

7. Landscape & Visual

Appendix 7.1

LANDSCAPE & VISUAL IMPACT ASSESSMENT

Fort Halstead

Landscape and Visual Impact Assessment Report
September 2019

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1.0 Summary

This assessment describes the existing landscape and views; considers their sensitivity to change; identifies the changes likely to arise from the proposed development; and provides judgements of the significance of effects arising.

The Fort Halstead application is occupied by defence related industries and is currently home to Defence Science and Technology Laboratory (DSTL), which is part of the Ministry of Defence, and QinetiQ, a private defence technology company. The companies operate out of a range of office, laboratory and storage type buildings which are scattered throughout the Fort Halstead site.

The application site, despite its location on the ridge of the Kent Downs escarpment, is not overly apparent within the landscape. The perimeter woodland and vegetation surrounding the application site provides enclosure and forms an effective screen. Taller elements of existing buildings and structures do protrude above the perimeter vegetation although views into the application site itself are generally limited to certain locations along the boundary where gaps in the vegetation exist.

The proposed development is for up to 750 residential dwellings; employment / mixed use land uses (including a potential school site); a centrally located village centre comprising public space and community facilities; and retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure.

Inevitably, there would be changes to the character and visual resource of the application site itself as a result of the construction activities and these effects are considered to be adverse. However, given the screening properties of perimeter vegetation, impacts would be localised and construction activity would not be intrusive in the surrounding landscape. The removal of buildings currently visible above and beyond the perimeter vegetation and the partial removal of perimeter security fencing is considered beneficial. Any construction effects would be temporary in nature, and overall no significant impacts to the landscape and visual resource are therefore concluded during the construction phase.

The operational development is considered to improve the visual amenity and character of the application site. The majority of the utilitarian structures, workshops, car park and disturbed land that currently dominate the application site will be removed and replaced by residential and employment built form, punctuated and intertwined by new areas of green infrastructure. In addition, the visual amenity of adjacent Public Rights of Way would be substantially improved by the removal of the vast majority of the existing perimeter security fencing. The application site will become publicly accessible, giving people the opportunity to experience the new areas of public realm, open space and heritage features.

Beyond the application site, based on the maximum spatial and height parameters, the proposed development would be generally contained by the perimeter vegetation. In short range views to the north, around Otford Lane, certain parts of the employment area / village centre may just break above the tree line but would not be a prominent feature in view and would be consistent with the baseline views of existing buildings and structures protruding above the perimeter woodland. To the east and west, along Pole Hill and Star Hill respectively, the proposed development is generally screened by the perimeter woodland, with the exception of minor changes to the existing access points into the application site.

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From the south, at the base of the scarp slope and around the M25 / A224, the proposed development will not be visible, set back from the scarp slope and sitting below the tree line. In middle to longer distance views to the east and south, from areas of higher ground around Otford and Sevenoaks, the proposed development would be generally screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible at this distance and there would be no perceptible change to baseline views.

It should also be noted that the assessment of effects is based on maximum building height parameters and does not consider the effects of individual building design, which would result in variations to height and roofscape and which would inevitably further reduce any visual impact.

There is likely to be nominal beneficial changes to the night time environment as a result of the proposed development, with existing lighting replaced with no modern fixtures that limit sky glow and light spill. The most noticeable changes would occur in the vicinity of the Star Hill Road junction with the removal of the Star Hill Road Gatehouse and associated security lighting and general reduction of sky glow above the application site.

Overall it is concluded that the proposed development will not result in any significant landscape and visual effects.

The LVIA for the permitted development also concluded that there would be no significant landscape and visual effects, and that the scheme improves the visual amenity and character of the application site. With particular reference to visual effects, it was concluded that while certain the vast majority of the built development would be screened by the perimeter woodland, the proposed energy centre flue would be a visible feature, extending well above the tree-line.

When considering the effects of the operational development against the future baseline of the permitted development (of up to 450 dwellings and employment uses) it is considered that there will be no discernible changes to landscape character and views, with the proposed development confined to areas of previously developed land and not exceeding the building height parameters of the permitted scheme. However, the exclusion of the flue zone as part of the proposed development is beneficial overall, removing the element of the permitted scheme that was most visually prominent.

1.1. Statement of Significance

As set out in the assessment methodology, effects that are Major-Moderate or Major are judged to be significant. Effects of Moderate significance or less are judged to constitute additional considerations. It should be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable.

The findings of the Landscape and Visual Impact Assessment indicate that significant effects would arise to the following receptors:

- LCA1: Darent Valley – Major-moderate, permanent, positive effects resulting from the operational development, as a consequence of general improvements to the character and appearance of the application site

No significant effects are anticipated during the temporary construction phase.

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2.0 Introduction

2.1. Background

LDA Design was commissioned to carry out a Landscape and Visual Impact Assessment (LVIA) of the proposed development at Fort Halstead (the application site) on behalf of the Mersey Pension Fund, the Applicant. The development comprises a mix of employment and residential uses, with up to 750 dwellings.

The LVIA has been carried out by Paul Lishman, an Environmental Planner and chartered Landscape Architect, with over 15 years experience of undertaking LVIA's.

The LVIA defines the existing landscape and visual baseline environments; assesses their sensitivity to change; describes the key landscape and visual related aspects of the proposed development; describes the nature of the anticipated change upon both the landscape and visual environments; assesses the effects during construction, the period following completion prior to the maturing of mitigation planting (short to medium term) and once the mitigation planting is mature (long term).

The LVIA forms part of a suite of documents supporting the planning application for this development proposal. A separate landscape and visual chapter is included within the Environmental Statement (ES), which summarises the findings of the LVIA and identifies key assessment findings.

It should be noted that the application site already has outline planning permission (Application Reference 15/00628/OUT) for a mix of employment and residential development, with up to 450 dwellings. As such the LVIA considers the effect of the operational development on both the existing baseline environment (i.e. the current land uses) and the future baseline environment (i.e. with the permitted development built-out in accordance with planning permission).

The original application included an LVIA (2015) which was also prepared by Paul Lishman at LDA Design.

2.2. The Application Site and Proposed Development

As shown on Figure 1, the application site is located in Kent, approximately 5km to the north-west of the town centre of Sevenoaks and approximately 8km to the south-east of the town centre of Orpington.

The application site falls entirely within the administrative area of Sevenoaks District Council (SDC). As shown on Figure 1, it also falls entirely within the Kent Downs Area of Outstanding Natural Beauty (AONB) and is within the Metropolitan Green Belt (Figure 2).

The application site is in close proximity to several major transport routes, including the M25 motorway; its junction with the M26; the A21 (T) road leading south to Sevenoaks; and the London-Ashford railway line.

The application site was originally an area of undeveloped woodland, but was developed in the 1890's as a fort / mobilisation centre as part of the London Defence Positions Scheme. The facility was expanded in the late 1930's / early 1940's when the 'Armaments Design Department and Research Department' moved to Fort Halstead from Woolwich, and

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continued to be used for military / defence operations during the mid / late Twentieth century.

Today, the application site is still occupied by defence related industries and is currently home to Defence Science and Technology Laboratory (DSTL), which is part of the Ministry of Defence, and QinetiQ, a private defence technology company. The companies operate out of a range of office, laboratory and storage type buildings which are scattered throughout the Fort Halstead site. They are typically low-rise buildings 1 – 2 storeys in height, although there are a number of taller buildings within the Site, including N2 and the boiler house chimneys of building S2. The buildings are interspersed with internal roads; large areas of hard standing used for parking / access; smaller storage buildings and bunkers.

However, due to the current consolidation and relocation of DSTL, the majority of the application site will become vacant which has created the opportunity for redevelopment. As part of the relocation of DSTL (and under the current planning permission) some demolition and clearance works have already been undertaken. It is noted that QinetiQ intend to remain on site and improve its existing premises.

In terms of the landscape fabric and character of the application site, it is dominated by woodland which surrounds the existing built-up area providing visual enclosure. The wooded character extends into the built-up area with wide-spread mature trees typically set within areas of amenity grassland. Figure 3 (Topography and Woodland) and Figure 5 (Visible Structures) show the extent of woodland within and around the application site.

The topography of the Fort Halstead site is varied. Although the core of the site appears relatively flat, the topography varies from approximately 200m AOD in the north-east to 220m AOD in the south-west. There is gradual fall to the north of the site, towards the woodland edge, where the site is at around 190m AOD. The site also falls steeply to the south-east and south, which encompasses the scarp slope. Figure 3 shows the topography of the application site and surrounding area.

A summary of the proposed development is set out below, and the full project description can be found in the ES (Chapter 3 –Application Site and Proposed Development).

- Residential land uses allowing for up to 750 residential dwellings.
- Employment / mixed use land uses (including a potential school site and existing employments uses at QinetQ).
- A centrally located village centre comprising public square, community facilities, and incorporating retained and enhanced Listed Buildings.
- Retention and enhancement of the Fort as an Historic Interpretation Centre and with other buildings within the Fort used as workshop space.
- Retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure providing public open space, recreational routes, drainage, and biodiversity benefits.

2.3. The Study Area

It is accepted practice within landscape and visual assessment work that the extent of the study area for a development proposal is broadly defined by the visual envelope of the

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application site and the anticipated extent of visibility arising from the proposed development itself, based on the Zone of Theoretical Visibility (ZTV) study. In this case a study area of 7.5km has been used to cover all potentially material landscape and visual impacts and this is consistent with the study area used for the 2015 LVIA.

The study area is shown on Figure 1 and is repeated on the majority of the other Figures.

2.4. Report Structure

This report is structured as set out in the table of contents.

The LVIA should be read in conjunction with four complimentary reports:

- The AONB Report (prepared by LDA Design) considers the impact of the proposed development on the natural beauty criteria of the Kent Downs AONB.
- The Summary Lighting Assessment (prepared by Royal Haskoning) considers the impact of the proposed development on the night-time environment and recommends an outline lighting strategy.
- Arboricultural Impact Assessment (including Tree Retention Plan) (prepared by Middlemarch) considers the impact of the proposed development on existing trees.

The LVIA is supported by a number of Figures and Appendices.

All appendices are listed below:

- Appendix 1: Glossary
- Appendix 2: References
- Appendix 3: Methodology
- Appendix 4: Methodology for Visualisations and ZTV Studies
- Appendix 5: National Planning Practice Guidance Notes
- Appendix 6: Extracts from Landscape Character Assessment

Figures are listed below and are included at the end of this report:

- Figure 1: Site Location and Planning Policy
- Figure 2: Green Belt
- Figure 3: Topography
- Figure 4: AONB Landscape Character
- Figure 5: Visible Structures
- Figure 6: Viewpoints
- Figure 7: Viewpoints Inset Plan
- Figure 8: Photograph Panels
- Figure 9: ZTV of Existing Development
- Figure 10: ZTV of Permitted Development (excluding energy flue)

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- Figure 11: ZTV of Permitted Development (including energy flue)
- Figure 12: ZTV of Proposed Development
- Figure 13: Wireframe Visualisations

For the purpose of this LVIA, the ‘application site’ is defined by the red line boundary (shown on the Figures) and represents the area within which the proposed development would be built out.

The ‘wider survey area’ is defined by the blue line boundary (also shown on the Figures) represents an area of land which falls within the Applicant’s ownership and which would be subject to landscape and ecological enhancements but would not contain any new built form.

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3.0 Methodology

3.1. Overview

“Landscape and Visual Impact Assessment 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 people’s views and visual amenity.” GLVIA 3, para. 1.1).

Paras. 2.20-2.22 of the same guidance indicate that the two components (assessment of landscape effects, and assessment of visual effects) are *“related but very different considerations”*.

The assessment method for this LVIA draws upon the established GLVIA3; An Approach to Landscape Character Assessment (Natural England, 2014), Landscape Institute Technical Information Note (LI TIN) 05/2017 regarding townscape character; and LI TIN 02/17, Visual Representation, and other recognised guidelines.

The methodology is described in more detail in Appendices 3 and 4.

3.2. Assessment Terminology and Judgements

A full glossary is provided in Appendix 1. The key terms used within this assessment are:

- Susceptibility and Value – which contribute to Sensitivity of the receptor.
- Scale, Duration and Extent - which contribute to the Magnitude of effect.
- Significance.

These terms are described in more detail below

3.2.1. Sensitivity of the Receptor

Susceptibility indicates the ability of a landscape or visual receptor to accommodate the proposed development <i>“without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.”</i> (GLVIA3, para. 5.40).	
High	Undue consequences are likely to arise from the proposed development.
Medium	Undue consequences may arise from the proposed development.
Low	Undue consequences are unlikely to arise from the proposed development.

Susceptibility of landscape character areas is influenced by their characteristics and is frequently considered (though often recorded as ‘sensitivity’ rather than susceptibility) within documented landscape character assessments and capacity studies.

Susceptibility of designated landscapes is influenced by the nature of the special qualities and purposes of designation and/or the valued elements, qualities or characteristics, indicating the degree to which these may be unduly affected by the development proposed.

Susceptibility of accessible or recreational landscapes is influenced by the nature of the landscape involved; the likely activities and expectations of people within that landscape and the degree to which those activities and expectations may be unduly affected by the development proposed.

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Susceptibility of visual receptors is primarily a function of the expectations and occupation or activity of the receptors (GLVIA 3rd version, para 6.32).

Landscape Value is “ <i>the relative value that is attached to different landscapes by society</i> ” (GLVIA3, page 157).	
National/International	Designated landscapes which are nationally or internationally designated for their landscape value.
Local / District	Locally or regionally designated landscapes; also areas which documentary evidence and/or site observation indicates as being more valued than the surrounding area.
Community	‘Everyday’ landscape which is appreciated by the local community but has little or no wider recognition of its value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by the community.

Areas of landscape of greater than Community value may be considered to be ‘valued landscapes’ in the context of NPPF paragraph 170.

Sensitivity is assessed by combining the considerations of susceptibility and value described above. The differences in the tables below reflect a slightly greater emphasis on value in considering landscape receptors, and a greater emphasis on susceptibility in considering visual receptors.				
Landscape Sensitivity				
		Susceptibility		
		High	Medium	Low
Value	National/International	High	High-Medium	Medium
	Local/District	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Limited	Low	Low-Negligible	Negligible
Visual Receptor Sensitivity				
		Susceptibility		
		High	Medium	Low
Value	National/International	High	High-Medium	Medium
	Local/District	High-Medium	High-Medium	Medium
	Community	High-Medium	Medium	Medium-Low
	Limited	Medium	Medium-Low	Low

For visual receptors; susceptibility and value are closely linked - the most valued views are also likely to be those where viewer’s expectations will be highest. The value attributed relates to the value of the view, e.g. a National Trail is nationally valued for access, not necessarily for the available views. Typical examples of visual receptor sensitivity are plotted in a diagram in Appendix 3.

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3.2.2. **Magnitude of Effect**

Scale of effect is assessed for all landscape and visual receptors and identifies the degree of change which would arise from the development.	
Large	Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed.
Medium	Partial alteration to key elements, features, qualities or characteristics, such that post development the baseline will be noticeably changed.
Small	Minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences.
Negligible	Very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences.

Duration of effect is assessed for all landscape and visual receptors and identifies the time period over which the change to the receptor as a result of the development would arise.	
Permanent	The change is expected to be permanent and there is no intention for it to be reversed.
Long-term	The change is expected to be in place for 15-25 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Medium-term	The change is expected to be in place for 7-15 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Short-term	The change is expected to be in place for 0-7 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.

Most effects will be Long term or Permanent; however, Medium or Short term effects may be identified where mitigation planting is proposed or local factors will result in a reduced duration of effect (for example where maturing woodland will screen views in future). The effects arising from the construction of the development will usually be Short term.

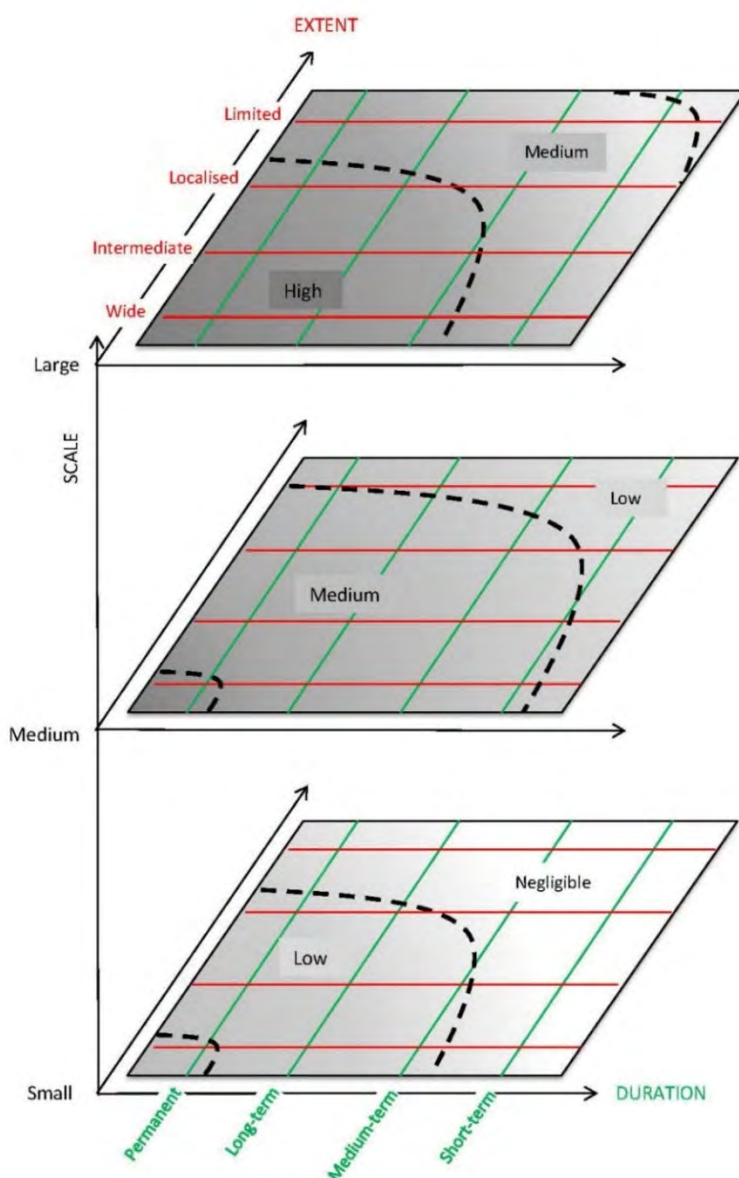
Extent of effects is assessed for all receptors and indicates the geographic area over which the effects will be felt.	
Wide	Beyond 4km, or more than half of receptor.
Intermediate	Up to approx. 2-4km, or around half of receptor area.
Localised	Site and surroundings up to 2km, or part of receptor area (up to approx. 25%).
Limited	Site, or part of site, or small part of a receptor area (< approx. 10%).

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The **Magnitude** of effect is informed by combining the scale, duration and extent of effect. **Diagram 1** below illustrates the judgement process:

Diagram 1: Magnitude of Effect



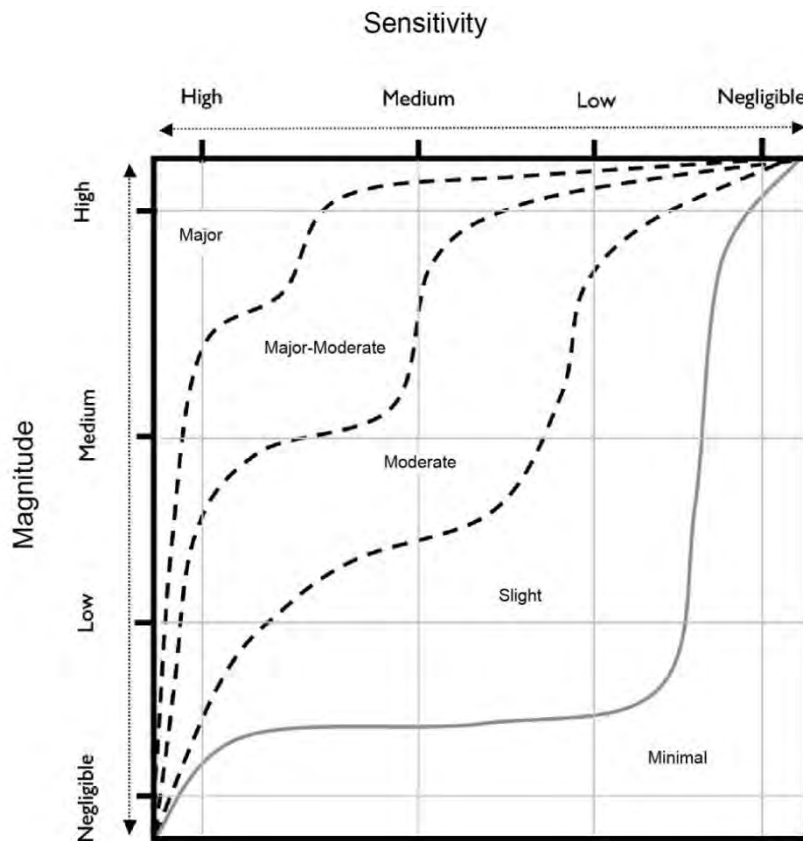
As can be seen from the illustration above, scale (shown as the layers of the diagram) is the primary factor in determining magnitude; most of each layer indicates that magnitude will typically be judged to be the same as scale, but may be higher if the effect is particularly widespread and long lasting, or lower if it is constrained in geographic extent or timescale. Where the Scale of effect is judged to be Negligible the Magnitude is also assumed to be Negligible and no further judgement is required.

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3.2.3. **Significance**

Significance indicates the importance or gravity of the effect. The process of forming a judgement as to the degree of significance of the effect is based upon the assessments of magnitude of effects and sensitivity of the receptor to come to a professional judgement of how important this effect is. This judgement is illustrated by the diagram below:

Diagram 2: Significance



The significance ratings indicate a ‘sliding scale’ of the relative importance of the effect, with Major being the most important and Minimal being the least. Effects that are Major-Moderate or Major are considered to be significant. Effects of Moderate significance or less are “of lesser concern” (GLVIA, 3rd edition, para 3.35). It should also be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable, or should necessarily be regarded as an “undue consequence” (GLVIA, 3rd edition, para 5.40).

Where intermediate ratings are given, e.g. “Moderate-Slight”, this indicates an effect that is both less than Moderate and more than Slight, rather than one which varies across the range. In such cases, the higher rating will always be given first; this does not mean that the impact is closer to that higher rating, but is done to facilitate the identification of the more significant effects within tables. Intermediate judgements may also be used for judgements of Magnitude.

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Positive/Adverse/Neutral

Effects are defined as adverse, neutral or positive. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both.

The decision regarding the significance of effect and the decision regarding whether an effect is beneficial or adverse are entirely separate. For example, a rating of Major and Positive would indicate an effect that was of great significance and on balance positive, but not necessarily that the proposals would be extremely beneficial.

Whether an effect is Positive, Neutral or Adverse is identified based on professional judgement. GLVIA 3rd edition indicates at paragraph 2.15 that this is a “*particularly challenging*” aspect of assessment, particularly in the context of a changing landscape.

3.3. Baseline Environment

The existing baseline environment refers to the existing land-use, character and visual amenity of the application site in its current form – i.e. occupied by defence related industries.

The future baseline environment refers to the future land-use, character and visual amenity of the application site assuming the permitted development (of up to 450 dwellings and employment uses) is built out.

The effects of construction activity are considered on the existing baseline environment only. It is considered that construction activity would have a similar effect on landscape and visual receptors regardless of whether the application site was occupied by defence related industries or mixed-use residential / employment development.

The effects of the operational development are considered on both the existing baseline environment and the future baseline environment. It is considered that the effects of the operational development on landscape and visual receptors would vary depending on the application site was occupied by defence related industries or mixed-use residential / employment development.

3.4. Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development.

Typically, operational and consented developments are treated as being part of the landscape and visual baseline – i.e. it is assumed they will be built out in accordance with the planning approval. In addition, in line with most recent Environmental Impact Assessment Regulations (EIA) (2017), it is not considered necessary to consider the cumulative impact of other developments that have not yet been approved.

A review of relevant planning applications revealed that at the time of the preparation of this LVIA there are no developments that should be considered as part of a cumulative assessment and this was agreed with the LPA during the EIA scoping exercise.

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3.5. Residential Amenity

This LVIA does not include a separate residential amenity assessment. It is considered that the effects resulting from the proposed development would fall below the threshold of being “*so unpleasant, overwhelming and oppressive that this would become an unattractive place to live*” (known as the Lavender Test) and “*would not feature in the planning balance, irrespective of how many dwellings were so affected*”.

3.6. Green Belt

As shown on Figure 2, the application site falls entirely within the Metropolitan Green Belt.

As Green Belt is a land use designation rather than one which indicates a valued landscape, effects on Green Belt do not fall under the remit of this LVIA. However, landscape and visual matters such as effects on openness inform Green Belt considerations.

The findings of this LVIA have therefore contributed to the consideration of effects on Green Belt and the relevant findings are reported within the Planning Statement which accompanies the planning application.

3.7. Distances

Where distances are given in the assessment, these are approximate distances between the nearest part of the application site and the nearest part of the receptor in question, unless explicitly stated otherwise.

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4.0 Legislation and Planning Policy

4.1. Legislation

As shown on Figure 1, the application site falls within the Kent Downs Area of Outstanding Natural Beauty (AONB). An AONB is an area of high scenic quality which has statutory protection in order to conserve and enhance its natural beauty.

AONBs are designated under the provisions of the 1949 National Parks and Access to the Countryside Act and subsequent legislation has introduced new measures to strengthen their protection.

In clarifying what natural beauty covers, Section 114 (2) of the National Parks and Access to the Countryside Act 1949 states that *“references in this Act to the preservation of the natural beauty of an area shall be construed as including references to the preservation of the characteristic natural features, flora and fauna thereof.”*

The Countryside and Rights of Way (CROW) Act 2000 (ref. 2) generally re-enacts the provisions of the 1949 Act with regard to AONBs. The relevant sections of the CROW Act are:

- Section 82 – sets out the primary purpose of designations an AONB to conserve and enhance natural beauty.
- Section 84 – states the powers that Local Planning Authorities (LPA) have to take action to achieve conservation and enhancement.
- Section 85 – requires all public bodies and relevant authorities to demonstrate that they have taken account of the purposes of the AONB in their decision making.
- Section 89 – refers to the production of AONB management plans.

With regard to the Kent Downs AONB, the first management plan was published in April 2004 and the first revision management plan (2009 to 2014) was published in April 2009. More recently the second revision management plan (2014 to 2019) was published in April 2014.

The Natural Environment and Rural Communities (NERC) Act 2006 (ref. 3) updates the definition of natural beauty to include the cultural dimension of the landscape. It states (in Section 99 - under the heading ‘Natural Beauty in the Countryside’) that:

“The fact that an area in England or Wales consists of or includes—

(a) land used for agriculture or woodlands,

(b) land used as a park, or

(c) any other area whose flora, fauna or physiographical features are partly the product of human intervention in the landscape, does not prevent it from being treated, for the purposes of any enactment (whenever passed), as being an area of natural beauty (or of outstanding natural beauty).”

The implication of the Natural Environment and Rural Communities Act 2006 (ref. 3) is that natural beauty includes natural features (flora, fauna and geological and physiographical features) and features of the cultural landscape (fields, woodlands, parkland, etc.).

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This is confirmed in Natural England’s ‘Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England’ (March 2011) (ref. 4) which states that:

“It is Natural England’s view that fauna and flora (i.e. wildlife), geological and physiographical features and cultural heritage can contribute to the natural beauty of all landscapes and that any assessment of natural beauty must take these factors into consideration, whether in relation to a National Park or an AONB designation. For example, the presence of particular wildlife or cultural heritage features can make an appreciable contribution to an area’s sense of place and thereby heighten the perception of natural beauty. There is now express statutory clarification that wildlife and cultural heritage may be taken into account in assessing natural beauty for National Park designations (s.59(1)) of NERC.”

It goes on to state that Natural England has developed a list of factors that contribute to natural beauty, and it provides a practical framework for an evidence base which assists in making judgements about natural beauty in a rigorous and transparent way. The ‘factors related to natural beauty’ are set out in Table 1 below:

Table 1: Natural Beauty Framework (Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England, 2011)

Criteria	Description
Landscape Quality	This is a measure of the physical state or condition of the landscape.
Scenic Quality	The extent to which the landscape appeals to the senses (primarily, but not only, the visual senses).
Relative Wildness	The degree to which relatively wild character can be perceived in the landscape makes a particular contribution to sense of place.
Relative Tranquillity	The degree to which relative tranquillity can be perceived in the landscape.
Natural Heritage Features	The influence of natural heritage on the perception of the natural beauty of the area. Natural heritage includes flora, fauna, geological and physiographical features
Cultural Heritage Features	The influence of cultural heritage on the perception of natural beauty of the area and the degree to which associations with particular people, artists, writers or events in history contribute to such perception.

AONB legislation is considered in more detail in the separate AONB Report, which specifically considers the impact of the proposed development on the natural beauty of the Kent Downs AONB.

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4.2. Planning Policy

4.2.1. National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF) makes clear that the purpose of planning is to help achieve sustainable development (Section 2), and that design (Section 12) and effects on the natural environment (Section 15) are important components of this.

Paragraph 11 sets out that plans and decisions should apply a presumption in favour of sustainable development unless *“the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area”* or *“any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole”*.

‘Areas or assets of particular importance’ are referred to a footnote 6 and include an Area of Outstanding Natural Beauty (AONB). The list also includes important and/or irreplaceable habitats, designated heritage assets, and other land-use designations (Green Belt, Local Green Space).

Section 11 sets out considerations in ‘Making effective use of land’ and notes in paragraph 122 that in achieving appropriate densities, planning policies and decisions should consider *“the desirability of maintaining an area’s prevailing character and setting (including residential gardens), or of promoting regeneration and change”*. Furthermore paragraph 123 states that in locations where there is a shortage of land to meet housing need *“it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site”*.

Section 12 deals with ‘Achieving well-designed places’ and states that planning policies and decisions seeks to ensure that developments:

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience”*.

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Section 15 relates ‘Conserving and enhancing the natural environment’ and covers both ecological and landscape matters. Paragraph 170 requires that planning decisions should contribute to enhancing the local environment by:

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

In respect of valued landscapes, paragraph 171 notes that planning policy should “*distinguish between the hierarchy of international, national and locally designated sites*” and “*allocate land with the least environmental or amenity value*”.

In relation to AONB’s paragraph 172 requires that:

“Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*

Footnote 55 notes that “*whether a proposal is ‘major development’ is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined*”.

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Paragraph 180 requires decisions to ensure that “*new development is appropriate for its location*” including by limiting the impact of light pollution on local amenity and “*intrinsically dark landscapes*”.

Relevant details of the Planning Practice Guidance Notes that support the NPPF can be found in Appendix 5.

4.2.2. Local Planning Policy

Local planning policy is contained within the following documents:

- Sevenoaks District Council Adopted Core Strategy Development Plan (2011)
- Sevenoaks District Council Adopted Allocations and Development Management Plan (ADMP) (2015)
- Sevenoaks District Council Proposed Submission Version of the Local Plan (2018)

4.2.3. Core Strategy Development Plan

The Core Strategy was adopted by Sevenoaks District Council (SDC) in 2011 and provides overarching development principles for the District. The application site is identified as a Major Developed Site (MDS) within the Green Belt within this document.

Policy LO1 concerns distribution of development and notes that “*development will only take place where it is compatible with policies for protecting the Green Belt and the High Weald and Kent Downs Area of Outstanding Natural Beauty, where relevant*”.

Policy LO8 relates to the countryside and rural economy and seeks to protect the “*distinctive features that contribute to the special character of the landscape*”. The policy notes the distinctive character of the Kent Downs AONB will be conserved and enhanced.

Design of new development is addressed in Policy SP1 which notes “*all new development should respond to the distinctive local character of the area in which it is situated.*” The policy notes that account should be made to adopted design guidance such as local character area assessments and AONB management plans.

Policy SP10 relates to Green Infrastructure, Open Space, Sport and Recreation and states:

“A Green Infrastructure Network will be developed of accessible multi-functional green space, primarily based on maintaining and linking existing areas of open space ... provision should include arrangements for maintenance of the open space. For the purposes of this policy, open space includes amenity open space, parks and formal gardens, natural and semi natural open space, children's play areas, outdoor sports facilities, churchyards and allotments.”

4.2.4. Allocations and Development Management Plan (ADMP), 2015

The ADMP was formally adopted in February 2015 and provides specific site allocations and policies.

