which the Proposed Development could theoretically be visible during the summer months.

A.3.4 ZTV 2: represents the proposed built form within the Application Site that would theoretically be visible during the winter months, when leaf cover on existing vegetation is reduced and views towards the Proposed Development have potential to be increased, based on the building heights for the Proposed Development, taking account of the effect that only the existing settlements would have on views toward the Proposed Development.

A.3.5 These ZTVs consider the potential visibility of a developable volume encompassing all built form proposed within the site, rather than the visibility of individual buildings. This 'jelly mould' approach has been adopted to represent the worst-case parameters with regard to building locations, footprint dimensions and heights to ridgeline.

A.3.6 The ZTVs were modelled using the Key Terra-Firma ZTV module for AutoCAD 2024 and are based on the following parameters and data sources:

- Ordnance Survey mapping at 1:25,000 scale
- Ordnance Survey Landform Profile contour data at 5m height intervals
- Viewer eye height set at 1.6m above landform
- The developable volume has been set at a range of heights up to three storey (12m)
- Settlements are set at 9m high following landform and set as visually impermeable
- Woodland blocks are set at 12m high following landform and set as visually impermeable

Determining the Study Area

A.3.7 The final 2km extent of the study area has been determined by considering together the preliminary study area, the results of the ZTV modelling and the initial findings of the baseline appraisal and assessment process.

A.3.8 It is considered that any direct or indirect landscape or visual effects arising as a result of the Proposed Development at a distance of greater than 2km would be negligible and are therefore not included within this assessment.

Temporal Scope

A.3.9 This assessment considers landscape and visual effects at the following stages of the Proposed Development:

- Effects during construction: Assesses the likely impact of temporary construction activities and considers the changing nature of the site itself.
- Effects during operation at Year 0: Assesses the completed development assuming structural landscape treatments would have been implemented and would be establishing, albeit not to a level sufficient to provide a screening function.
- Effects during operation at Year 15: Assumes structural landscape treatments would have reached semi-maturity allowing for an assessment of likely landscape and visual effects that takes established mitigation measures into account.
- Effects during summer and winter are considered where these would substantially differ as a result of vegetation growth or leaf cover.
- Effects at night are considered where these would substantially differ from day time effects.

Cumulative Effects

A.3.10 Cumulative effects fall into two types:

- Effects arising from within the project itself, where effects of different types arising under different topics can combine to potentially increase effects on a single receptor or environmental resource. For example, people in their homes may be affected by adverse effects in terms of noise, air quality and visual impact combined. The assessment of these cumulative effects are covered elsewhere in the Environmental Statement.
- Effects from other reasonably foreseeable projects in combination with the project being assessed. Such projects may include other nearby developments. These could include multiple effects of the same type acting on a single receptor or environmental resource, for example in terms of landscape – the visual impact of multiple developments on a single visual receptor or their cumulative effect on a particular landscape resource. The assessment of these cumulative effects are assessed as part of the LVIA but are collated elsewhere in the Environmental Statement.

A.3.11 ‘Reasonably foreseeable’ projects are considered as those with valid planning permissions as granted by the Local Planning Authority, and for which EIA is a requirement, or for which an LVIA has been undertaken.

A.4 Determining Baseline Conditions

A.4.1 Information has been collated through desk study and field survey in order to describe the baseline situation in relation to landscape character, landscape features and elements and the visual amenity of people within the study area.

Desk Study

A.4.2 A variety of sources have been reviewed to gain an understanding of the quality, variety and sensitivity of the features and elements that contribute toward landscape character and visual amenity in order to identify potential landscape and visual receptors.

A.4.3 These include relevant published local policy and guidance documents, existing published landscape character studies, Ordnance Survey mapping and aerial photography.

Data Sources

A.4.4 The desk study has included a review of the following sources of information:

- The National Planning Policy Framework (2023)
- Natural England, The Character of England : Landscape, Wildlife and Natural Features (2014)
- City and District of St Albans District Local Plan Review 1994 (Adopted 30 November 1994) Saved and Deleted Policies Version (July 2020)
- Harpenden Neighbourhood Plan 2018 – 2033 (Final Version for Referendum November 2018)
- St Albans City and District Council - Local Plan 2020-2036 Publication Draft 2018 (Withdrawn)
- Natural England National Character Areas No 86: South Suffolk and North Essex Clayland
- Hertfordshire Landscape Character Area Statements - St Albans District (2000 & 2005)
- Ordnance Survey Mapping at 1:25,000 scale
- Aerial photography of the site and wider area (Google Earth, www.maps.google.co.uk and www.bing.com/maps)
- Multi Agency Geographic Information for the Countryside (MAGIC) interactive mapping (www.magic.gov.uk)
- Natural England Green Infrastructure interactive mapping (https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx)
- National Heritage List for England Map Search, English Heritage (http://www.english-heritage.org.uk/)
- National Cycle Network mapping (www.sustrans.org.uk)
- British Geological Survey, Geology of Britain Viewer (https://www.bgs.ac.uk/)
- Ancient Tree Inventory. Woodland Trust (https://ati.woodlandtrust.org.uk/)

Site Survey

A.4.5 Initial field work provides a context for LVIA and helps to identify likely opportunities and constraints for a proposed development. In best practice, the findings of initial field work can be used to influence and guide the design of the proposed development in order to avoid or reduce potential impacts and to achieve the best fit with the landscape. Initial survey work for this LVIA

was undertaken in July 2024 to establish summer baseline, to further identify those features or elements that contribute to the character of the area and determine the potentially visibility of the Proposed Development.

Photography

A.4.6 A series of representative and specific viewpoint photographs were captured during field work using a digital SLR camera with a fixed 50mm lens (equivalent focal length) at approximately 1.6m in height. The method used to capture and present the photographs was consistent with Landscape Institute Advice Note 06/19. These are presented as a series of panoramic viewpoints that were stitched together using Adobe Photoshop CC – Photomerge and have been used to inform the assessment.

Selection of Landscape and Visual Receptors

A.4.7 Landscape and visual receptors were identified during desk study and have been verified during field survey work to provide a baseline against which to describe those effects likely to arise as a result of the Proposed Development. Receptors used within this assessment include:

- Landscape character types or areas drawn from published documents;
- Physical landscape features and elements; and
- Views experienced by people and their visual amenity.

Establishing Value

Landscape Value

A.4.8 Landscape value describes the relative level of value or importance attached to a landscape or feature (that would potentially be affected by the Proposed Development) by the different stakeholders and parts of society that use or experience that landscape resource.

A.4.9 Factors that have been considered in the determination of landscape value include landscape designations and the level of importance that they signify (i.e. whether international, national or local), relevant local planning policy and guidance, the status of individual areas or features (e.g. TPOs), the quality, condition and rarity of individual features or elements within the landscape and any verifiable local community interest (e.g. village greens, allotments etc.).

A.4.10 The value of landscape receptors are determined against the criteria set out in Table A.01 in order to establish a consistent and objective baseline against which the potential effects arising as a result of the Proposed Development can be assessed. Professional judgement is applied to determine the value attributed in response to these criteria. The factors listed below are not considered to be exhaustive and for any one receptor, these factors may overlap between degrees of value. Therefore, not all criteria need to be attributed to any one receptor for that value to be assigned.

Table A.01 Criteria considered when determining landscape value.

Value	Criteria
Very High	International and National level designated areas (e.g. World Heritage Sites, National Parks, National Landscapes, Registered Parks and Gardens, Scheduled Monuments, Grade I or II* Listed Buildings, SSSIs etc) are present within the receptor. The area is considered to be an important component of the country's character and is experienced by a high number of tourists. The condition of the landscape and its individual elements is good and is generally maintained to a high standard. Rare or distinctive elements and / or features are key components that contribute to the character of the area / quality of the landscape resource. The landscape generally has an elevated level of tranquillity and / or may be valued for its wildness / remoteness.
High	Regional or County level designated areas (e.g. Areas of Great Landscape Value (AGLV), Green Belt, Country Parks, Grade II Listed Buildings, Conservation Areas etc) are present within the receptor. The area is considered to be an important component of the region or county's character and is experienced by a reasonable proportion of its population. The condition of the landscape and its individual elements is good and is generally well maintained. Rare or distinctive elements and / or features may be present and would contribute to the character of the area / quality of the landscape resource. The landscape, or areas within it, may have a high level of tranquillity.
Medium	No designated landscapes are present, but the landscape may be valued locally (e.g. village greens, allotments or public open spaces etc). Use of the area is likely to be limited to the local community with informal recreational use / greenspace. The condition of the landscape and its individual elements are good to fair, but has good potential for flora and fauna. If present, rare or distinctive elements and / or features are not notable components that contribute to the character of the area. The landscape generally has a moderate level of tranquillity.
Low	A landscape of low importance, of low quality and in fair to poor condition, with few features of value or interest. The landscape has little or no amenity value. Rare or distinctive elements and / or features are not present. The landscape has low potential for biodiversity. The landscape is of limited tranquillity.

Value	Criteria
Very Low	Industrial or contaminated land. The landscape has no amenity value. A landscape of very low quality and in poor condition, with very low potential for biodiversity. The landscape is not considered to be tranquil.

Value Attached to Views

A.4.11 A view is valued through formal designation and / or indicators of value attached by people. Table A.02 sets out the value attached to visual receptors, in order to establish a consistent and objective baseline against which the potential effects arising as a result of the Proposed Development can be assessed. As noted for Landscape Value above, the list of factors noted in the criteria below is not considered exhaustive and professional judgement is applied to determine an appropriate value for each view.

Table A.02 Criteria for determining value attached to views

Value	Criteria
Very High	Views from / over / toward landscapes of International and National importance (e.g. World Heritage Sites, National Parks, National Landscapes, Registered Parks and Gardens, Scheduled Monuments, Grade I or II* Listed Buildings, SSSIs etc), particularly where the view provides a contribution to the significance of the asset. Views from viewpoints within highly popular visitor attractions / tourist destinations. Protected views.
High	Views from / over / toward landscapes of Regional or County importance (e.g. Areas of Great Landscape Value (AGLV), Country Parks, Long Distance Trails, Grade II Listed Buildings, Conservation Areas etc). Views from viewpoints within moderately popular, well used visitor attractions / tourist destinations, including long distance trails, rights of way etc. Views to which receptors have a proprietary interest (excluding residential properties).
Medium	Views from / over / toward landscapes of local importance, which may be subject to designation (e.g. village greens, allotments or public open spaces etc). Views from landscapes / viewpoints not used by substantial numbers of people, including public rights of way, touring routes, cycle paths, canals, public open spaces etc.

Value	Criteria
Low	Views from landscapes with no designations and of at most local importance. Views from viewpoints which are not particularly popular or recognised as being destinations in their own right, including infrequently used rights of way. Views with no cultural associations.
Very Low	Views from landscapes of no importance, of poor scenic quality or with no sense of tranquillity.

A.5 Assessment of Likely Effects

A.5.1 Having determined the baseline conditions for the site and study area, the assessment process then proceeds with the following stages:

- Evaluate the sensitivity of landscape and visual receptors in relation to the Proposed Development;
- Assess the magnitude of change (impact) arising as a result of the Proposed Development in relation to: landscape character, physical features and elements of the landscape; and, the visual amenity and views of people;
- Combine judgements on the nature of receptor (sensitivity) with the nature of change (magnitude of impact) to arrive at a clear and reasoned professional judgement regarding the significance of effects.

A.5.2 The criteria used for each of these stages of the assessment process in relation to both landscape and visual receptors are detailed in the following section of the methodology and are arranged in word scales in line with the preferred approach described within the GLVIA3.

A.5.3 Criteria detailed within these scales provide examples of the different thresholds used within the assessment process. It is important to note that these criteria act as a guide for professional judgement but do not replace it.

Assessment of Landscape Effects

Landscape Sensitivity

A.5.4 In LVIA, the sensitivity of landscape receptors is specifically related to the particular development that is being proposed and its location. Whilst landscapes generally have some intrinsic sensitivity, landscape receptors have different features and elements that can accommodate different types of development and levels of change.

A.5.5 The sensitivity of receptors is assessed by combining judgements on the value attached to the nature of the development proposed and the baseline capacity of the landscape to accept that type of change. The sensitivity of landscape receptors will vary therefore depending on the type and nature of development proposed.

Landscape Susceptibility

A.5.6 Landscape susceptibility describes the ability of a landscape receptor to accommodate change (i.e. the form of development proposed) without undue consequences for the maintenance of the baseline situation.

A.5.7 Table A.03 sets out the criteria that have been considered when determining landscape susceptibility. As noted for landscape value, the criteria for determining susceptibility are not considered exhaustive and are applied using professional judgement.

Sensitivity of Landscape Receptors

A.5.8 Receptors are selected to describe the likely effects on the landscape resource arising as a result of the Proposed Development at a range of scales and can include wider landscape character areas / types as well as specific features or elements within the site and the surrounding area.

A.5.9 Sensitivity is specific to each landscape receptor and reflects a balanced judgement on the value attached to the receptor and its susceptibility to the type of change proposed. The matrix in Table A.04 illustrates how sensitivity is determined by a combination of value and susceptibility of the landscape receptor.