Policy EN1 relates to design principles and seeks to encourage development of appropriate height, scale, materials while respecting the topography and character of the surrounding area and sensitively incorporating natural features such as trees and hedges.

Policy EN5 relates to landscape and states:

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“The Kent Downs and High Weald Areas of Outstanding Natural Beauty and their settings will be given the highest status of protection in relation to landscape and scenic beauty. Proposals within the AONB will be permitted where the form, scale, materials and design would conserve and enhance the character of the landscape and have regard to the relevant Management Plan and associated guidance.

Proposals that affect the landscape throughout the District will be permitted where they would:

- a) conserve the character of the landscape, including areas of tranquillity, and*
- b) where feasible help secure enhancements in accordance with landscape actions in accordance with the Sevenoaks Countryside Assessment SPD.”*

Policy EMP2 designates the application site as a Major Developed Employment Site (MDES 1) within the Green Belt. The accompanying text notes at 4.16 that:

“The Green Belt status of the site constrains the scale of development that can acceptably be accommodated, while its AONB status provides a further constraint on future development. However, there is substantial development on the site at present ... and it remains an important employment site subject to Core Strategy Policy SP8 on the protection and regeneration of such sites.”

Policy EMP3 sets out overarching principles for the redevelopment of Fort Halstead and allocates the application site for up to 450 dwellings as part of a mixed-use scheme. The policy states that *“redevelopment should have no greater impact on the openness of the Green Belt and the height of buildings must take into account the need to conserve and enhance the natural beauty of the countryside in this location.”* Moreover, redevelopment is expected to make a positive contribution to the achievement of the aims and objectives of the Kent Downs AONB.

Policy EN6 - Outdoor Lighting, seeks to minimise impact on the night sky, ensure any impacts on wildlife are adequately mitigated; and where proposal affect an AONB, lighting can be demonstrated to be essential for safety and security reasons.

Policy GI1 - Green Infrastructure and New Development, seeks green infrastructure to provide connectivity for biodiversity with the existing features of the green infrastructure network and to provide habitat creation and restoration.

4.2.5. Proposed Submission Version of the Local Plan (2018)

SCD are currently consulting on the Proposed Submission Version of the Local Plan, which will replace the Core Strategy and ADMP.

It is noted that Fort Halstead is identified as proposed allocation, with capacity for an additional 300 residential dwellings, over and above the 450 already allocated. The allocation states that any additional development must be of high-quality design; protect the ancient woodland; and conserve and enhance the AONB.

Policy LA1 seeks to protect and enhance the character of the landscape. It states that the AONB will be given the highest level of protection in relation to landscape and scenic beauty, and that development proposals within the AONB and their settings must be of an appropriate layout, form, scale and appearance. Potential enhancements within the AONB include:

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“Improvement of scenic beauty e.g. the removal or improvement of currently detrimental buildings or features; or by obscuring or distracting from negative features such as pylons, substations and major roads.

Restoring historic features and replacing existing materials with more appropriate and local materials.

Supporting the local economy e.g. using local materials, including features reliant on local materials such as wood for biomass boilers, supporting new rural business etc.

Restoring historic settlement patterns, historic field patterns or historic routeways.

Allowing new appropriate public access.

Restoration of native planting and natural features including trees, hedgerows, meadows and grassland.

Improving tranquillity and reducing the existing impact of noise and lighting”.

Policy WN1 primarily relates to wildlife and nature conservation issues and supports the creation of new blue-green infrastructure. It states that proposals for new development must retain the majority of existing features where possible (i.e. trees, hedgerows and ponds) and create new landscape and habitat features to ensure a net gain in biodiversity. Any new planting must be predominantly comprised of native species suitable to the local area. In addition, the policy states that veteran tree and ancient woodland should be incorporated into development proposals and with a suitable buffer between development and trees/woodland.

Policy EN1 relates to design principles and states that proposals must exhibit high quality design and respond to local character. This includes respecting the topography of a site; sensitively incorporating natural features such as trees, hedges and ponds; and creating new blue green infrastructure and open space.

Policy EN1 also covers lighting and seeks to limit the impact on the night sky. Where proposals affect AONBs or open countryside, lighting must be essential for safety or security reasons.

Policy OS1 relates to open space, sport and leisure. It states that open spaces should be incorporated into new developments alongside onsite blue green infrastructure and connections to the existing PRoW network. It continues that all open space should include arrangements for long term maintenance and management. It also states that proposals to improve the quality of / access to the District's open spaces, the Public Right of Way Network (PRoW) and cycling routes will be supported.

4.3. Other Guidance

In addition to the policy documents identified above, there are other guidance documents as follows:

- Sevenoaks Landscape Character Assessment (2017)
- Kent Downs AONB Management Plan 2014 - 2019
- The Kent Downs AONB Landscape Design Handbook (undated)

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- Kent Design Guide (undated)
- Adopted Development in the Green Belt SPD (2015)
- Sevenoaks District Council Green Infrastructure Topic Paper (2013)

These form part of the documented baseline and are reviewed in Section 5.0, with accompanying commentary on the implications for the development siting and design and the assessment methodology, as appropriate.

It is noted SDC's Countryside Character Assessment (2011) is an adopted SPD but has been updated by the 2017 character assessment. As such, the Countryside Character Assessment SPD is not considered further.

It is also noted that SDC have produced a Landscape Sensitivity Study, covering the sensitivity of land around key settlements. This study does not include the application site and this therefore not considered to be of relevance / is not considered further within this assessment.

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5.0 Baseline

5.1. Introduction

An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors being provided alongside the assessment in Section 7.0 for ease of reference.

This section provides a review of the key local guidance documents and identifies those landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are not taken forward for further assessment as effects “*have been judged unlikely to occur or so insignificant that it is not essential to consider them further*” (GLVIA3, para. 3.19).

Both this baseline section and the effects section describe landscape character and visual receptors before considering designated landscape. It is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation. It therefore makes a more natural reading sequence to draw together those aspects of character and views which relate to the designation if they have been described earlier in the chapter.

5.2. Key Local Guidance Documents

The following guidance documents provide advice relevant to this assessment. Landscape character studies are considered separately as part of the landscape baseline in Section 5.4.

Kent Downs AONB Management Plan 2014 -2019

The Kent Downs AONB Management Plan sets in place clear aims, policies and actions for the conservation management and enhancement of the AONB and sets out a longer term vision. It also details the special characteristics and qualities of the AONB and landscapes within it.

Specifically in relation to landscape character, Section 4: Landform and Landscape Character describes the following issues, opportunities and threats:

- *“Loss of and damage to the quality of views in and out of the AONB through development and occasionally obstructing tree growth and vegetation.*
- *Degradation of the setting and urban fringe impacts in certain Kent Downs landscape character areas through development, infrastructure, urbanisation and recreational pressure.*
- *The erosion of natural beauty and special character through illegal activities particularly fly-tipping, abandoned cars and illegal off-road vehicles.*
- *The importance of the setting of the Kent Downs has been emphasised in policy development management decisions which provides an opportunity to work with Local Planning Authorities to develop planning policy protection for the setting of the Kent Downs and to ensure that the setting is taken into account when Local Planning Authorities determine planning applications.*
- *The opportunity to promote landscape character conservation and enhancement specifically focusing on addressing and seeking to remove or mitigate identified detractors from it.*

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- *General lack of awareness of the importance and value of the Kent Downs landscape, its characteristic features and the social and economic benefits it brings.*
- *Landscape character approach not used sufficiently or appropriately in land use, land management and development management decisions and landscape character assessments are not always consistent or up to date.”*

As set out above, views in and out of the AONB are considered to be an important characteristic of the landscape, and the AONB Management Plan supports the promotion, management, restoration and appropriate creation of prominent views and viewpoints.

The Management Plan is described in more detail in the AONB Report, which considers the impacts of development on the natural beauty criteria of the Kent Downs AONB, with reference to landscape quality, scenic quality, relative wildness, relative tranquillity, natural heritage features and cultural heritage features.

The Kent Downs AONB Landscape Design Handbook

The Kent Downs AONB Landscape Design Handbook identifies 13 individual landscape character areas within the AONB, as shown on Figure 4. For each character area, design guidance is provided which seeks to ensure new development makes a positive contribution to the conservation and enhancement of the AONB.

The design guidance mainly relate to new development as opposed to the redevelopment of existing sites. However, there are a number of principles that are of direct relevance to the proposed development, namely:

- Avoiding the loss of important views.
- Retaining key landscape features, such as hedgerows, trees and woodland.
- Integration of development into the landscape through the use of open space and planting.
- Considering the mass, height and colour of development, including use of materials.
- Considering the need for lighting and the control of light spillage.

The handbook also offers specific guidance on issues such as road improvements, woodland management and chalk grassland management:

- The handbook seeks to ensure that any road improvements respect the character of rural lanes and avoid the introduction of standard materials, lighting, signs and barrier.
- The handbook encourages the management of woodlands through natural regeneration and supplementary planting. Woodland edge habitats are also encouraged to create a gradual transition between woodland and grassland areas.
- The handbook seeks to retain area of chalk grassland and control scrub invasion through an appropriately managed grazing regime.

The design principles and guidance for the relevant landscape character areas are summarised below in Section 5.4.

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Kent Design Guide

The Kent Design Guide is adopted by SDC as an SPD and champions good design within Kent, setting out guidance and case studies as to how this may be achieved.

In relation to the landscape, the guide states on page 48:

- *“Landscape is a combination of nature and culture; it is formed by topography, trees, hedges, paths, roads, structures and materials. These elements determine the landscape character of an area.*
- *A well-designed landscape will provide:*
 - *an attractive setting for a development, its users and occupiers a positive environment of wider economic benefit*
 - *a sense of place with a clear identity*
 - *a sense of space and enclosure*
 - *spatial benefits including integrating the visual impact of the built environment with nature environmental benefits including micro-climate creation, pollution attenuation and the reduction of water and energy consumption*
 - *noise and visual screening, and*
 - *retention of cultural associations with the natural environment.”*

Adopted Development in the Green Belt SPD

This SPD provides guidance for development proposals within the Green Belt (the extent of the Green Belt is shown on Figure 2). Generally SDC will expect redevelopment proposals to:

- *“have no greater impact than the existing development on the openness of the Green Belt and the purposes of including land within in, and where possible have less;*
- *not exceed the height of existing buildings; and*
- *not occupy a larger area of the site than the existing buildings.”*

Chapter 11 of the SPD details design guidance and states within paragraph 11.11:

“The landscape is very important to the openness and visual amenity of the Green Belt. All applications for development in the Green Belt will be required to demonstrate how they protect the openness and visual amenity of the Green Belt, through the form and design of buildings and all external areas, landscape works and planting.”

Sevenoaks District Council Green Infrastructure Topic Paper

This topic paper sets out the existing Green Infrastructure (GI) network in the District and also identifies priorities and projects to deliver future GI enhancements. ‘Landscape and Countryside’ is listed as a key priority with a number of projects identified.

The application site is within the Central North Downs Biodiversity Opportunity Area (BOA) which identifies priority areas for the restoration and creation of Biodiversity Action Plan (BAP) habitats and also contains ancient woodland, recognised for its biodiversity value. Target for the Central North Downs BOA include:

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“Restore, extend and reconnect chalk grassland. By 2015, restore at least 10ha of chalk grassland in the Darenth Valley area, and pursue opportunities for:

- *Enhance or reinstate woodland management, and restore plantations on ancient woodland sites to native woodland; extend and reconnect fragmented woodlands where this would not conflict with grassland conservation and enhancement.*
- *Restore natural floodplain habitats, and restore/create flower-rich neutral grassland on suitable soils. Pursue opportunities for creation of species-rich neutral grassland where this would contribute to the county-wide target of creating 50ha on new lowland meadow in blocks of at least 2ha by 2015.*
- *Achieve a quantifiable improvement in habitat quality of the River Darent, as judged by appropriate EA quality indicators.*
- *Implement conservation grazing management on grassland and wood pasture habitats.*
- *Encourage appropriate physical and intellectual access to the landscape and wildlife of the area.”*

The document also provides a list of current and proposed landscape and countryside projects which includes the Kent Downs AONB Woodfuel Pathfinder project – which seeks to encourage the use of sustainable woodfuel for energy, the Kent Orchards project – promoting the replanting of traditional Kent orchards, and the nationwide Magnificent Meadows project – which seeks to raise the awareness of wildflower meadows.

5.3. ZTV Study

The ZTV is a theoretical model that illustrates the maximum theoretical visibility of development and is used to inform the assessment process.

A ZTV has been prepared for the proposed development, based on the building heights defined by Parameter Plan PP02 – Building Heights (up to a maximum of 16m). Figure 12 shows the ZTV of the proposed development.

The ZTV is also based on the indicative ground model for the application site, prepared in discussion between the masterplanners and engineers. Levels vary across the application site, with many of the larger buildings spanning changes in level that allow level access at one end but are partially buried at the other. A ground modelling exercise was undertaken aimed at creating suitable development platforms whilst minimising cut and fill / export of material off site; allowing for the retention of trees, particularly at the perimeter of the application site; maintaining existing levels along Crow Drive which is an arterial route through the application; and ensuring a buffer to the scheduled monument and existing retained development.

The ZTV also uses a topographic model (derived from NEXTMAP 25 surface mapping data) for the areas outside of the application site. This includes woodland and settlement as visual barriers in order to provide a more realistic indication of potential visibility.

However, it should be noted that the ZTV does not take into account any localised features such as small copses, mature trees and hedgerows which can have significant screening properties. Consequently, the actual visibility when on the ground is likely to be substantially less than that shown on the ZTV.

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In order to allow for the assessment of effects of the proposed development against both the baseline environment and future baseline environment, the following ZTV's have been included which were submitted as part of the 2015 LVIA:

- Figure 9 - ZTV of Existing Development (baseline)
- Figure 10 – ZTV of Permitted Development - excluding energy flue (future baseline)
- Figure 11 – ZTV of Permitted Development - including energy flue (future baseline)

Existing Application Site

Figure 9 illustrates the ZTV of the existing development within the application site. The ZTV indicates the main area of theoretical visibility lies between 2.5km and 5km to the south of the application site, principally between the M25 motorway and Goathurst Common within the River Darent. Potential visibility is likely to occur in an area between the M25 motorway and A25 from Westerham in the west to Ightham Common in the east, and as far south as Ide Hill. Many of the potential views from Sevenoaks would be screened by built form although some glimpses from within the built form are possible.

To the north of the application site, topography is much more gently sloping which serves to limit potential views. The ZTV indicates an area of visibility from Halstead northward across Knockholt Station to Chelsfield at the edge Orpington and also to the north-east in an area around Farningham. Field verification has shown that in reality the combination of relatively flat topography and intervening vegetation of this area screens views of the application site.

Permitted Development

Figure 10 illustrates the ZTV of the permitted development, modelled at a maximum height of 16m (excluding the energy flue, and which is no higher than the proposed development). This indicates a general increase in theoretical visibility between the existing development within the application site and the permitted development. However, the ZTV does indicate slightly less theoretical visibility to the north of the application site than at present.

The additional areas of theoretical visibility are primarily located to the east around Kemsing with some additional areas to the south, adjacent to the M25 motorway and along the River Darent. However, field verification has shown that much of the additional areas of theoretical visibility indicated within the Darent Valley are screened by vegetation, whilst those on the valley sides around Kemsing are of a distance of at least 2.5km, meaning that any built form visible would not form a prominent feature in the view.

Figure 11 illustrates the ZTV of the permitted development, including the energy flue, which is modelled at 25m). Despite this relatively large increase in building height parameters around the flue zone, this indicates that the main areas of potential visibility would be similar to that of the permitted development without the flue, with only an additional area to the east of the application site around Twitton within the Darent Valley.

Proposed Development

Figure 12 illustrates the ZTV of the proposed development (which no longer includes an energy centre / flue). This indicates that – in comparison with the ZTVs for the permitted

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development (including energy centre flue) – there is substantial less visibility due to the reduction in building height parameters. In comparison with the ZTV for permitted development (excluding energy centre flue), there is also less visibility. This is likely to be as result of more refined ground model data and some changes to land-use distribution within the application site. The ZTV for the proposed development is very similar to that the existing development with potential visibility from around Sevenoaks to the south and some intervisibility around Halstead and Farningham to the north.

Effects on landscape or visual receptors outside the areas of visibility indicated by the ZTV would be negligible and are therefore not assessed in detail.

5.4. Landscape Character

Paragraphs 5.13-5.15 of GLVIA, 3rd edition indicates that landscape character studies at the national or regional level are best used to “*set the scene*” and understand the landscape context. It indicates that Local Authority Assessments provide more detail and that these should be used to form the basis of the assessment of effects on landscape character – with (appropriately justified) adaptation, refinement and interpretation where required.

Relevant assessments are:

- Natural England’s Character Map of England
- Landscape Character Assessment of Kent (2004)
- Kent Downs AONB Landscape Design Handbook (1995)
- Sevenoaks Landscape Character Assessment (2014)

National Landscape Character

Natural England’s ‘National Character Areas’ (NCAs) identify landscape character at the strategic level for the whole of England. These national character areas provide the context for understanding the landscape within the LVIA Study Area, but given their scale, and the presence of more detailed character areas at a local level, the NCAs are not assessed in detail.

The application site is within NCA profile 119: North Downs; the key characteristics of which are noted as being:

- *“Cretaceous Chalk forms the backbone of the North Downs. A distinctive chalk downland ridge rises up from the surrounding land, with a steep scarp slope to the south providing extensive views across Kent, Surrey and Sussex and across the Channel seascape to France.*
- *The broad dip slope gradually drops towards the Thames and the English Channel, affording extensive views across London and the Thames Estuary. The carved topography provides a series of dry valleys, ridges and plateaux.*
- *The area is cut by the deep valleys of the Stour, Medway, Darent, Wey and Mole. The river valleys cut through the chalk ridge, providing distinctive local landscapes which contrast with the steep scarp slope.*
- *Woodland is found primarily on the steeper slopes of the scarp, valley sides and areas of the dip slope capped with clay-with-flints. Well-wooded hedgerows and shaws are an important*

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component of the field boundaries, contributing to a strongly wooded character. Much of the woodland is ancient.

- *Tracts of species-rich chalk grassland and patches of chalk heath are important downland habitats and of international importance.*
- *In the western part of the area, around and to the west of Sevenoaks and into Surrey, there is increased urban development.”*

The Wealden Greensand NCA (NCA 120) lies approximately 1.2km to the south of the application site and can be identified by its scarp and dip slope topography creating an undulating topography, ancient mixed woodland and scattered settlement.

To the far north of the study area, approximately 6.2km north of the application site, is the North Kent Plain NCA (NCA 113). This NCA is characterised by its open, low lying and gently undulating topography and abundance of fertile soils supporting a very productive agricultural, giving the area’s moniker as the ‘Garden of England’.

Sub-Regional Character

The Kent Landscape Character Assessment identifies character at the county level. As with the NCAs, this study provides useful context but given its scale, and the presence of more detailed character areas at a local level, the study is not assessed in detail.

An extract of the character map is provided in Appendix 6 for reference, and the following character areas are within the 7.5km LVIA Study Area:

- Knockholt Downs
- Knockholt: Darent Valley
- Westerham and Greensand Sevenoaks Ridge
- Western Low Weald: The Low Weald
- Western Wooded Farmlands
- Eastern Low Weald: The Low Weald
- Ightham Greensand: Sevenoaks Ridge
- Greensand Ridge – Plaxtol
- Kemsing Vale Kent Downs
- Kingdown: West Kent Downs
- North Darent: Darent Valley
- Wrotham Heath – Ryarsh Group

The application site is within the Knockholt: Darent Valley character area, key characteristics of which include:

- *“Dense woodlands along the top of the western escarpment conceal a small scale landscape of mixed farming and deciduous coppiced woodlands.*
- *Several dry valleys extending out of the AONB give a gently rolling character.*

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- *A densely settled area...with the considerable influence of M25 on the landscape.”*

The Kent LCA notes the landscape action priority for this regional character area is to ‘conserve’, particularly the woodland cover, narrow roads and isolated farming settlements.

The application site itself demonstrates characteristics of this character area, notably the dense woodland along the top of the escarpment, much of which is ancient woodland.

Landscape Character Assessment of the Kent Downs AONB

The Kent Downs AONB Landscape Design Handbook identifies 13 character areas across the designation. As shown on Figure 4, the application site is within LCA1: Darent Valley which occupies a broad sweep of land between Westerham to Farningham west to east and Sevenoaks and the edge of Greater London north to south. Key characteristics are noted to be:

- *“Steep, often wooded scarp top and greensand ridge.*
- *Strong hedgerow patterns on valley sides.*
- *River within tree-lined corridor.*
- *Riverside trees and pasture.*
- *Flint and brick and weather boarded buildings.*
- *Much of the floodplain is arable farmland*
- *Motorway.”*

The overall design objectives for LCA1: Darent Valley are as follows:

- *“To maintain and improve where necessary the existing hedge network, in particular on the scarp foot and on the northern downland “prairies”.*
- *To enhance the river corridor by conserving and extending the variety of tree and grassland habitats.*
- *To curb the general suburbanisation of the countryside due to inappropriate development, introduction of non-native species and use of unsympathetic materials and design.*
- *To protect and enhance unimproved chalk grassland.*
- *Conserve the historic landscape and special character of villages and settlements.*
- *To reduce the impact of major roads in the landscape.”*

This LCA is further divided into three sub LCAs – West Darent, North Darent, Knockholt, all of which fall within the 7.5km Study Area. It is not possible to determine within which sub-LCA the application site falls as no definition of their extents is provided within the Design Handbook. For completeness, the key characteristics and relevant design guidance for each sub LCA is set out in Table 2 below.

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Table 2: Key characteristics and Design Guidance of Sub LCAs

Sub LCA	Key Characteristics	Design Guidance
West Darent	<ul style="list-style-type: none"> • Woodland of upper scarp bordered by extensive pasture on slopes below. • Intensively cultivated arable fields on fertile strip at scarp foot. • Mixed agriculture within the valley bottom. • Several areas of historic parkland adjacent to the Pilgrim’s Way above Westerham. • Historic villages. • M25 and M26 motorways run through the middle of the vale. • Sparse network of narrow hedges. • Wet pastures. • Pilgrims Way is a strong visual and cultural feature. 	<ul style="list-style-type: none"> • Conserve the pattern of irregular wet pastures in the valley bottom, and the form and features of historic parkland around the Pilgrims Way. • Create wooded links / shaws from the wooded ridge to the base of the scarp. • Conserve and manage scarp-top woodlands. • Integrate any new development around the edge of the scarp foot and river valley settlements by copse and thick hedgerow planting. • Integrate the motorway corridor with a strong framework of copses and hedgerows. • Seek the use of sympathetic local materials – brick, tile, ragstone and flint. • Seek to reduce impact of motorway noise. • Conserve features of Pilgrims Way.
North Darent	<ul style="list-style-type: none"> • Steep wood-topped scarps, with fragmented areas of chalk grassland on upper valley sides. • Lower intensively farmed scarp foot with strong pattern of hedges and shaws (which are sometimes overgrown). • Thick belts of trees along the river, road and railway in the valley bottom. • Ordered pattern of hedgerows in the north. 	<ul style="list-style-type: none"> • Conserve and restore hedgerows on lower slopes, thick belts of trees along the river valley bottom, and unique mature beech avenues along roads leading up valley sides. • Ensure any new land uses such as horse pasture, golf courses and smallholdings conserve and enhance the strong pattern of hedgerows and shaws. • Conserve the wood pastures of Lullingstone Park including its ancient oak trees.

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	<ul style="list-style-type: none"> • Open arable fields around Eynsford. • M25 cuts through western edge of area, isolating small sections of AONB. • Unenclosed wood-pastures of Lullingstone Park. 	<ul style="list-style-type: none"> • Seek the sympathetic use of local materials – brick, tile and flint. • Avoid inappropriate use of non-native species. • Avoid suburban boundary treatments. • Conserve, enhance and seek to connect chalk grassland areas.
Knockholt	<ul style="list-style-type: none"> • Dense woodlands along top of western escarpment. • Small-scale mixed farmland and deciduous coppice woodlands concealed by escarpment. • Several dry valleys give the landscape a gently rolling character. • Densely settled area (settlement associated with the railway). • M25, although hidden, exerts considerable influence on the landscape. • Flint and brick buildings. 	<ul style="list-style-type: none"> • Conserve existing oak, beech, chestnut coppice woodlands and restore on open arable farmland in the north. • Conserve small enclosed pastures, and narrow historic lanes with wood banks. • Seek the use of sympathetic local materials – brick, tile and ragstone. • Avoid inappropriate use of non-native species. • Avoid suburban boundary treatments. • Create formal parkland features as part of new development. • Create appropriate and manageable woodland boundaries to the common boundary between existing woodland and housing.

Given the location of the application site within the Kent Downs AONB, an assessment is made of the potential impacts on the LCA1: Darent Valley, and taking into account the relevant characteristics of the sub LCA's.

The impact of the proposed development on the natural beauty and special qualities of the Kent Downs AONB is considered in more detail within the AONB report.

Local Landscape Character

The Sevenoaks Landscape Character Assessment (2017) provides analysis of landscape character at the detailed level. Extracts from the Landscape Character Assessment, including the plan of character areas, is provided in Appendix 6.

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The original LVIA for the permitted development determined that the permitted development would only give rise to any potential significant impacts on the following Landscape Character Areas (as identified by the 2011 Countryside Character Assessment):

- Ide Hill
- Knockholt and Halstead Downs
- Knockholt Scarp
- Westerham and Brasted Parklands

The findings of the updated ZTV studies (Figure 12 / see Section 5.3 above) indicates a that – in comparison with the ZTVs for the permitted development – there is less theoretical visibility. This is largely as a consequence of the exclusion of the flue zone and more accurate ground modelling of likely levels.

As such, it is considered that the proposed development would not give rise to any potential significant impacts on any other additional areas of landscape to those listed above. In addition, it is considered there is limited potential intervisibility between the application site / proposed development and the (former) Ide Hill landscape character area due to the extensive woodland coverage and distance from the application site (typically over 5km)

Accordingly, the following landscape character areas are taken forward to the assessment of effects:

- Knockholt and Halstead Wooded Downs (containing the application site and covering similar extents as the Knockholt and Halstead Downs landscape character area).
- Chevening Scarp (immediately to the south of the application site and covering similar extents as the Knockholt Scarp landscape character area).
- Westerham to Sundridge Parks and Farmlands (covering similar extents as the Westerham and Brasted Parklands landscape character area).

The Westerham and Brasted Chart landscape character area (which broadly corresponds to the 2011 Ide Hill landscape character area) is excluded from further assessment.

These character areas are described in Table 3 below.

Table 3: Summary of Landscape Character Areas with potential to be significantly affected by the proposed development

LCA	Key Characteristics / Condition
3a: Knockholt and Halstead Wooded Downs	Key characteristics comprise: <ul style="list-style-type: none"> • <i>“Generally gently undulating, but with some steep valley slopes.</i> • <i>Mainly agricultural land use (arable and pasture), with plant nurseries, horsiculture, residential, commercial and recreational (including a golf course).</i> • <i>During the Second World War, Ivy Farm House in Kent was an outpost to the Bletchley Park decoding centre.</i>

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LCA	Key Characteristics / Condition
	<ul style="list-style-type: none"> • <i>Varied field pattern comprising some small and medium regular parliamentary enclosures as well as some earlier more irregular fields.</i> • <i>Large areas of woodland, including ancient coppice woods. Mature in-field oaks are frequent. Fields are bounded by hedgerows with mature beech trees.</i> • <i>Small historic flint and brick vernacular properties at core of settlements, large C20th housing to the outskirts.</i> • <i>Suburban development including golf courses, glass houses and distribution depots.</i> • <i>Narrow rural lanes contrast with the M25 corridor and other main roads which introduce noise and movement.</i> • <i>Mostly enclosed due to the extensive tree cover and high hedgerows.</i> • <i>Ivy House Farm was an outpost to the Bletchley Park decoding station in the Second World War”.</i> <p>The Sevenoaks Landscape Character Assessment states that “<i>intrusive new residential development, extensive horsiculture, urban recreation, and hedgerow loss have adversely affected the condition of this area. Nevertheless, historic field patterns, areas of woodland and rough grassland provide a sense of intactness and ecological connectivity</i>”.</p> <p>It is noted that part of this LCA falls within the AONB.</p>
5a: Chevening Scarp	<p>Key characteristics comprise:</p> <ul style="list-style-type: none"> • <i>“Steep wooded scarp supporting a mosaic of woodland and scrub, pasture and pockets of chalk grassland.</i> • <i>Ancient trackways follow contours along the ridge top and base of the scarp.</i> • <i>Steep enclosed lanes with no verges and high hedged banks climb up the scarp slopes.</i> • <i>Areas of native broadleaf woodland, irregular pastures and chalk grassland.</i> • <i>Settlement limited to large detached houses and scattered farmsteads.</i> • <i>Long-distance panoramic views across the Darent Valley from the scarp.</i> • <i>Working and redundant chalk quarries.</i> <p>The Sevenoaks Landscape Character Assessment states that “<i>the landscape has an intact and coherent pattern of pastures, chalk grassland and frequent blocks of ancient woodland. There are relatively few visual detractors although unsympathetic farm buildings and the presence of the M25 in the valley below are detractors. The decline of the heritage shaws and hedgerows</i></p>

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LCA	Key Characteristics / Condition
	<p><i>(sometimes replaced with post and wire fencing) has also had an adverse effect on the condition of the landscape”.</i></p> <p>It is noted that the LCA is entirely within the Kent Downs AONB.</p>
<p>9a: Westerham to Sundridge Parks and Farmlands</p>	<p>Key characteristics comprise:</p> <ul style="list-style-type: none"> • <i>“Northern undulating slopes of the Greensand Ridge to the west of Sevenoaks, supporting small to medium scale fields.</i> • <i>Small to medium scale enclosed agricultural landscape with strong hedgerows and scattered dense woodland.</i> • <i>Rural low density settlement pattern of scattered farms and hamlets.</i> • <i>Traditional vernacular building styles including Oasts, timber framed barns and properties in ragstone and/or brick, some half tile hung, and with clay tile roofs.</i> • <i>Some newer residential properties, well sited within vegetative screening.</i> • <i>Large country manor houses sited in areas of parkland at Squerryes Court, Dunsdale and Valence.</i> • <i>Narrow sunken hedge lined lanes and droving roads.</i> • <i>Glimpsed views out northwards to the North Downs scarp”.</i> <p>The Sevenoaks Landscape Character Assessment states that <i>“the shaws, intact field boundaries and historic parkland contribute positively to landscape condition, while detractors include the A21 crossing the landscape, traffic noise from the A21 and M25, loss of parkland to arable and golf course (e.g. at Valence), and modern housing development.</i></p> <p>It is noted that the majority of this Landscape character area is within the Kent Downs AONB.</p>

Historic Landscape Character

The Historic Landscape Character (HLC) types in the surrounding study area indicate the land has continued to be mainly agricultural fields (some of which display elements of post 1801 settlement), woodland and fields bounded by paths and tracks.

Although the majority of the site was covered by woodland up until the end of the 19th century, there is evidence of a suspected prehistoric trackway within the northern extent of the site and a likely post-medieval bank boundary that defines part of the limits of part of the woodland at a time when it was divided into three parcels (recorded as Beaumont Wood, Dutchmore Wood and Anisbirches Wood). This is evidenced from the 1871 OS map, which shows it running into the northern extent of the site and separating woodland from open fields. Today, the course of the historic trackway has been mainly occupied by roads and buildings, and it survives to a greater extent outside of the Site boundary.

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Historic landscape character, including commentary of the evolution of application site from predominately an area of woodland to built development, is included within the ES (Chapter 8: Historic Environment and Built Heritage).

Historic features within the landscape are referred to within this report where relevant to the consideration of current landscape character and views.

5.5. Views and Visual Amenity

Visual Environment Surrounding the Application Site

The chalk escarpment of the Kent Downs and the low lying flood plain of the River Darent valley shape the visual composition of the landscape surrounding the application site.

The most notable visual feature is the chalk escarpment which rises from the valley floor forming a prominent ridgeline running east to west. The face of the scarp is given over to pastoral and arable fields, portioned by a series of rectilinear field boundaries. The ridge and upper slopes of the escarpment are cloaked by mature woodland, much of it ancient, and strong vegetative network of tree belts and hedges. Some of the mature vegetation can be linked to the numerous historic parks and gardens that are present in the landscape (Figure 1). Vegetation along the escarpment ridge forms a continuous, sinuous green backdrop and prominent horizon to many views from the east, south and west whilst allowing wide, panoramic views southward over the River Darent valley from its slopes. In these views the M25 and settlement of Sevenoaks form notable built elements.

The River Darent forms a wide, low-lying valley to the south of the escarpment; undulating away southward in a series of clay valleys and Greensand ridges synonymous of the High Weald. The valley benefits from a strong vegetative network of tree block and hedgerows which serve to restrict potential long-distance views to the ridges of higher ground. Small lakes, associated with the abstraction of clay and sand, are present within the valley. The habitation of the valley in comparison to that of the chalkland is notable, with settlement nested within the wooded folds of the ridges. Larger buildings associated with industrial areas of Sevenoaks are also visible.

As the land begins to rise to the south of Sevenoaks, open views northward to the chalk escarpment become available although the river and the M25 motorway are not overly apparent amongst the undulating landform.

Visual Environment of the Application Site

The application site sits upon the ridge of the Kent Downs chalk escarpment which forms the northern valley side to the wide, meandering River Darent to the south. From certain areas within the southern most extent of the application site, on the chalk escarpment, wide panoramic views are possible across the Darent valley to Sevenoaks and countryside beyond to the High Weald. In these views the M25 forms a notable linear feature. Settlement within the valley is also notable, the built-up area of Sevenoaks being a prominent feature.

The majority of views from within the application site are contained by the perimeter vegetation of the surrounding woodland. Buildings of the defence research complex form the main composition of internal views, arranged in a military camp layout with Crow Road forming the main visual axis in an east to west orientation. Buildings are utilitarian in

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appearance and of little aesthetic value. They are, however, set within large grassed areas and punctuated by mature trees and small tree groups which serve to soften built structures. Some of the mature trees are likely to be remnants of the woodland that occupied the application site before it was developed. Buildings are generally small scale, being two to three storeys in height. The large Building N2 and Boiler House chimneys (Building S2) are more visually prominent within the application site, being approximately 22m and 23m Above Ground Level (AGL) respectively. Organ chimneys of other laboratory buildings are around 13m AGL in height and also visible from certain locations, although not a prominent feature in the view.

Figure 5 identifies buildings and structures on the application site that are more visible owing to their greater height, location beyond the perimeter vegetation, or protruding chimney flues. The perimeter security fence is also a notable visual feature both in views near to the application site and in longer distance views from the south where it can be seen on the face of the scarp slope.

A long distance view northward to Central London, where Canada Tower at Canary Wharf can be seen, is possible from the western area of the application site, within the area of open space that extends down to Crow Road and the Star Hill Road gatehouse.

Visual Receptors

Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA, 3rd edition, para 6.3). In order to identify those groups who may be significantly affected the ZTV study, baseline desk study and site visits have been used.

The different types of groups assessed within this report encompass local residents; people using key road routes; and people using Public Rights of Way.

Representative viewpoints were previously agreed (as part of the LVIA for the permitted development) in consultation with SDC and Kent Downs AONB and selected to assess the impacts on visual receptors identified within the Study Area. These representative viewpoints were subsequently agreed with SDC through the EIA Scoping process for the proposed development.

Table 4 below lists the representative viewpoints and summaries the nature of the existing view.

Representative viewpoint locations are shown on Figures 6 and 7. Figure 7 also shows public rights of way within the immediate vicinity of the application site.

The photographs associated with each viewpoint are shown on Figure 8. For each representative viewpoint, photographs are provided for winter 2015, summer 2015 and night-time 2015. Updated photopanels taken during autumn 2018 as part of field study to determine if there were any changes to the baseline environment. As demonstrated by the 2018 photographs, there are no changes between 2015 – 2018 that would alter the understanding of the baseline environment or alter the assessment of effects.

For ease of reference the description of the view (as set out in Table 4 below) is repeated on the photograph panels.

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Table 4: Representative Viewpoints

VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
01: View from Crow Drive	Motorists, cyclists and pedestrians along Crow Drive Motorists, cyclists and pedestrians at Crow Drive / Otford Lane / Polhill junction	0m	The application site is well screened behind the perimeter vegetation which forms an effective screen at the eastern end of Crow Drive. The eye is drawn along Crow Drive to toward the application site where the perimeter vegetation can be seen. More open views across adjacent countryside are possible northward.
02: View from Crow Drive / PRow SR97	Residents along Armstrong Close / Fort Lane Recreational users of local footpath network Motorists, cyclists and pedestrians along Crow Drive	0m	The eye is drawn along Crow Drive to the buildings at the application site entrance. Security fencing is prominent along with mature trees and car parking areas. Filtered views of the canteen (Building N10) are also possible.
03: View from footpath SR172	Recreational users of local footpath network Motorists, cyclists and pedestrians along Star Hill	200m	The perimeter vegetation forms an effective screen to views into the application site. The security fence and former quarry can be seen in the view.
04: View from Star Hill Road	Recreational users of local footpath network Motorists, cyclists and	0m	The view is characterised by perimeter security fencing, gate, gatehouse building, lighting and signage. A glimpse view into the application site is possible along Crow Road although views further into the application site are not possible.

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	pedestrians along Star Hill		
05: View from PRoW SR172	Recreational users of local footpath network	0m	The perimeter vegetation of the application site forms an effective barrier to views into the application site / of built development. The security fence dominates the composition, creating an imposing feature.
06: View from junction of Morants Court Road	Recreational users of the North Downs Way Motorists along Star Hill Road / A224 Polhill / B2211 Sundridge Road / M25	600m	The scarp slope is the main feature of the view. Woodland along the top of the scarp slope is visible and screens all built development, with the exception of Building X40, X54 and X58 which sit just in front of the tree-line. The security fence is also visible, running across the scarp slope and also the quarry.
07: View from Otford Lane	Residents in and around Halstead Motorists, cyclists and pedestrians along Otford Lane	400m	The existing view is across paddocks and fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of Building N2 which protrudes above the tree-line.
08: View from PRoW SK690	Residents in and around Halstead Recreational users of the local footpath network	1.1km	The existing view is across agricultural fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of building N2 and the boiler house chimneys (Building S2) which protrude above the tree-line. The strong vegetative network to the north of the application site is apparent.
09: View from the Darent Valley Path	Residents on edge of Riverhead /	1.8km	The scarp slope of the North Downs constitutes the main feature within the view, a continuous belt of woodland

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	Dunton Green (Sevenoaks) Recreational users of the Darent Valley Path		along its ridge forming the horizon. Views of the application site are largely screened by the perimeter vegetation although the security fence is visible.
10: View from Hale Lane Recreation Ground	Residents in and around Twitton / Otford Recreational users of Hale Lane Recreation Ground	1.4km	The wooded scarp slope of the North Downs is the prominent feature of the view. Views of the application site are largely screened by the perimeter vegetation with only the security fencing visible.
11: View from Fackenden Lane	Motorists, cyclists and pedestrians along Fackenden Lane	2.6km	A glimpsed view through a break in vegetation, the escarpment forms a prominent landform feature in the composition with woodland along its ridge. The perimeter vegetation forms an effective visual screen to the application site and the aspect of the slope means the security fencing is not visible.
12: View from footpath SR60	Recreational users of the local footpath network	2.7km	A wide panoramic view over the settled Darent Valley with the North Downs escarpment forming a prominent backdrop to the composition. The perimeter vegetation forms an effective screen to views of the application site.
13: View from Otford Mount / North Downs Way	Recreational users of the North Downs Way	3.4km	A glimpsed view through vegetation aligning the North Downs Way toward the application site. The scarp slope forms the prominent landform of the view where the security fence can be seen on its face although the majority of the application site is concealed behind the perimeter vegetation.
14: View from London Road, Sevenoaks	Residents in Sevenoaks Pedestrians, cyclists and motorists	4.8km	The North Downs escarpment forms an attractive backdrop to views out from the town where its face and wooded ridge can be seen. The former quarry at the North Downs Business Park is also visible along

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	within and around Sevenoaks		with the perimeter security fence. The majority of the application site is hidden from view by the perimeter vegetation.
15: View from Knole Park / Footpath SU18, on the south-eastern edge of Sevenoaks, looking north-west	Residents in Sevenoaks Visitors to Knole Park Recreational users of the Greensand Way	5.8km	Vegetation within the parkland screens views toward the application site. Only glimpses through the vegetation are afforded to the North Downs escarpment where the application site is primarily indiscernible.
16: Views from PRoW SR236	Residents in and around Ide Hill Recreational users of the local footpath network	6.6km	The escarpment forms a prominent landform feature to the composition with woodland forming a continuous horizon along its ridge. The quarry can also be seen. The perimeter security fence of the application site is just discernible at this distance, however the majority of the application site is screened from view by the perimeter vegetation.

Views are described in more detail below in relation to settlements, principle routes, local roads, recreational routes, accessible and recreational landscapes, and specific viewpoints.

Settlement

Crow Drive, Armstrong Close and Fort Road

A cluster of houses are located immediately to the north of the application, outside of the secure perimeter, extending from Crow Drive (Figure 8 / Viewpoint 2)

The ZTV studies indicate the area has potential visibility of the application and proposed development. Field study confirms that from Crow Drive itself there are relatively open views towards the existing Fort Halstead complex with the perimeter fence and reception building visible. There are also open views across the existing helipad site. From along Armstrong Close and Fort Road, the majority of the application site is screened from view by boundary vegetation along private gardens and along the northern application site boundary, however, some taller elements of built from within the application site can be seen above the boundary vegetation from along Armstrong Close, namely Building N2.

Halstead

The village of Halstead is sited approximately 1km to the north of the application site (Figure 8 / Viewpoints 7 and 8)

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The ZTVs indicate some of the southern fringe areas of have potential visibility of the application site and proposed development. However, field survey confirms that the majority of the application site is screened from view by the northern perimeter vegetation. Some glimpsed views of the taller elements of existing form within the application site can be seen above the boundary vegetation, including the Boiler House chimneys (Building S2) and the roof of Building N2, although these are limited to the isolated points within the landscape as a result of intervening vegetation. Views from further within Halstead are screened by built form.

Knockholt and Knockholt Pound

The ZTV studies indicate there are no views possible of the application site and proposed development from Knockholt Pound, approximately 400m to the north-west of the application site, as a result of intervening vegetation. This has been verified by field study.

Further north from Knockholt and Orpington views are screened by vegetation and, at this distance, any taller built elements of the application site that glimpsed are likely to be largely indiscernible.

As such, these settlement areas are not considered further within this assessment.

Otford (inc. Twitton and Shoreham)

Otford is the closest settlement to the application site, approximately 1km south-east (Figure 8 / Viewpoint 10).

The ZTV studies indicate there are views of the proposed development from Otford, and field study has confirmed that the wooded slopes of the escarpment is a prominent feature in views on the edge of the settlement where available, rising from the Darent Valley floor. The majority of existing built form within the application site is hidden by the southern perimeter vegetation although the pipework of flues on Buildings A28 and A10 and the roof line of Building A10 can just be seen rising above this.

Sevenoaks (inc. Dunton Green and Riverhead)

The Sevenoaks urban area extends up to around 2km to the south of the application site, and the ZTV studies indicate there are views from the urban edge of Dunton Green / Riverhead and throughout the town.

From the edge of Riverhead (Figure 8 / Viewpoint 9), the scarp slope of the North Downs forms the main feature within the view, a continuous belt of woodland along its ridge forming the horizon. Traffic on the M25 is a notable feature. Views of the application are largely screened by the perimeter vegetation although the perimeter security fence and building X54 are visible.

From within the town of Sevenoaks (Figure 8 / Viewpoint 14), where the alignment of streets and break in the built form allow, there are longer distance views towards the application site. The scarp slope is the notable feature in views, along with the former quarry workings at North Downs Business Park. The perimeter security fence and building X54 are visible however views into the application site itself are screened by the perimeter woodland.

Further south within Sevenoaks views towards the application site are generally screened by a combination of intervening built form, vegetation and topography. From within Knole

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Park to the south of Sevenoaks (Figure 8 / Viewpoint 15), views of the application site are generally screened by intervening vegetation.

Field assessment indicates that beyond circa 5km to the south are unlikely to have any discernible views towards application site. The scarp slope is visible from certain locations but not a prominent feature in view.

Summary

In views from settlements to the north, including Knockholt and Halstead, the flatter topography and intervening vegetation forms an effective barrier to views although taller built elements within the application site, namely Building N2, Boiler House Chimneys and, less prominently, laboratory chimneys are visible above the perimeter vegetation of the application site.

The topography of the land means it is settlements to the east / south that have more open views towards the application site. The scarp slope is a feature within the view, although the perimeter vegetation forms an effective screen to built form within the application site. The perimeter security fence, Building X54 and Flues of Buildings A10 and A28 are visible features from these locations.

Principal Routes

Rail

The Brighton to London railway line is the main rail route that passes through the study area. The ZTVs indicate that there is little potential visibility of the application site and proposed development from the route. This was confirmed in the field, with the route observed to be sited in cuttings or within built form for much of its length. When not within cuttings or screened by built form, intervening vegetation forms an effective visual barrier to the majority of views.

As such, the Brighton to London Railway is not considered further as part of this assessment.

M25 Motorway

The M25 is the main arterial route around Outer London and runs south-west to north-east through the study area. Open views of the scarp slope and perimeter woodland are possible from the M25 as it sweeps to the south of the application site. Flues of Buildings A10 and A28 are visible in these views along with Buildings X40 and X54 which lie just beyond the perimeter vegetation. The perimeter security fence is also a discernible feature from the road across the scarp slope, running through the open grassland (it is aligned this far from the main built form for security / safety reasons). The majority of the application site is not visible, being hidden behind the perimeter woodland.

A224 Polhill Road

The A224 runs adjacent to the eastern boundary of the application site leading northward from Junction 5 of the M25.

At the northern end of Polhill, at the junction of Otford Lane (Figure 8 / Viewpoint 1) view of the application site are screened by intervening vegetation. Towards the south end of Polhill, at the junction with Morants Court Road (Figure 8 / Viewpoint 6) more open views of the scarp slope perimeter vegetation and Buildings X40 and X54 are possible along with the

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former quarry. However, the application site itself is not visible, screened by the perimeter woodland.

A25

The A25 runs parallel to the M25 to the south. Glimpsed views towards the application site are possible, although the sinuous nature of the route and road-side vegetation limits viewing opportunities. Where visible the chalk scarp slope, perimeter vegetation and Buildings X40 and X54 can be seen although the perimeter woodland screens the application site itself.

Summary

Generally open views of the scarp slope are possible from the M25, A25 and A224. The perimeter security fence and Buildings X54 and X40 can also be seen. However, the application site itself is generally screened from view by the perimeter vegetation.

Local Roads

Star Hill Road

Star Hill Road abuts the application site to the west running from the A224 northward to Knockholt. The road is a curving route that climbs the steep face of the North Downs scarp slope. Views from Star Hill Road are represented by Viewpoint 3 (near Lime Pit Lane) and Viewpoint 4 (at the entrance to Crow Drive).

From the southern section of the route, near Lime Pit Lane (Figure 8 / Viewpoint 3) there are relatively open views of the scarp slope, perimeter security fence and Buildings X54 and X40, although the application site itself is screened by the perimeter woodland.

Further north along this route, at the junction with Crow Drive (Figure 8 / Viewpoint 4) there are glimpsed view of the Star Hill entrance security gate, gatehouse and associated security lighting although views further into the application site are generally restricted by perimeter vegetation and fencing.

Otford Lane

Otford Lane runs to the north of the application site between the A224 in the east and Halstead in the west. It is a narrow lane with a strong network of vegetation lining its course, limiting the opportunity for views of the application site (Figure 8 / Viewpoint 7).

Where gaps in the aligning hedgerow or field gateways occur, the application site is generally screened by the perimeter vegetation forming the northern boundary although fleeting glimpses of Building N2, and the Boiler House chimneys of Building S2 are possible.

Other Local Roads

Hedgerows and woodlands form an effective screen to the application site from the majority of local roads, limiting views to glimpses between the vegetation.

Other local roads in relatively close proximity to the application site include Lime Pit Lane – a dead end used for access to North Downs Business Park and former quarry and the B2211 Sundridge Road. The scarp slope is visible, however, the application site itself is screened by its perimeter vegetation.

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The flat topography and vegetation beyond Otford Lane means that views from other local roads to the north are severely restricted. Glimpses may be possible, but only the tallest elements within the application site (Building N2 and the Boiler House chimneys) would be fleetingly visible, the majority of the application site being hidden by the perimeter vegetation.

Further east, there are views towards the application site from rising ground to the east of Otford, such as along Frackenden Lane (Figure 8 / Viewpoint 11). The scarp slope is clearly visible and contrasts with the low lying the intervening valley landscape, however, the application site is screened the perimeter vegetation and at this distance, none of the existing built form is discernible.

Overall, no other local roads are considered to warrant further consideration in this assessment.

Summary

Key local routes with views to the application site are Star Hill Road and Otford Lane. View are filtered by vegetation along these routes, and where views of the application site are possible, the perimeter vegetation of the application site forms an effective screen, with only taller building elements rising above.

Recreational Routes

North Downs Way

The North Downs Way is a National Trail that runs from Farnham in Surrey to Dover on the south-east coast of Kent for a distance of approximately 251km. The route passes to the west and south of the application site, running at its nearest point parallel to the west of Star Hill Road. However, views from this stretch of the route are filtered by vegetation aligning Star Hill Road. The ZTV studies indicate that for much of the route's length through the study area views of the application site are not possible. This was confirmed by field observation.

More open views towards the application site are possible from where the route runs to the south of the application site, along the B2211 Sundridge, A224 Morants Court Road (Figure 8 / Viewpoint 6), and coinciding with the Darent Valley Path. In these views the scarp slope and wooded ridge are a notable features within the landscape. Existing buildings including Buildings X40 and X54 and chimneys of Building A28 can also be seen but views into the application site itself are screened by the perimeter vegetation.

There are also view towards the application site to the east, where the North Downs Way extends from Otford and along higher ground around Otford Mount (Figure 8 / Viewpoint 13). There are glimpsed views towards the application site through gaps in vegetation along the path, however, the application site is screened the perimeter vegetation and at this distance, none of the existing built form is discernible.

Darent Valley Path

The Darent Valley Path is a waymarked path running 30.5km along the banks of the River Darent. Owing to topography, views from the route towards the application site are limited to a short stretch between Dunton Green and Chipstead to the south of the application site (Figure 8 / Viewpoint 9). In these views the scarp slope is a prominent feature, and security fencing and Buildings X40, X54 and roofline of A10 can be seen, along with traffic along the

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M25 in the middle distance. Views of the application site itself are screened by the perimeter vegetation.

Greensand Way

The Greensand Way is a circular 173km waymarked trail spanning the counties of Kent and Surrey. It runs approximately 3km from the application site boundary at its closest point, within the built up area of Sevenoaks meaning that views are often screened or sporadic at best. The majority of the route within the study area is located circa 7km to the south of the application site and in any views the application site will be largely indiscernible. As such views from the Greensand Way are not considered further in this assessment.

Tandridge Border Path

The Tandridge Border Path is a circular route of 80km around the district boundary of Tandridge. Its closest point is approximately 7km to the south-west of the application and in any views the application site will be largely indiscernible. As such views from the Tandridge Border Path are not considered further in this assessment.

National Cycle Network

A small section of National Cycle Network runs along the A25 westward from Westerham in the far south-west of the study area. Given the distance of this route from the application site, any views the application site will be largely indiscernible and the views from the NCN are not considered further as part of this assessment.

Other Public Rights of Way

There is reasonably dense Public Right of Way (PRoW) network within the study area, in the form of local footpaths and rights of way, particularly within the Darent Valley. Views of the application site from these are similar to that of the Darent Valley Path described above, in that where gaps in the vegetation within the valley occur, open views of the chalk escarpment and application site buildings on the scarp slope beyond the perimeter woodland is possible. However, for much of these routes vegetation is an effective screen.

In terms of local PRoWs, footpaths SR97, SR172 and SR722 run around the perimeter of the application site outside of the security fencing within the wider survey area (Figure 8 / Viewpoints 2, 3, 4 and 5). Even from these footpaths, views into the application site are restricted by the perimeter woodland and shelter belt planting although open views of the scarp slope are possible from the Footpath SR722.

Views of the scarp slope are also possible from Bridleway SR728 links Lime Kiln Lane to Polhill Road but the majority of the application site is hidden by the perimeter vegetation.

From PRoW on higher ground to the east of the application site, such as SR60 (Figure 8 / Viewpoint 12), there are open views towards the application site and the scarp is clearly visible and in contrast to the low lying intervening valley landscape. However, the perimeter vegetation would largely screen views of the application site itself and as this distance none of the existing built form is discernible.

Summary

Given the vegetated and undulating nature of the landscape, views from PRoW are heavily dependent on local circumstances. The majority of PRoW within the LVIA Study Area are

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largely limited or obscured and therefore unlikely to experience substantial change to their recreational amenity as a result of the Development. However, the following may experience significant change and are taken forward for detailed assessment:

- North Downs Way
- Darent Valley Path
- Local PRow SR97, SR172, SR722 and SR728
- PRow SR60 on rising ground to the east

Accessible and Recreational Landscapes

Figure 1 illustrates accessible and recreational landscapes within the study area. The application site includes an area of open access land, designated under the Countryside and Rights of Way Act 2000 (CRoW) in the south of the application site on the scarp slope within the DSTL operational site. However, this area is within the perimeter security fencing of the application site and is not publicly accessible due to operational constraints.

There are a number of registered parks and gardens where public access is possible within the study area, the closest being the Grade II* Chevening approximately 500m to the south west of the application site. Also present is High Elms and Lullingstone and Preston Hill country parks and several Woodland Trust Sites.

The ZTVs indicate the potential visibility between these and the application site is limited and given the distances involved would render the majority of the application site largely indiscernible.

Views from accessible and recreational landscape are therefore not considered further as part of this assessment.

Specific Viewpoints

The tumulus at Otford Mount, approximately 3.5km to the east of the application site, is shown as a recognised viewpoint on OS mapping and is also on the North Downs Way. However, the orientation of the view is shown to the south, and views westward toward the application site are largely blocked by intervening woodland and vegetation aligning the North Downs Way itself.

The view from Otford Mount tumulus is therefore not considered further within the LVIA, however, views from the North Downs Way (including where it passes across Otford Mount) are assessed.

5.6. Designated Landscape Designations

Kent Downs AONB

The application site is within the Kent Downs AONB. This is a designation afforded to landscapes that are of national importance and provides a legislative obligation to 'conserve and enhance the natural beauty' of the landscape. The LVIA considers the impacts of Development on the landscape character areas identified by the Landscape Character Assessment of the Kent Downs AONB and impacts to its natural beauty are considered in the stand-alone AONB Report.

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Surrey Hills AONB

The Surrey Hills AONB lies to the far south-west of the Study Area, only including a very small area of this designation (Figure 1). No significant change is likely to occur and thus it is not considered further within this assessment or the AONB Report.

5.7. Future Baseline Environment

The permitted development forms a potential future baseline environment, upon which the proposed development can also be assessed.

In summary, the permitted development comprises:

- 450 residential dwellings
- A village centre comprising community facilities
- A new 80 bed hotel, adjacent to proposed village green / cricket pitch
- A new employment park (with potential energy centre)
- Retention of the Fort and its reuse as an Historic Interpretation Centre / small scale employment space
- Retention of existing important landscape / habitat features and creation of new green infrastructure, providing public open space, habitat corridors, and drainage systems.

The residential areas are predominately 2 storey, with a maximum of 3 storeys proposed for the village centre and employment park.

Key design principles that are of most relevance to the landscape and visual context include:

- Ensure development occupies the same area of the existing defence research facility and does not result in major changes to topography.
- Consideration of the design of new development to ensure it reflects the character of local settlement.
- Retention of all areas of woodland on the application site and consideration of building height parameters to ensure that they are not generally visible above the perimeter woodland.
- Enhancement of woodland through appropriate management, including thinning and replanting.
- Protection of Ancient Woodland, and creation of new woodland / woodland edge habitats, by creating a 15m buffer from the developed area.
- Retention of existing green infrastructure and individual trees, wherever possible.
- Creation of green infrastructure, which would provide new areas of open space, linkages and new habitats within the application site.
- New individual trees / tree groups within areas of green infrastructure and all new woodland, tree and scrub planting to be of local provenance.
- Retention of all areas of calcareous grassland on the application site and wider survey area and enhancement through appropriate management, potentially grazing.

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- New areas of species rich grassland within woodland buffers and areas of open space.
- Retention of all designated heritage features within the application site and enhancement through appropriate management, reuse and interpretation.
- Retention and enhancement of features that are not designated but reflect the Site's contemporary military heritage.
- Retention of all PRoW within the application site and partial upgrade of footpath SR172 - between the application site and Knockholt Pound – to a cycle path.
- Provision of way-finder signs and interpretation signs throughout the Site, aiding navigation and providing interpretation of key landscape, ecology and heritage features
- Partial removal of the perimeter security fence (a new security fence would be built for QientiQ), improving the setting of the Site, improving public access and improving recreational amenity.
- Removal of intrusive security lighting. A lighting strategy would be developed for the detailed design stage. All external lighting for the proposed development would be designed to meet the requirements of the ILP guidance, based on category E2 Rural (low district brightness, typical of a small village). External lighting would be controlled to limit light spill and glow and include would include the specification of standard LED light sources to improve colour definition, limitation of upward lighting, based on a coherent design approach across the Development.

In terms of existing trees, there are approximately 2,700 trees on site, the majority of which are located in-between buildings and areas of hard standing. Although it was not possible at the OPA stage to identify the exact trees for removal / retention, it was estimated that around 75% of trees could be retained (subject to detailed design proposals).

Overall it is considered that the permitted development would not fundamentally alter the landscape character of the Knockholt and Halstead Wooded Downs, Chevening Scarp or wider landscape. The application site would remain a developed area within a mainly agricultural landscape, and would not substantially alter the topography of the application site; the mosaic of surrounding woodland; or the chalk scarp. At the site scale, the permitted development would enhance the character and amenity of the application site by removing many of the existing industrial buildings and large areas of hard standing; creating a more legible site layout with high quality buildings and spaces; creating new areas of green infrastructure; and retaining, protecting and enhancing key features such as the ancient woodland and chalk grassland. There would be a loss of trees resulting from the proposed development, however, the design of the development seeks to retain existing trees where possible; new tree planting is proposed throughout the application site; and new and retained trees / woodland would benefit from improved management.

Visually, the ZTV studies have indicated that there would be very little perceptible difference between the existing development on application site and the permitted development due to the screening nature of the surrounding woodland. Some taller elements, namely the energy centre chimney and the maximum height of the new employment park in places, would potentially break this vegetation but would appear as small features within the wider panorama and off-set by the removal of existing tall structures and chimneys.

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In relation to the AONB, the permitted development would deliver a range of environmental improvements and benefits the natural beauty criteria of the AONB. Specifically the permitted development would enhance natural heritage features, ensuring the sensitive management of the woodland, mature trees and areas of chalk, semi-improved and neutral grassland. The permitted development would also benefit the understanding and enjoyment of the AONB, and the social and economic wellbeing of communities within the AONB. A range of new housing, employment and recreational facilities would be created, including providing public access and interpretation of the application site.

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6.0 The Proposed Development

6.1. The Proposal

The proposed development will comprise the following elements as described in more detail in the Design and Access Statement (DAS):

- Residential land uses, allowing for up to 750 residential dwellings.
- Employment / mixed use land uses (including a potential school site and existing employments uses at QinetQ).
- A centrally located village centre comprising public square, community facilities, and incorporating retained and enhanced Listed Buildings.
- Retention and enhancement of the Fort as an Historic Interpretation Centre and with other buildings within the Fort used as workshop space.
- Retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure providing public open space, recreational routes, drainage, and biodiversity benefits.
- Some limited vegetation clearance on the southern edge of the Fort to better reveal it's heritage significance and allow for long distance views south across the landscape.
- Key open spaces include:
 - Village green at the heart of the proposed development.
 - Green corridors running through the built-up area and acting as a buffer to the Ancient Woodland.
 - Community recreation area within open land to the north-west of the application site, including 'bunker park' (which incorporated some the existing, retained bunkers).
 - Ecology zone within land to the south-west of the application site.

Key changes between the permitted development and current scheme include:

- Overall increase of 300 of new homes, achieved mainly through a combination of higher densities in key locations and inclusion of the 'bunkers' and 'helipad' sites for residential uses.
- Variations in building height parameters with predominantly 2.5 storey residential development; 3 storey residential development for landmark buildings; and a maximum of 4 storey development for the employment area.
- No requirements for an energy centre / flue zone, with an energy strategy focussing on passive design measures and solar PVs.
- Larger mixed-use village centre, including village square, centred around retained buildings.
- Relocation of some proposed employment uses closer to the village centre, creating new frontage to QinetiQ.

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- Relocation / reduction in size of the village green, so that it is more clearly defined and closely associated with the village centre.
- Exclusion of the hotel which was found not to be viable.
- Exclusion of the energy centre / flue zone, with an energy strategy focussing on passive design measures and solar PVs.

It should be noted that in relation to residential and employment building heights, the maximum height parameter of the proposed development is the same as the permitted development i.e. 16m. In addition, as stated above, the proposed development does not include an energy centre / flue, for which a maximum height parameter of 25m was permitted.

6.2. Site Fabric

The proposed developed in entirely contained within areas of previously developed land. As such the following existing open spaces / landscape features will be retained and enhanced as part of the development proposals:

- The woodland surrounding the application site, some of which is classified as Ancient Woodland.
- The area of chalk grassland to the south of the application site, on the scarp slope.
- The area of grassland to the west of the application site, along Crow Drive.

A small area of non-Ancient Woodland is indicated within the ‘Flood Risk Assessment and Drainage Strategy’ as potentially being removed to accommodate drainage features, however, this will be subject to detailed design.

The layout of the scheme has also been designed to ensure the majority of higher value trees are incorporated into areas of green infrastructure and can be retained. Other trees – that fall within the proposed development parcels – also have the potential to be retained, subject to more detailed design proposals. However, it is inevitable that a number of trees will be lost as a result of proposed development in order to accommodate the development proposals. It is anticipated that overall around 67% of the existing tree stock can be retained; a further 17% of existing tree stock could be retained within development parcels, subject to more detailed design; and around 16% of trees will be to removed. Further details of tree loss and retention can be found in the Arboricultural Impact Assessment (AIA) which accompanies the planning application.

There will be some reprofiling of the application site in order to create suitable development platform and create drainage features. As set out in Section 5.4, levels vary across the application site, with many of the larger buildings spanning level changes that allow level access at one end but are partially buried at the other. A ground modelling exercise was undertaken aimed at creating suitable development platforms whilst minimising cut and fill / export of material off site; allowing for the retention of trees, particularly at the perimeter of the site; maintaining existing levels along Crow Drive which is an arterial route through the application; and ensuring a buffer to the scheduled monument and existing retained development. Overall it was concluded that retaining features are needed to facilitate raising and lowering of site levels and creating development platforms with gradients of no more

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than 1 in 20. These changes are considered to be relatively minor alterations and will be consistent with the existing varied topography of the application site.

There would remain some excess spoil material to be retained within the application site. It is proposed that this will be deposited within the area of open space to the north-east of the application (north of Crow Road and the Star Hill Road gatehouse). This area is not considered to be sensitive from landscape, ecology or heritage perspective, and due to the relatively large scale of the space, can easily accommodate some minor change in levels. Subject to more detailed design, it is anticipated that the spoil could be evenly distributed across the space, or designed to create features within the landscape. This later approach would be particularly suitable given the proximity to the 'bunker park' and the potential to creating viewing platform, with views northwards towards London and potentially southwards towards Sevenoaks.

6.3. Design approach in respect of landscape and visual matters

Landscape and visual considerations have informed the design of the proposal from the outset, and the design principles remain as per the permitted development project, namely:

- Locating development within areas of previously developed land.
- Ensuring there are no major changes to the topography of the application site.
- Retention and enhancement of existing woodland.
- Retention and enhancement of individual trees wherever possible.
- Retention and enhancement of open areas of grassland to the south and west of the application site.
- Retention of all PRoW within the application site and partial upgrade of footpath SR172 - between the application site and Knockholt Pound to a cycle path.
- Retention and enhancement of key heritage features within the application site, including reuse of the historic fort as an interpretation centre / work space.
- Creation of new green infrastructure throughout the application site, including new footpaths / cycle path and signage.
- Partial removal of the perimeter security fence (a new security fence would be built for QientiQ), improving the character and appearance of the application site.
- Removal of intrusive security lighting and all new lighting designed to minimise light spill.