A.5.10 The sensitivity of landscape receptors is described using a five-point word scale. Intermediate levels of sensitivity can also be attributed to receptors where relevant. Table A.03 sets out the examples of criteria to determine landscape susceptibility. The criteria identified in the table indicates criteria along the varying scale of their adjacent descriptor, varying from Very High to Negligible. This list is not considered exhaustive and professional judgement is used to attribute susceptibility with consideration to these criteria. Not all criteria need to be met for a specific value to be attributed to any one receptor.

Table A.03 Criteria for determining landscape susceptibility

Susceptibility	Criteria
Very High	The landscape is of a very large scale and / or there is a negligible level of containment, resulting in a significant degree of interaction between landform, topography, vegetation cover, field pattern and built form. There is no existing reference or context within the receptor to the type of development proposed. The majority of existing element(s) would not be easy to replace (e.g. ancient woodland, mature trees etc). Detracting features or major infrastructure are not present in the area. The receptor has a very low level of ability to accept the type of development proposed and there are very limited opportunities for mitigation.

Susceptibility	Criteria
High	The landscape is of a large scale and / or there is a low level of containment, resulting in a moderate degree of interaction between landform, topography, vegetation cover, field pattern and built form. There is little or no existing reference or context within the receptor to the type of development proposed. The majority of existing element(s) would not be easy to replace (e.g. ancient woodland, mature trees etc). Detracting features or major infrastructure are not present in the area or, where present, these have little influence on the character or experience of the landscape. The receptor has a low level of ability to accept the type of development proposed and there are limited opportunities for mitigation.
Medium	The landscape is of a medium scale and / or there is a moderate level of containment, resulting in a minor degree of interaction between landform, topography, vegetation cover, field pattern and built form. There is some existing reference or context within the receptor to the type of development proposed. There are limited opportunities for replacement of existing elements. Detracting features or major infrastructure are present in the area and these have a noticeable influence on the character or experience of the landscape. The receptor has a medium level of ability to accept the type of development proposed and there are good opportunities for mitigation.
Low	The landscape is of small scale and / or has a high level of containment, resulting in only a slight degree of interaction between landform, topography, vegetation cover, field pattern and built form. There are many existing references within the receptor to the type of development proposed. Few / no existing landscape elements are present (e.g. brownfield sites) or, where these are present, these can easily be replaced. Some existing features are detracting and / or major infrastructure is present which has an obvious influence on the character or experience of the landscape. The receptor has a high level of ability to accept the type of development proposed and there are good opportunities for mitigation and enhancement.
Very Low	Due to the scale of enclosure, the receptor has no interaction with the surrounding landscape. The nature of development proposed would be in keeping with the land use of the site and the surrounding landscape. All landscape elements are easily replaceable.

Susceptibility	Criteria
	Existing features are detracting and / or major infrastructure is present which heavily influences the character or experience of the landscape. The receptor has a very high level of ability to accept the type of development proposed and there are very good opportunities for mitigation and enhancement.

Table A.04 Matrix for determining landscape sensitivity

		VALUE				
SUSCEPTIBILITY		Very Low	Low	Medium	High	Very High
	Very Low	Negligible	Low	Low	Medium	Medium
	Low	Low	Low	Medium	Medium	High
	Medium	Low	Medium	Medium	High	High
	High	Medium	Medium	High	High	Very High
	Very High	Medium	High	High	Very High	Very High

Magnitude of Landscape Change

A.5.11 The magnitude of impact for landscape change is influenced by a number of factors including the extent to which landscape features are lost and / or altered, the introduction of new features into the landscape and the resulting change in the physical and / or perceptual characteristics of the landscape. It is determined by, but not necessarily limited to:

- The size and scale of the impact;
- The extent of the geographical area over which change is likely to be felt;
- The duration of the impact and its potential reversibility; and
- The proximity of the landscape receptor to the site and the nature of the effect.

A.5.12 Consideration has been given to the location of character areas in relation to the Proposed Development as it is recognised that landscape features in close proximity to a proposed development would usually have a much stronger influence on the sense of the landscape character than more distant features. It is however acknowledged that more distant features can also have an influence.

A.5.13 The magnitude of impact for landscape change is described using a five-point word scale. Intermediate levels of magnitude can also be attributed to receptors where relevant. Magnitude is assessed as being very large, large / very large, large, medium / large, medium, small / medium, small or negligible.

A.5.14 The magnitude of impact for landscape change has been assessed with reference to the criteria set out in Table A.05 with professional judgement applied in its determination.

Table A.05 Criteria for determining magnitude of impact for landscape change

Magnitude	Criteria
Very Large	The size and scale of change is considered to be very high due to the total loss of or alteration to existing landscape character or highly distinctive / important features and elements, and / or the addition of uncharacteristic conspicuous features and elements, resulting in a complete change to key aesthetic or perceptual qualities. The geographical extent of change would influence the landscape at a national level. Impacts would be considered long term and would either be irreversible or very difficult to reverse in practical terms.
Large	The size and scale of change is considered to be high due to the notable loss of or alteration to existing landscape character or distinctive / important features and elements, and / or the addition of uncharacteristic noticeable features and elements, degrading the integrity of key aesthetic or perceptual qualities. The geographical extent of change would influence the landscape at a regional level. Impacts would be considered long term and would either be irreversible or very difficult to reverse in practical terms.
Medium	The size and scale of change is considered to be medium due to the partial loss of or alteration to existing landscape character or features and elements, and / or the addition of uncharacteristic features and elements, resulting in key aesthetic or perceptual qualities out of scale or at odds with the local pattern and landform. The geographical extent of change would influence the landscape at a local level. Impacts would be considered medium term and / or potentially reversible, although it may not be practical to do so.
Small	The size and scale of change is considered to be low due to minor loss or alteration of existing landscape features and elements, resulting in a discernible negative effect to key aesthetic or perceptual qualities. The geographical extent of change would influence the immediate setting of the Proposed Development. Impacts would be considered short term and / or potentially reversible and in practical terms would easily be achievable.
Negligible	The size and scale of change to existing landscape features and elements is considered to be barely discernible. The geographical extent of change would influence the site only. Impacts would be considered short term / temporary and / or easily reversible and in practical terms would very easily be achievable.

Assessment of Visual Effects

Visual Sensitivity

A.5.15 Visual receptors are people and comprise individuals or groups of people who are likely to be affected by the Proposed Development at specific viewpoints or a series of viewpoints. The sensitivity of visual receptors is determined by balancing judgements about the susceptibility of receptors to changes in their views and visual amenity (i.e. by the Proposed Development) with the baseline value attached to the view by the receptor. The sensitivity of visual receptors will therefore vary depending on the type and nature of development proposed.

Susceptibility of Visual Receptors

A.5.16 The susceptibility of different receptors to changes in their views and visual amenity is a function of the occupation or activity of people experiencing a view at a particular location and the extent to which their attention is focussed on the view and visual amenity they experience.

A.5.17 Table A.06 sets out the criteria that have been considered when determining the susceptibility of visual receptors to change. As noted for the value of views, the criteria for determining susceptibility are not considered exhaustive and are applied using professional judgement.

Table A.06 Criteria for determining susceptibility of visual receptors

Susceptibility	Criteria
Very High	Tourists and visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience.
High	Occupiers of residential properties with clear views toward the development. People engaged in outdoor recreation whose attention is likely to be focussed on the landscape and / or particular views, or for whom their appreciation of strong views is an important factor in the enjoyment of the activity. People travelling through the landscape on roads, rail or other routes on recognised scenic routes or where there is a distinct awareness of views of their surroundings and their visual amenity.
Medium	Occupiers of residential properties with oblique or partially screened views. People at work and in educational institutions for whom the appreciation of setting is important to the quality of working / school life, with oblique or partially screened views. People staying in hotels and healthcare institutions who are likely to appreciate views of their surroundings. People engaged in outdoor recreation or sport which involves an appreciation of views (including public rights of way, touring routes, cycle paths, public open spaces etc with reasonable extent of view).

Susceptibility	Criteria
	People travelling through the landscape for short periods of time on roads, rail, canals or other routes who are likely to experience and appreciate views of their surroundings or are passing through the landscape to enjoy the view.
Low	Occupiers of residential properties with limited views of the development. People at their place of work where the appreciation of the setting is of limited importance to the quality of working life. People staying in hotels and healthcare institutions who are unlikely to appreciate views of their surroundings. People engaged in outdoor recreation or sport which does not involve an appreciation of views. People travelling through the landscape who have limited views of their surroundings or for whom the appreciation of views is of limited importance to their journey (e.g. on main roads, rail corridors, partially enclosed public rights of way or footways adjacent to carriageways).
Very Low	People travelling through the landscape often at high speed (e.g. on motorways and main line railways). People who have no views of their surroundings or for whom views of their surroundings are not important.

Sensitivity of Visual Receptors

A.5.18 Receptors have been selected to describe the range of likely effects on the views of people and their visual amenity arising as a result of the Proposed Development, taking into account a range of factors including the number and sensitivity of viewers likely to be affected.

A.5.19 Sensitivity is specific to each visual receptor and reflects a balanced judgement on the value attached to the view by the receptor, their visual amenity and its susceptibility to the type of change proposed. The matrix in Table A.07 illustrates how sensitivity is determined by a combination of value and susceptibility of the visual receptor.

A.5.20 The sensitivity of visual receptors is described using a five-point word scale. Intermediate levels of sensitivity can also be attributed to receptors where relevant. Sensitivity is assessed to be very high, high / very high, high, medium / high, medium, low / medium, low or negligible.

Table A.07 Matrix for determining visual sensitivity

		VALUE				
SUSCEPTIBILITY		Very Low	Low	Medium	High	Very High
	Very Low	Negligible	Low	Low	Medium	Medium
	Low	Low	Low	Medium	Medium	High
	Medium	Low	Medium	Medium	High	High
	High	Medium	Medium	High	High	Very High
	Very High	Medium	High	High	Very High	Very High

Magnitude of Visual Change

A.5.21 The impact on visual receptors is assessed with regard to the magnitude of change (impact) to the views and visual amenity of people arising as a result of the Proposed Development. The magnitude of visual impact is evaluated in relation to its size or scale, its geographical extent and its duration and reversibility.

A.5.22 The magnitude of visual change is described using a five-point word scale. Intermediate levels of magnitude can also be attributed to receptors where relevant. Magnitude is assessed as being very large, large / very large, large, medium / large, medium, small / medium, small or negligible.

A.5.23 The magnitude of visual impact has been assessed with reference to the criteria set out in the Table A.08 with professional judgement applied in its determination.

Table A.08 Criteria for determining magnitude of visual impact

Magnitude	Criteria
Very Large	The scale of change is considered to be very high due to the total loss or major alteration to key elements / features / characteristics of views. The Proposed Development creates a new focus and has a defining influence on the view. The geographical extent of change is considered to be very high due to the adjacent or close proximity of the receptor to the development, the full and / or direct view and the substantial extent of the view that would change as a result of the development. Impacts would be considered long term and would either be irreversible or very difficult to reverse in practical terms.
Large	The size and scale of change is considered to be high due to the major loss / addition / alteration of features within the view, the change to the composition of the view, the degree of contrast / integration of the proposal with the baseline situation and the nature of the view.

Magnitude	Criteria
	The geographical extent of change is considered to be high due to near distance proximity of the receptor to the development, the full and / or near direct to slight angle of view and the substantial extent of the view that would change as a result of the development. Impacts would be considered long term and would either be irreversible or very difficult to reverse in practical terms.
Medium	The size and scale of change is considered to be medium due to the reasonable extent of loss / addition / alteration of features within the view, the change to the composition of the view, the degree of contrast / integration of the proposal with the baseline situation and the nature of the view. The geographical extent of change is considered to be medium due to the middle distance of the receptor to the development, the partial and / or oblique angle of view and the reasonable extent of the view that would change as a result of the development. Impacts would be considered medium term and would potentially be reversible, although it may not be practical to do so.
Small	The size and scale of change is considered to be low due to the limited extent of loss / addition / alteration of features within the view, the change to the composition of the view, the degree of contrast / integration of the proposal with the baseline situation and the nature of the view. The geographical extent of change is considered to be low due to the middle to long distance of the receptor from the development, the glimpsed and / or indirect angle of view and the minimal extent of the view that would change as a result of the development. Impacts would be considered short term, would potentially be reversible and in practical terms would easily be achievable.
Negligible	The size and scale of change is considered to be very low due to the barely perceptible extent of loss / addition / alteration of features within the view, the change to the composition of the view, the degree of contrast / integration of the proposal with the baseline situation and the nature of the view. The geographical extent of change is considered to be barely perceptible due to the long distance of the receptor from the development, the glimpsed and / or indirect angle of view and the extent of the view that would change as a result of the development. Impacts would be considered short term or temporary, would easily be reversible and in practical terms would very easily be achievable.