6.4. Construction and Phasing

Construction phase activities might include site vehicles and construction traffic within the application site and in surrounding areas; other components typical of construction activities, including workers' accommodation and stockpiles of materials; lighting of specific areas, such as construction compounds; and gradual modification of site as part of a phased programme of works.

It is anticipated that demolition and enabling works will commence in approximately 2020, with construction commencing in approximately 2021.

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The opening year of Phase 1 (which is likely to include some residential and commercial uses) is anticipated to be around 2023, with completion of the entire scheme by approximately 2030.

Further details of construction and phasing can be found in ES (Chapter 5: Demolition and Construction Strategy & Programme).

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7.0 Landscape and Visual Effects

7.1. Introduction

The likely significant impacts on landscape character and views, both for the construction and operation (completed development) phases of the proposed development, are set out below.

As described in Section 6.0 in relation to the project description, the potential for landscape and visual impacts has been addressed from an early stage in the project, and a range of measures embedded and inherent in the development proposals. Nonetheless, additional measures are proposed where appropriate to further mitigate potential impacts.

As set out in the methodology, the effects of construction are considered on the existing baseline environment.

The effects of the operational development are considered on both the existing baseline environment and the future baseline of the permitted development (of up to 450 dwellings and employment uses).

For the purposes of assessment, construction activity is considered to be ‘medium-term’ in duration (lasting for approximately 10 years), with the operational development being ‘permanent’ in duration.

Where relevant a distinction is made between summer and winter views, acknowledging that in certain circumstances there may be differences in view resulting from the degree of screening provided by the perimeter vegetation. However, it is noted that in the majority of views, the dense planting around the application site will form an effective screen during the summer and winter months.

Where relevant a distinction is also made between the effects at Year 1 of Operation and Year 10 of Operation, once proposed planting has matured. However, while the maturity of planting will inevitably be beneficial in terms of enhancing the appearance of the application site and providing an attractive setting for new development, it is the retention of the existing woodland and open spaces around the application site that is most important in mitigating landscape and visual effects.

7.2. Landscape Character Effects

Demolition and Construction

The substantial demolition and construction required for the proposed development is likely to result in significant changes to the character of the application site. The demolition of selected buildings, removal of some trees, movement of plant and materials, and construction of new buildings and infrastructure would inevitably alter the pattern and appearance of the landscape within the application site. However, the majority of landscape features within the application site and wider survey area – such as woodland, mature trees where possible and areas of chalk, semi-improved and neutral grassland - would be retained. Furthermore the phasing of the proposed development would mean that construction activities would be restricted to certain areas of the application site at any one time and not disrupt the whole of the application site for the duration of the construction phase.

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Although landscape change would occur within the application site, the change to the landscape beyond the immediate application site boundary (in the wider survey area) would be extremely limited to landscape and ecological enhancement measures. The perimeter vegetation (woodland) would form an effective screen to the majority of construction activity, and therefore restricting intervisibility with the wider landscape within the study area.

It is only the upper levels of construction activity, such as movement of temporary mobile cranes, which would potentially be visible from the surrounding landscape. Any machinery would appear as a small feature within the wider composition of the wooded horizon set by the perimeter woodland and would not be a prominent feature or result in any changes to the key characteristics of the surrounding landscape.

The movement of plant and traffic travelling to and from the application site also has the potential to affect landscape character, increasing the degree of movement within the local area. Impacts on landscape character will be minimised through management measures set out within the Construction and Logistics Management Plan, which will include an agreement not to use the Star Hill access for construction traffic. HGV's will be required to use the Otford Lane access onto A224 Polhill, with the route north towards the M25 Junction 4 identified as the main route for construction. The A224 Polhill is already a busy trunk road and is characterised by frequent vehicle movements.

Operational Development

It is anticipated the landscape character of the study area would remain largely unaffected by the proposed development. The proposed development would occupy the same area of the existing defence research facility and would not increase the extent of built development. Furthermore, the majority of landscape features within the application and wider survey area – such as woodland, mature trees where possible and areas of chalk, semi-improved and neutral grassland - would be retained.

The majority of built form would be contained within the perimeter vegetation that forms an effective screen and limits intervisibility. The removal of many of the chimney structures and taller buildings, notably N2 and Boiler House chimneys, would result in improvements to views towards the application site and across the landscape, reducing the amount of built form currently visible on the escarpment ridge. Some taller elements of the proposed development – such as the taller employment areas - may protrude slightly above the perimeter vegetation but would not be a prominent feature within the wider landscape.

It is considered the integrity of principal landscape features within the study area, including the chalk escarpment of the Kent Downs, the low lying flood plain of the River Darent valley, and extensive woodland within the valley and along the escarpment ridge would remain unchanged, and overall there would be a neutral impact on the surrounding landscape within the study area.

Beneficial impacts are anticipated within the application site itself. The majority of the utilitarian structures, workshops, car park and disturbed land that currently dominate the application site being will be removed and replaced by residential and employment built form, punctuated and intertwined by new areas of green infrastructure. Existing areas of open space, such as the chalk grassland on the scarp slope and ancient woodland around the

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perimeter of the application site, would be retained and managed in the long-term, enhancing the character and appearance of the application site and wider survey area.

For the purposes of this assessment, the proposed development would result in a permanent change to the landscape resource.

LCA1: Darent Valley

Sensitivity

The application site falls within Darent Valley LCA. As the proposed development would be contained entirely within the footprint of previously developed land associated with the existing defence research facility the susceptibility of the Darent Valley LCA is judged to be Medium.

The Darent Valley LCA falls within the Kent Downs AONB and it therefore judged to be of National / International Value, and High-Medium sensitivity overall.

Construction Effects

During construction the only area of landscape likely to experience a large scale of impact is within the application site, which would change from a defence research facility to an area of construction activity. The application site occupies a relatively small area of the wider Darent Valley LCA and the surrounding landscape would not be discernibly affected by the proposed development as construction activity would appear as a small feature within the wider landscape. In addition there would be no discernible change to any of the key characteristics of Darent Valley LCA, or of the West Darent, North Darent, or Knockholt sub LCAs. Specifically there would be no change to:

- The wooded scarp.
- The areas of chalk grassland on the scarp slope.
- The network of hedgerows and tree belts.
- The pattern of agriculture, parkland and settlement.
- The presence of the motorways in the landscape.

There may be minor alterations to the surrounding landscape resulting from intervisibility of the proposed development and the presence of tall machinery protruding above the existing perimeter woodland. However, construction would not be a prominent feature in view and any change in views within and across the Darent Valley LCA would be barely perceptible.

At the site scale, construction would have a greater effect, introducing machinery and plant, and gradually new built development, into the already existing built form of the landscape. Construction would also add additional movement and activity into the landscape. However, the application site is already characterised by buildings and structures, and there are existing sources of disturbance as a result of the ongoing operational activity associated with DSTL and QinetiQ.

Overall, the extent of effect on the Darent Valley LCA is considered to be Limited, largely contained within the site and affecting a very small part of a much wider character area. The scale of effect would be Medium as there would be partial alterations to key elements,

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features, qualities and characteristics of the landscape such that the baseline will be noticeably changed. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect would be **Low** resulting in a **Slight** significance of effect. As result of the changes to the fabric of the site itself the effect of construction on the Darent Valley LCA is considered to be **Adverse**, albeit the vast majority of the LCA will remain unaffected.

Operational Effects

During operation of the proposed development the only area of landscape likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. The application site occupies a relatively small area of the wider Darent Valley LCA, and the surrounding landscape would experience no discernible change to any of the key characteristics of Darent Valley LCA, or of the West Darent, North Darent, or Knockholt sub LCA's.

The proposed development has the potential to enhance the overall character of the application site by removing many of the existing industrial-type buildings and large areas of hard standing and creating a more legible layout with high quality buildings and open space.

The design principles and network of green infrastructure (as described in Section 6.0) would integrate the proposed development into the landscape, retaining all woodland around the application site; trees within the application site (where possible); and providing resources for long-term tree and woodland management. The large areas of chalk / neutral grassland to the south and west of the application site in the wider survey area would be enhanced through an appropriate management regime.

The design principles also seek to enhance the character and appearance of the application site. The proposed development is planned around a village centre (and associated village square and village green), ensuring landscape and open space is at the core of the proposed development. The village centre includes existing heritage assets and retained buildings, and provides strong links to the Fort, which would be open to the public and would contain the heritage interpretation centre. 'Green fingers' extend from the village centre and throughout the residential area, to provide areas of public open space, pedestrian links, allow for tree retention (and new planting) and SuDS, and provide habitat corridors between areas of woodland. The green fingers are also important from a place making perspective, creating an attractive, diverse residential environment of differing characters.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the integration of development into the landscape through the use of open space and new planting.

Overall, the extent of effect on the Darent Valley LCA is considered to be Limited and the scale of effect would be Medium as there would be partial alteration to key elements, features, qualities or characteristics, such that during the operational phase the landscape character would be noticeably changed. The duration of effect would be permanent.

It is judged that the overall magnitude of effect would be **Medium**, resulting in a **Major-Moderate** significance of effect.

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Considering that the proposed development has the potential to enhance the character and appearance of the application Site, and would be well integrated into the landscape, the effects are considered to be **Positive** overall.

Positive effects would continue over the longer term as the proposed green infrastructure and planting matures.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in very little change to the landscape character of the Darent Valley.

While there would a slight increase in the overall building footprint when compared to the permitted development, built form would remain contained within areas of previously developed land; would not result in the loss of any boundary woodland; would still allow for the retention of the vast majority of trees; and would retain the open areas of grassland to the south and west of the application site. The maximum height parameters for residential and employment buildings would be no greater than the maximum height parameters for the permitted development, and there would be no energy centre flue (up to a maximum height parameter of 25m). From within the wider landscape of the study area, the proposed development would remain largely concealed by surrounding woodland and would not be a prominent feature in view. Overall, there would be no perceptible changes to any of the key characteristics of Darent Valley LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect. Given that the application site is already characterised by mixed-use development, the effects are considered to be **Neutral** overall.

3a: Knockholt and Halstead Wooded Downs

The application site falls within the Knockholt and Halstead Wooded Downs LCA. As the proposed development would be contained entirely within the footprint of the existing defence research facility the susceptibility of the Knockholt and Halstead Wooded Downs LCA is judged to be Medium.

Knockholt and Halstead Downs LCA falls within the Kent Downs AONB; however, its condition diminished by residential development, extensive horsiculture, urban recreation, and hedgerow loss. It is therefore judged to be of Local Value, and Medium Sensitivity overall.

Construction Effects

During demolition and construction works, the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of construction activity. While the application site falls largely within the Knockholt and Halstead Downs LCA, the vast majority of the surrounding landscape would not be affected by the proposed development, and there would be no discernible change to any of the key characteristics of Knockholt and Halstead Downs LCA. Specifically there would be no change to:

- Any areas of agricultural land, pasture, grassland, woodland or parkland.

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- Topography of the landscape surrounding the application site.
- Existing settlements pattern.
- Pattern of roadside trees and hedgerows surrounding the application site.

At the application site scale, demolition and construction would have a greater effect, introducing machinery and plant, demolition of existing buildings and gradually new built development, into the landscape. Construction would also add additional movement and activity into the landscape. However, the application site is already characterised by buildings and structures, and there are existing sources of disturbance as a result of the ongoing operational activity associated with DSTL and QinetiQ.

There would be a degree of change to the pattern of trees and vegetation within the application site as the proposed development would result in some removal of trees, although where possible trees would be retained and integrated into the layout of the proposed development. However, all woodland within the wider survey area would be retained. A complete tree survey has been undertaken to identify the location and condition of trees across the application site, and the layout of the proposed development seeks to ensure that areas of proposed green infrastructure coincide with existing groups of trees, and therefore minimise overall tree loss. The Arboricultural Impact Assessment and DAS provides more detail on potential tree loss / retention and how the proposed development has responded sensitively to the arboricultural context.

Overall, the extent of effect is considered to be Limited, largely contained within the site and affecting a small part of a wider character area. The scale of effect would be Medium, as there would be partial alternation to key elements, features, qualities and characteristics, such that during the construction phase the landscape character would be noticeably changed. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect of construction would be **Low**, resulting in a **Slight** significance of effect. As result of the changes to the fabric of the site itself the effect of construction on the Knockholt and Halstead Downs LCA is considered to be **Adverse**, albeit the vast majority of the LCA will remain unaffected.

Operational Effects

During operation of the proposed development the only landscape area likely to experience a large scale of impact is the application Site itself, which would change from a defence facility to an area of employment and residential development, with associated road infrastructure and open space. The surrounding landscape would not be affected by the proposed development due to lack of intervisibility, and there would be no discernible change to any of the key characteristics of Knockholt and Halstead Wooded Downs LCA.

The proposed development has the potential to enhance the overall character of the application site by removing many of the existing industrial type buildings and large areas of hard standing and create a more legible site layout with high quality buildings and open space.

The proposed development would be well integrated into the landscape, whereby all woodland around the application site would be retained and managed providing resources for long-term enjoyment. The large areas of chalk grassland to the south and neutral

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grassland to west of the application site would also be retained and enhanced through an appropriate management regime.

The design principles also seek to enhance the character and appearance of the application site. The proposed development is planned around a village square / village green, ensuring landscape and open space is at the core of the community. The village centre includes existing heritage assets and retained buildings, and provides strong links to the Fort Scheduled Monument, which would be open to the public and would contain the heritage interpretation centre. 'Green fingers' would extend from the village centre and throughout the residential area, and between the residential and new employment park to provide areas of public open space, pedestrian links, allow for tree retention and SuDS, and provide habitat corridors between areas of woodland. The green fingers are also important from a place making perspective, creating an attractive, diverse green space of differing characters.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the integration of development into the landscape through the use of open space and new planting.

Overall, the extent of effect is considered to be Limited and the scale of effect would be Medium as there would be partial alternation to key elements, features, qualities and characteristics as described above, such that during the operational phase the landscape character would be noticeably changed. The duration of effect would be Permanent.

It is judged that the overall magnitude of effect of operation would be **Medium**, resulting in a **Moderate** significance of effect.

Considering the proposed development has the potential to enhance the character and appearance of the application site and would be well integrated into the landscape with key landscape features retained, the impacts are assessed to be **Positive** overall.

Positive effects would continue over the longer term as the proposed green infrastructure and planting matures.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in very little change to the landscape character of the Darent Valley.

While there would a slight increase in the overall footprint when compared to the permitted development, built form would remain contained with areas of previously developed land; would not result in the loss of any boundary woodland; would allow for the retention of the vast majority of trees; and would retain the open areas of grassland to the south and west of the site. The maximum height parameters for residential and employment buildings would be no greater than the maximum height parameters for the permitted development, and there would be no energy centre flue (up to a maximum height parameter of 25m). From with the wider landscape, the proposed development would remain largely concealed by surrounding woodland and would not be a prominent feature in view. Overall, there would be no perceptible changes to any of the key characteristics of the Knockholt and Halstead Wooded Downs LCA

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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5a: Chevening Scarp

The Chevening Scarp LCA is located immediately to the south of the application site and extends along the eastern application site boundary. It contains land within the wider survey area which would be subject to enhancement. As the application site is already developed and the proposed development would be contained within the footprint of the existing defence research facility, the susceptibility of the Chevening Scarp LCA is judged to be Medium, in that undue negative consequences may arise from the proposed development.

The Chevening Scarp LCA falls within the Kent Downs AONB; however, its condition is diminished by the presence of the M25 and the decline of shaws and hedgerow loss. It is therefore judged to be of Local Value, and Medium Sensitivity overall.

Construction Effects

The only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence facility to an area of temporary demolition and construction activity. No construction activity would occur within the Chevening Scarp LCA itself and there would be no discernible change to any of the key characteristics of the LCA.

There may be minor alterations to the baseline environment resulting from the proximity of the Chevening Scarp LCA to the application site and presence of machinery (such as cranes) protruding above the existing perimeter woodland, however, the vast majority of activity would not be perceptible and screened by the intervening vegetation and topography.

Overall, the extent of effect is considered to be Limited and the scale of effect would be Small-Negligible as there would be minor alternation to key elements, features, qualities and characteristics, such that during the construction phase the landscape character would be largely unchanged despite some discernible differences. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect of construction would be **Negligible**, resulting in a **Minimal** significance of effect. As a result of there being no direct changes to the fabric of the Chevening Scarp LCA, and that the vast majority of activity would not be perceptible, the overall effect is considered to be **Neutral**.

Operational Effects

The only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. No built development would occur in the Chevening Scarp LCA itself.

The design principles seek to integrate the proposed development into the landscape, retaining the large area of calcareous grassland to the south of the application site beyond the perimeter security fence – on the scarp slope – which is of high ecological value. Its long-term integrity would be secured through the adoption of an appropriate management regime.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the retention / management of chalk grassland.

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The extent of effect is therefore considered to be Limited, and the scale of effect would be Negligible. The duration of effect would be Permeant.

It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect. Considering that the proposed development would allow for the long-term management of areas chalk / neutral grassland within the Chevening Scarp LCA, the effects are judged to be **Positive** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in no perceptible change to the landscape character of the Chevening Scarp LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect. Given the future baseline environment is already incorporates the management of the calcareous grassland on the scarp slope, the effects are judged to be **Neutral** overall.

Westerham to Sundridge Parks and Farmlands

The Westerham to Sundridge Parks and Farmlands LCA is located approximately 3.5km to the south of the application site. Considering that the proposed development would be contained entirely within the footprint of the existing defence facility, the susceptibility of the Westerham to Sundridge Parks and Farmlands LCA is judged to be Low, in that undue negative consequences are unlikely to arise from the proposed development.

The majority of the Westerham to Sundridge Parks and Farmlands LCA falls within the Kent Downs AONB. Despite a number of notable detractors, the landscape is considered to be relatively intact and in good condition. Therefore, the Westerham to Sundridge Parks and Farmlands LCA is judged to be of National / International Value, and Medium Sensitivity overall.

Construction Effects

During demolition and construction the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of construction activity. There may be minor alterations to the surrounding landscape resulting from indivisibility with the application site and the presence of tall machinery protruding above the existing perimeter woodland. However, any change in outward views from the Westerham to Sundridge Parks and Farmlands LCA would be barely perceptible. Furthermore there would be no change to any of the key characteristics of the Westerham to Sundridge Parks and Farmlands LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Operational Effects

During operation the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. There would be no direct change to any of the key characteristics of the Westerham to

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Sundridge Parks and Farmlands LCA and the proposed development would not be perceptible from within the Westerham to Sundridge Parks and Farmlands LCA, screened by the retained perimeter woodland and other intervening vegetation and landform.

The proposed development would be well integrated into the landscape, retaining all woodland around the application site; trees within the application site (where possible); and providing resources for long-term woodland management. This would ensure that the condition and structure of the woodland is enhanced and would improve its overall screening function. The area of chalk grassland to the south of the application site (on the exposed scarp slope) is visible from certain locations and would remain as open grassland.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in no perceptible change to the landscape character of the Westerham and Brasted Chart LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Summary of Landscape Effects

Table 5: Construction Effects – Landscape – Existing Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Low	Slight	Adverse
Knockholt and Halstead Wooded Downs	Medium	Low	Slight	Adverse
Chevening Scarp	Medium	Negligible	Minimal	Neutral
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

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Table 6: Operational Effects – Landscape – Existing Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Medium	Major-moderate	Positive
Knockholt and Halstead Wooded Downs	Medium	Medium	Moderate	Positive
Chevening Scarp	Medium	Negligible	Minimal	Positive
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

Table 7: Operational Effects – Landscape – Future Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Negligible	Minimal	Neutral
Knockholt and Halstead Wooded Downs	Medium	Negligible	Minimal	Neutral
Chevening Scarp	Medium	Negligible	Minimal	Neutral
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

7.3. Visual Effects

Demolition and Construction

The substantial demolition and construction required for the proposed development is likely to result in significant visual change within the application site. The demolition of buildings, removal of trees, movement of plant and materials and construction of new buildings and infrastructure would inevitably create significant visual disruption both within the application site and to some visual receptors adjacent to the application site boundary. However, the phasing of the demolition and construction activities would mean that construction activities would be restricted to certain areas of the application site at any one time and not disrupt the whole of the application site for the duration of the construction phase.

Although significant visual change would occur within the application site, the change to visual receptors beyond the immediate application site boundary would be relatively limited

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as a result of the perimeter vegetation (woodland) that would form an effective screen to the majority of construction activity. In these views it is only the upper levels of construction activity, such as movement of mobile cranes, that would potentially be seen. These elements would appear as a small feature within the wider composition of wooded horizon set by the North Downs escarpment and wooded ridge and is not, in general, anticipated to be overly conspicuous or prominent within views.

The movement of plant and traffic to and from the application site also has the potential to affect views, however, as described in relation to landscape character, vehicles will be required to use the Otford Lane access onto A224 Polhill, with the route north towards the M25 Junction 4 identified as the main route for construction. The A224 Polhill is already a busy trunk road and is characterised by frequent vehicle movements.

Operational Development

It is anticipated the visual amenity of the study area would remain largely unaffected and unchanged by the proposed development as the majority of built form would be contained within the perimeter vegetation that forms an effective screen to wider views. The removal of many of the existing chimney structures and taller buildings, notably N2 and Boiler House chimneys (Building S2), would result in minor improvements to wider views compared to the existing development, reducing the amount of built form visible on the escarpment ridge. Some taller elements of the proposed development may extend slightly above the perimeter vegetation but, would not be overly prominent in middle to long distance views of the application site (approximately 1km and beyond), and with the majority of built form screened. The integrity of principal visual features surrounding the application site including the chalk escarpment of the Kent Downs, the low lying flood plain of the River Darent valley, and extensive woodland within the valley and along the escarpment ridge would remain unchanged.

Some beneficial impacts are anticipated from PRoWs in close proximity to the application site. Views would be improved by removal of the imposing perimeter security fence which currently dominate these routes, along with the creation of more open views into the application site from certain routes and local vantage points.

However, it is views from within the application site itself that significant beneficial changes to the visual amenity would occur. The majority of the utilitarian structures and workshops that currently dominate the application site would be removed, replaced by residential and employment built form, and punctuated by new areas of public open space. In addition existing areas of open space, such as the chalk grassland and ancient woodland would be bought under active management, improving their character and visual appearance.

The opening up of the application site would also allow the residents (of the proposed development) and members of the local community / wider public to experience views of the various heritage features within the application site, including the historic Fort which will be opened up as an interpretation centre; retained and enhanced Listed Buildings, which will form the part of the village centre; and retained bunkers which will be integrated in area of public open space.

Residents and visitors will also be able to experience panoramic views over the Darent Valley from the escarpment near to the Fort, which includes some limited vegetation clearance to better reveal the heritage significance of the Fort and allow for long-distance views across the

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landscape. In addition residents and visitors will experience long distance views to Canary Wharf from the open space in the western part of the Site and the landscape design of this area could provide land forms from which to better appreciate the view.

Settlement

The sensitivity of visual receptors at settlements is considered to be High-Medium, including a variety of receptors from private residents, pedestrians along local roads and paths, and recreational users of open space.

Crow Drive, Armstrong Close and Fort Road

Construction

From along Crow Drive, construction activity will be visible within the north-eastern part of the application site (Figure 8 / Viewpoint 2). This includes close range, open views of construction activity within the helipad site. From the cluster of houses along Armstrong Close and Fort Road, views of construction activity will be filtered by intervening vegetation however, taller elements of construction would be seen above the perimeter vegetation.

The scale of effect would therefore be Medium. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Medium**, resulting in a **Moderate** significance of effect that is **Adverse** overall.

Completed Development

From along Crow Drive, views of new built form would be visible but this would not be substantially different from existing views of building and structures. In particular new housing in the 'helipad' site will sit opposite housing along Beckman Close. In addition the removal of security fence in this location is considered to be beneficial. From along Armstrong Close and Fort Road, views of new built form would be largely filtered by the perimeter woodland. Where the new built form is visible it will not appear out of context with existing residential land uses. The removal of taller built structures such as the N2 Building and Boiler House is considered beneficial.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Positive** overall.

Halstead

Construction

Views from the settlement of Halstead to the application site are largely restricted by intervening vegetation at the application site's perimeter and field boundaries and hedgerows in the vicinity (Figure 8 / Viewpoints 7 and 8). Some glimpses between gaps in hedgerows are possible along with likely views from upper storeys of buildings at the edge of Halstead. However, the perimeter woodland blocks views into the application site itself. Only taller elements of construction would potentially be seen above the perimeter vegetation that forms an effective screen to views from Halstead.

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The scale of effect would therefore be Small. The extent of effect is considered to be Limited and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Completed Development

The new built form of the proposed development would be generally screened by the perimeter woodland that serves as an effective screen to local views. The wireframe visualisation from viewpoint 7 (Figure 13) demonstrates that any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view. The more notable change to view is from the removal of existing structures and the removal of taller built structures such as the N2 Building and Boiler House is considered beneficial to the composition of view.

The scale of effect would therefore be Small/negligible. The extent of effect is considered to be Limited and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Knockholt and Knockholt Pound

Construction and Completed Development

There are no open views of the application site from Knockholt / Knockholt (approximately 400m to the north-west of the application site) as a result of intervening vegetation and construction activity / the proposed development is unlikely to be visible.

Desk and field study has also concluded that there will be no views from the settlement of Orpington further to the north as the proposed development would be screened from view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Otford (inc. Twitton and Shoreham)

Construction and Completed Development

Although open views towards the application site are possible from the edge of Otford (Figure 8 / Viewpoint 10), most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would be small features on the wider escarpment and no prominent in view.

The majority of new built form would be screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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Sevenoaks (inc. Dunton Green and Riverhead)

Construction and Completed Development

From the edge of Riverhead (Figure 8 / Viewpoint 9), the majority of construction activity / new built form would be screened by perimeter vegetation. Although taller elements may be visible above the tree line, they would not be overly prominent features within views.

From within the town of Sevenoaks (Figure 8 / Viewpoint 14) the majority of construction activity / new built form also be screened by perimeter vegetation. Any visible construction activity / structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view. The wireframe visualisation from Viewpoint 14 (Figure 13) demonstrates the proposed development will not generally be visible. The removal of building X54 will also be beneficial, but this structure – on the edge of the scarp – are not very apparent at this distance.

Further south within Sevenoaks view towards the application site are generally screened by a combination of intervening built form, vegetation and topography. From within Knole Park to the south of Sevenoaks (Figure 8 / Viewpoint 15), construction activity / new built form will not be visible and / or indiscernible.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the completed proposed development would result in no perceptible change to views from the surrounding settlements.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Principal Routes

The sensitivity of visual receptors on key routes is considered to be Medium-Low.

M25

Construction and Completed Development

The majority of the M25 within the vicinity of the application site is in a slight cutting, with mature vegetation along the embankments, and as such, there are generally no open views towards the application site.

Where breaks in the road-side vegetation exist (predominately around the Morants Court M25 overbridge) views of construction activity / new built form would be generally screened from view, set back from the scarp slope and would sit below the tree line.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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A224 Polhill

Construction

The A224 runs adjacent to the eastern boundary of the application site leading northward from Junction 5 of the M25, and there are open views of the escarpment scarp slope, perimeter vegetation, security fence and quarry (Figure 8 / Viewpoint 6). Most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would not be a prominent feature in the view.

Some junction improvements to this road at the junction with Crow Drive would occur (Figure 8 / Viewpoint 1), but it is considered that this work would not significantly alter the visual amenity of the road as a busy, and urban arterial route to the M25 and Orpington.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Adverse** overall.

Completed Development

The new built form would be generally screened by the perimeter woodland. The wireframe visualisation from Viewpoint 6 (Figure 13) demonstrates the proposed development will not be visible from the junction of the A224 Polhill and Morants Court Road.

Although the QinetiQ security fence would remain, the removal of building X54 is considered to be beneficial.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain generally screened. As shown on Figure 8 / Viewpoint 6, even during winter months the existing built form within the application site is not clearly visible.

The completed junction improvements are considered to be entirely in keeping with the character and appearance of this main route.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

A25

Construction and Completed Development

The A25 runs along the northern edge of Sevenoaks, parallel and to the south of the M25. The majority of the route within the vicinity of the application site is lined with vegetation, and as such, there are generally no open views towards the application site. Where breaks in the road-side vegetation exist (predominately along the section of road between Sundridge and Riverhead) views of construction activity / new built form would be generally screened from view, set back from the scarp slope and would be sitting below the tree line.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the proposed development would result in no perceptible change to views from the principal routes.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Local Roads

The sensitivity of visual receptors on local roads is assigned to be Medium-Low.

Star Hill Road

Construction

To the south of the application site, the majority of the construction activity would be screened from Star Hill Road by the perimeter vegetation along the application site boundary (Figure 8 / Viewpoints 3 and 4). However, it is possible taller temporary construction activities such as crane movements may be glimpsed through and above the treeline and at the Star Hill Road entrance itself, with views along Crow Drive.

Works to the Star Hill Road entrance would be apparent but would be limited to a short stretch of the road near to this entrance (Viewpoint 4). Works would include the creation of speed management measures, minimal removal of some vegetation for visibility splays and anti-skid surface treatment.

The scale of effect would therefore be Medium. The extent of effect is considered to be Limited and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Adverse** overall

Completed Development

To the south of the application site, the majority of new built form would be screened by the perimeter woodland and the new built form is unlikely to be visible.

Although the QinetiQ security fence would remain, the removal of building X54 is considered to be beneficial.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain generally screened. As shown on Figure 8 / Viewpoint 3, even during winter months the existing built form within the application site is not clearly visible.

The proposed development would see the removal of Star Hill Road gatehouse, perimeter security fencing and associated flood lighting, and would open up views into the application site from the northern section of Star Hill Road, to the west of the application site. Overall this is considered to be beneficial to the visual amenity and character of the road. From this specific location views of new built form itself would be limited, largely screened by intervening vegetation within the application site and with retained / enhanced open space forming a buffer between Star Hill Road and areas of built development.

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The scale of effect would remain Medium (mainly as a result of changes around the Star Hill entrance). The extent of effect is considered to be Limited and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Positive** overall.

Otford Lane

Construction

The majority of construction activity would be hidden from view from Otford Lane by vegetation aligning the lane and the perimeter vegetation around the applications site (Figure 8 / Viewpoint 7). Glimpsed views of to the construction activity may be possible between gaps in Otford Lane's vegetation and protruding above the perimeter vegetation, however, this would not be a prominent feature in view.

The scale of effect is therefore Small-Negligible. The extent of effects is considered to be Local and the duration of effect would be Medium Term. It is judged that the overall magnitude of effect of construction would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Completed Development

The majority of new built form would be screened by the perimeter woodland. Certain parts of the employment area / village centre may just break above the tree line but would not be a prominent feature in view and would be consistent with the baseline views of existing buildings and structures protruding above the woodland as demonstrated by the wireframe visualisation from Viewpoint 7 (Figure 13). The removal of building N2 and the boiler house chimneys of building S2 would be beneficial to the view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the completed proposed development would result in no perceptible change to views from the surrounding local roads.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Recreational Routes

The sensitivity of visual receptors on recreational routes is considered to be High-Medium, including people in locations where they are likely to pause to appreciate the view

North Downs Way

Construction

At its closest point, the North Downs Way runs parallel to the west of Star Hill Road, often within woodland where views toward the application site are generally screened. The path also skirts the edges of some of this woodland, however, the perimeter vegetation of the application site aligning Star Hill Road would form an effective screen to views. As such the views of majority of construction activities within the application site would be screened.

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Taller elements of construction may temporarily protrude above this although would not form prominent features within the view.

More open views toward the application site are available to the south, where the North Downs Way passes Morants Court Farm, and follows the B2211 and A224 Morants Court Road (Figure 8 / Viewpoint 6). Most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would not be a prominent feature in the view.

There are also view towards the application site to the east, where the North Downs Way extends from Otford and along higher ground around Otford Mount (Figure 8 / Viewpoint 13). From this location there are glimpsed views towards the application site through gaps in vegetation along the path, however, the majority of construction activity would be hidden from view by the perimeter woodland.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Operation

Where the North Downs Way runs parallel to the west of Star Hill Road, the proposed development will not generally be visible, screened by intervening vegetation. In addition, the western part of the application site would be retained / enhanced as open space, forming a buffer between Star Hill Road and areas of built development.

Where the North Down Way passes Morants Court Farm and follows the B2211 and A224 Morants Court Road to the south of the application site the majority of the proposed development would be hidden by the perimeter vegetation around the application site. The wireframe visualisation from Viewpoint 6 (Figure 13) demonstrates the proposed development will not be visible from the junction of the A224 Polhill and Morants Court Road.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain largely screened. As shown on Figure 8 / Viewpoint 6, even during winter months the existing built form within the application site is not clearly visible.