Definitions of Terms used to Describe Change

A.5.24 The GLVIA3 emphasises the importance of clarifying any assumptions underlying professional judgements, therefore where verbal scales are used to describe the nature and magnitude of

changes (impacts) likely to occur as a result of the Proposed Development, which differ from the previously defined scales, the following definitions apply.

Nature of Change

A.5.25 The nature of change is defined as follows:

- Direct (resulting directly from the development) or Indirect (consequential change resulting from the development);
- Permanent or Temporary (if temporary a timescale will be described); and
- Positive, Negative or Neutral.

A.5.26 The GLVIA3 acknowledges that determining whether change is positive, negative or neutral is a challenging issue and requires informed professional judgements to be made with reference to the following criteria as a minimum:

- The degree to which the proposal fits with existing landscape character; and
- The contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is in contrast to the existing character of the landscape

Nature of View

A.5.27 This criterion describes the nature and relative amount of time over which views of the Proposed Development are likely to be experienced. Views are described as being:

- Full: views would be relatively open / unscreened and of a duration sufficient to appreciate the scale of the Proposed Development;
- Partial: views of the Proposed Development would be partially screened / filtered and / or would be of a limited duration that would not allow the full scale of the development to be fully appreciated; or
- Glimpsed: views of the Proposed Development would be largely screened and / or the duration of views would be so limited that the scale of the development cannot be appreciated by the receptor.

Distance of Receptor from Site Boundary

A.5.28 This is expressed in metres or kilometres and considers the following thresholds in relation to the site boundary:

- Adjacent: next to or in very close proximity to the site;
- Near Distance: up to 500m;
- Middle Distance: between 500m and 2km; or
- Long Distance: 2km and above.

Area of Landscape Affected

A.5.29 This criterion provides thresholds that describe the geographical extent of the landscape over which change arising as a result of the Proposed Development would be felt. Change is described as being of the following scales:

- Regional: likely to influence more than one landscape type or character area;
- Local: at the scale of a landscape type or character area;

- Immediate Setting: within close proximity to the site; or
- Site only: within the development itself.

Angle of View of Visual Receptors

A.5.30 This criterion describes the angle of the view toward the Proposed Development that a visual receptor is likely to experience in relation to the activity they are undertaking, e.g. walking along a public footpath:

- Direct: in line with the activity being undertaken.
- Indirect: not in line with the activity being undertaken.

Duration of Impact

A.5.31 The duration of impacts are considered against the following thresholds:

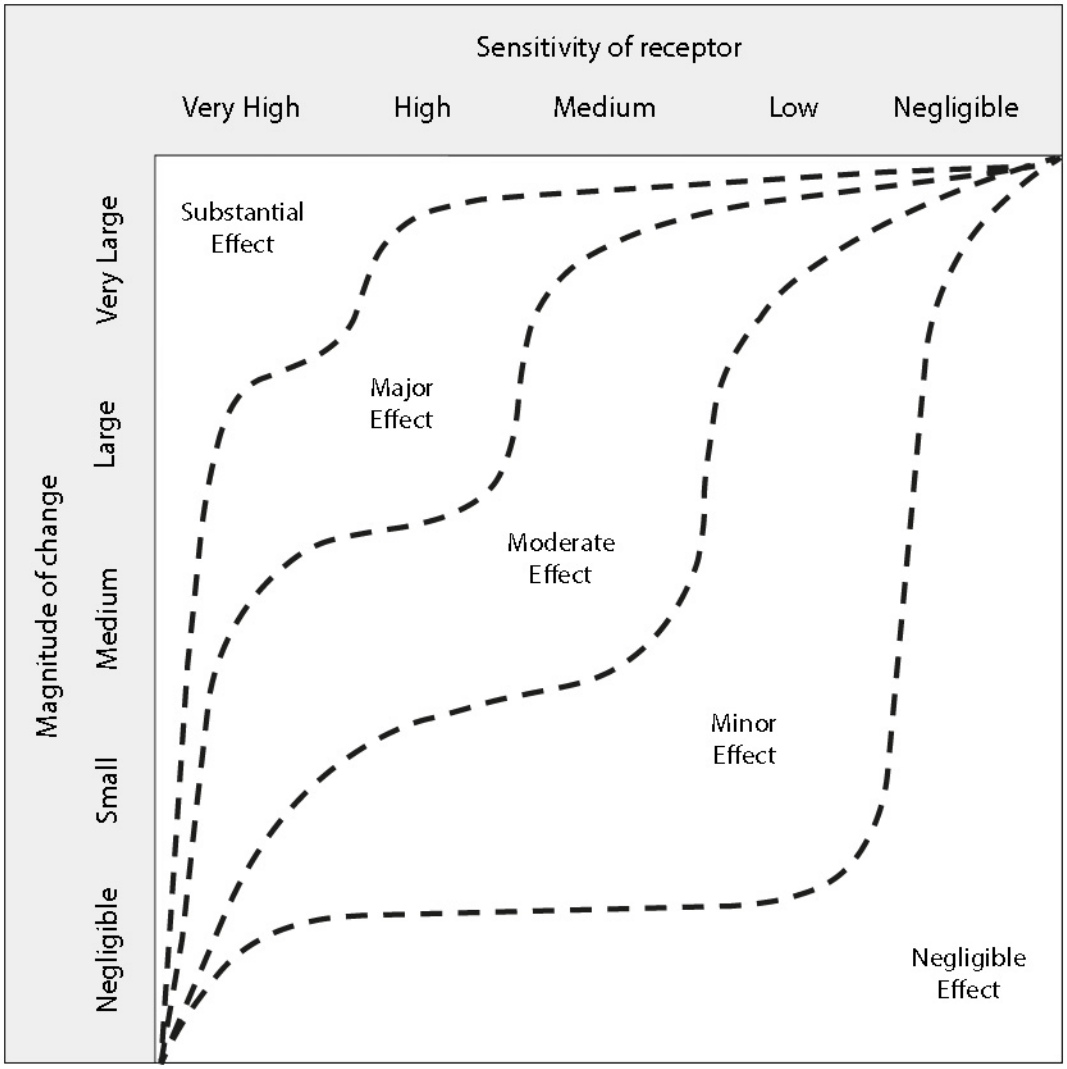
- Temporary : During Construction
- Short term: up to 5 years
- Medium term: between 5 and 10 years
- Long term: over 10 years

A.5.32 The reversibility of impacts is also considered. These are recorded as either reversible or irreversible and comprise a judgement about the prospects and practicality of a particular impact being reversed over a defined timescale.

A.6 Determining Effects

A.6.1 The final conclusions for both landscape and visual effects are based on a combination of sensitivity of the receptor and magnitude of change (impact). The overall judgement on the nature and level of these effects is based on the sequential combination of each criteria, leading to a balanced justification as described by the criteria provided in Tables A.10 & A.11, with professional judgement applied to inform this determination. The matrix in Table A.09 provides an indicative illustration of how the effect is determined by this combination of sensitivity and magnitude but is not applied without due consideration of the specific details of the site and development under assessment.

Table A.09 Matrix for determining significance of effect



A.6.2 Describing the effects likely to arise as a result of the Proposed Development and determining their significance requires the application of professional judgement to weigh the findings of the sensitivity of receptors against the predicted magnitudes of change (impact), which can be beneficial, adverse or neutral.

A.6.3 The significance of landscape and visual effects are described using a five-point word scale. Intermediate levels of significance can be attributed where relevant. Significance of landscape effects is assessed as being substantial, major / substantial, major, moderate / major, moderate, minor / moderate, minor or negligible. A judgement of neutral effect can also be determined where there is no discernible change.

A.6.4 The criteria used to determine the significance of both landscape and visual effects are set out in Tables A.10 and A.11 and are derived from guidance provided within the GLVIA3.

Table A.10 Criteria for determining significance of landscape effects

Effect	Description. The Proposed Development would:
Substantial Adverse Effect	• Be at complete variance with the character of the landscape. • Permanently diminish the integrity of a wide range of characteristic features and elements. • Permanently damage the sense of place.
Major Adverse	• Be at considerable variance with the character of the landscape. • Degrade or diminish the integrity of a wide range of characteristic features and elements. • Substantially damage the sense of place.
Moderate Adverse Effect	• Conflict with the character of the landscape. • Have an adverse impact on some characteristic features and elements. • Diminish the sense of place.
Minor Adverse Effect	• Not quite fit with the character of the landscape. • Be at variance with characteristic features and elements. • Detract from the sense of place.
Negligible Adverse Effect	• Result in a barely perceptible deterioration of landscape character. • Have a barely perceptible impact on characteristic features and elements. • Barely degrade the sense of place.
Neutral Effect	• Maintain the existing character of the landscape. • Blend in with characteristic features and elements. • Enable the sense of place to be maintained.
Negligible Beneficial Effect	• Result in a barely perceptible improvement to landscape character. • Provide limited enhancement of characteristic features and elements. • Barely improve the sense of place
Minor Beneficial Effect	• Complement the character of the landscape. • Enhance characteristic features and elements. • Slightly enhance the sense of place.

Effect	Description. The Proposed Development would:
Moderate Beneficial Effect	• Slightly enhance the character of the landscape. • Enable the restoration of characteristic features and elements partially lost or diminished as a result of changes from inappropriate management or development. • Enhance the sense of place.
Major Beneficial Effect	• Enhance the character of the landscape. • Enable the restoration of characteristic features and elements completely lost or diminished as a result of changes from inappropriate management or development. • Greatly enhance the sense of place.
Substantial Beneficial Effect	• Significantly enhance the character of the landscape. • Enable the restoration of characteristic features and elements of a very high value landscape, completely lost or diminished as a result of changes from inappropriate management or development. • Significantly enhance the sense of place.

Table A.11 Criteria for determining significance of visual effects

Effect	Description. The Proposed Development would:
Substantial Adverse Effect	• Cause a significant deterioration to the view of a receptor of very high sensitivity that would constitute a total change in the view or would introduce a major discordant element into the view.
Major Adverse Effect	• Cause a major deterioration to the view of a receptor of high sensitivity that would constitute a total change in the view or would introduce a major discordant element into the view.
Moderate Adverse Effect	• Cause an obvious deterioration to the view of a receptor of medium to high sensitivity that would constitute a clear change in the view or would introduce a discordant element into the view; or, a major deterioration to the view of a receptor of low sensitivity.
Minor Adverse Effect	• Cause a limited deterioration to the view of a receptor of medium to high sensitivity that would constitute a noticeable change in the view or would introduce uncharacteristic features or elements into the view; or, an obvious deterioration to the view of a receptor of low sensitivity.
Negligible Adverse Effect	• Result in a barely perceptible change in the view, associated with the introduction of uncharacteristic features or elements.
Neutral	• Not be visible to the receptor. Any associated mitigation would represent an indiscernible change to the baseline situation.
Negligible Beneficial Effect	• Result in a barely perceptible change in the view, associated with the introduction of characteristic features or elements.

Effect	Description. The Proposed Development would:
Minor Beneficial Effect	• Result in a limited improvement to the view of a receptor of medium to high sensitivity; or, an obvious improvement to the view of a receptor of low sensitivity.
Moderate Beneficial Effect	• Result in an: obvious improvement to the view of a receptor of medium to high sensitivity; or, a major improvement to the view of a receptor of low sensitivity.
Major Beneficial Effect	• Result in a major improvement to the view of a receptor of high sensitivity that would constitute a total change in the view or would introduce a major discordant element into the view.
Substantial Beneficial Effect	• Result in a significant improvement to the view of a receptor of very high sensitivity.

Describing the Importance of Effects to Decision Making

A.6.5 For the purposes of this assessment, the significance of effects are described in relation to their importance to decision making and have been defined as follows:

- **Substantial** – Considerable and significant effect (by extent, duration or magnitude of impact) of more than local significance or in breach of recognised acceptability, legislation, policy and / or standards. Considered to be very important and material to decision making.
- **Major** – Obvious and significant effect (by extent, duration or magnitude of impact) considered to be important and material to the decision making process.
- **Moderate** – Potential to be significant and material to decision making.
- **Minor** – Slight, very short or highly localised effect, not significant and unlikely to be important for decision making.
- **Negligible** or **Neutral** – No significant effect, not relevant to decision making.

A.7 Assessment of Cumulative Effects

A.7.1 As noted under Section A.3 above, cumulative effects fall into two distinct types:

- Effects arising from within the project itself, where effects of differing types arising under different topics can combine to potentially increase effects on a single receptor or environmental resource. For example, people in their homes may be affected by adverse effects in terms of noise, air quality and visual impact combined. The assessment of these cumulative effects are covered elsewhere in the Environmental statement.
- Effects from other reasonably foreseeable projects in combination with the project being assessed. Such projects may include other nearby developments. These could include multiple effects of the same type acting on a single receptor or environmental resource, for example in terms of landscape – the visual impact of multiple developments on a single visual receptor or their cumulative effect on a particular landscape resource. The assessment of these cumulative effects are assessed as part of the LVIA but are collated elsewhere in the Environmental Statement.

A.7.2 'Reasonably foreseeable' projects are considered as those with valid planning permissions as granted by the Local Planning Authority, and for which EIA is a requirement, or for which a non-statutory LVIA has been undertaken.

A.7.3 When considered in isolation, the environmental effects from an individual development upon any single receptor or landscape resource may not be significant. However, when there is potential for effects from a number of individual developments to interact, they will be considered in combination, which may result in the cumulative effect being significant.

A.7.4 The significance of cumulative effects should be determined by the extent to which the various impacts can be accommodated by a particular receptor or environmental resource.

A.7.5 The following factors should be considered:

- Which receptors or resources are affected? This is a judgement based on a review of the assessments carried out for each development, where there is potential for cumulative effects, to determine receptors or resources common to more than one assessment.
- How would the receptor or resource be affected? This is a consideration of the nature of the cumulative effect.
- How far can the resource absorb cumulative effects? This is a judgement of the ability of the receptor or landscape resource to accommodate the cumulative effect without increasing the overall significance of effect.

A.7.6 In accordance with the main methodology for the EIA, the assessment of cumulative effects takes into account the impacts during the phases of construction, immediately post-completion (Year 0) and once mitigation measures have established (Year 15).

A.7.7 The criteria for judging the significance of cumulative effects is as follows:

- **Substantial** : effects that the decision maker must take into account as the receptor / resource is irretrievably compromised
- **Major** : effects that may become a key decision making issue
- **Moderate** : potential to be material to decision making
- **Minor** : effects that are locally significant
- **Negligible** or **Neutral** : effects that are beyond the current forecasting ability or are within the ability of the resource to absorb such a change

A.7.8 It should be noted that the cumulative effect reported is not the sum of the effects for each project. A potential cumulative effect arises when the effect of the whole may be considered to be greater than the sum of the two parts, where the two developments in combination may result in an effect of greater significance. The cumulative assessment defines this additional effect.

A.7.9 Noting the criteria outlined above, where the additional effect is **Substantial** or **Major**, taking into account the capacity of the environment to accommodate the number of projects proposed, it could influence the decision making process for the project. If **Moderate**, further work may be required to reduce the cumulative effect as the project progresses. A **Minor** effect is still

considered to be of significance for the local area, it does not imply that the effects for each project considered separately are **Minor**.

A.8 LVIA and the Design Process

Mitigation & Enhancement Measures

A.8.1 Mitigation measures are proposed to prevent, reduce and where possible offset any adverse landscape and visual effects and are typically developed in collaboration with members of the design team and environmental specialists.

A.8.2 In terms of LVIA, the aims of mitigation are to ensure the Proposed Development achieves the best fit with the local landscape character, retains and makes best use of existing landscape features and provides adequate screening for visual receptors. The type(s) of mitigation measures proposed are influenced by the surrounding landscape character and where possible would address opportunities to enhance biodiversity and improve nature conversation.

A.8.3 Enhancement relates to any proposals that seek to improve the landscape and / or visual amenity of the Proposed Development / Site and its wider setting beyond its original baseline condition and as such is not specifically related to the mitigation of adverse effects.

A.8.4 For the purposes of this LVIA it has been assumed that mitigation and enhancement measures would be implemented during the construction phase and would be in place at completion. Mitigation is therefore considered within this assessment as an integral part of the development proposals.

A.9 Glossary of Terms

A.9.1 Definitions of the following terms used throughout this LVIA have been included for ease of reference.

Table A.09 Glossary of terms

Term	Definition
Baseline	Also referred to as the 'baseline situation', this term describes the existing nature of the landscape and the visual environment within the study area at a fixed point in time, as well as any changes likely to occur independently of the Proposed Development, including the legislative and planning context and any relevant published guidance.
Construction	Construction, also referred to as the construction phase, refers to the all activity on and offsite required to implement the Proposed Development. The construction phase is considered to commence with the first activity on site, for example the creation of site access or site clearance works, and ends with demobilisation.

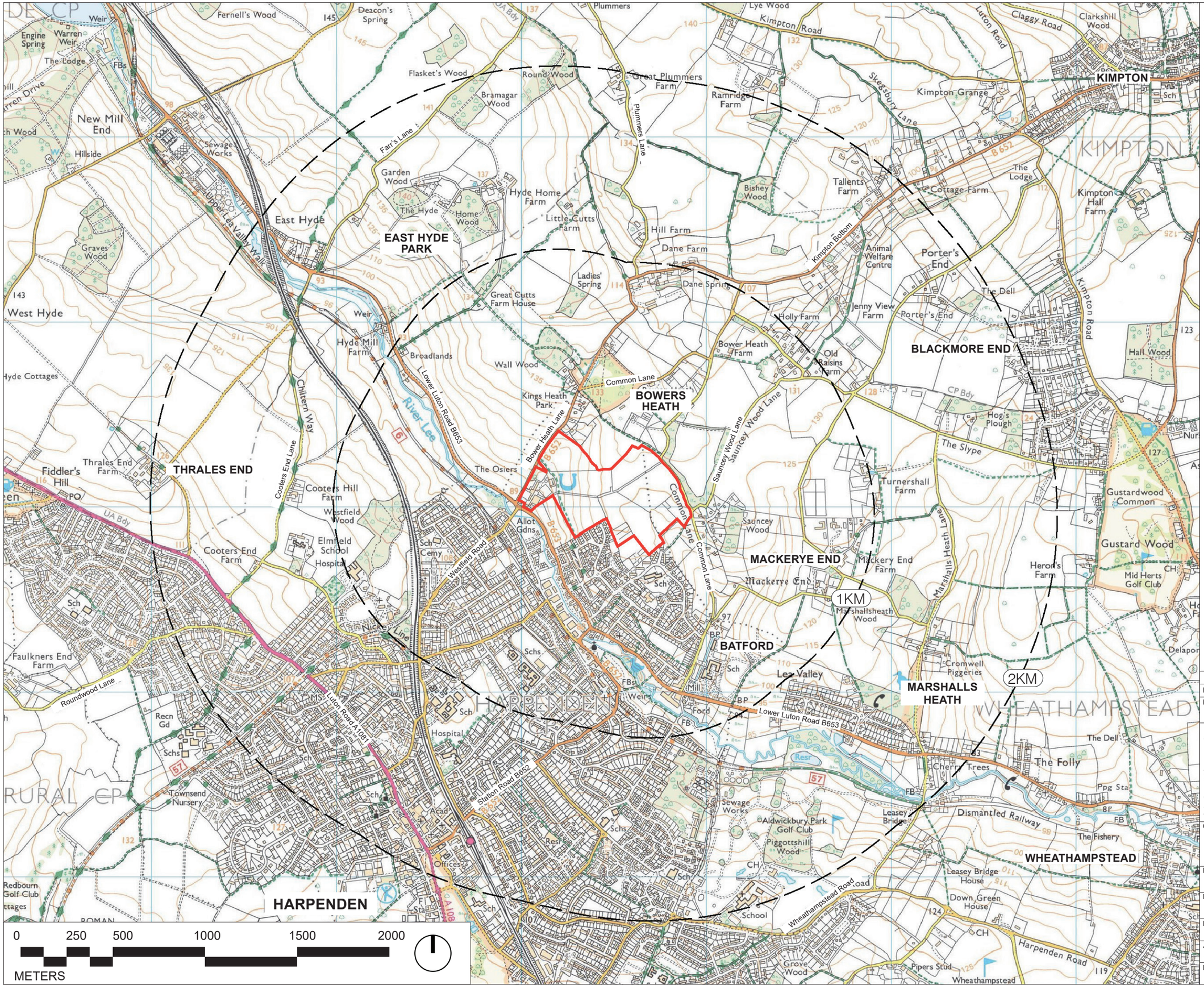
Term	Definition
Demobilisation	This term refers to the completion and the removal of physical and manpower resources from a construction site at the completion of the construction phase.
Designated Landscape	Area(s) of land identified as being of importance at international, national or local levels, either defined by statute or identified in development plan or other documents.
Development	Any proposal that results in a change to the landscape and / or visual environment.
Direct effect	An effect that is directly attributable to the Proposed Development.
Effect	The nature of the change(s) likely to occur as a result of a particular impact.
Element	Individual parts which make up the landscape, for example trees, hedgerows or buildings.
Enabling works	Enabling works cover those activities and preparations required to make a site construction ready and include the creation of access routes, and installation of security fencing, hoarding, signage and site compound(s). Enabling works are considered to occur during the construction phase.
Enhancement	Measures that seek to improve the landscape of the site and / or its wider setting beyond its baseline condition.
Feature	Prominent or eye-catching elements in the landscape, such as wooded skylines, parkland trees, church spires, or a particular aspect of the Proposed Development.
Impact	This term describes the action being undertaken, for example construction of the Proposed Development or the removal of landscape features.
Indirect effect	An effect that results from the Proposed Development as a consequence of a direct effect(s), often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway.
Key characteristic	The combination of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Land cover	This term relates to the surface cover of the land and is usually expressed in terms of vegetation cover or lack thereof.
Land use	This term refers to what land is used for and is based on broad categories such as urban, industrial, agriculture or forestry.

Term	Definition
Landform	The shape and form of the land surface resulting from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Area (LCA)	Single unique areas which are discreet geographical areas of a particular landscape type.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape.
Landscape Character Type (LCT)	Distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.
Landscape quality / condition	A measure of the physical state of the landscape. It may include the extent to which the character typical of the area is represented in individual locations, the intactness of the landscape and the condition of individual elements.
Landscape receptor	The constituent features and elements of the landscape, its specific or perceptual qualities and its character considered in relation to the Proposed Development.
Landscape resource	This term refers to the character and all features, elements and qualities of the landscape, which is defined by the European Landscape Convention (ELC) as follows: "*Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and / or human factors*" (Council of Europe, 2000). The landscape resource concerns all types of landscape within the study area and covers "*natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that might be considered outstanding as well as everyday or degrade landscapes*" (Article 2 of the ELC, Council of Europe, 2000).
(The) Landscape scheme	The landscape design for the Proposed Development, incorporating all landscape mitigation and enhancement measures.
Landscape value	The relative value that is attached to landscapes by society, which may vary depending on the nature of the stakeholder.
Magnitude of change	A judgement regarding the size and scale of the change, the geographical extent of the area that would be affected and the duration of the effect and its reversibility.

Term	Definition
Mitigation	This term refers to those measures that are proposed to prevent / avoid, reduce and where possible offset any adverse effects.
Open Access Land	Land where the public have access either by legal right or informal agreement, within which certain activities may be restricted.
Operation	Also referred to as completion, this term describes the operation phase of the completed development and is considered to commence at the end of the construction phase, after demobilisation. The duration of the operation phase is dependent on the nature of the Proposed Development.
Parameters	A limit or boundary which defines the scope of a particular process or activity.
Perception / perceptible	A term used to describe the sensory (i.e. received through human senses) with the cognitive (i.e. knowledge and understanding gained from many sources and experiences).
Permissive Paths	A path over which there is no formal right of access (i.e. not a public right of way) whose use by the public is allowed by the landowner.
(The) Proposed Development	The Proposed Development, also referred to as development proposals, is the 'fixed' or 'frozen' design of the scheme for which planning consent is sought.
Public Right of Way	In England and Wales public rights of way are routes on which the public have a legally protected right to pass. These include footpaths, bridleways, byways open to all traffic and restricted byways.
Receptor	See 'Landscape Receptor' and 'Visual Receptor'.
Sensitivity (of a receptor)	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value relating to that receptor.
Significance of effect	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Stakeholder	The whole constituency of individuals and groups who have an interest in a subject, place or landscape.
Study area	The area within which it is considered that changes arising as a result of the Proposed Development would result in the highest and / or most important direct or indirect effects.
Topography	Local detail or specific features of landform.
Tranquil / tranquillity	A state of calm and quietude associated with peace and considered to be an important asset of landscape.

Term	Definition
Viewpoint	The location from which photographs that describe specific or representative views toward the Proposed Development are captured.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides the setting or backdrop for the enjoyment of peoples activities.
Visual envelope	The approximate geographical area(s) from within which full or partial views of the Proposed Development would be possible.
Visual receptor	Individuals and / or defined groups of people who have the potential to be affected by the Proposed Development.
Worst case	Reasonable prediction of the scenario that would result in the highest level of effect(s).
Zone of Theoretical Visibility (ZTV)	Those areas of the landscape that theoretically are visually connected with the Proposed Development.