Where the North Downs Way extends from Otford and along higher ground around Otford Mount, the majority of new built form would be screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to the baseline view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Darent Valley Path

Construction and Completed Development

Owing to topography, views from the route within the study area are limited to a short stretch between Dunton Green and Chipstead to the south of the application site. In many of

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these views (Figure 8 / Viewpoints 9) vegetation within the valley forms and effective screen, however, open views are possible from more open areas. The majority of construction activities would be screened by perimeter vegetation and, although taller elements (such as cranes) may be visible above the tree-line, they would not be prominent features within views.

The majority of new built form would also be generally screened by the perimeter woodland and would there would be no perceptible change to the baseline view, which would continue to be open views across the valley and towards the scarp slope. The removal of building X54 would be beneficial to the view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is, on balance, **Neutral** overall.

Other Public Rights of Way

Construction

PRoW SR97 (Figure 8 / Viewpoint 2) and SR172 (Viewpoints 4 and 5) largely follow the perimeter of the application site and would experience most change during the construction phase.

Being set predominantly beyond the perimeter woodland no construction of built form would take place in the immediate vicinity of these routes. However, the removal of perimeter security fence from sections of PRoW SR97 / SR172 and the construction of a cycle path along PRoW SR172 would cause some limited intrusion.

From PRoW SR722 (Figure 8 / Viewpoint 3) and SR723 in the wider survey area to the south there may also be some change to views where it passes close to the application site boundary and where modifications to the perimeter security fence are proposed.

From PRoW on higher ground to the east of the application site, such as SR60 (Figure 8 / Viewpoint 12), there are open views towards the application site and the scarp is clearly visible in contrast to the low lying intervening valley landscape. However, the perimeter vegetation would largely screen views of construction activity and machinery or built development that does break the perimeter vegetation would not be a prominent feature in view.

The scale of effect would therefore be Medium for PRoW SR97, SR172, and SR722. The extent of effect is considered to be localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Medium** resulting in a **Moderate** significance of effect that is **Adverse** overall.

PRoW SR60 would experience a **Negligible** scale of effect and **Minimal** significance of effect that is **Neutral** overall.

Operation

The removal of the perimeter security fencing (barrier that retained for the QinetiQ area) would result in a beneficial improvement to the visual amenity of PRoW SR97, SR172 and SR722, removing the imposing fence structure that often aligns the path and allowing a more natural visual experience from them. New built form may be visible through the perimeter vegetation but would not be a prominent feature in view. Even during winter months, the retained perimeter vegetation provides an effective screen.

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The routes would all connect into newly created public links set within the green infrastructure within the application site.

From PRoW SR60 the perimeter vegetation would largely screen views of built development, and the wireframe visualisation from Viewpoint 12 (Figure 13) demonstrates the proposed development will not generally be discernible.

The scale of effect would therefore be Medium for Footpaths SR97, SR172 and SR722. The extent of effect is considered to be localised and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Medium** resulting in a **Moderate** significance of effect that is **Positive** overall.

PRoW SR60 would experience a **Negligible** scale of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the proposed development would result in no perceptible change to views from the principal routes.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect this is **Neutral** overall.

Summary of Visual Effects

Table 8: Construction Effects – Visual – Existing Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Medium	Moderate	Adverse
	Halstead		Negligible	Minimal	Neutral
	Knockholt and Knockholt Pound		Negligible	Minimal	Neutral
	Otford (inc. Twiiton and Shoreham)		Negligible	Minimal	Neutral
	Sevenoaks (inc. Dunton Green and Riverhead)		Negligible	Minimal	Neutral
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224		Low	Slight	Adverse
	A25		Negligible	Minimal	Neutral
Local Roads	Star Hill Road	Medium-low	Low	Slight	Adverse
	Otford Road		Negligible	Minimal	Neutral

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Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path		Negligible	Minimal	Neutral
	Other Public Rights of Way		Medium	Moderate	Adverse

Table 9: Operational Effects – Visual – Existing Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Low	Slight	Positive
	Halstead		Negligible	Minimal	Neutral
	Knockholt and Knockholt Pound		Negligible	Minimal	Neutral
	Otford (inc. Twiton and Shoreham)		Negligible	Minimal	Neutral
	Sevenoaks (inc. Dunton Green and Riverhead)		Negligible	Minimal	Neutral
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224		Negligible	Minimal	Neutral
	A25		Negligible	Minimal	Neutral
Local Routes	Star Hill Road	Medium-low	Low	Slight	Positive
	Otford Road		Negligible	Minimal	Neutral
	Other local roads		Negligible	Minimal	Neutral
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path		Negligible	Minimal	Neutral
	Other Public Rights of Way		Medium	Moderate	Positive

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Table 10: Operational Effects – Visual – Future Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Negligible	Minimal	Neutral
	Halstead				
	Knockholt and Knockholt Pound				
	Otford (inc. Twiiton and Shoreham)				
	Sevenoaks (inc. Dunton Green and Riverhead)				
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224				
	A25				
Local Routes	Star Hill Road	Medium-low	Negligible	Minimal	Neutral
	Otford Road				
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path				
	Other Public Rights of Way				

7.4. Night Time Effects

To allow a consideration of the potential impacts to the landscape and visual resource as a result of changes to lighting levels from the proposed development, a qualitative night time visual assessment has been undertaken.

The qualitative night time assessment has been informed by technical lighting studies undertaken by Royal Haskoning DHV submitted as part of the planning application. Night time photography for each representative viewpoint was also used to inform the assessment, taken from the technical lighting assessment and also captured by LDA Design. The night time images are presented in Figure 8, along with the day time photography for that location.

The Summary Lighting Assessment concludes there would be no adverse / impacts - minor beneficial impacts in terms of reducing sky glow; minor adverse - minor beneficial impacts in regards to light intrusion; and minor adverse - minor beneficial impacts in terms of luminaire intensity.

In landscape and visual terms, the ambient lighting levels of the area are relatively high with a number of notable light sources. These include lighting associated with major transport

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infrastructure including the M25, A224 and A21, made further prominent by the lights of traffic upon them.

There is also notable illumination from urban areas including Sevenoaks, Dunston Green and Otford lending an orange glow above these settlements and rendering the area within the Darent Valley to the south of the application site relatively illuminated (although there are notable darker areas, such as Knole Park and the river floodplain.. Lighting at The North Downs Business Park is also visible from medium and close range views.

The escarpment itself is relatively un-lit, although there is a noticeable orange glow above it when looking from the south as a result of light pollution from the urban areas of Greater London such as Orpington and Biggin Hill located to the north. A similar glow exists when looking southward from the north as a consequence of light spill from Sevenoaks and other urban areas such as Otford and Dunton Green. There is also some light spill from the illumination of villages and isolated dwellings causing some localised intrusion although this is not as prominent as larger, urban areas to the north and south.

The main current source of illumination at the application site is that associated with security lighting. This can be seen as a series of point sources across the application site and visible through the perimeter woodland, being visible from close distances to the north and close to medium distances to the south within the Darent Valley and allowing the application site to be pinpointed within the dark backdrop of the wooded escarpment. Sky glow above the application site (as a result of light pollution from within the application site) is also noticeable although direct views of street lighting within the application site are not noticeable from the wider environment.

To the north of the application site, in and around **Halstead**, the point light sources associated with security lighting currently visible in views would be removed creating a darker backdrop to views toward the application site. All new lighting would seek to minimise light spill whilst meeting the required standards. The majority of views would experience little change, but those on the settlement edge with views toward the application site may experience nominal improvements.

To the east of the application site, the **A224** is already well lit, and illumination changes as a result of the proposed development are likely to be indiscernible. The entrance to the application site at the A224 and Crow Drive junction would be upgraded with lighting and lit signage, however, this would be entirely keeping with night-time character of the road. Further east, within the in and around **Otford**, light emissions from the M25, M26 and Sevenoaks is noticeable in views, however, although there is a visible orange glow above the escarpment, illumination at the application site is relatively well screened. It is anticipated the proposed development would not result in any substantial night time visual change in landscape and visual terms from that currently extant as lighting would be more controlled and remain well screened through the implementation of the design principles.

To the south of the application site, the **M25 / A25 corridors** are well lit, and illumination changes as a result of the proposed development are likely to be indiscernible. In and around **Sevenoaks**, illumination levels are also relatively high and no discernible change would occur.

To the west of the application site, along **Star Hill Road**, the night time environment would remain largely as is, influenced by adjacent lighting of the M25 and A224. However, a short

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section in the vicinity of the Star Hill Road Gatehouse would be substantially improved with the removal of the Star Hill Gatehouse and its associated flood lighting. The currently brightly lit security lighting would be removed and replaced with, where necessary, low key lighting more in keeping with the semi-rural character of the road. Lighting within the proposed development would be controlled and would not spill out into this section of the road. Overall, the view would be darker in this area than currently experienced.

To the north-west of the application site, there would be a general improvement in the night time visual amenity from **local PRow**. Most change would occur at footpaths SR97, SR172 and SR722 adjacent to the perimeter of the application site with the removal of security lighting at and near to the perimeter security fence. The upgrading of footpath SR172 to a cycle path may require lighting. Any lighting of this route would be to BS EN 13201, with illumination controlled to limit intrusion into adjacent areas beyond the path. Other footpaths near to the application site would experience nominal change owing to the illumination from transport infrastructure and settlement.

7.5. Mitigation Measures

The mitigation of landscape and visual impacts has been addressed from an early stage in the design process, and consideration of the potential impacts of the proposed development has been an important part of the development of the proposals and associated landscape works. Key design principles of the proposed development are set out in Section 6.0 and include the creation of green corridors and open space; retention and enhancement of ancient woodland; retention and enhancement of areas of grassland; and retention and enhancement of heritage assets.

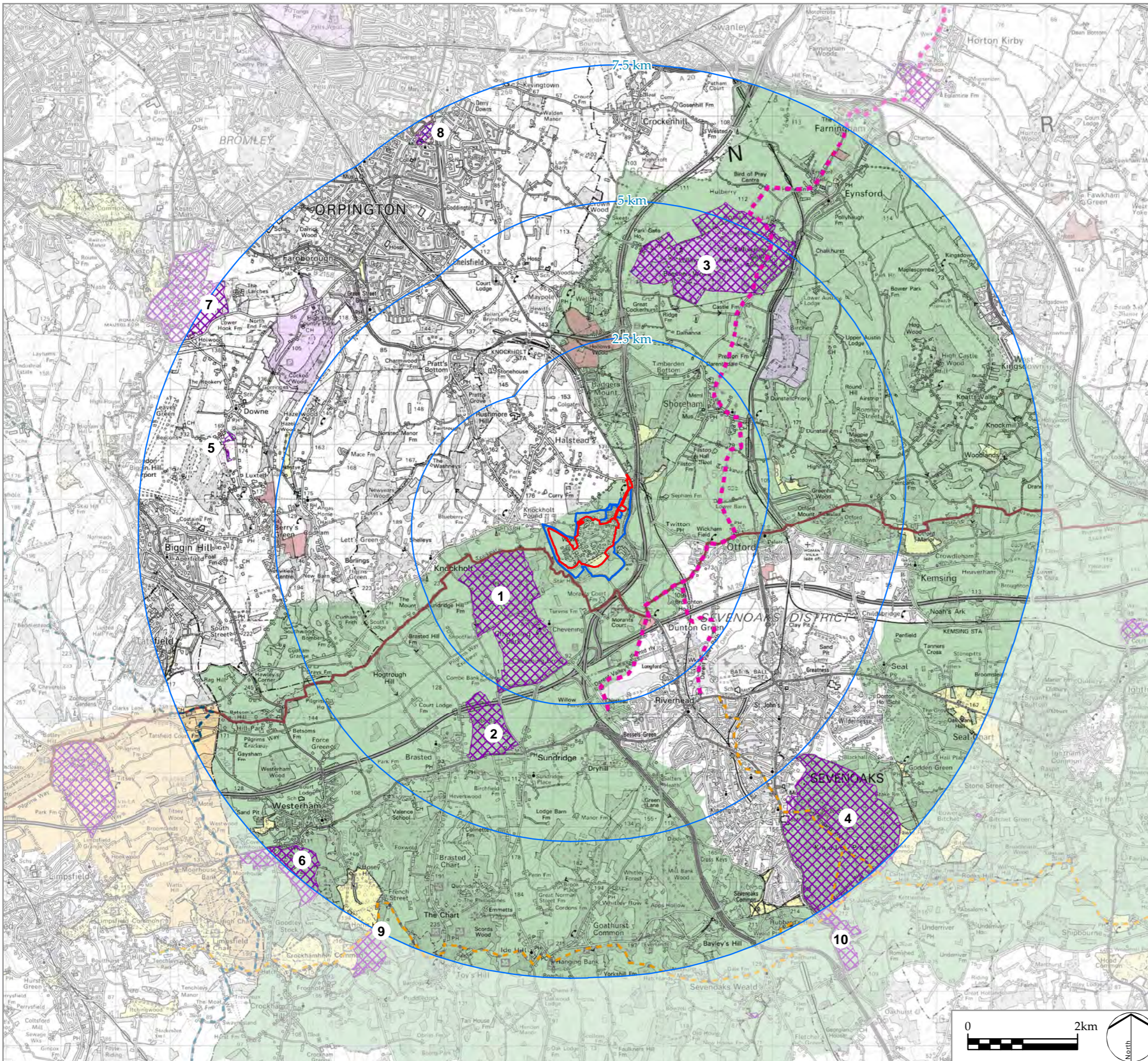
Additional mitigation measures that should be adopted, beyond those inherent within the design, include:

- Adoption of a Construction Environmental Management Plan (CEMP)
- Implementation of a Landscape and Ecological Management Plan (LEMP)

A CEMP will play an important in ensuring considerate construction activity and that the identified woodland, trees and other landscape / habitat features are protected during the construction phase.

A LEMP is important to ensure the identified landscape / habitat features are appropriately managed, in particular in ensuring the long-term health and robustness of perimeter woodland which provides an important screen. The LEMP should build on the Framework Ecological Mitigation Strategy (prepared by Middlemarch) which sets out the approach to retention, creation and management of ecology features.

However, it is considered that the implementation of these mitigation measures it would not alter the overall assessment findings. The significance of effects for landscape and visual receptors, during both construction and operational phases, would therefore remain as assessed.



LEGEND

- Application Site
- Wider Survey Area (Land within the Applicants Ownership)
- 2.5 km, 5 km and 7.5 km Radii around the Application Site
- Kent Downs Area of Outstanding Natural Beauty
- Surrey Hills Area of Outstanding Natural Beauty
- Registered Park and Garden
- Country Parks
- Open Access Land (CROW Act) (inc. Registered Common land and Open Country land)
- Woodland Trust Sites
- North Downs National Trail
- Darent Valley Path
- Greensand Way
- Tandridge Border Path

1. Chevening (II*)	6. Sueries Court (II)
2. Combe Bank (II*)	7. Holwood Park (II)
3. Lullington Castle (II)	8. Priory Gardens (II)
4. Knole (I)	9. Chartwell (II*)
5. Down House (II)	10. Riverhill House (II)

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Figure 1: Site Location and Planning Policy

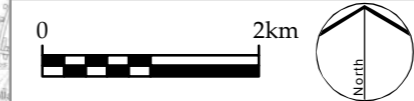
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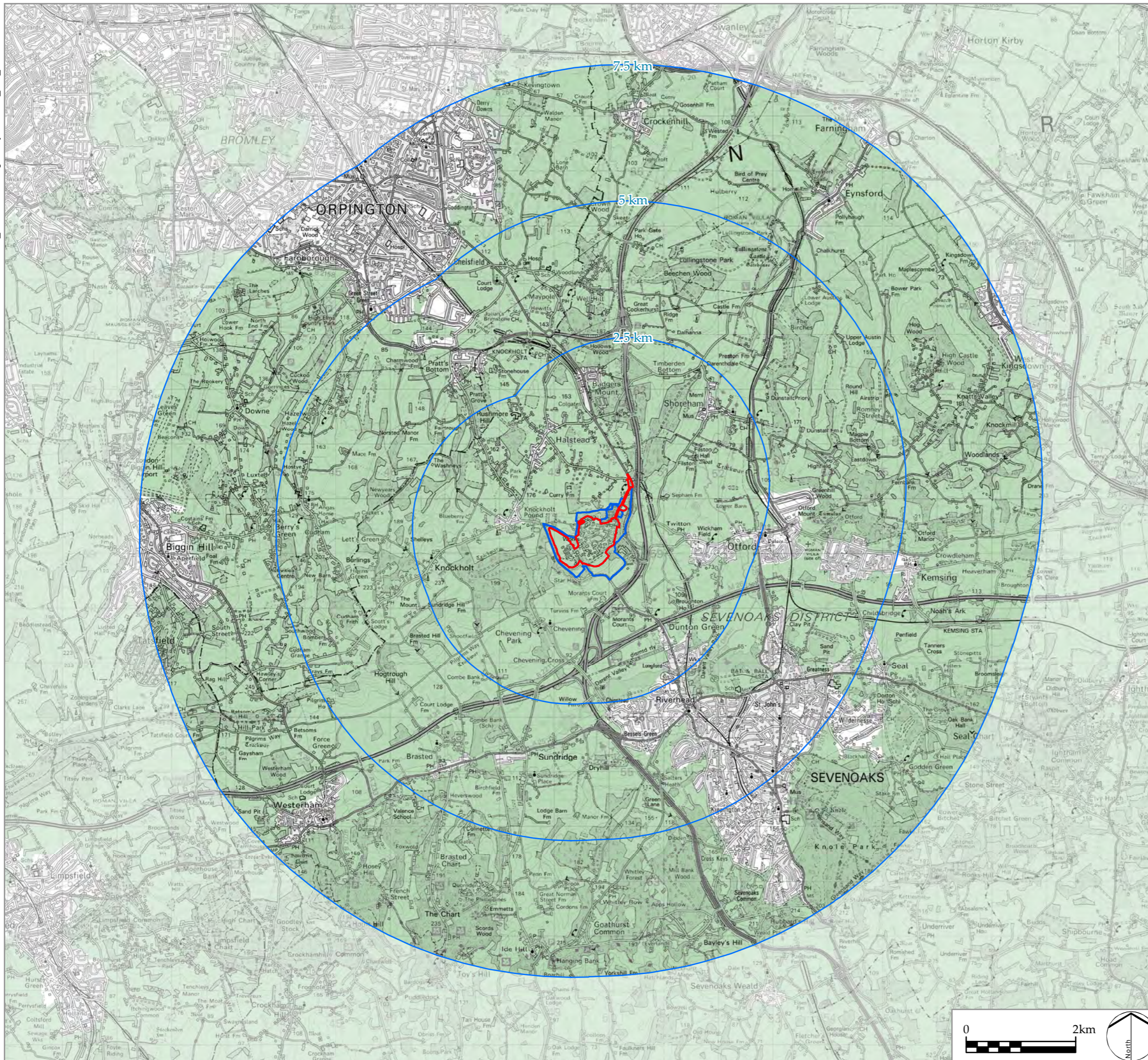
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Sources: Ordnance Survey, Natural England, Historic England, DEFA, Woodland Trust





LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Metropolitan Green Belt

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Figure 2: Metropolitan Green Belt

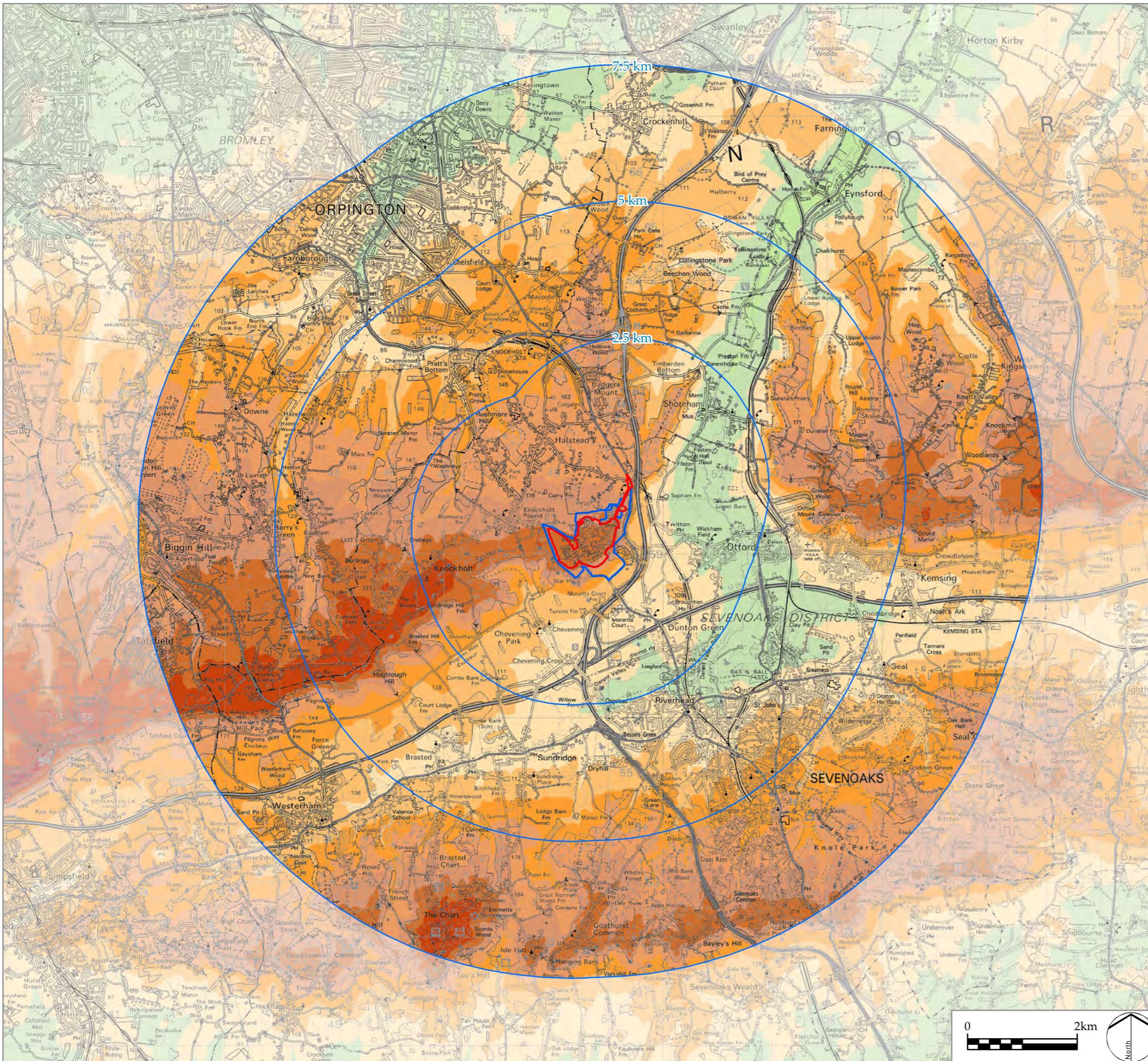
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

Sources: Ordnance Survey, DCLG



LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site

Topography (A.O.D.)

-  275m - 300m
-  250m - 275m
-  225m - 250m
-  200m - 225m
-  175m - 200m
-  150m - 175m
-  125m - 150m
-  100m - 125m
-  75m - 100m
-  50m - 75m
-  25m - 50m
-  10m - 25m

Note:
In Great Britain, terrain heights are measured from AOD (also referred to as ODN) which is defined as the Mean Sea Level at Newlyn in Cornwall between 1915 and 1921.

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Figure 3: Topography

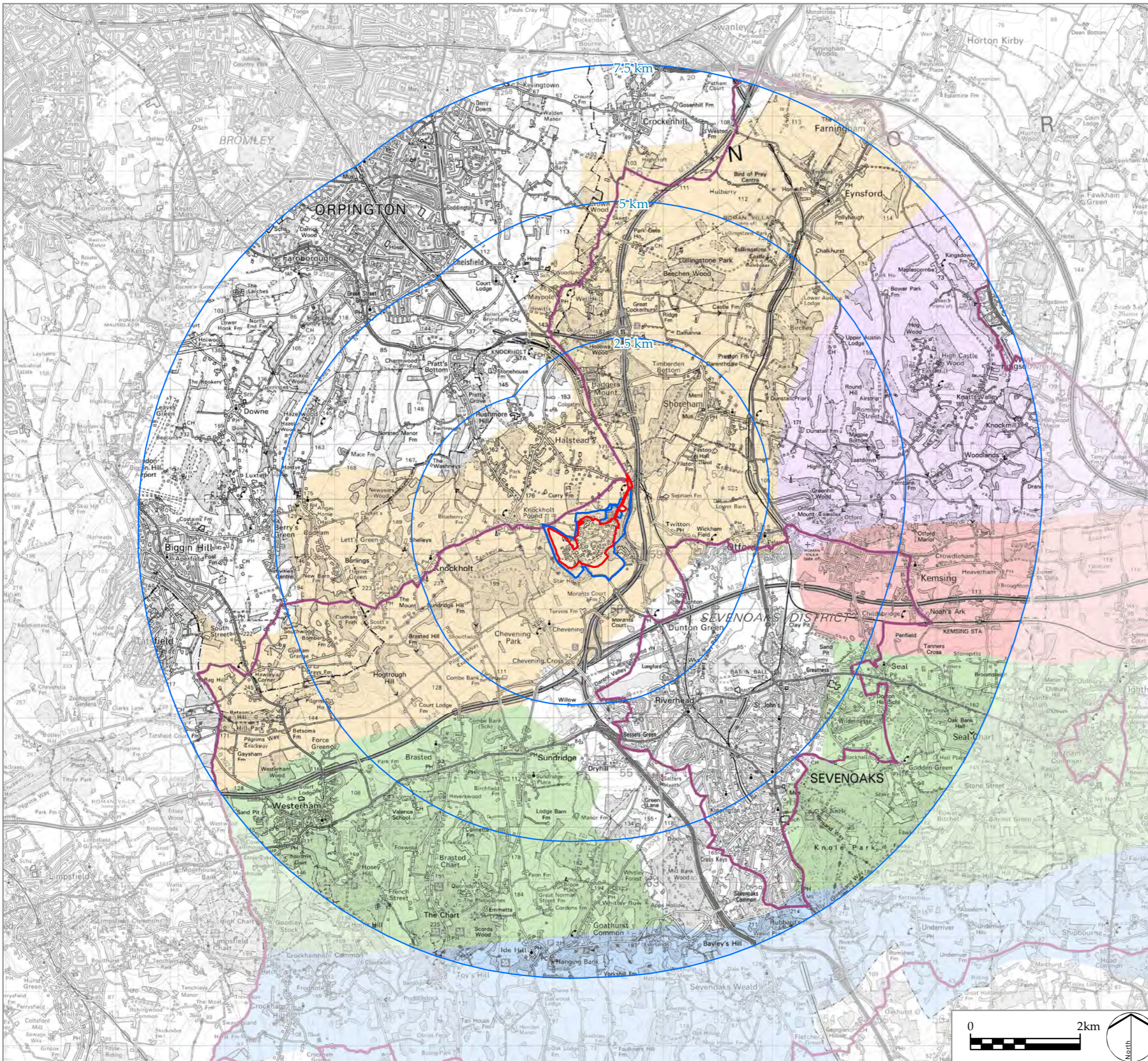
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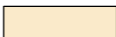
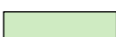

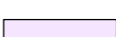
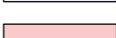
Sources: Ordnance Survey.



LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Kent Downs AONB Boundary

Kent Downs AONB Landscape Character Areas (Kent Downs AONB Landscape Design Handbook -1995)

-  Darent Valley
-  Sevenoaks Greensand Ridge
-  Low Weald
-  West Kent Downs
-  Kemsing Vale

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Figure 4: Kent Downs AONB
Landscape Character

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Sources: Ordnance Survey. Natural England. Kent Downs AONB.



- LEGEND**
- Site Boundary
 - Building A10
 - Building A28
 - Building N2
 - Building S2 (Boiler House)
 - Building X40
 - Building X48
 - Building X54 and X54.1
 - Building X58
 - Star Hill Road Gatehouse
 - Perimeter Security Fence
 - Perimeter Woodland Vegetation
 - Perimeter Shelter Belt Vegetation

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Figure 5: Location of Visible Structures

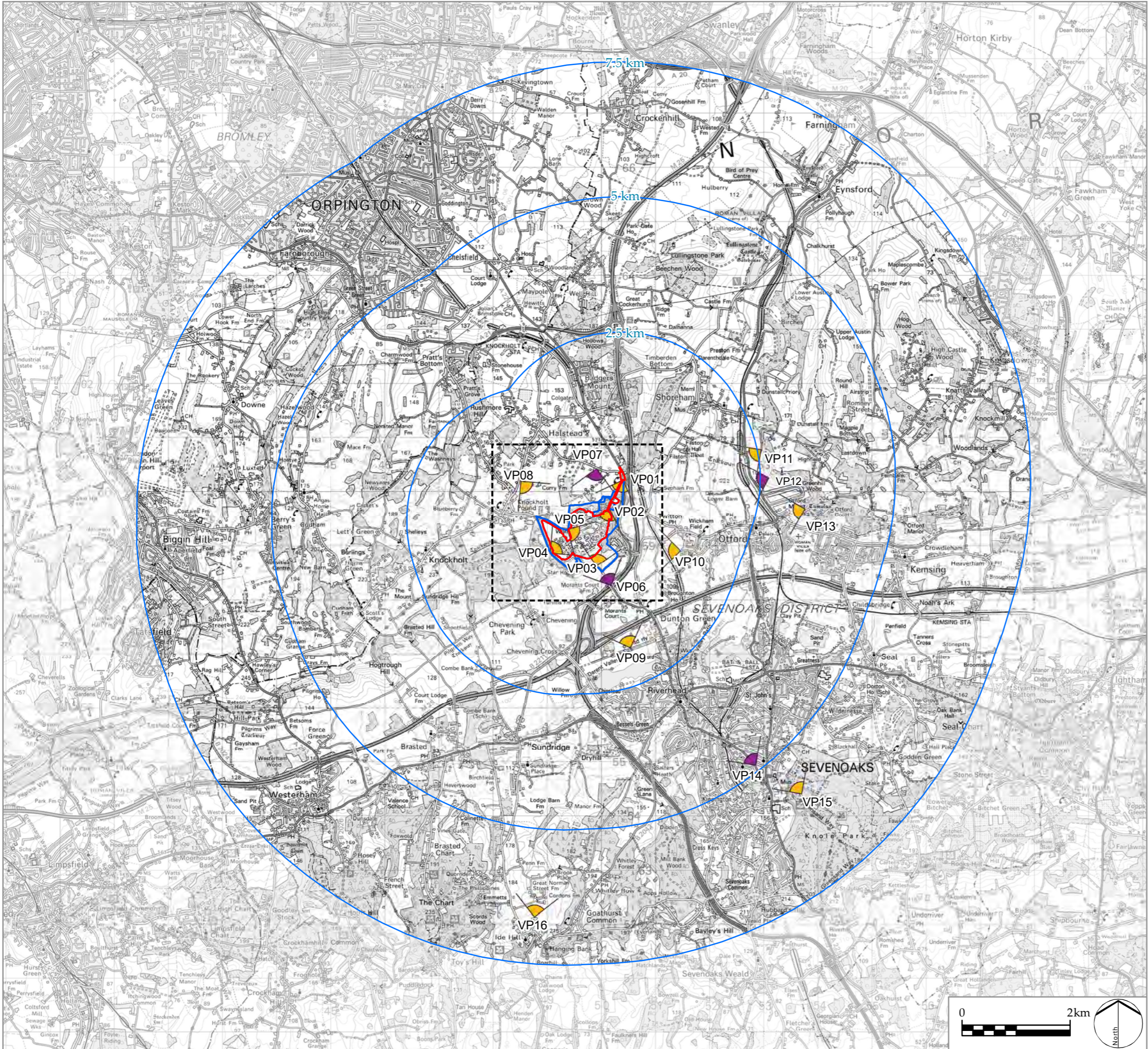
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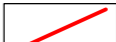
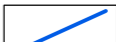

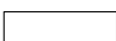


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Sources: Ordnance Survey.



LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Photoviewpoint Location
-  Photoviewpoint Location (from which AVR is prepared)
-  Inset plan boundary - Figure 7

Viewpoint No.	Location	Distance from Site Boundary (closest point)
01	View from Crow Drive looking south-west	0m
02	View from Crow Drive / footpath SR97 looking south-west	0m
03	View from footpath SR172 looking north	200m
04	View from Star Hill Road looking east	0m
05	View from footpath SR172 looking south	0m
06	View from junction of Morants Court Road / Pole Hill (A224), on the North Downs Way, looking north	600m
07	View from Otford Lane looking south	400m
08	View from Footpath SK690, to the north of Knockholt Pond, looking south	1.1km
09	View from the edge of Dunton Green, on the Darent Valley Path, looking north	1.8km
10	View from Hale Recreation Ground, Twitton, looking east	1.4km
11	View from Fackenden Lane looking south-west	2.6km
12	View from footpath SR60, near Otford Mount, looking south-west	2.7km
13	View from near Otford Mount, on the North Downs Way, looking west	3.4km
14	View from junction of London Road / Argyle Road, within Sevenoaks, looking north-west	4.8km
15	View from Knole Park / Footpath SU18, on the south-eastern-edge of Sevenoaks, looking north-west	5.8km
16	Views from southern edge of Ide Hill / Footpath SR236, looking north	6.6km

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Figure 6: Representative Viewpoints

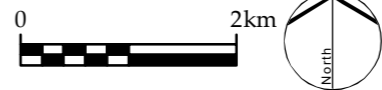
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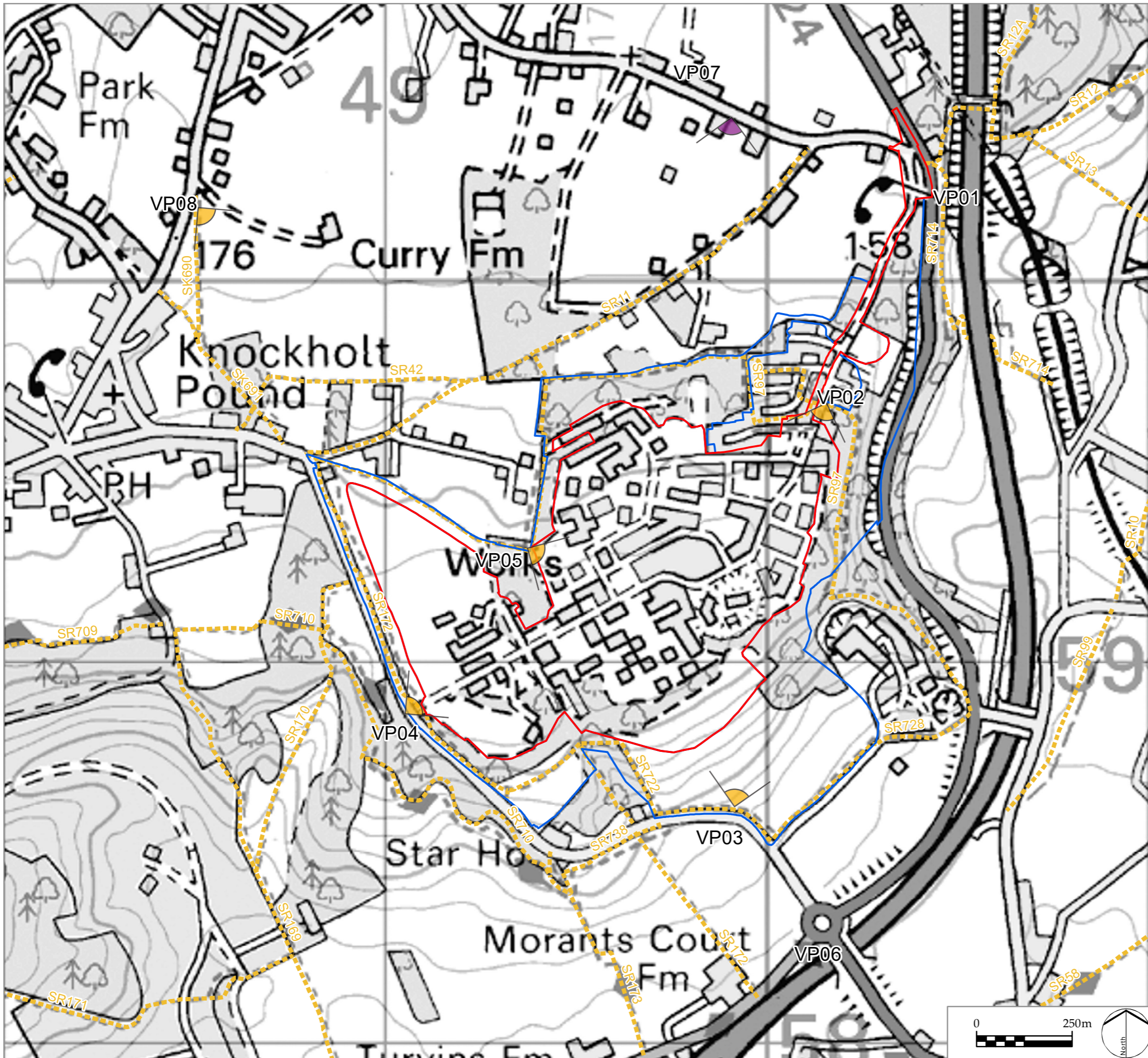
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Sources: Ordnance Survey.





LEGEND

- Application Site
- Wider Survey Area (Land within the Applicants Ownership)
- Viewpoint Location
- Photomontage Location
- Public Rights of Way (ref. on plan)

Viewpoint No.	Location	Distance from Site Boundary (closest point)
01	View from Crow Drive looking south-west	0m
02	View from Crow Drive / footpath SR97 looking south-west	0m
03	View from footpath SR172 looking north	200m
04	View from Star Hill Road looking east	0m
05	View from footpath SR172 looking south	0m
06	View from junction of Morants Court Road / Pole Hill (A224), on the North Downs Way, looking north	600m
07	View from Otford Lane looking south	400m
08	View from Footpath SK690, to the north of Knockholt Pond, looking south	1.1km
09	View from the edge of Dunton Green, on the Darent Valley Path, looking north	1.8km
10	View from Hale Recreation Ground, Twitton, looking east	1.4km
11	View from Fackenden Lane looking south-west	2.6km
12	View from footpath SR60, near Otford Mount, looking south-west	2.7km
13	View from near Otford Mount, on the North Downs Way, looking west	3.4km
14	View from junction of London Road / Argyle Road, within Sevenoaks, looking north-west	4.8km
15	View from Knole Park / Footpath SU18, on the south-eastern-edge of Sevenoaks, looking north-west	5.8km
16	Views from southern edge of Ide Hill / Footpath SR236, looking north	6.6km

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Figure 7: Representative Viewpoints - Insert

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Sources: Ordnance Survey. Kent County Council.

Woodland along eastern application site boundary

Crow Drive

Highfield

Woodland along northern applicaiton site boundary



Representative Viewpoint 1: View from Crow Drive (Winter 2014)

Visual Receptors

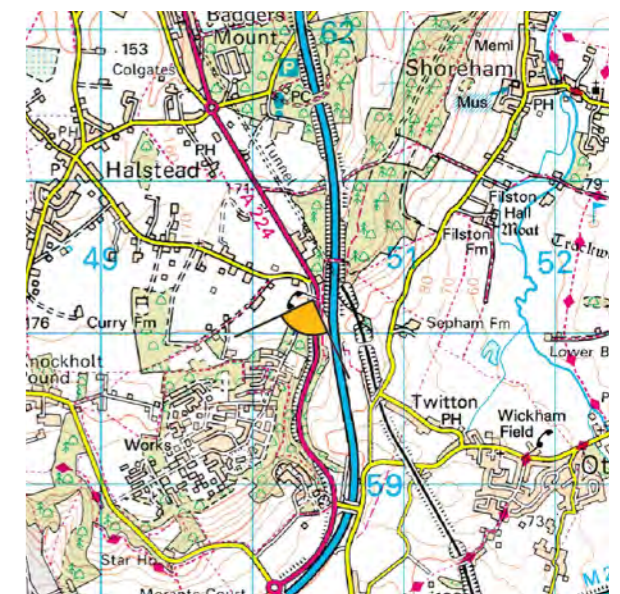
Motorists, cyclists and pedestrians along Crow Drive
 Motorists, cyclists and pedestrians at Crow Drive / Otford Lane / Polhill junction

Description of View

The application site is well screened behind the perimeter vegetation which forms an effective screen at the eastern end of Crow Drive. The eye is drawn along Crow Drive to toward the application site where the perimeter vegetation can be seen. More open views across adjacent countryside are possible northward.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550394, 160215
 Distance to site: 0m

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**Figure 8: Representative Viewpoint
 Photograph Panels**

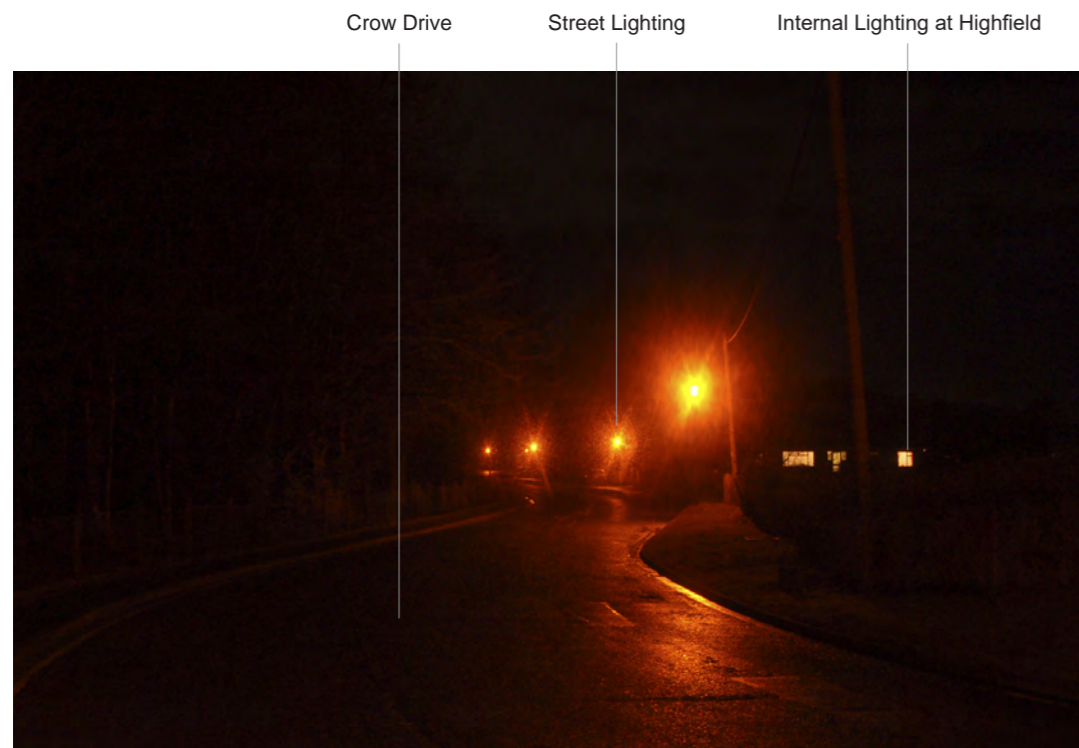
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Representative Viewpoint 1: View from Crow Drive at Summer 2014

During summer months the perimeter vegetation forms an even more effective screen to views toward the application site. More open views northward are still possible.



Representative Viewpoint 1: View from Crow Drive at Night (Winter 2014)

At night, the access road is illuminated by street lighting. As part of the proposed development, there is the potential to replace existing street lighting with more modern lighting fixtures that will better control glow/glare.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 1: View from Crow Drive at Autumn 2018

There is no discernible difference between the 2015 and 2018 views

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Figure 8: Representative Viewpoint
Photograph Panels

Building N10 (Canteen)

Crow Drive

Reception Building

Armstrong Close

Car Park



Representative Viewpoint 2: View from Crow Drive Road / PRoW SR97 at Winter 2015

Visual Receptors

- Residents along Armstrong Close / Fort Lane
- Recreational users of local footpath network
- Motorists, cyclists and pedestrians along Crow Drive

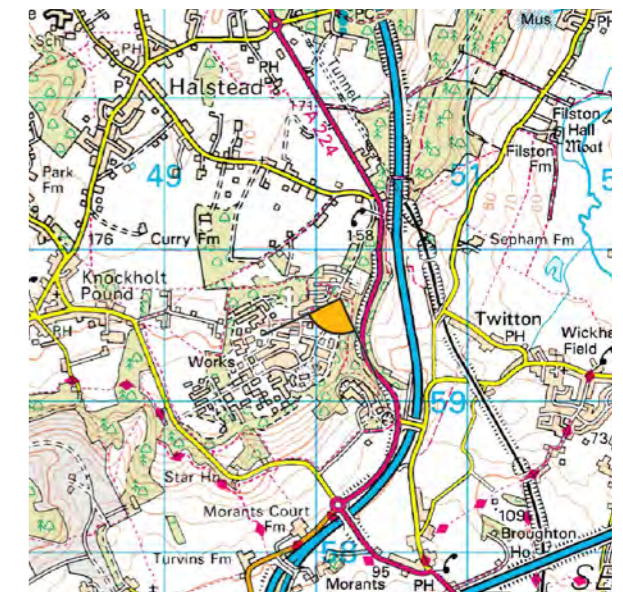
Description of View

The eye is drawn along Crow Drive to the buildings at the application site entrance. Security fencing is prominent along with mature trees and car parking areas. Filtered views of the canteen (Building N10) are also possible.

Scale of Effect (winter)

Construction activity will be visible within the north-eastern part of the application site. This includes close range, open views of construction activity within the helipad site. The scale of effect would be Medium (Adverse).

The operational proposed development would be visible but this would not be substantially different from existing views of building and structures. In particular new housing in the 'helipad' site will sit opposite housing along Beckman Close. The removal of existing utilitarian buildings and the security fence is considered to be beneficial. The scale of effect would be Small (Positive).



Viewpoint Information:

Grid Reference: 550155, 159679
 Distance to site: 0m

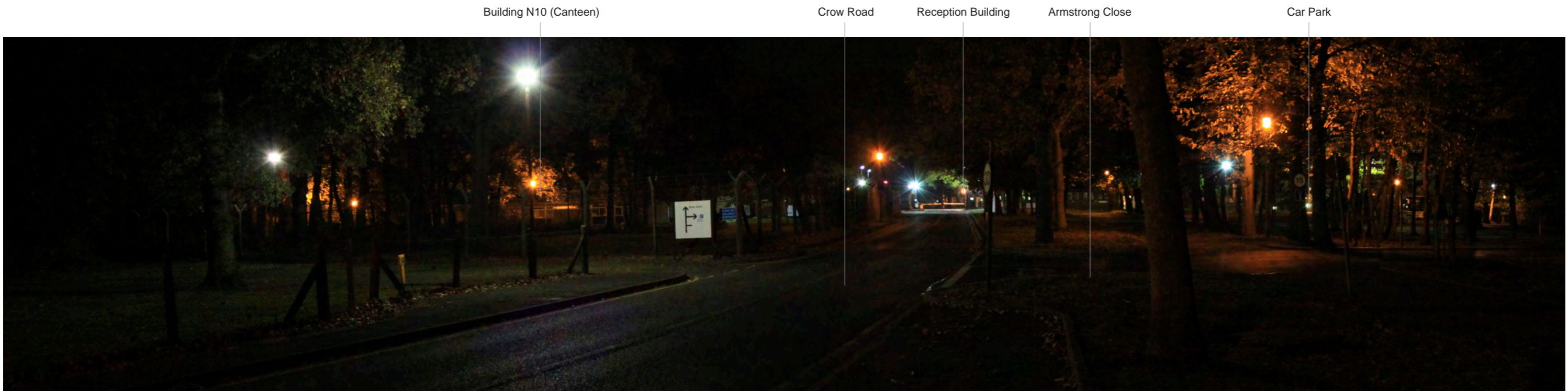
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Representative Viewpoint 2: View from Crow Drive Site Entrance at Summer 2014
 During summer months vegetation forms an even more effective filter to views, filtering views toward the application site.



Representative Viewpoint 2: View from Crow Drive Site Entrance at Night (Winter 2014)
 At night security lighting, street lighting and lighting of the car park all create point sources of illumination within the view. There is notable light spill from these sources into adjacent dark areas.

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**Figure 8: Representative Viewpoint
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Representative Viewpoint 2: View from Crow Drive Site Entrance at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There are some very minor changes to the location / position of signage.

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Representative Viewpoint 3: View from PRoW SR722 at Winter 2015

Visual Receptors

Recreational users of local footpath network
 Motorists, cyclists and pedestrians along Star Hill

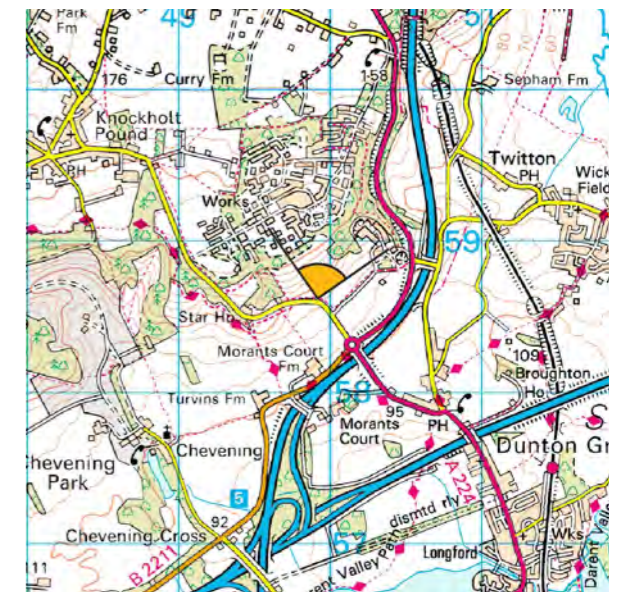
Description of View

The perimeter vegetation forms an effective screen to views into the application site. The security fence and former quarry can be seen in the view.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. The scale of effect would be Small-negligible (Adverse).

The operational proposed development would not generally be visible, screened by the perimeter vegetation. Existing built development within the application site - including the QinetiQ area along the southern boundary - is not currently visible at winter. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 549915, 158621
 Distance to site: 0.2km

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**Figure 8: Representative Viewpoint
 Photograph Panels**

Perimeter Security Fence

Woodland along top of scarp

Scarp slope to south of application site

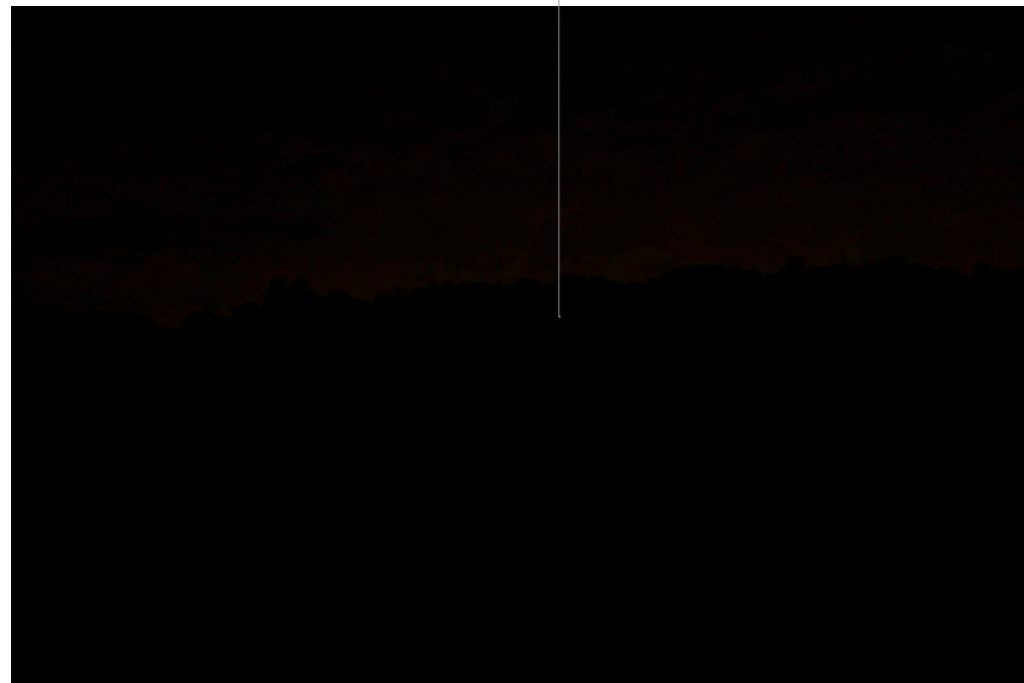
Edge of Quarry



Representative Viewpoint 3: View from footpath SR722 at Summer 2014

During summer months, leaf coverage of the perimeter vegetation forms a dense screen to views to within the application site.

Point light source within the Site



Representative Viewpoint 3: View from footpath SR722 at Night (Winter 2014)

At night point light sources associated with security lighting at the perimeter of the applicaiton site is visible.

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**Figure 8: Representative Viewpoint
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Representative Viewpoint 3: View from footpath SR722 at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 4: View from Star Hill Road at Winter 2014

Visual Receptors

Recreational users of local footpath network
 Motorists, cyclists and pedestrians along Star Hill

Description of View

The view is characterised by perimeter security fencing, gate, gatehouse building, lighting and signage. A glimpse view into the application site is possible along Crow Road although views further into the application site are not possible.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. Works to the Star Hill Road entrance itself would be apparent. The scale of effect would be Medium (Adverse).

The operational proposed development would see the removal of Star Hill Road gatehouse, perimeter security fencing and associated flood lighting, and would open up views into the application site from the northern section of Star Hill Road, to the west of the application site. Overall this is considered to be beneficial to the visual amenity and character of the road. Views of new built from itself would be limited, largely screened by intervening vegetation within the application site and with retained / enhanced open space forming a buffer between Star Hill Road and areas of built development. The scale of effect would be Medium (Positive).



Viewpoint Information:

Grid Reference: 549051, 158864
 Distance to site: 0m

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Representative Viewpoint 4: View from Star Hill Road at Summer 2014

During summer months the view is relatively similar to that of winter although vegetation in leaf in the foreground provides more of a filter.



Representative Viewpoint 4: View from Star Hill Road at Night (Winter 2014)

At night, the entrance is illuminated by two security lights at the gate and street lighting running along Crow Road. The security lighting will be removed as part of the proposed development and lighting along the access road has the potential to be replaced by more modern lighting fixtures that will better control glow/glare.

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Representative Viewpoint 4: View from Star Hill Road at Autumn 2018
 There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 5: View from PRoW SR172 at Winter 2015

Visual Receptors

Walkers on the local footpath network

Description of View

The perimeter vegetation of the application site forms an effective barrier to views into the application site / of built development. The security fence dominates the composition, creating an imposing feature.

Scale of Effect (winter)

Being set predominantly beyond the perimeter woodland no construction of built form would take place in the immediate vicinity of this routes. However, the removal of perimeter security fence and the construction of a cycle path along PRoW SR172 would cause some limited intrusion. The scale of effect would be Medium (Adverse).

The removal of the perimeter security fencing would result in a beneficial improvement to visual amenity, removing the imposing fence structure that aligns the path and allowing a more natural visual experience. New built form may be visible through the perimeter vegetation but would not be a prominent feature in view. The scale of effect would be Medium (Positive)



Viewpoint Information:

Grid Reference: 549371, 159298
Distance to site: 0m

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Rose Cottage

Footpath SR172

Security fence



Representative Viewpoint 5: View from footpath SR172 at Summer 2014

During summer months vegetation in leaf adds to the screening effect of the perimeter vegetation.

Security light on building



Representative Viewpoint 5: View from footpath SR172 at Night (Winter 2014)

At night, security lighting associated with structures within the application site result in localised light intrusion.

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Representative Viewpoint 5: View from footpath SR172 at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 6: View from Morants Court Road at Winter 2014

Visual Receptors

Recreational users of the North Downs Way
 Motorists along Star Hill Road / A224 Polhill / B2211 Sundridge Road / M25

Description of View

The scarp slope is the main feature of the view. Woodland along the top of the scarp slope is visible and screens all built development, with the exception of Building X40, X54 and X58 which sit just in front of the tree-line. The security fence is also visible, running across the scarp slope and also the quarry.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. The scale of effect would be Small-negligible (Adverse).

The operational proposed development would not generally be visible, screened by the perimeter vegetation. Existing built development within the application site - including the QinetiQ area along the southern boundary - is not currently visible at winter. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550159, 158266
 Distance to site: 0.6km

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Representative Viewpoint 6: View from Morants Court Road at Summer 2014

Vegetation in leaf further increases the screening and filtering of views of and toward the application site in summer views.



Representative Viewpoint 6: View from Morants Court Road at Night (Winter 2014)

Street lighting associated with the illumination of the roundabout is prominent in night time views. Illumination of the North Downs Business Park is also noticeable. Point light sources within the QinetiQ site are also visible.

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Representative Viewpoint 6: View from Morants Court Road at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Residential dwellings along Otford Lane

Woodland along northern application site boundary

Building N2

Private Road



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Representative Viewpoint 7: View from Otford Lane at Winter 2014

Visual Receptors

Residents in and around Halstead
Motorists, cyclists and pedestrians along Otford Lane

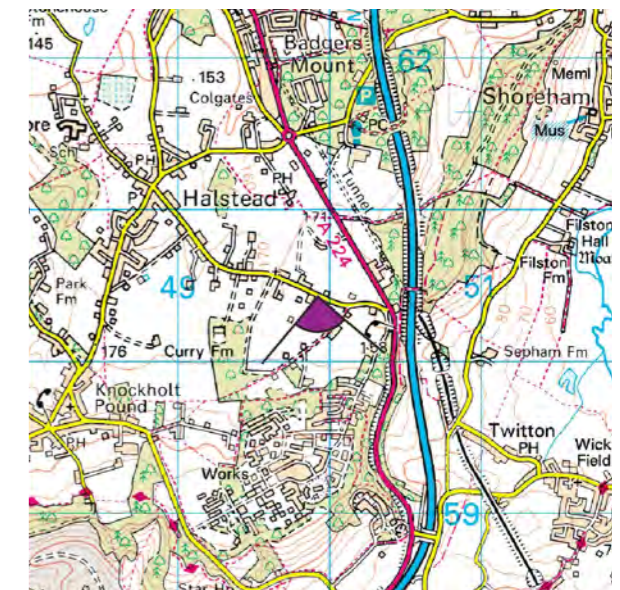
Description of View

The existing view is across paddocks and fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of Building N2 which protrudes above the tree-line.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view. The scale of effect would be Small-Negligible (Adverse).

The operational proposed development would be screened by the perimeter vegetation. The removal of building N2 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 549917, 160426
Distance to site: 0.4km

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Residential dwellings along Otford Lane (largely screened from view)

Woodland along northern application site boundary

Building N2

Private Road



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Representative Viewpoint 7: View from Otford Lane at Summer 2014

Vegetation in leaf further increases the screening and filtering of views of and toward the application site in summer views.

Internal lighting within dwelling

Point light sources within the Site

Glow around building N2

Traffic light along private road



Representative Viewpoint 7: View from Otford Lane at Night (Winter 2014)

At night, the local area is very dark, with no street lighting. Some point light sources within the application site are visible through the tree-line, and there is a slight glow surrounding building N2. The proposed development would include the demolition of N2 and its associated lighting. Furthermore, the overall level of lighting within the application site could potentially be reduced by the use of more modern lighting fixtures that will better control glow/glare.

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Representative Viewpoint 7: View from Offord Lane at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There are some very minor changes to the fencing in the foreground.

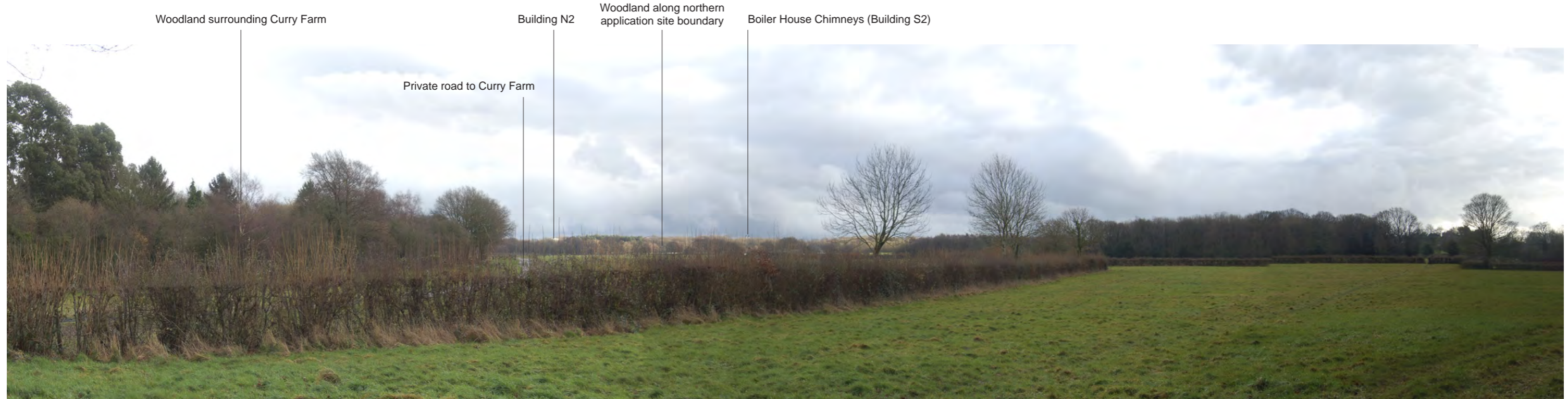
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Representative Viewpoint 8: View from PRoW SK690 at Winter 2014

Visual Receptors

Residents in and around Halstead
Recreational users of the local footpath network

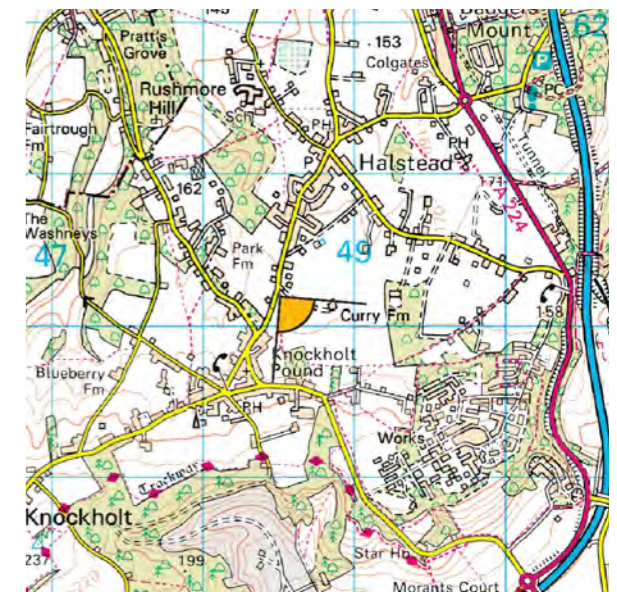
Description of View

The existing view is across agricultural fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of building N2 and the boiler house chimneys (Building S2) which protrude above the tree-line. The strong vegetative network to the north of the application site is apparent.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view. The scale of effect would be Small-Negligible (Adverse).