Appendix C LVIA Baseline Figures



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APPLICATION SITE BOUNDARY

DISTANCE FROM SITE BOUNDARY

Rev	Description	Date
-	--	--

Purpose of Issue

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Client

CREST NICHOLSON STRATEGIC PROPERTIES (CREST)

Project

HARPENDEN

Drawing Title

FIGURE 1: SITE LOCATION AND STUDY AREA

Drawn	Checked	Approved	Date
CR	JJ	RW	01/07/2024
Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number

BMD.24.0039.LVIA.FIG.001

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APPLICATION SITE BOUNDARY

DISTANCE FROM SITE BOUNDARY

RIVER LEE

WATERBODIES

FLOODING RISK FROM SURFACE WATER

FLOOD ZONE 2

FLOOD ZONE 3

10M CONTOURS

2M CONTOURS

+154.95M
+150.00M
+140.00M
+130.00M
+120.00M
+110.00M
+100.00M
+90.00M
+80.00M
+76.37M

Rev	Description	Date
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Drawing Title
FIGURE 2: HYDROLOGY & TOPOGRAPHY

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Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.002

0 250 500 1000 1500 2000
METERS

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- APPLICATION SITE BOUNDARY
- DISTANCE FROM SITE BOUNDARY
- RIVER LEE
- WATERBODIES
- MAIN ROADS
- SECONDARY ROADS
- MINOR ROADS
- RAILWAY & STATION
- PUBLIC FOOTPATH
- PUBLIC BRIDLEWAY
- NATIONAL CYCLE ROUTE (ROUTE 57)
- NATIONAL CYCLE ROUTE (ROUTE 6)
- LONG DISTANCE FOOTPATHS
  - 1 *CHILTERN WAY*
  - 2 *UPPER LEA VALLEY WALK*
  - 3 *NICKEY LINE*
- OTHER ROUTE WITH PUBLIC ACCESS
- BYWAY OPEN TO ALL TRAFFIC
- RESTRICTED BYWAY
- TRAFFIC FREE CYCLE ROUTE
- REGISTERED COMMON LAND
  - A *BOWER HEATH*
  - B *MARSHALLS HEATH*
  - C *HARPENDEN COMMON, HATCHING GREEN, CHURCH GREEN, LEYTON GREEN AND OTHER WASTES*

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Project
HARPENDEN

Drawing Title
FIGURE 3: ACCESS AND WATER

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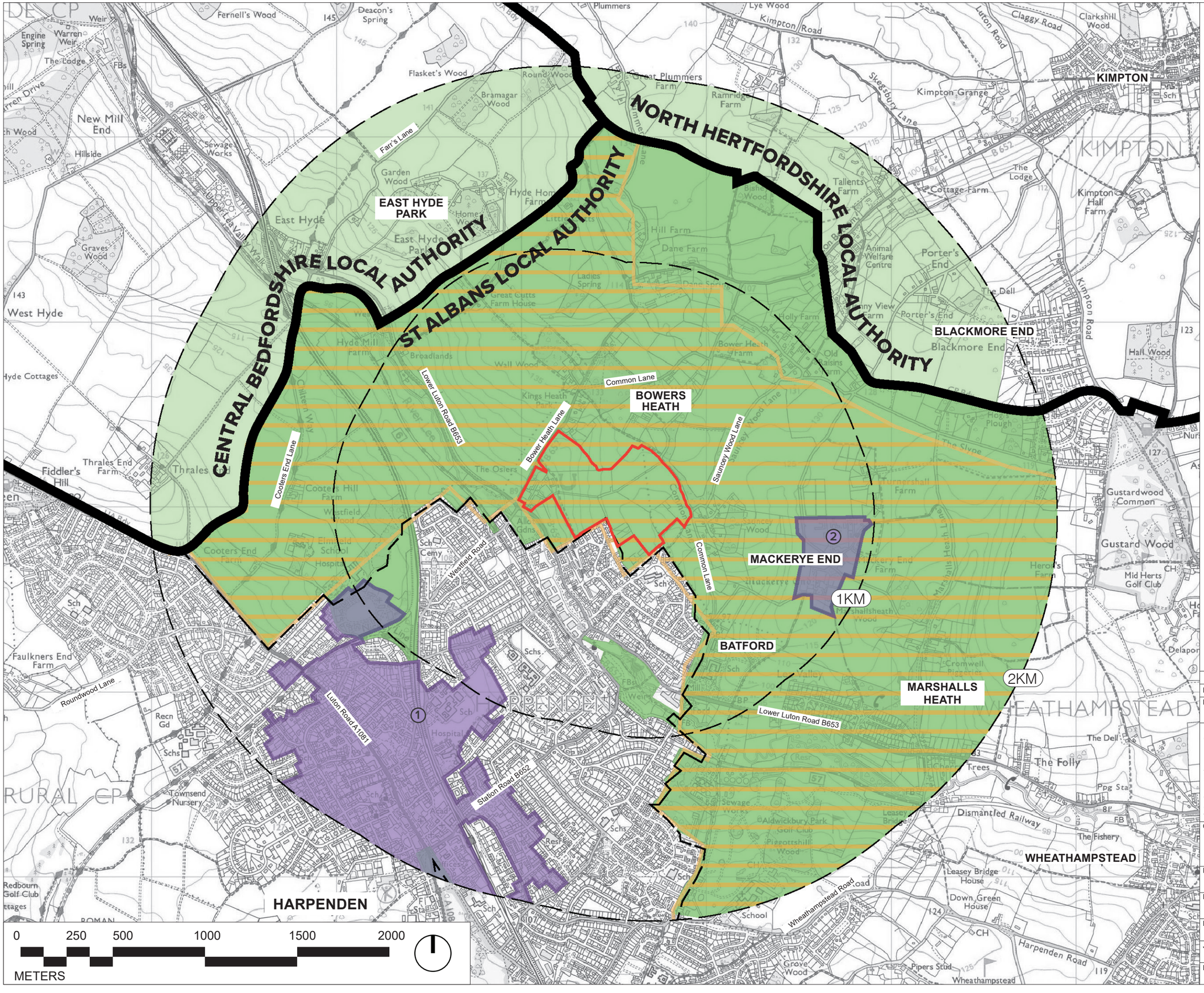
CR	JJ	RW	01/07/2024

Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.003

0 250 500 1000 1500 2000
METERS



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- APPLICATION SITE BOUNDARY
- DISTANCE FROM SITE BOUNDARY
- CONSERVATION AREAS (POLICY 85)
- (1) HARPENDEN CONSERVATION AREA
- (2) MACKERYE END CONSERVATION AREA
- SETTLEMENT STRATEGY - TOWNS - HARPENDEN (POLICY 2)
- LANDSCAPE CONSERVATION AREAS (POLICY 104)
- METROPOLITAN GREEN BELT (POLICY 1)
- NEIGHBOURING AUTHORITY GREEN BELT
- LOCAL AUTHORITY BOUNDARIES

SOURCE:

LOCAL PLAN POLICIES PROPOSAL MAP - HARPENDEN.
CITY AND DISTRICT OF ST ALBANS DISTRICT LOCAL PLAN REVIEW 1994 (ADOPTED 30 NOVEMBER 1994)
SAVED AND DELETED POLICIES VERSION (JULY 2020)

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CREST NICHOLSON STRATEGIC PROPERTIES (CREST)

Project
HARPENDEN

Drawing Title
FIGURE 4: PLANNING POLICY

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Job No.	Scale	Sheet Size	Revision
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Drawing Number
BMD.24.0039.LVIA.FIG.004

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APPLICATION SITE BOUNDARY

DISTANCE FROM SITE BOUNDARY

CONSERVATION AREAS

1 *HARPENDEN CONSERVATION AREA*

2 *MACKERYE END CONSERVATION AREA*

GRADE II LISTED BUILDINGS

GRADE II* LISTED BUILDINGS

0 250 500 1000 1500 2000

METERS

SOURCE:

HTTPS://MAGIC.DEFRA.GOV.UK/MAGICMAP.ASPX

HTTPS://DESIGNATEDSITES.NATURALENGLAND.ORG.UK/GREENINFRASTRUCTURE/MAP.ASPX

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CREST NICHOLSON STRATEGIC PROPERTIES (CREST)

Project

HARPENDEN

Drawing Title

FIGURE 5: HERITAGE DESIGNATIONS

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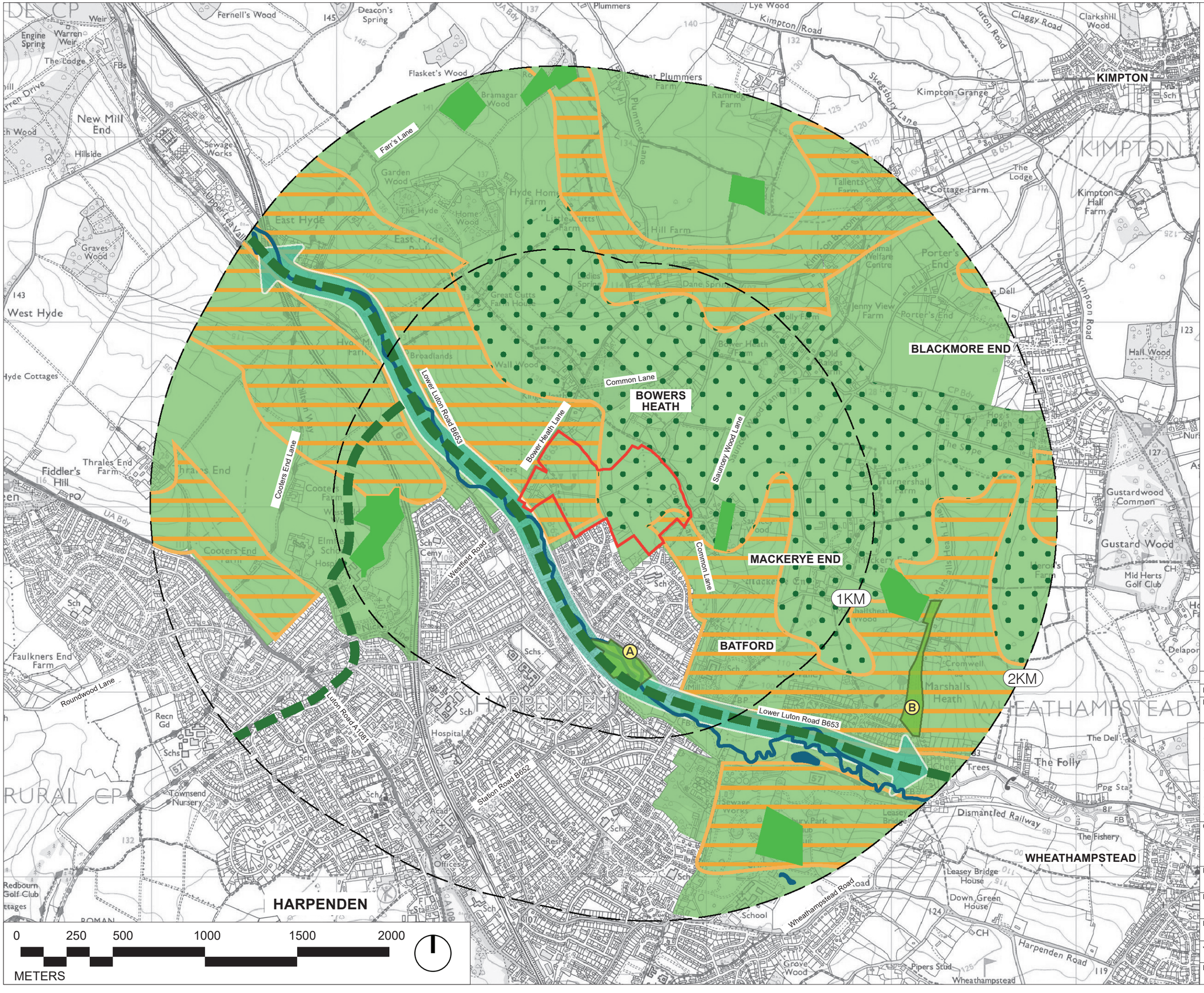
CR	JJ	RW	01/07/2024
Job No.	**Scale**	**Sheet Size**	**Revision**
24.0039	As Shown	A3	-

Drawing Number

BMD.24.0039.LVIA.FIG.005



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- APPLICATION SITE BOUNDARY
- DISTANCE FROM SITE BOUNDARY
- RIVER LEE
- WATERBODIES
- LOCAL NATURE RESERVES (LNR)
  - (A) *BATFORD SPRINGS*
  - (B) *MARSHALLS HEATH*
- ANCIENT WOODLAND
- METROPOLITAN GREEN BELT

ST ALBANS DISTRICT GREEN INFRASTRUCTURE PLAN, ACTION ZONES AND PROJECTS

- RIVER VALLEYS PROJECT
- STRATEGIC GI LINKS
- WOODLAND ENHANCEMENT ZONE
- CHALK VALLEYS CONSERVATION ZONE

SOURCE:

- ST ALBANS DISTRICT GREEN INFRASTRUCTURE PLAN MARCH 2011 (FIGURE 3.1 : PROPOSED GREEN INFRASTRUCTURE NETWORK)
- HTTPS://MAGIC.DEFRA.GOV.UK/MAGICMAP.ASPX
- HTTPS://DESIGNATEDSITES.NATURALENGLAND.ORG.UK/GREENINFRASTRUCTURE/MAP.ASPX