The operational proposed development would be screened by the perimeter vegetation. The removal of building N2 and S2 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 548507, 160191
Distance to site: 1.1km

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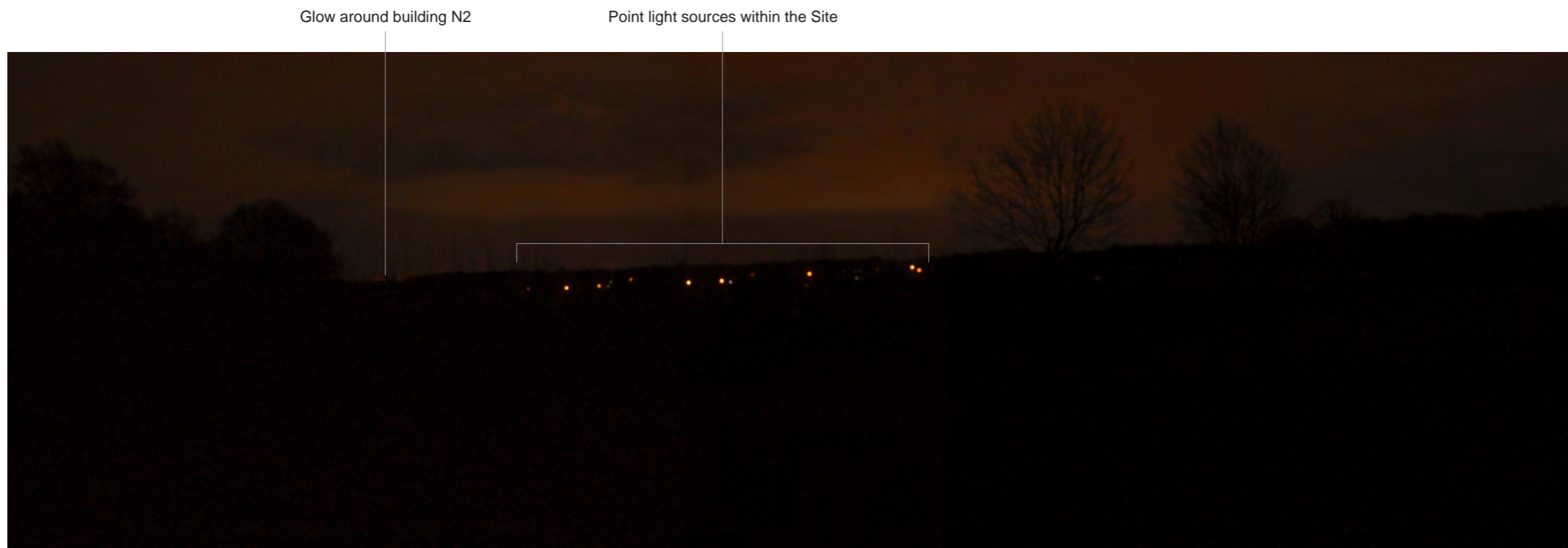
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Representative Viewpoint 8: View from PRow SK690 at Summer 2014

During summer months the screening properties of vegetation is increased. Building N2 not visible although the Boiler House chimneys can still be seen.



Representative Viewpoint 8: View from PRow SK690 at Night (Winter 2014)

At night, the local area is very dark, with no street lighting. Some point light sources within the application site are visible through the perimeter vegetation and there is a slight glow surrounding building N2. The proposed development would include the demolition of N2 and its associated lighting. Furthermore, the overall level of lighting within the application site could potentially be reduced by the use of more modern lighting fixtures that will better control glow/glare.

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Representative Viewpoint 8: View from PRow SK690 at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 9: View from Darent Valley Path at Winter 2015

Visual Receptors

Residents on edge of Riverhead / Dunton Green (Sevenoaks)
Recreational users of the Darent Valley Path

Description of View

The scarp slope of the North Downs constitutes the main feature within the view, a continuous belt of woodland along its ridge forming the horizon. Views of the application site are largely screened by the perimeter vegetation although the security fence is visible.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view and seen at a distance. The scale of effect would be Negligible (Neutral).

The operational proposed development would be screened by the perimeter vegetation. The removal of building X54 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550536, 157114
Distance to site: 1.8km

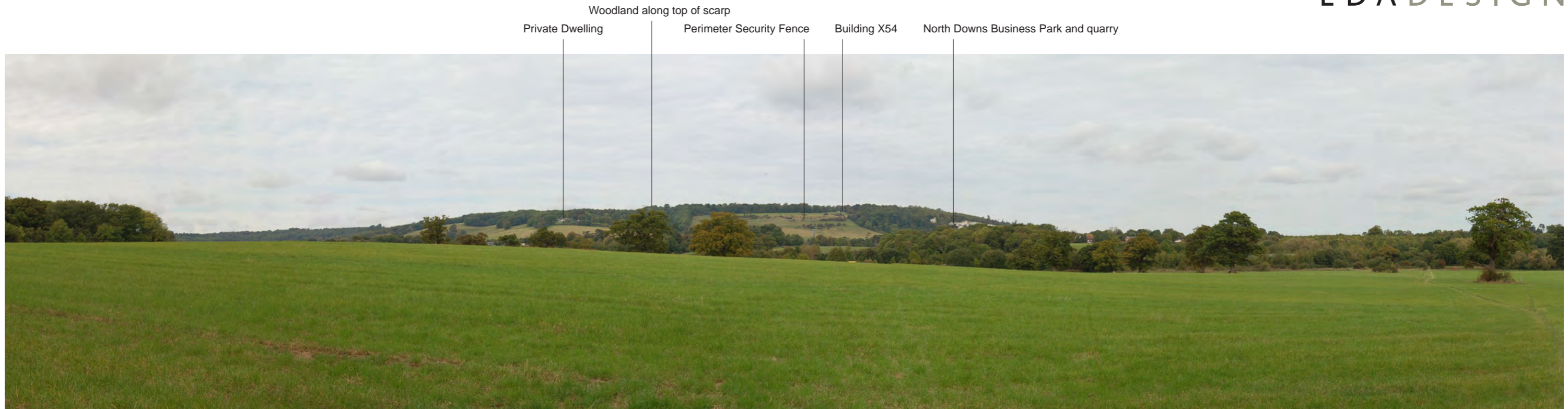
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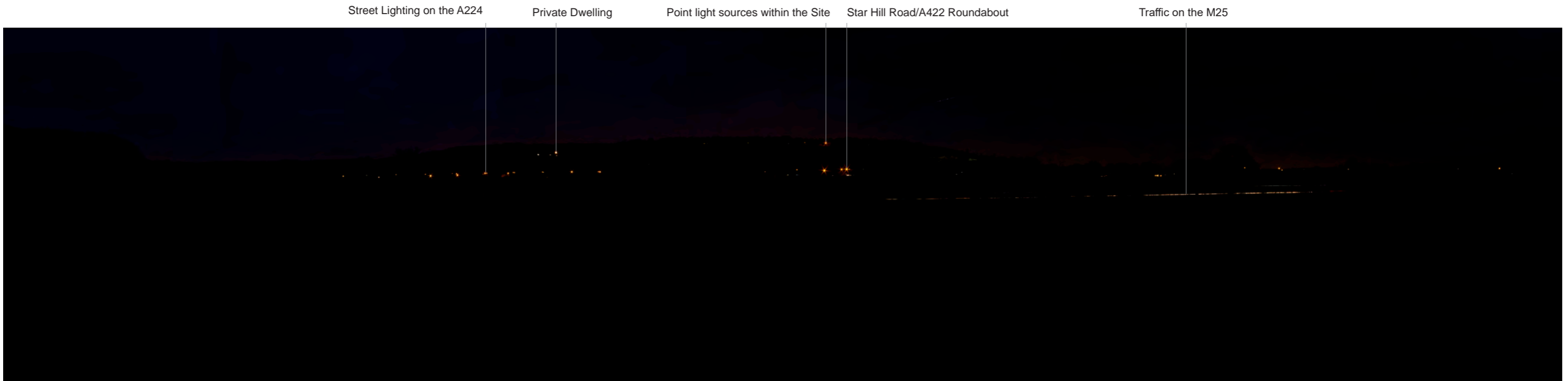
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Representative Viewpoint 9: View from Darent Valley Path at Summer 2014

During summer months the view is similar to that of winter, with vegetation in the foreground providing increased filtering of views of the M25.



Representative Viewpoint 9: View from Darent Valley Path at Night (Winter 2015)

At night, lighting associated with the M25 and A224 provides the main sources of illumination. Several light point sources associated with the security lighting of the QientiQ site are also visible.

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Representative Viewpoint 9: View from Darent Valley Path at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
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Scarp slope to south of the application site Perimeter Security Fence Woodland along the applications site's eastern boundary Recreation Ground M25



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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Winter 2015

Visual Receptors

Residents in and around Twitton / Otford
Recreational users of Hale Lane Recreation Ground

Description of View

The wooded scarp slope of the North Downs is the prominent feature of the view. Views of the application site are largely screened by the perimeter vegetation with only the security fencing visible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 551458, 158913
Distance to site: 1.4km

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Scarp slope to south of the application site Perimeter Security Fence Woodland along the applications site's eastern boundary Recreation Ground M25

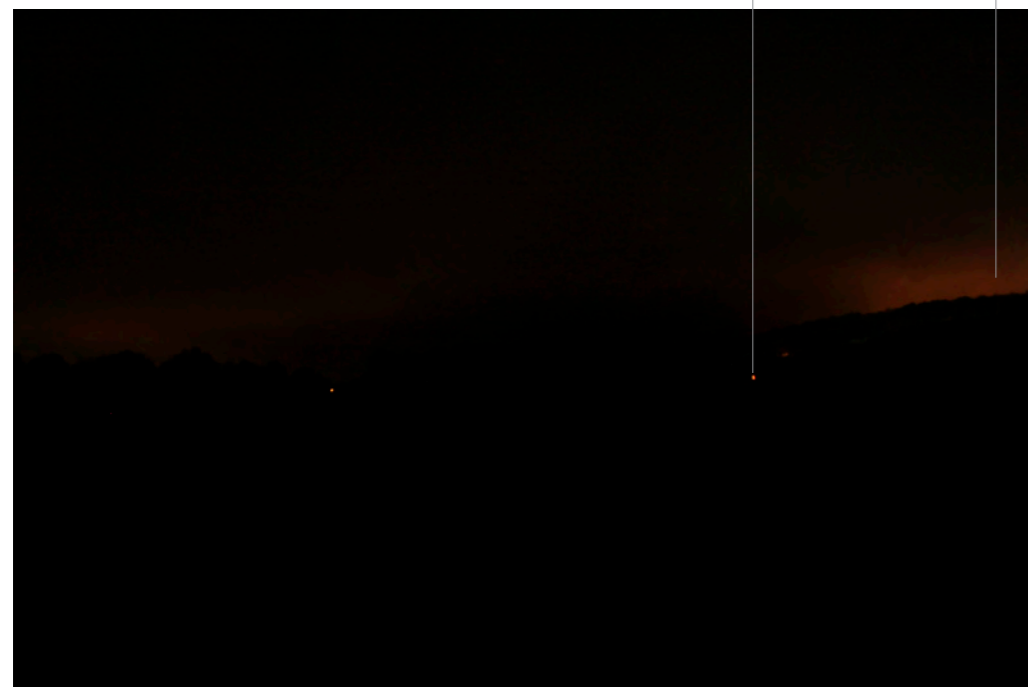
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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Summer 2014

During summer months vegetation in leaf in the foreground and on the scarp slope in the middle ground provides increased filtering of views. The Perimeter Security Fence is still visible.

Point light sources on transport network Glow above the Site



Representative Viewpoint 10: View from Hale Lane Recreation Ground at Night (Winter 2014)

At night the view is relatively dark although there is a notable glow above the escarpment ridge.

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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. Some taller trees in the midground, along the boundary of the recreation / to the right of the shelter, have been removed

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Scarp slope to south of application site

Woodland along the application site's eastern boundary



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Representative Viewpoint 11: View from Fackenden Lane at Winter 2014

Visual Receptors

Motorists, cyclists and pedestrians along Fackenden Lane

Description of View

A glimpsed view through a break in vegetation, the escarpment forms a prominent landform feature in the composition with woodland along its ridge. The perimeter vegetation forms an effective visual screen to the application site and the aspect of the slope means the security fencing is not visible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 552947, 160781
Distance to site: 2.6km

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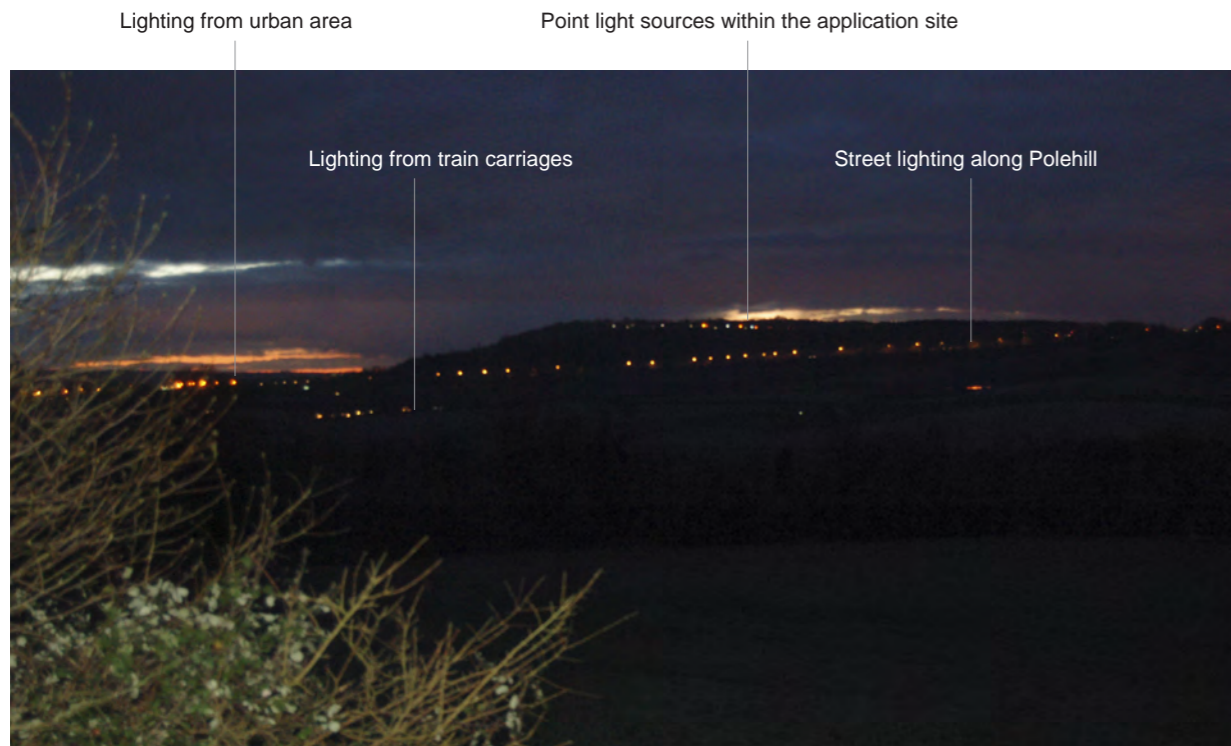
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Representative Viewpoint 11: View from Fackenden Lane at Summer 2014

During summer months the filtering and screening effect of vegetation is increased and the application site remains screened from view.



Representative Viewpoint 11: View from Fackenden Lane at Night

At night, lighting along Polehill is visible, as is street/residential lighting on the fringes of Sevenoaks and some point light sources within the application site. Trains travelling along the railway line also provide an intermittent source of illumination. The proposed development has the potential to reduce the overall level of lighting within the Site by the use of more modern lighting fixtures that will better control glow/glare.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 11: View from Fackenden Lane at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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PROJECT TITLE
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Figure 8: Representative Viewpoint
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Representative Viewpoint 12: View from PRow SR60 at Winter 2015

Visual Receptors

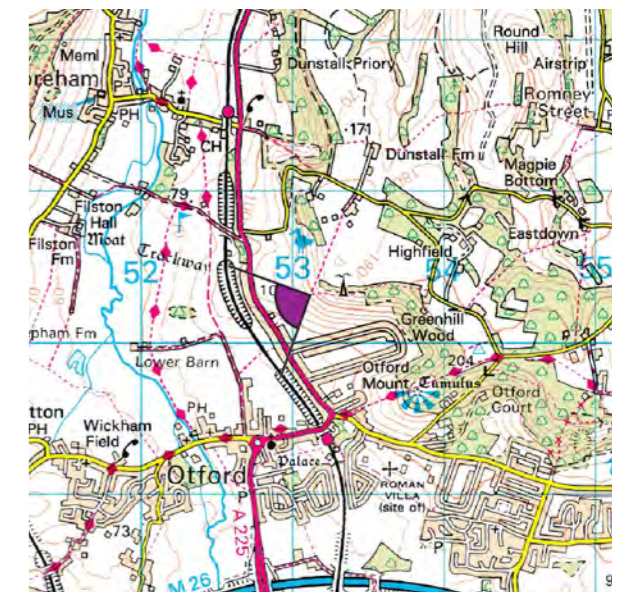
Walkers on the local footpath network

Description of View

A wide panoramic view over the settled Darent Valley with the North Downs escarpment forming a prominent backdrop to the composition. The perimeter vegetation forms an effective screen to views of the application site.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553111 160315
Distance to site: 2.7km

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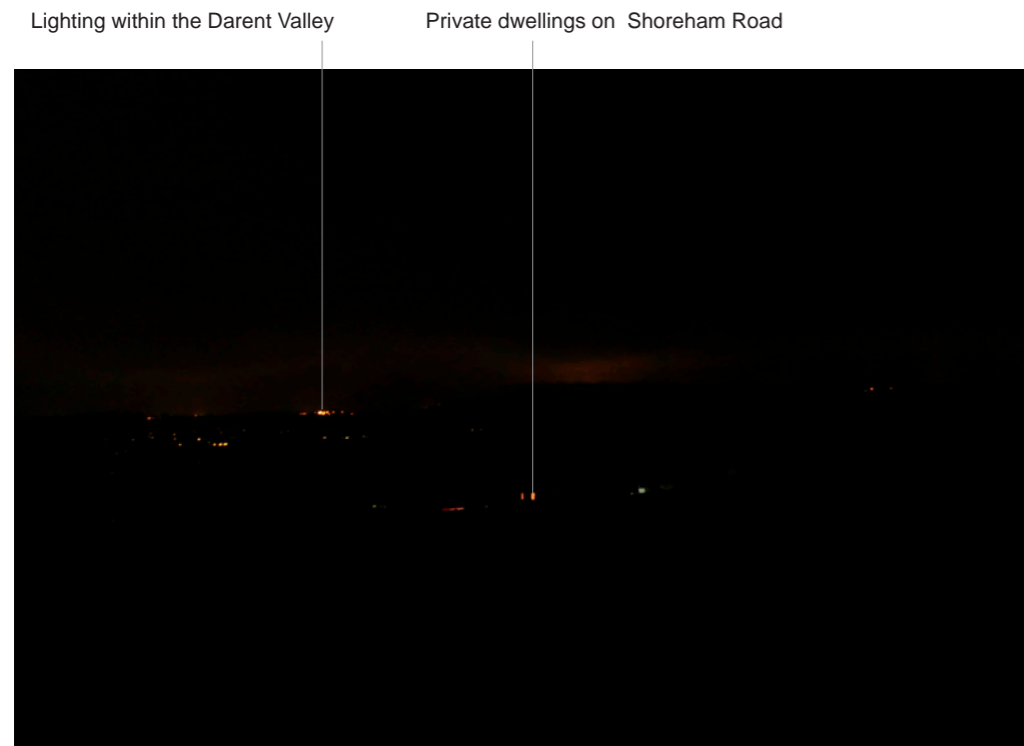
DRAWING TITLE
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Representative Viewpoint 12: View from PRoW SR60 at Summer 2014

During summer months vegetation in the middle ground provides more filtering of middle views. Views of the application site remain relatively unchanged.



Representative Viewpoint 12: View from PRoW SR60 at Night (Winter 2014)

At night lighting from settlement within the Darent Valley represents the main source of illumination within the view.

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Representative Viewpoint 12: View from PRow SR60 at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Winter 2015

Visual Receptors

Recreational users of the North Downs Way

Description of View

A glimpsed view through vegetation aligning the North Downs Way toward the application site. The scarp slope forms the prominent landform of the view where the security fence can be seen on its face although the majority of the application site is concealed behind the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553761, 159686
Distance to site: 3.4km

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
Photograph Panels**

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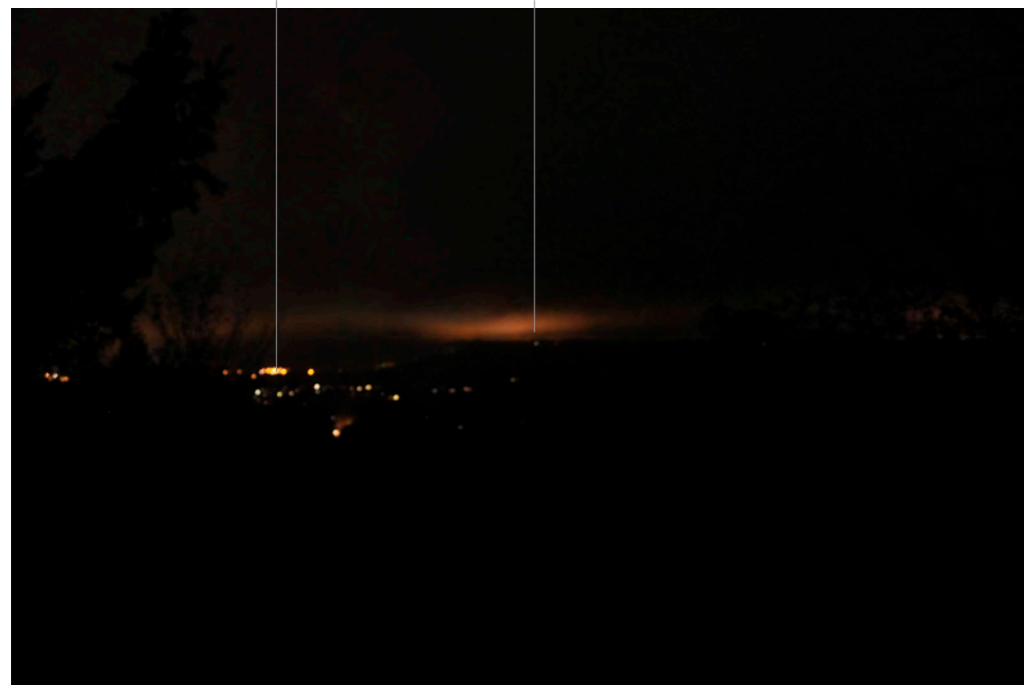
Oxford Scarp slope to south of site Woodland along the Sites eastern boundary



Representative Viewpoint 13: Views from Oxford Mount / North Downs Way at Summer 2014

During summer months the screening properties of vegetation aligning the North Downs Way increases. Although the perimeter security fence can be seen, the majority of the application site is screened from view.

Lighting within the Darent Valley Orange glow above escarpment



Representative Viewpoint 13: Views from Oxford Mount / North Downs Way at Night (Winter 2014)

At night, lighting within the Darent Valley can be seen, along with an orange sky glow above the escarpment.

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DRAWING TITLE
Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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PROJECT TITLE
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DRAWING TITLE
Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 14: View from London Road, Sevenoaks, at Winter 2015

Visual Receptors

Residents in Sevenoaks
Pedestrians, cyclists and motorists within and around Sevenoaks

Description of View

The North Downs escarpment forms an attractive backdrop to views out from the town where its face and wooded ridge can be seen. The former quarry at the North Downs Business Park is also visible along with the perimeter security fence. The majority of the application site is hidden from vw by the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 552784, 154977
Distance to site: 4.8km

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
Photograph Panels**

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Representative Viewpoint 14: View from London Road, Sevenoaks, at Summer 2014

During summer the view is very similar to that of winter given the urban surroundings. The majority of the applicaiton site is screened from view by perimeter vegetation with only the perimeter security fence and building X54 discernible.



Representative Viewpoint 14: View from London Road, Sevenoaks, at Night (Winter 2014)

At night, steet lighting within the foreground domiantes the nighttime composition.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 14: View from London Road, Sevenoaks, at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There is a new building in the midground which screens the eastern end of the application site / quarry from view.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Sevenoaks School

North Downs Escarpment

Knole Park



Representative Viewpoint 15: View from Knole Park at Winter 2015

Visual Receptors

- Residents in Sevenoaks
- Visitors to Knole Park
- Recreational users of the Greensand Way

Description of View

Vegetation within the parkland screens views toward the application site. Only glimpses through the vegetation are afforded to the North Downs escarpment where the application site is primarily indiscernible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553696, 154418
 Distance to site: 5.8km

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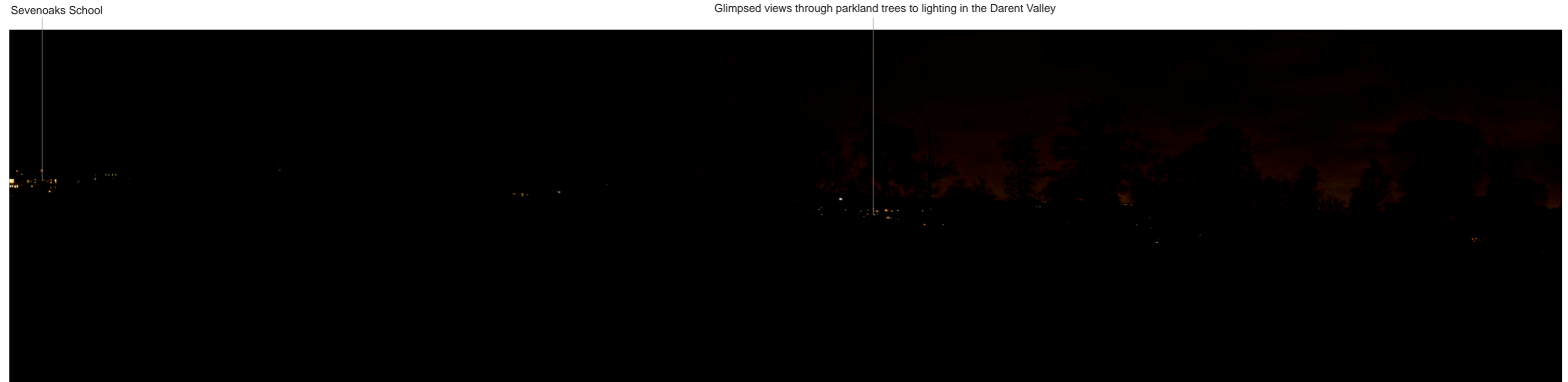
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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 15: View from Knole Park at Summer 2014

During summer months the screening and filtering properties of vegetation within and surrounding the Park is increased, screening views of the application site.



Representative Viewpoint 15: View from Knole Park at Summer (Winter 2015)

At night glimpses through the parkland boundary vegetation to light sources within the Darent Valley are possible.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 15: View from Knole Park at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
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North Downs Escarpment
Scarp slope to south of application site
North Downs Business Park and quarry



Representative Viewpoint 16: View from PRow SR236 at Winter 2015

Visual Receptors

Residents in and around Ide Hill
Recreational users of the local footpath network

Description of View

The escarpment forms a prominent landform feature to the composition with woodland forming a continuous horizon along its ridge. The quarry can also be seen. The perimeter security fence of the application site is just discernible at this distance, however the majority of the application site is screened from view by the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 548764, 152133
Distance to site: 6.6km

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PROJECT TITLE
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DRAWING TITLE
Figure 8: Representative Viewpoint
Photograph Panels

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North Downs Escarpment

North Downs Business Park and quarry

Scarp slope to south of application site



Representative Viewpoint 16: View from PRoW SR236 at Summer 2014

During summer months the screening and filtering effects of vegetation in the fore and middle increases. The majority of the Site is screened by perimeter vegetation and, at this distance, existing features beyond the perimeter vegetation are not easily discernible.

Private dwelling



Representative Viewpoint 16: View from PRoW SR236 at Night (Winter 2014)

At night the composition is relatively dark. Isolated point sources from can be seen.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 16: View from PRoW SR236 at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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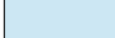


DWG. NO. 6559_008

PROJECT TITLE
FORT HALSTEAD

DRAWING TITLE
Figure 8: Representative Viewpoint
Photograph Panels



LEGEND

-  Application Site
 -  Wider Survey Area (Land within the Applicants Ownership)
 -  2.5 km, 5 km and 7.5 km Radii around the Application Site
 -  Area of Outstanding Natural Beauty
- Zone of Theoretical Visibility**
-  Zone of Theoretical Visibility of Existing Development
 -  Urban Areas
 -  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The height of existing buildings is modelled from the 'Existing Building Heights Plan' produced by Pegasus which identifies approximate building heights for 12 zones within the Site.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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DRAWING TITLE
Figure 9: Zone of Theoretical Visibility - Existing

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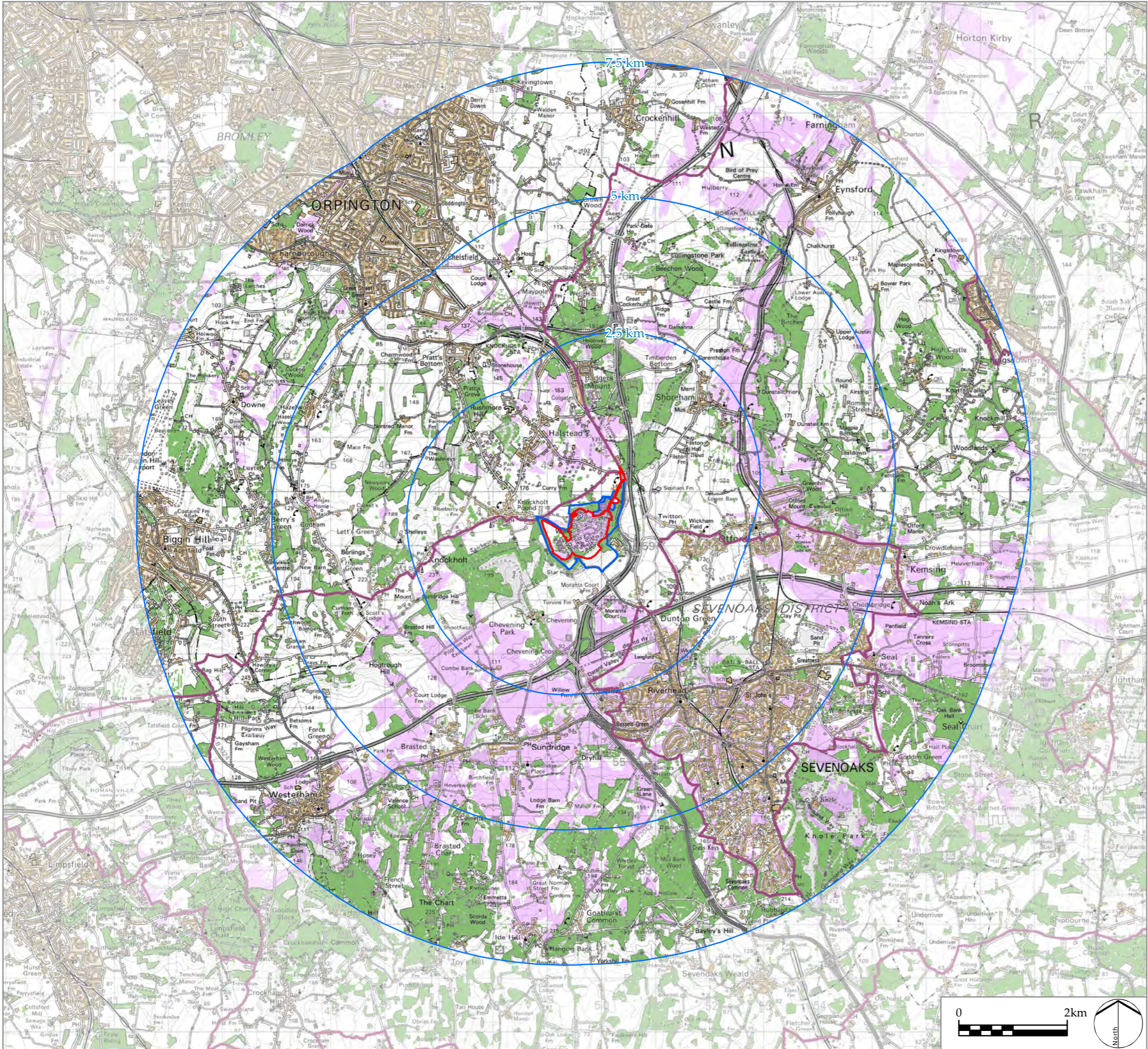
DWG. NO. 3903_009

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.