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Project
HARPENDEN

Drawing Title
FIGURE 6: ENVIRONMENTAL DESIGNATIONS

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CR	JJ	RW	01/07/2024

Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.006

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APPLICATION SITE BOUNDARY

DISTANCE FROM SITE BOUNDARY

LOCAL AUTHORITY BOUNDARIES

SETTLEMENT BOUNDARY

NATIONAL CHARACTER AREA

NCA 110: CHILTERNS

REGIONAL LANDSCAPE CHARACTER ASSESSMENT

CENTRAL BEDFORDSHIRE LANDSCAPE CHARACTER ASSESSMENT (2015)

- 11D: LUTON AIRPORT - CHILTERN GREEN CHALK DIPSLOPE
- 12D: LEA CHALK VALLEY
- 11C: LUTON HOO CHALK DIPSLOPE
- 12C: SLIP END CHALK VALLEY

HERTFORDSHIRE LANDSCAPE CHARACTER ASSESSMENT

- 200: PETERS GREEN PLATEAU
- 201: KIMPTON & WHITEWAY BOTTOM
- 34: BLACKMORE END PLATEAU
- 33: UPPER LEA VALLEY
- 104: THRALES END PLATEAU

SOURCE:

CENTRAL BEDFORDSHIRE CHARACTER ASSESSMENT (2015)
HERTFORDSHIRE LANDSCAPE CHARACTER AREA STATEMENTS - ST ALBANS DISTRICT

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Drawing Title
FIGURE 7: LANDSCAPE CHARACTER AREAS

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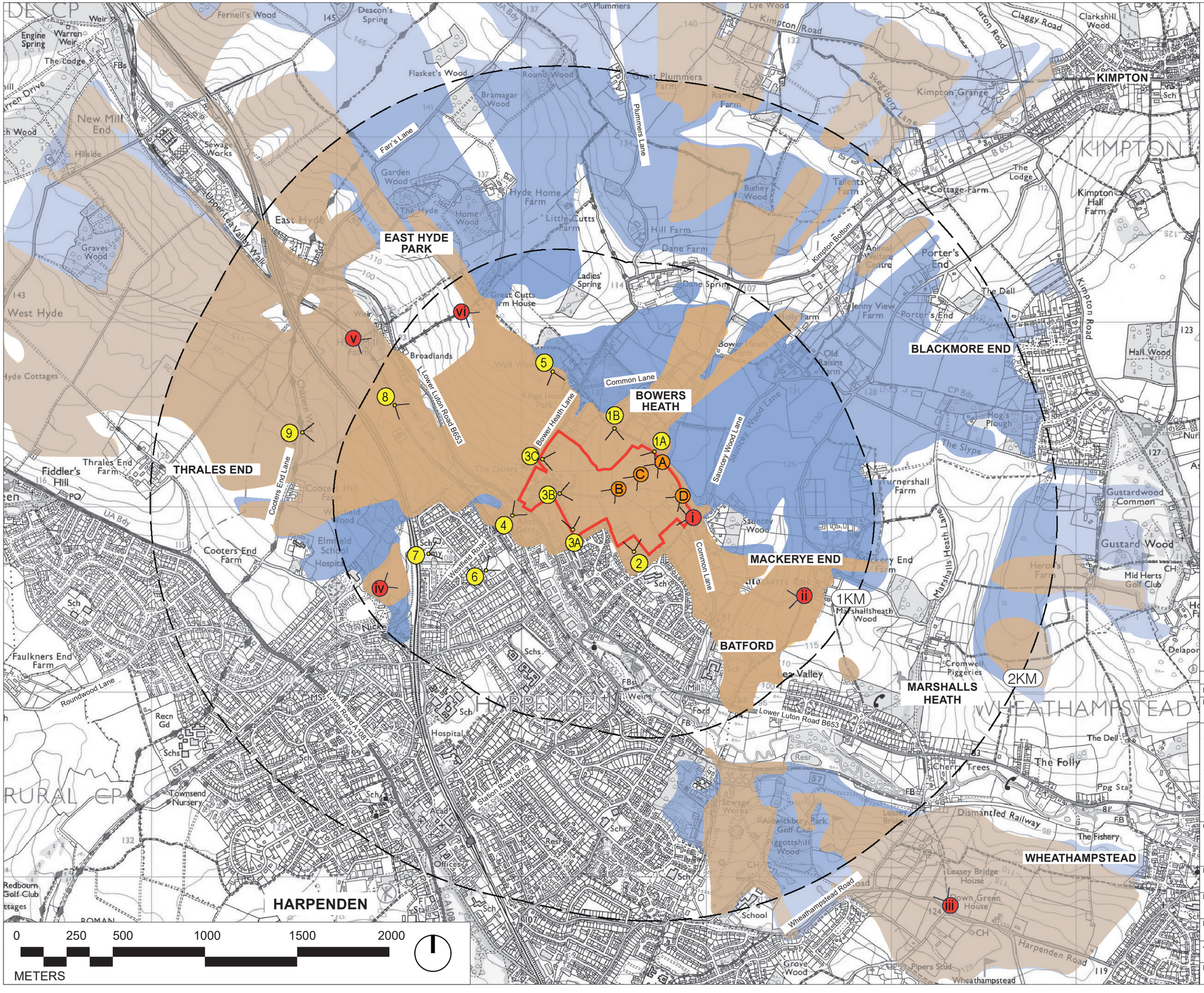
Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.007



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- APPLICATION SITE BOUNDARY
- DISTANCE FROM SITE BOUNDARY
- VIEWPOINT LOCATIONS
- SITE VIEWPOINTS
- DISCOUNTED VIEWPOINTS DURING TESTING WITHIN THE FIELD

ZONE OF THEORETICAL VISIBILITY (ZTV)

- WINTER ZTV
- SUMMER ZTV

NOTE REFER TO:

- APPENDIX D FOR VIEWPOINT PHOTOGRAPHS
- APPENDIX E FOR SITE VIEWPOINTS
- APPENDIX F FOR DISCOUNTED VIEWPOINTS

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CREST NICHOLSON STRATEGIC PROPERTIES (CREST)

Project
HARPENDEN

Drawing Title
FIGURE 8: VIEWPOINT LOCATIONS

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CR	JJ	RW	01/07/2024

Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.008

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- SITE BOUNDARY
- 10M & 2M CONTOURS
- EXISTING ROADS
- EXISTING SETTLEMENT
- EXISTING PUBLIC RIGHTS OF WAY
- EXISTING TRACK
- EXISTING NATIONAL CYCLE ROUTE
- EXISTING AMENITIES
- EXISTING HEDGEROWS
- EXISTING WOODLAND
- EXISTING TREES
- EXISTING RIVER LEE
- EXISTING TELECOMMUNICATION MAST
- POTENTIAL GATEWAYS
- OFFSITE STRATEGIC GI LINK
- KEY OFF-SITE CONNECTION TO NCR 6 (57) + LEE VALLEY WALK
- PROPOSED MULTI-FUNCTIONAL GREEN CORRIDORS
- PROPOSED OPEN SPACE
- DEVELOPABLE AREA
- PROPOSED EXTENSION TO PORTERS HILL PARK
- EXISTING PEDESTRIAN ACCESS
- POTENTIAL SITE ACCESS
- PROPOSED MITIGATION
- BOUNDARY OF LAND FOR POTENTIAL GREEN BELT RELEASE
- LANDSCAPE CHARACTER TRANSITION - EDGE OF SLOPE

Rev	Description	Date
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CREST NICHOLSON STRATEGIC PROPERTIES (CREST)

Project
HARPENDEN

Drawing Title
FIGURE 9: LANDSCAPE CAPACITY + GREEN INFRASTRUCTURE FRAMEWORK PLAN

Drawn	Checked	Approved	Date
CR	JJ	RW	01/07/2024
Job No.	Scale	Sheet Size	Revision
24.0039	As Shown	A3	-

Drawing Number
BMD.24.0039.LVIA.FIG.009

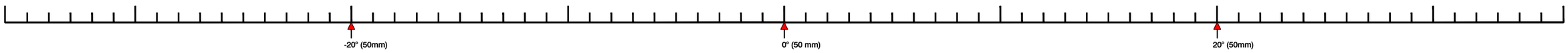
Appendix D LVIA Viewpoint Photographs

VIEWPOINT 1A: VIEW FROM FOOTPATH WHEATHAMPSTEAD 060					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514747 N:216300	what3words:	entry.retail.sport	Weather Conditions:	Sunny and clear
Direction of View:	South West	AOD:	133m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	09:45 18.07.2024		

VIEWPOINT 1B: VIEW FROM FOOTPATH WHEATHAMPSTEAD 060					
Distance from the site boundary:	160m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514463 N: 216462	what3words:	cotton.coffee.newly	Weather Conditions:	Sunny with clouds
Direction of View:	South	AOD:	131m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	14:24 18.07.2024		

EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

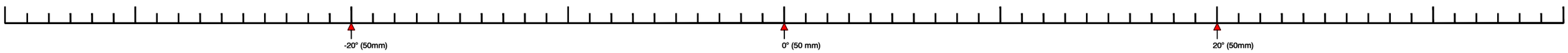
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 1A: VIEW FROM FOOTPATH WHEATHAMPSTEAD 060					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514747 N:216300	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny and clear
Direction of View:	South West	AOD:	133m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	9:45 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 1B: VIEW FROM FOOTPATH WHEATHAMPSTEAD 060					
Distance from the site boundary:	160m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514463 N: 216462	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	South	AOD:	131m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	14:24 18.07.2024		

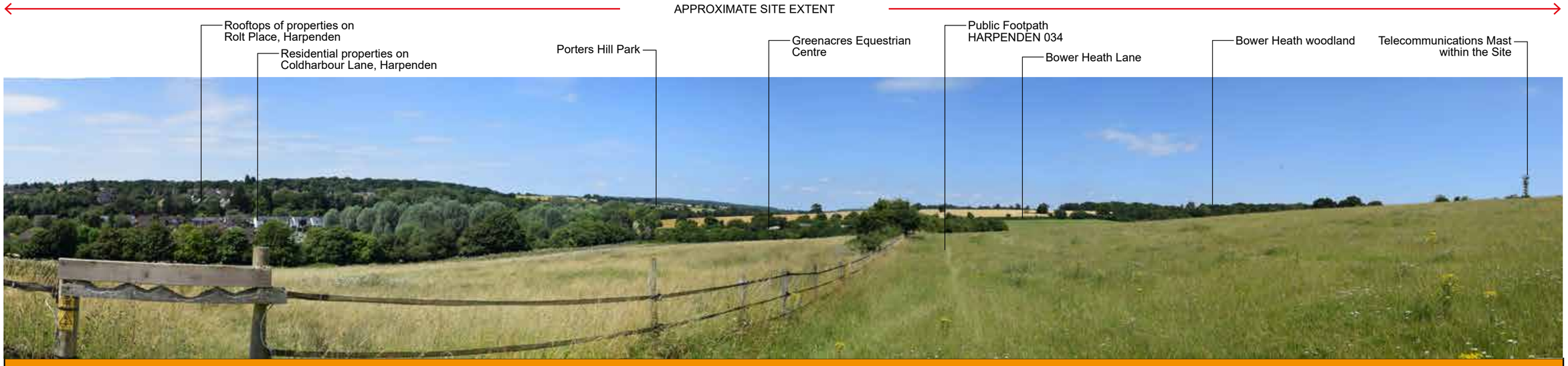
TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

APPROXIMATE SITE EXTENT

VIEWPOINT 2: VIEW FROM PORTERS HILL PARK					
Distance from the site boundary:	90m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514636 N: 215761	what3words:	audit.ports.trees	Weather Conditions:	Sunny
Direction of View:	North	AOD:	124m	Receptors Represented: Recreation users of the park	
Camera Make and Model:	NIKON D3300	Date and Time:	11:19 18.07.2024		

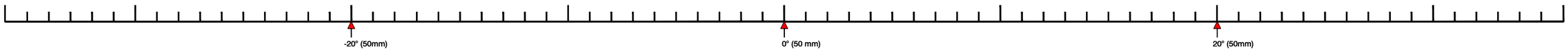
APPROXIMATE SITE EXTENT



VIEWPOINT 3A: VIEW FROM FOOTPATH HARPENDEN 034 OFF TURNERS CLOSE					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514282 N: 215867	what3words:	risk.forgot.eagle	Weather Conditions:	Sunny
Direction of View:	North	AOD:	106m	Receptors Represented: PRoW users and residents	
Camera Make and Model:	NIKON D3300	Date and Time:	11:32 18.07.2024		

EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

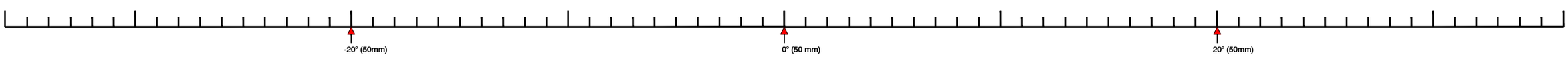
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 2: VIEW FROM PORTERS HILL PARK					
Distance from the site boundary:	90m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514636 N: 215761	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny
Direction of View:	North	AOD:	124m	Receptors Represented:	Recreation users of the park
Camera Make and Model:	NIKON D3300	Date and Time:	11:19 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 3A: VIEW FROM FOOTPATH 034					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514282 N: 215867	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny
Direction of View:	North	AOD:	106m	Receptors Represented:	PRoW users and residents
Camera Make and Model:	NIKON D3300	Date and Time:	11:32 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

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DATE:	JUL' 24
DRAWN BY:	EW
CHECKED:	JJ/RW

APPROXIMATE SITE EXTENT

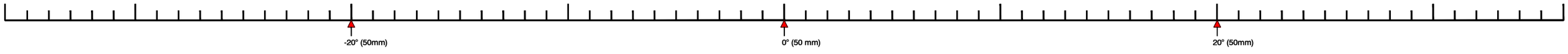
VIEWPOINT 3B: VIEW FROM PUBLIC FOOTPATH HARPENDEN 034					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514204 N: 216081	what3words:	bared.useful.prices	Weather Conditions:	Sunny
Direction of View:	East	AOD:	103m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	11:38 18.07.2024		

APPROXIMATE SITE EXTENT

VIEWPOINT 3C: VIEW FROM BOWER HEATH LANE					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514112 N: 216268	what3words:	riders.little.charm	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	108m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	11:47 18.07.2024		

EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

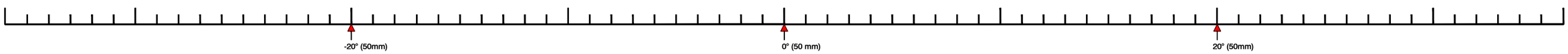
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 3B: VIEW FROM PUBLIC FOOTPATH HARPENDEN 034					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514204 N: 216081	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny
Direction of View:	East	AOD:	103m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	11:38 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 3C: VIEW FROM BOWER HEATH LANE					
Distance from the site boundary:	0m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514112 N: 216268	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	108m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	11:47 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

APPROXIMATE SITE EXTENT

Westfield Road

Lower Luton Road

Dwellings on and within Site's southern boundary

Allotment gardens

VIEWPOINT 4: VIEW FROM WESTFIELD ROAD					
Distance from the site boundary:	60m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513955 N: 215949	what3words:	duke.pitch.clash	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	91m	Receptors Represented: Vehicular users & pedestrians	
Camera Make and Model:	NIKON D3300	Date and Time:	13:54 18.07.2024		

APPROXIMATE SITE EXTENT

Wall Wood

Public Footpath WHEATHAMPSTEAD 093

Telecommunications Mast (Within Site)

Bower Heath Lane

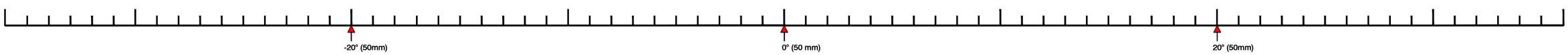
Sir John Lawes School

Harpenden

VIEWPOINT 5: VIEW FROM PUBLIC FOOTPATH WHEATHAMPSTEAD 093					
Distance from the site boundary:	350m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514164 N:216752	what3words:	stroke.hint.glare	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	138m	Receptors RepresentedPRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	14:49 18.07.2024		

EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

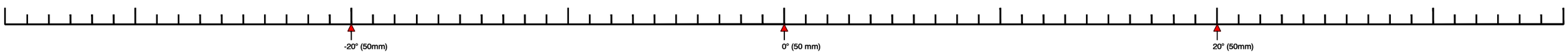
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 4: VIEW FROM WESTFIELD ROAD					
Distance from the site boundary:	5m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513955 N: 215949	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	91m	Receptors Represented: Vehicular users & pedestrians	
Camera Make and Model:	NIKON D3300	Date and Time:	13:54 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

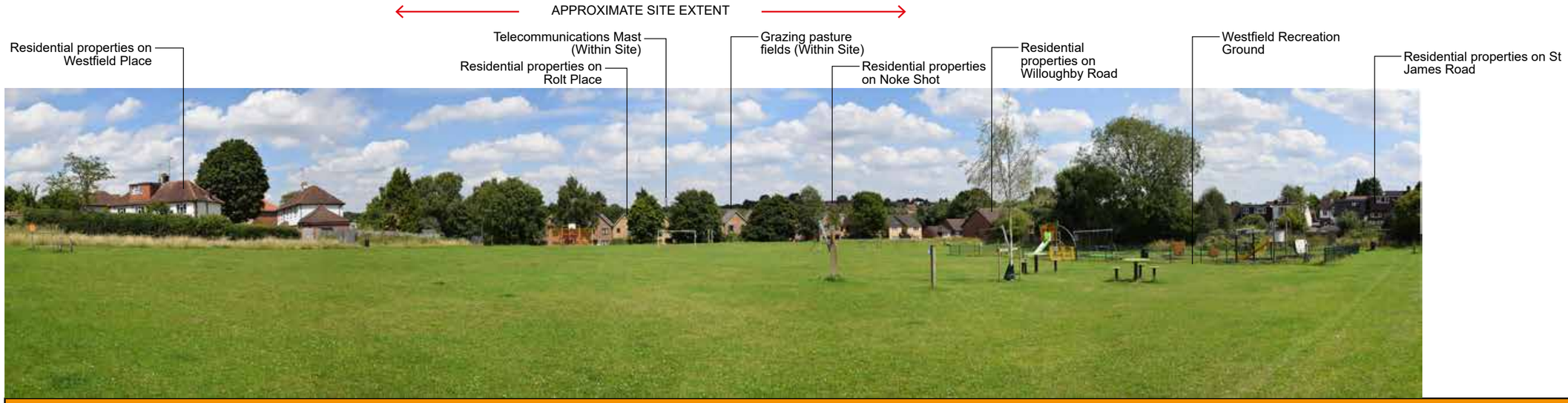
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 5: VIEW FROM PUBLIC FOOTPATH WHEATHAMPSTEAD 093					
Distance from the site boundary:	350m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 514164 N:216752	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	138m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	14:49 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 6: VIEW FROM WESTFIELD RECREATION GROUND					
Distance from the site boundary:	410m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513811 N:215667	what3words:	parade.leader.cute	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	104m	Receptors Represented:	Recreation users of the park & residents
Camera Make and Model:	NIKON D3300	Date and Time:	14:05 18.07.2024		

VIEWPOINT 7: VIEW FROM WESTFIELD ROAD CEMETERY					
Distance from the site boundary:	545m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513514 N: 215741	what3words:	hired.ripe.canny	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	120m	Receptors Represented:	Westfield Road Cemetery users & residents
Camera Make and Model:	NIKON D3300	Date and Time:	13:39 18.07.2024		

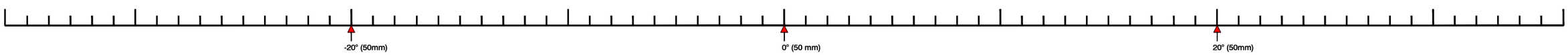
EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

VIEWPOINT 6: VIEW FROM WESTFIELD RECREATION GROUND					
Distance from the site boundary:	410m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513811 N:215667	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	104m	Receptors Represented:	Recreation users of the park & residents
Camera Make and Model:	NIKON D3300	Date and Time:	14:05 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

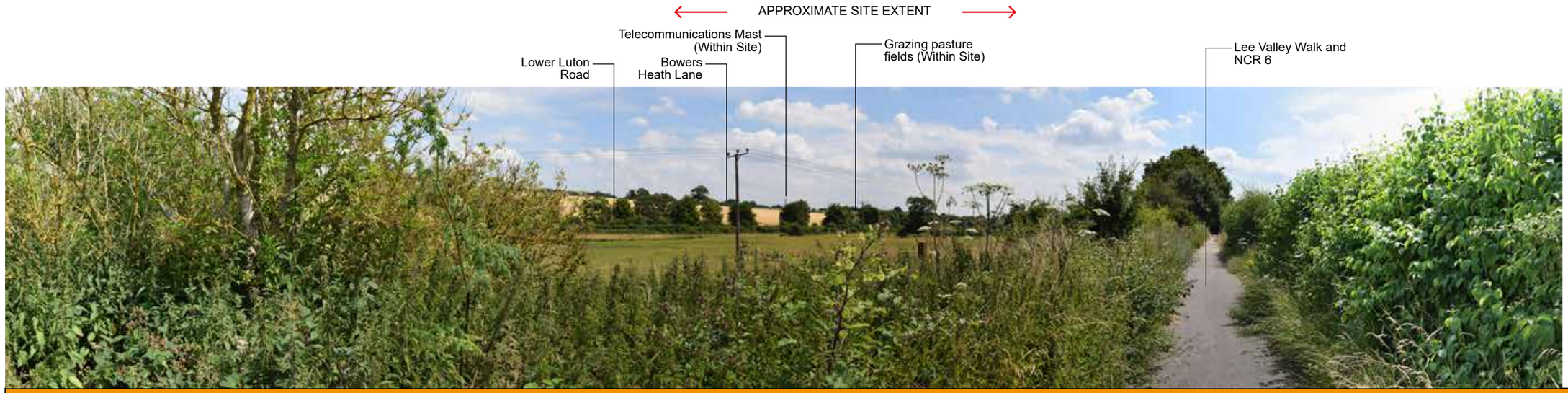
FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



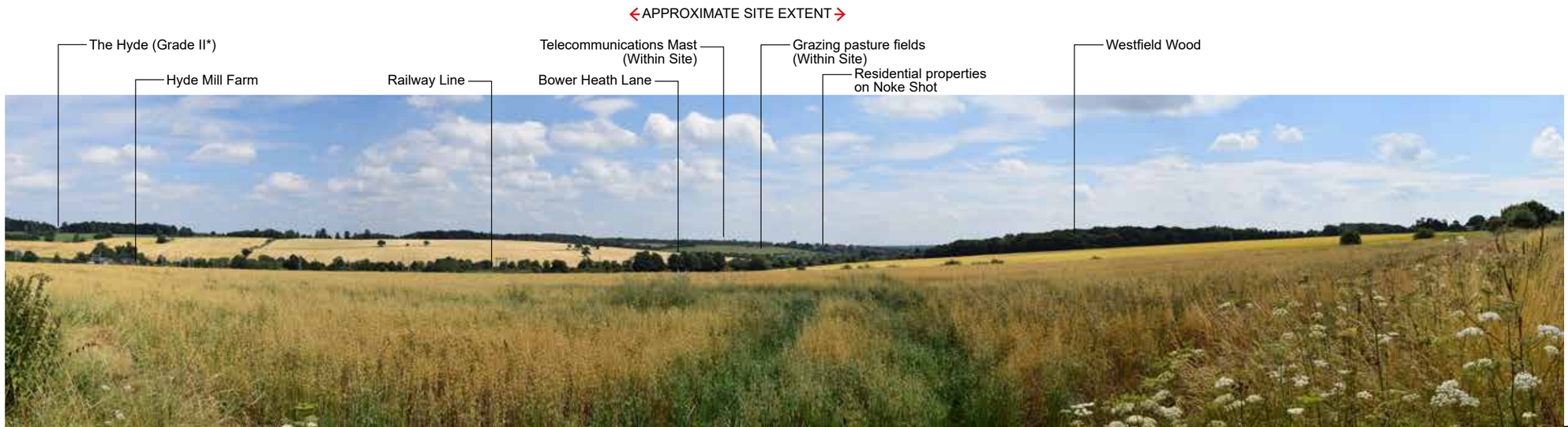
VIEWPOINT 7: VIEW FROM WESTFIELD ROAD CEMETERY					
Distance from the site boundary:	545m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513514 N: 215741	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	North East	AOD:	120m	Receptors Represented: Westfield Road Cemetery users & residents	
Camera Make and Model:	NIKON D3300	Date and Time:	13:39 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C



VIEWPOINT 8: VIEW FROM LEE VALLEY WALK & NATIONAL CYCLE NETWORK 6					
Distance from the site boundary:	850m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513320 N: 216565	what3words:	lists.pushy.nods	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	96m	Receptors Represented: PRoW users	
Camera Make and Model:	NIKON D3300	Date and Time:	13:16 18.07.2024		



VIEWPOINT 9: VIEW FROM COOTERS END LANE / CHILTERN WAY LONG DISTANCE FOOTPATH					
Distance from the site boundary:	1.2km	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 512818 N: 216403	what3words:	youth.healthier.call	Weather Conditions:	Sunny with clouds
Direction of View:	East	AOD:	126m	Receptors Represented: Vehicular users	
Camera Make and Model:	NIKON D3300	Date and Time:	12:56 18.07.2024		

EXISTING BASELINE VIEWS (EXTENDED PANORAMA)

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

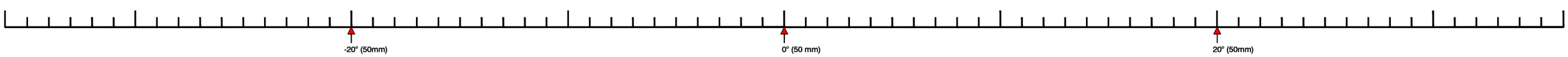
VIEWPOINT 8: VIEW FROM LEE VALLEY WALK & NATIONAL CYCLE NETWORK 6					
Distance from the site boundary:	850m	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 513320 N: 216565	Horizontal Field of View:	39.6°	Weather Conditions:	Sunny with clouds
Direction of View:	South East	AOD:	96m	Receptors Represented:	PRoW users
Camera Make and Model:	NIKON D3300	Date and Time:	13:16 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

BRADLEY MURPHY DESIGN LTD, 6 The Courtyard, Hatton Technology Park, Dark Lane, Hatton, Warwickshire, CV35 8XB | info@bradleymurphydesign.co.uk | www.bradleymurphydesign.co.uk | 01926 676496

DATE:	JUL' 24
DRAWN BY:	EW
CHECKED:	JJ/RW



VIEWPOINT 9: VIEW FROM COOTERS END LANE / CHILTERN WAY LONG DISTANCE FOOTPATH					
Distance from the site boundary:	1.2km	Lens:	Fixed 50mm (equivalent focal length)	Camera Height Above AOD:	1.6m
OS Grid Reference:	E: 512818 N: 216403	Horizontal Field of View:	39.6°	Weather Conditions:	
Direction of View:	East	AOD:	126m	Receptors Represented: Vehicular users	
Camera Make and Model:	NIKON D3300	Date and Time:	12:56 18.07.2024		

TO BE VIEWED AT COMFORTABLE ARMS LENGTH WHEN PRINTED AT A3

FOR VIEWPOINT LOCATIONS REFER TO FIGURE 8 AT APPENDIX C

BRADLEY MURPHY DESIGN LTD, 6 The Courtyard, Hatton Technology Park, Dark Lane, Hatton, Warwickshire, CV35 8XB | info@bradleymurphydesign.co.uk | www.bradleymurphydesign.co.uk | 01926 676496

DATE:	JUL' 24
DRAWN BY:	EW
CHECKED:	JJ/RW

Appendix E LVIA Site Viewpoints

ROOF TOPS OF PROPERTIES ON NOKES CLOSE

ROOF TOPS OF PROPERTIES ON VIKING CLOSE

PROPERTIES WITHIN HARPENDEN

TELECOMMUNICATIONS MAST

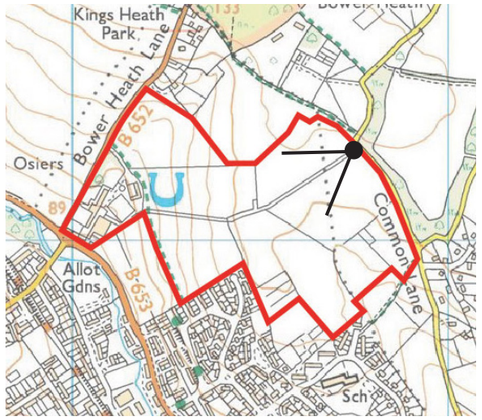


PHOTO A
///what3words: bulb.again.blaze

PROPERTIES WITHIN HARPENDEN

TELECOMMUNICATIONS MAST

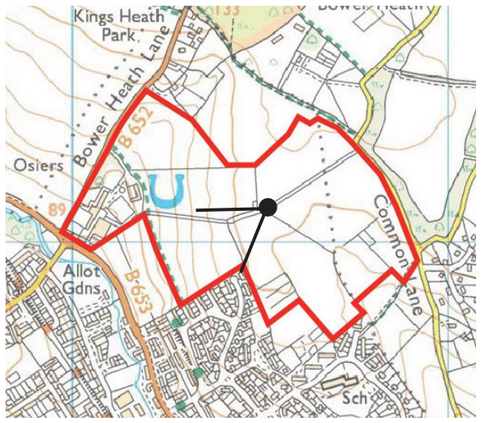


PHOTO B
///what3words: navy.palms.enjoyable

BMD

PROJECT: HARPENDEN | CLIENT: CREST NICHOLSON STRATEGIC PROPERTIES (CREST) | APPENDIX E - SITE VIEWPOINTS

BRADLEY MURPHY DESIGN LTD, 6 The Courtyard, Hatton Technology Park, Dark Lane, Hatton, Warwickshire, CV35 8XB | info@bradleymurphydesign.co.uk | www.bradleymurphydesign.co.uk | 01926 676496

DATE:	AUG' 24
DRAWN BY:	CS
CHECKED:	JJ/RW

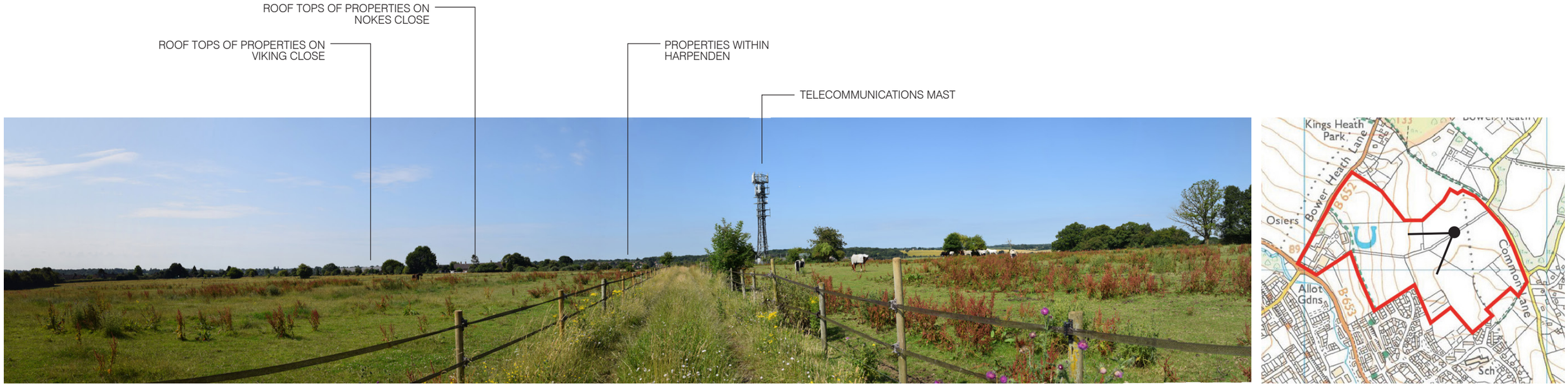


PHOTO C
///what3words: pure.badly.usual

PHOTO D
///what3words: snow.places.energy

Appendix F LVIA Discounted Viewpoints

DISCOUNTED VIEWPOINTS – APPENDIX F

VIEWPOINT LOCATIONS ARE ILLUSTRATED ON FIGURE 8 – VIEWPOINT LOCATIONS PLAN AT APPENDIX C

Project:	Land North East of Harpenden	**Ref:**	BMD.24.0039.LVIA.001
Subject:	Landscape & Visual Impact Assessment (LVIA)	**Date:**	22.07.2024
Status:	For Information	**Rev:**	-

VIEWPOINT i: COMMON LANE / PUBLIC FOOTPATH WHEATHAMPSTEAD 061	**What3words: cage.exile.stone**
Representative of walkers on public footpath WHEATHAMPSTEAD 061 and users on Common Lane	

Public footpath WHEATHAMPSTEAD 061, runs in part adjacent or in close proximity to the Site's eastern boundary, from Whitings Close to Common Lane. The public footpath is enclosed and bordered either side by dense hedgerow and tree field boundary vegetation which prevents views out to the surrounding landscape, including the Site. From testing within the field there are no views of the Site and it is not considered development of the Site would substantially impact on these receptors.

VIEWPOINT ii: MACKERYE END LANE / PUBLIC FOOTPATH WHEATHAMPSTEAD 062	What3words: limbs.shares.grit
Representative of Mackerye End Conservation Area, Mackerye End Lane and users of public footpath Wheathampstead 062	

Mackerye End Conservation Area is located approximately 750m to the east of the Site. Public footpath WHEATHAMPSTEAD 062 runs from Mackerye End Lane on the edge of the Conservation Area south to Lower Luton Road (B653), along the edge of Katherine Warrington school playing fields. The public footpath for the most part is enclosed and bordered either side by hedgerow and tree field boundary vegetation and school perimeter fencing which restricts views out to the surrounding landscape. From testing within the field there are no views of the Site from Mackerye End Conservation Area and it is not considered development of the Site would substantially impact on these receptors.

VIEWPOINT iii: WHEATHAMPSTEAD ROAD / PUBLIC FOOTPATH WHEATHAMPSTEAD 028	What3words: spider.select.shower
Representative of Wheathampstead Road and users of public footpath Wheathampstead 028	

This view is located approximately 2.5km to the south east of the Site, on public footpath WHEATHAMPSTEAD 028, off Wheathampstead Road. Whilst an elevated location the combination of woodland and trees in the near and middle distance and landform, prevent views towards and of the Site. From testing within the field, there are no views of the Site and it is not considered development of the Site would substantially impact on these receptors.

VIEWPOINT iv: HIGHFIELD OVAL & PLAYING FIELDS	What3words: exam.rounds.aura
Representative of users at Harpenden Conservation Area, Highfield Oval and recreation users of the playing fields	

Highfield Oval is part of the YWAM Harpenden grounds and is publicly accessible for walking, the playing fields, the central green and coffee shop located approximately 900m to the south west of the Site. Highfield Oval also forms part of Harpenden Conservation Area. The recreation playing fields are bordered and enclosed by woodland bordering the railway line, which prevents views out to the north east and towards the Site. From testing within the field, there are no views of the Site and it is not considered development of the Site would substantially impact on these receptors.

VIEWPOINT v: LEE VALLEY WALK & NATIONAL CYCLE NETWORK 6	What3words: turns.lands.panic
Representative of users on Lee Valley walk and National Cycle Network 6	

This view is located approximately 1.2km to the north west of the Site in the Upper Lee Valley. The route is for the most part channelled and enclosed along its length, however breaks in vegetation provide views out to the valley slopes. From this location there are views south east to the valley slopes north of Lower Luton Road, however the combination of intervening landform and vegetation restrict views of the Site. A localised ridgeline within the arable farmland and at Bower Heath Lane restricts onward views south east and towards the Site. As users travel south east towards Harpenden there are transient, occasional, glimpsed views towards the Site, which will be considered under Viewpoint 8 as part of the LVIA. From testing within the field, there are no views of the Site and it is not considered development of the Site would substantially impact on these receptors.

VIEWPOINT vi: BYWAY OPEN TO ALL TRAFFIC (BOAT) WHEATHAMPSTEAD 006 / GREAT CUTTS FARMHOUSE	What3words: clear.help.beard
Representative of users on BOAT WHEATHAMSTEAD 006/ Great Cutts Farmhouse	

This view is located approximately 800m to the north west of the Site on BOAT WHEATHAMPSTEAD 006 and at the curtilage edge of Great Cutts Farmhouse. Whilst there are elevated, open views across the Lee Valley to the adjacent valley slopes, the landform in the intervening arable farmland restricts views towards the Site. A localised ridgeline and crest exists within the arable farmland and at Bower Heath Lane which restricts views south east and towards the Site.

References

[i] Institute of Environmental Management and Assessment (IEMA) qualified assessors

[ii] SI 2017/571 as amended by SI 2018/695

[iii] Hertfordshire County Council (2023) Webmaps – Rights of Way. Available at: **Webmaps - Rights of Way (hertfordshire.gov.uk)** [last accessed: 9th September 2024].

[iv] Magic Map Application (2024). Available at: **Magic Map Application (defra.gov.uk)** [last accessed: 9th September 2024].

[v] Natural England (2024) Ancient Woodland (England). Available at: **Ancient Woodland (England) | Natural England Open Data Geoportal (arcgis.com)** [last accessed: 9th September 2024].

[vi] Historic England (2024) **Search the List: Map Search | Historic England** [last accessed: 9th September 2024].

[vii] St Albans City & District Council (2024) **Cadcorp SIS WebMap 9 (stalbans.gov.uk)** [last accessed: 9th September 2024].

[viii] HM Government (2024) **Flood map for planning - GOV.UK (flood-map-for-planning.service.gov.uk)** [last accessed: 9th September 2024].

[ix] Department for Environment Food & Rural Affairs (2020). **AQMAs interactive map (defra.gov.uk)** [last accessed: 9th September 2024].

[x] Department for Environment Food & Rural Affairs (2024). **Noise Action Planning Important Areas Round 3 England (data.gov.uk)** [last accessed: 9th September 2024].

[xi] Planning Portal (2024) **Summary - The Future Homes Standard - Planning Portal** [last accessed: 9th September 2024].

[xii] Stantec GIS Hub (2024).

[xiii] BGS Geology Viewer. Available at: **BGS Geology Viewer (BETA)** [last accessed: 6th September 2024].

[xiv] The Coal Authority (2023) **The Coal Authority Map Viewer (arcgis.com)** [last accessed: 9th September 2024].

[xv] Zetica UXO (2024) **Risk Maps | Zetica UXO** [last accessed: 6th September 2024].

[xvi] Catchment Based Approach Data Hub (2024) **Historic Landfill Sites | Catchment Based Approach Data Hub** [last accessed: 9th September 2024].