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Sources: Ordnance Survey, Natural England





LEGEND

-  Application Site
 -  Wider Survey Area (Land within the Applicants Ownership)
 -  2.5 km, 5 km and 7.5 km Radii around the Application Site
 -  Area of Outstanding Natural Beauty
- Zone of Theoretical Visibility**
-  Zone of Theoretical Visibility of the Permitted Development (ex. energy centre flue)
 -  Urban Areas
 -  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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Figure 10: Zone of Theoretical Visibility - Permitted Development (excluding energy centre flue)

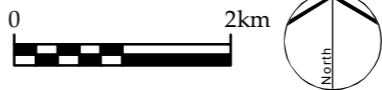
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DATE	June 2019	DRAWN SD
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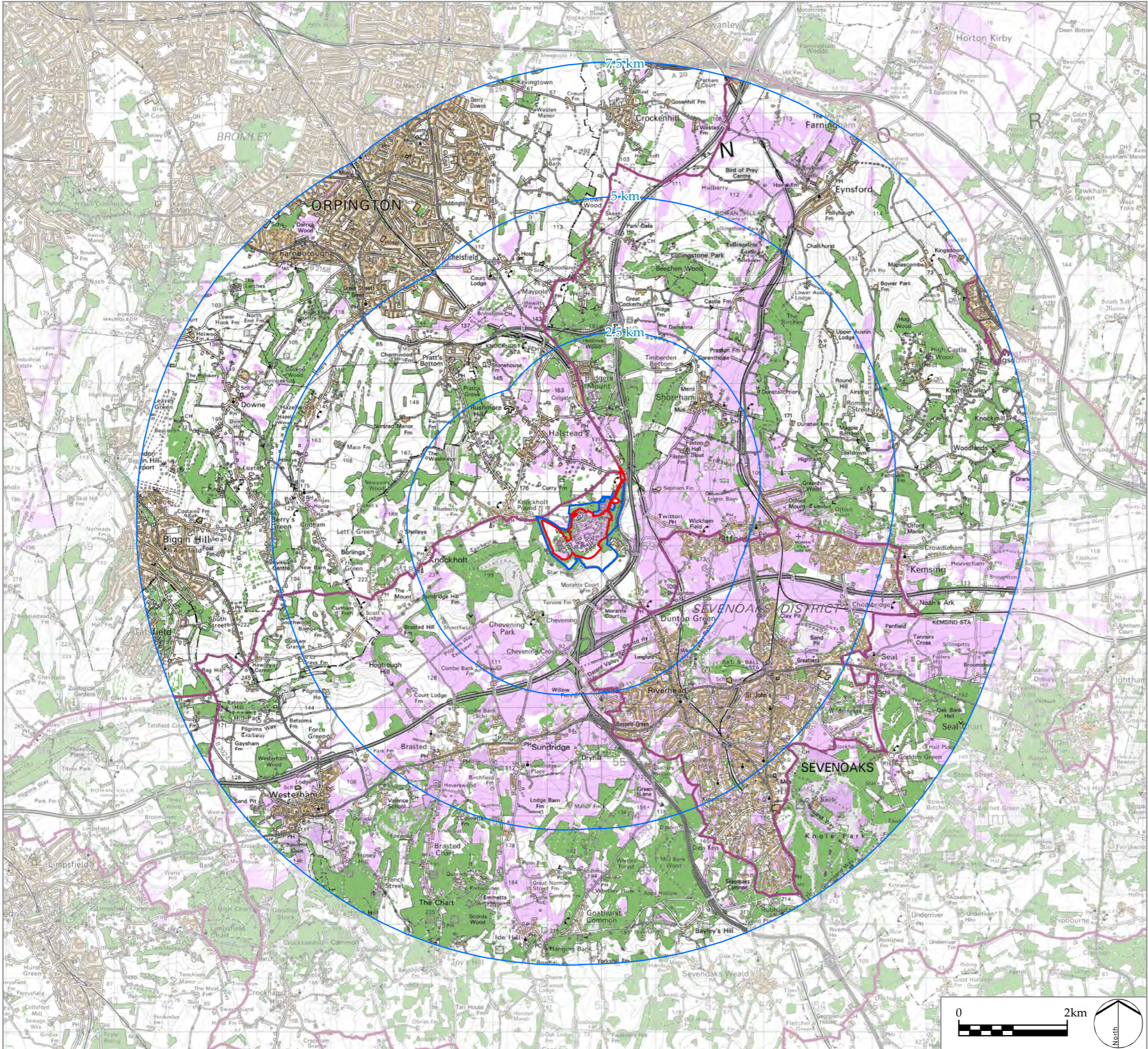
DWG. NO. 6559_10

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

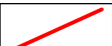






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Sources: Ordnance Survey.





LEGEND

-  Application Site
 -  Wider Survey Area (Land within the Applicants Ownership)
 -  2.5 km, 5 km and 7.5 km Radii around the Application Site
 -  Area of Outstanding Natural Beauty
- Zone of Theoretical Visibility**
-  Zone of Theoretical Visibility of the Permitted Development (inc. energy centre flue)
 -  Urban Areas
 -  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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Figure 11: Zone of Theoretical Visibility - Permitted Development (inc. energy centre flue)

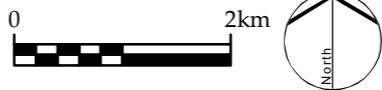
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DATE	June 2019	DRAWN SD
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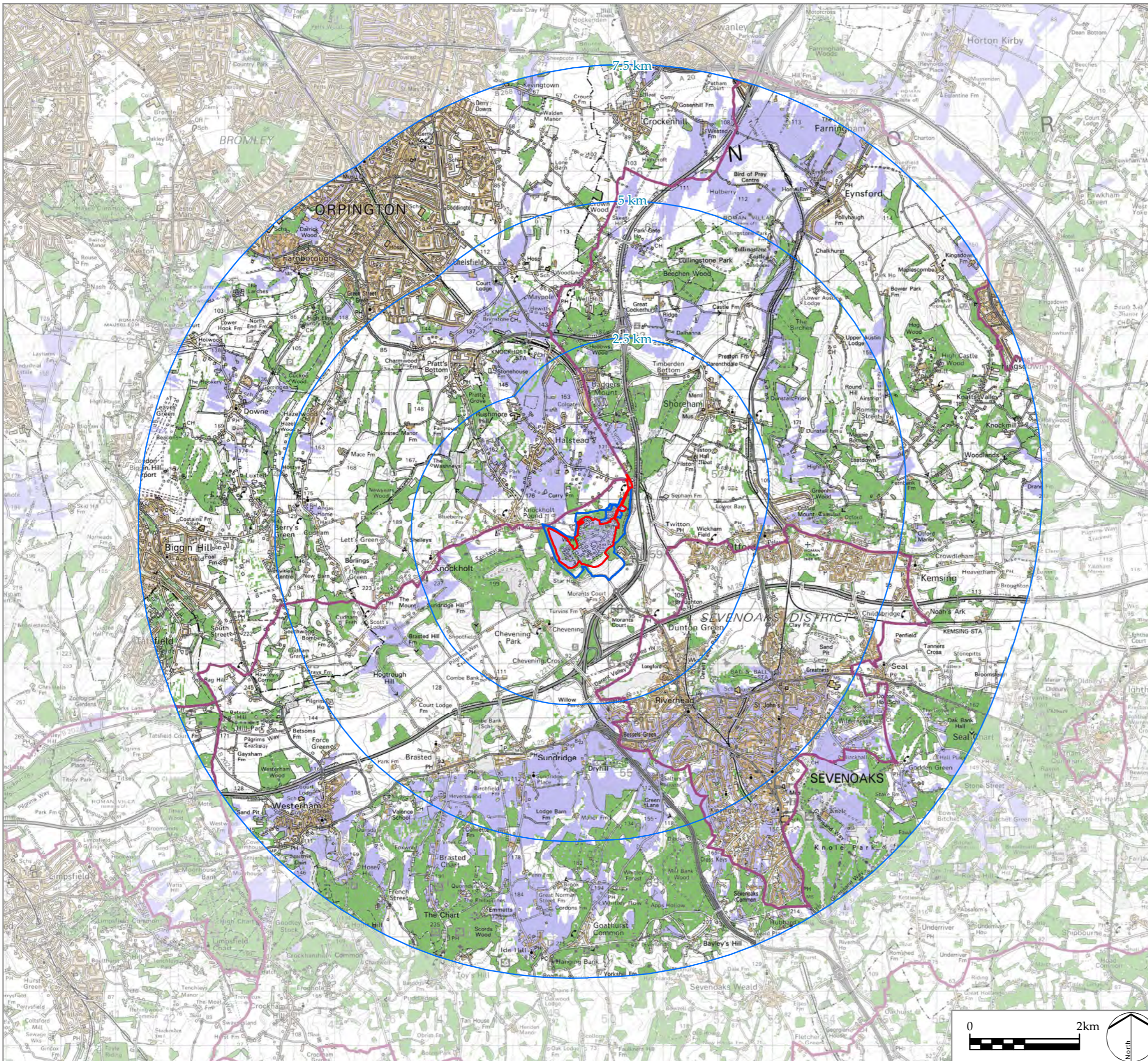
DWG. NO. 6559_011

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Area measurements for indicative purposes only.


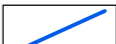

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Sources: Ordnance Survey








LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Area of Outstanding Natural Beauty

Zone of Theoretical Visibility

-  Zone of Theoretical Visibility of the Proposed Development
-  Urban Areas
-  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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Figure 12: Zone of Theoretical Visibility - Proposed Development

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Existing view



Wireframe overlay

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PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224),
 on the North Downs Way, looking north

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No development on scarp slope

Approximate location of residential (up to 3 storeys) - screened by intervening landform

Approximate location of employment/mixed use (up to 4 storeys) - screened by intervening landform

Employment area (up to 3 storeys) - predominantly screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

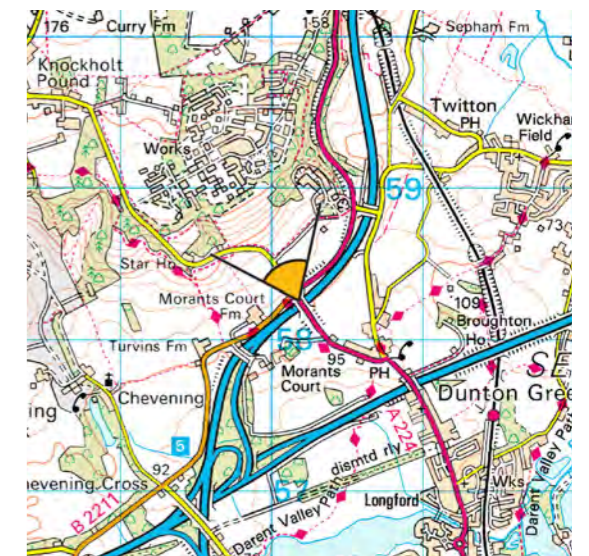
Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

Grid Reference: 550180, 158259
 Elevation (AOD): 109m
 Viewer Height: 1.6m
 Viewing Distance: 300mm
 Angle (width): 75°, buildings occupy - 64°
 Camera & Lens: Digital SLR, 50mm
 Photo date / time: 28/10/2014 13:30
 Distance to site boundary: 639m



Location Plan - 1:50,000 scale

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PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224), on the North Downs Way, looking north



Wireframe overlay 2015



Wireframe overlay 2019

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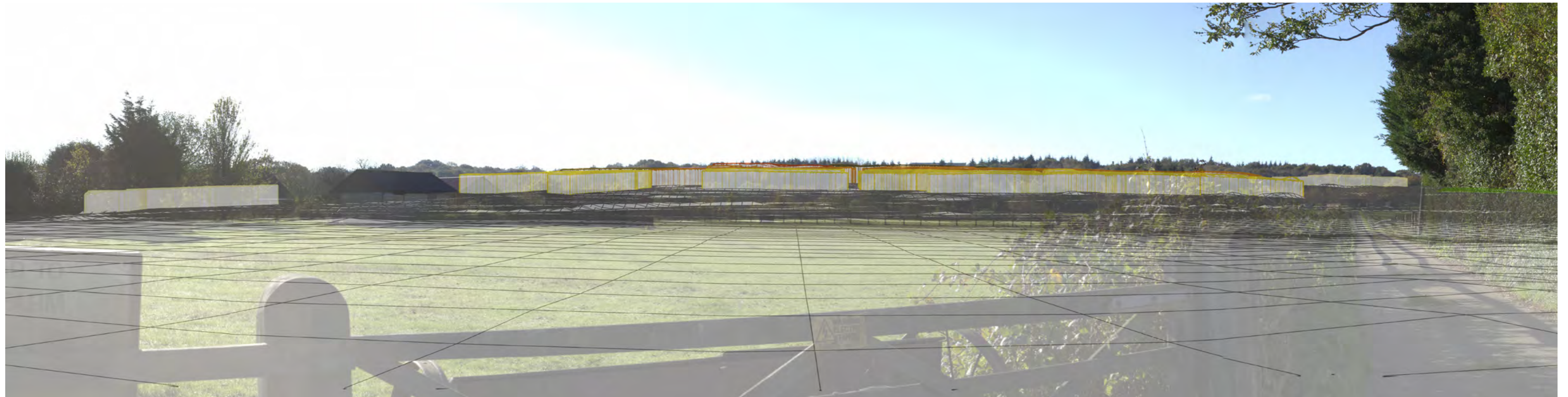
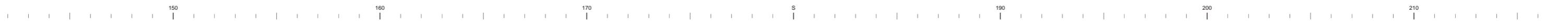
Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224),
 on the North Downs Way, looking north

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Existing view



Wireframe overlay

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STATUS	Final	APPROVED	PL

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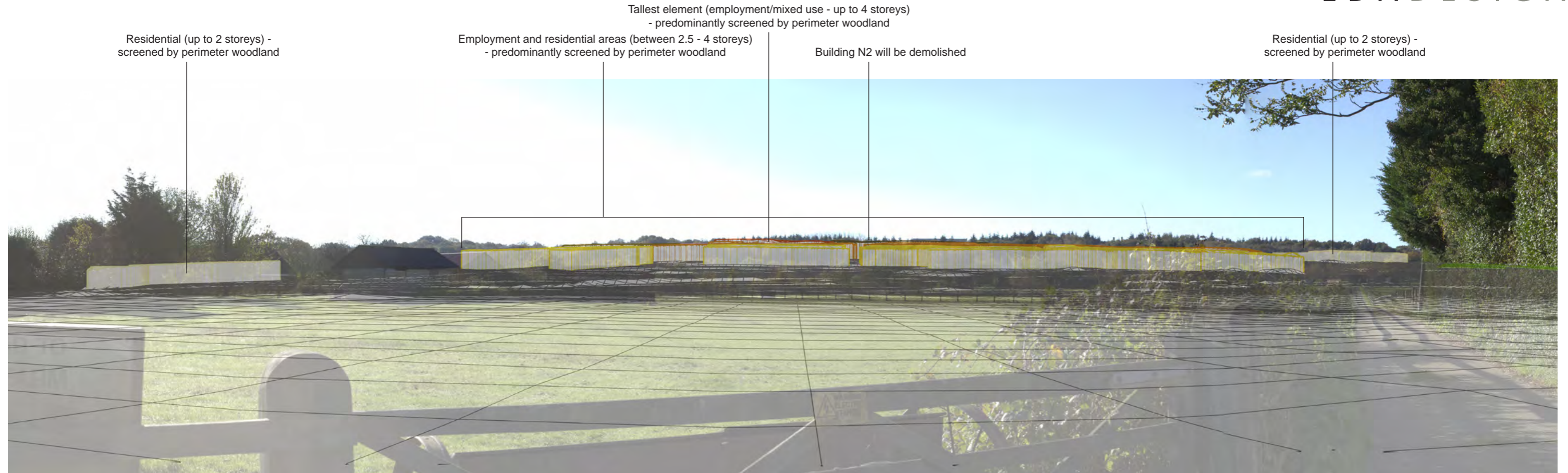
PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

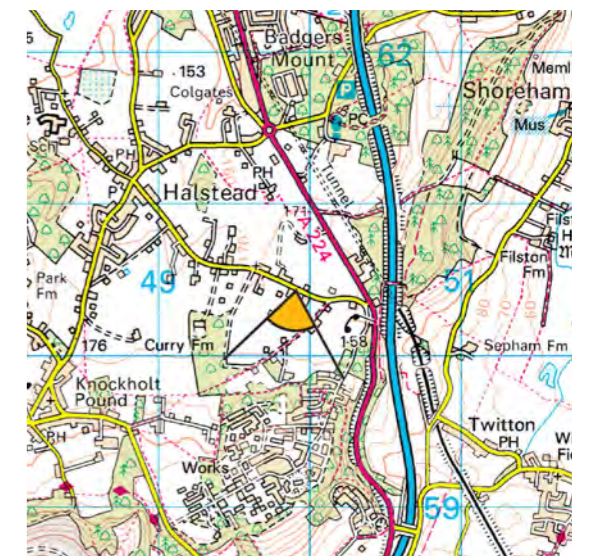
Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

- Grid Reference: 549906, 160429
- Elevation (AOD): 175m
- Viewer Height: 1.6m
- Viewing Distance: 300mm
- Angle (width): 75°, buildings occupy - 78°
- Camera & Lens: Digital SLR, 50mm
- Photo date / time: 28/10/2014 09:35
- Distance to site boundary: 424m



Location Plan - 1:50,000 scale

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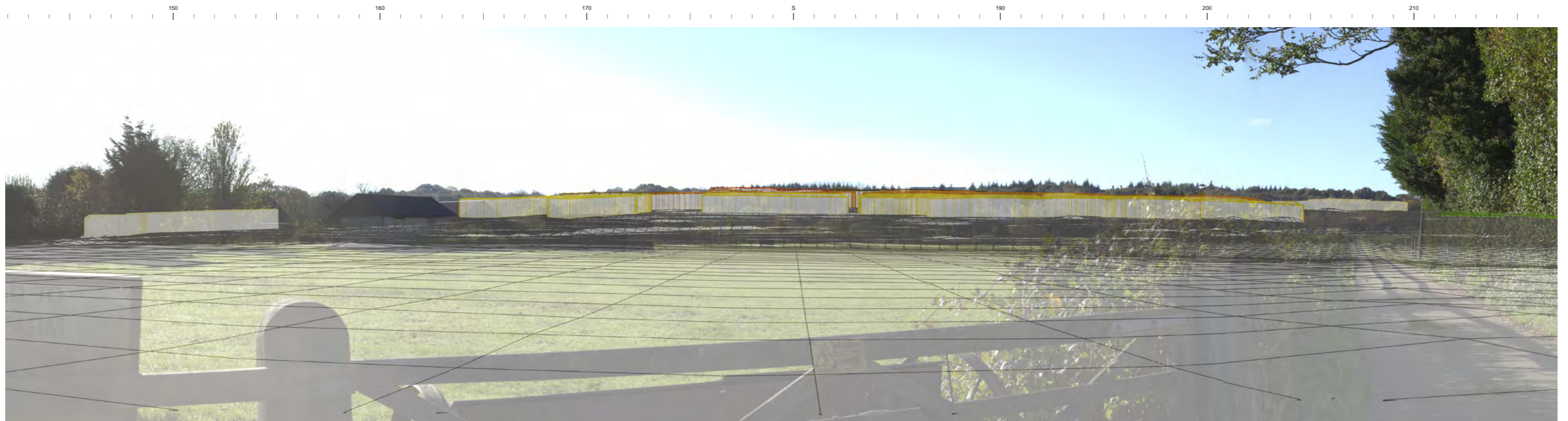
Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Wireframe overlay 2015



Wireframe overlay 2019

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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Existing view



Wireframe overlay

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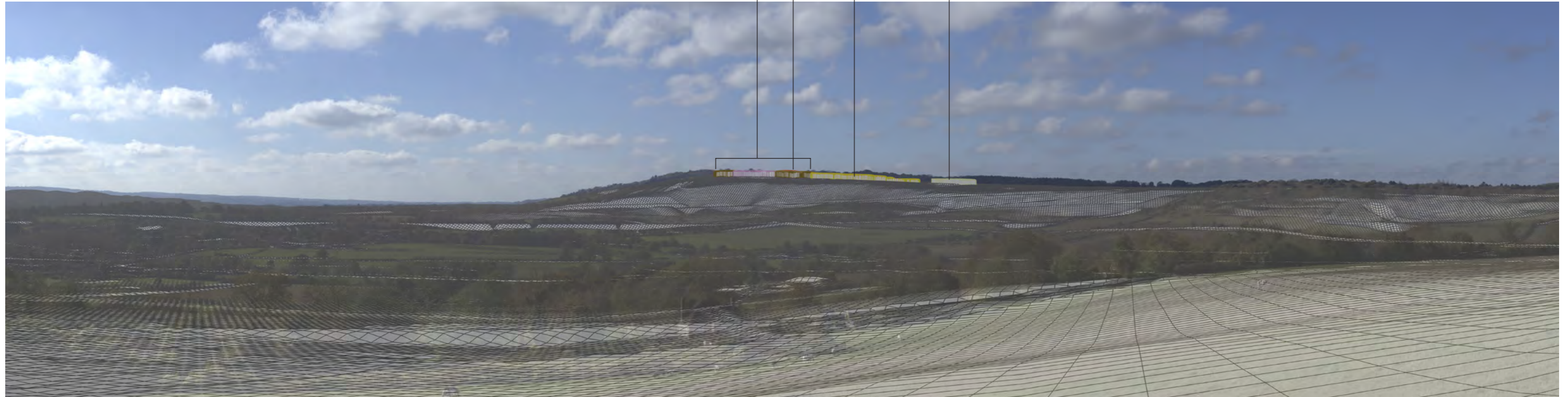
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60,
near Otford Mount, looking south west

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Tallest element (employment/mixed use - up to 4 storeys) - predominantly screened by perimeter woodland
 Employment/school (up to 3 storeys) - predominantly screened by perimeter woodland
 Residential (up to 2.5 storeys) - screened by perimeter woodland
 Residential (up to 2 storeys) - screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
 All dimensions are to be checked on site.
 Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

Grid Reference: 553091, 160257
 Elevation (AOD): 126m
 Viewer Height: 1.6m
 Viewing Distance: 300mm
 Angle (width): 75°, buildings occupy - 14°
 Camera & Lens: Digital SLR, 50mm
 Photo date / time: 28/10/2014 11:50
 Distance to site boundary: 2.7km



Location Plan - 1:50,000 scale

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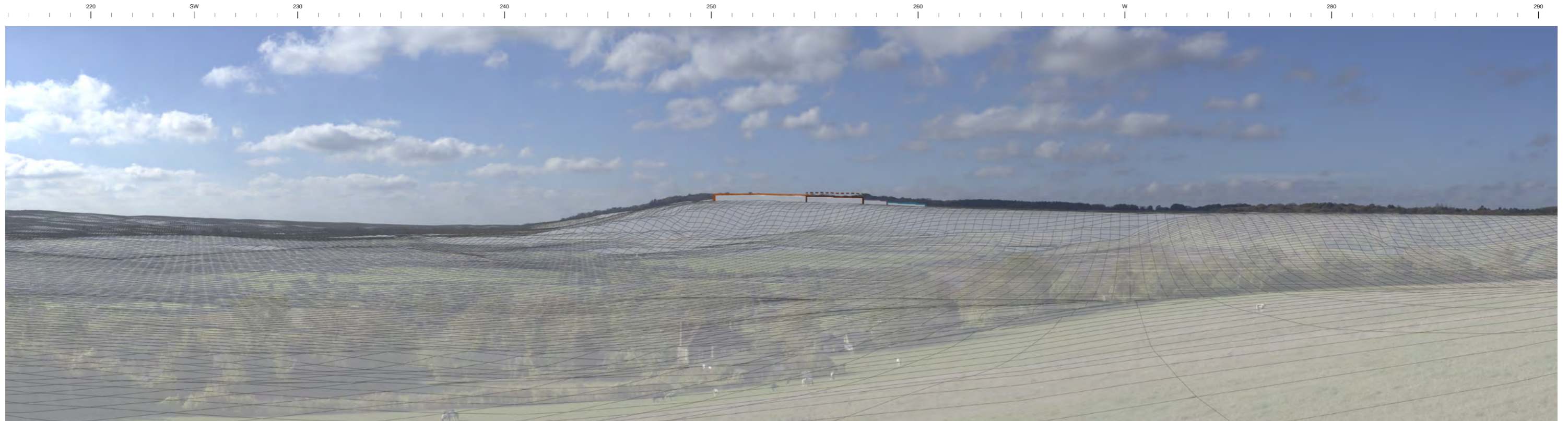
PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60, near Otford Mount, looking south west

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Wireframe overlay 2015



Wireframe overlay 2019

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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60,
 near Otford Mount, looking south west

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Existing view



Wireframe overlay

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Figure 13: Wireframe Visualisations of Permitted Development

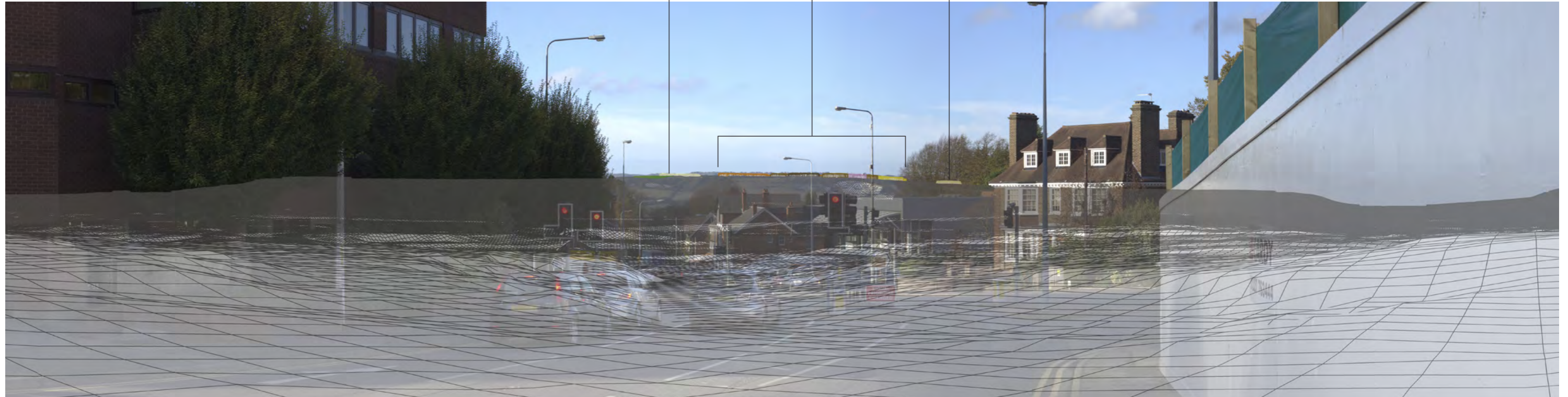
Viewpoint 14: View from junction of London Road/Argyle Road,
within Sevenoaks, looking north-west

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Residential (up to 2 storeys) - screened by perimeter woodland

Employment and residential areas (between 2.5 - 4 storeys) - predominantly screened by perimeter woodland

Residential (up to 2 storeys) - screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

- Grid Reference: 552850, 154935
- Elevation (AOD): 141m
- Viewer Height: 1.6m
- Viewing Distance: 300mm
- Angle (width): 75°, buildings occupy - 16°
- Camera & Lens: Digital SLR, 50mm
- Photo date / time: 28/10/2014 14:30
- Distance to site boundary: 4.9km



Location Plan - 1:50,000 scale

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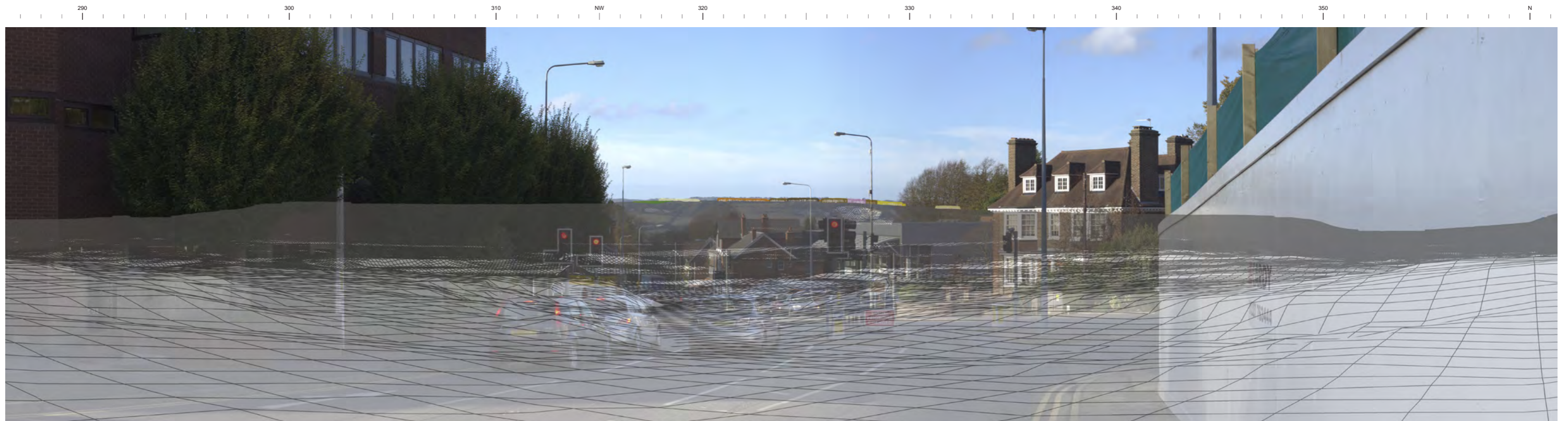
Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 14: View from junction of London Road/Argyle Road, within Sevenoaks, looking north-west

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Wireframe overlay 2015



Wireframe overlay 2019

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PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 14: View from junction of London Road/Argyle Road,
within Sevenoaks, looking north-west

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Appendices to Landscape and Visual Impact Assessment
September 2019

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Appendix 6 Extracts from Landscape Character Assessment

Version: Submission Version

Version date: September 2019

Comment Final

This document has been prepared and checked in accordance with ISO 9001:2008.

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Appendix 1 Glossary

Cumulative effects. The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together. ¹

Landscape Character Areas These are single unique areas which are the discrete geographical areas of a particular landscape type. Each has its own individual character and identity, even though it shares the same generic characteristics with other types. ²

Landscape character type. These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use, and settlement pattern. ²

Landscape effects. Effects on the landscape as a resource in its own right. ¹

Landscape character. A distinct and recognisable pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. ²

Landscape quality (or condition). A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements. ¹

Landscape receptor. Defined aspects of the landscape resource that have the potential to be affected by a proposal. ¹

Landscape value. The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. ¹

Magnitude (of effect). A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration. ¹

Mitigation. Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects). ¹

Sensitivity. 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 related to that receptor. ¹

Susceptibility. The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences. ¹

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Visual amenity. The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area.¹

Visual effect. Effects on specific views and on the general visual amenity experienced by people.¹

Visual receptor. Individuals and/or defined groups of people who have the potential to be affected by a proposal.¹

Zone of Theoretical Visibility (ZTV). A map, usually digitally produced, showing areas of land within which a development is theoretically visible.¹

¹The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute with the Institute of Environmental Management and Assessment, 2013

²An Approach to Landscape Character Assessment Guidance for England and Scotland, Natural England, 2014.

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Appendix 2 References

- 1) The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute with the Institute of Environmental Management and Assessment, 2013.
 - 2) An Approach to Landscape Character Assessment, Natural England, 2014.
 - 3) Special Report – The State of Environmental Impact Assessment Practice in the UK, Institute of Environmental Management and Assessment, 2011
 - 4) Landscape Institute Advice Note 01/11 - Photography and photomontage in landscape and visual impact assessment.
 - 5) Landscape Institute Technical Note 02/17 – Visual Representation
 - 6) European Landscape Convention, 2000.
 - 7) Sevenoaks District Council Adopted Core Strategy Development Plan (2011)
 - 8) Sevenoaks District Council Adopted Allocations and Development Management Plan (ADMP) (2015)
 - 9) Sevenoaks District Council Proposed Submission Version of the Local Plan (2018)
 - 10) Sevenoaks Landscape Character Assessment (2014)
 - 11) Kent Downs AONB Management Plan 2014 - 2019
 - 12) The Kent Downs AONB Landscape Design Handbook (undated)
 - 13) Kent Design Guide (undated)
 - 14) Adopted Development in the Green Belt SPD (2015)
 - 15) Sevenoaks District Council Green Infrastructure Topic Paper (2013)
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Appendix 3 Methodology

Introduction

This appendix contains additional detail regarding the assessment methodology, supplementing the information provided within the LVIA text. This appendix sets out a standard approach – specific matters in terms of the scope of assessment, study area and modifications to the standard approach for this assessment are set out within the LVIA.

The methodology has the following key stages, which are described in more detail in subsequent sections, as follows:

- **Baseline** – includes the gathering of documented information; agreement of the scope of the assessment with the EIA co-ordinator and local planning authority; site visits and initial reports to the EIAA co-ordinator of issues that may need to be addressed within the design.
- **Design** – input into the design / review of initial design / layout / options and mitigation options.
- **Assessment** – includes an assessment of the landscape and visual effects of the scheme, requiring site based work and the completion of a full report and supporting graphics.
- **Cumulative Assessment** – assesses the effects of the proposal in combination with other developments, where required.

Baseline

The baseline study establishes the planning policy context, the scope of the assessment and the key receptors. It typically includes the following key activities:

- A desk study of relevant current national and local planning policy, in respect of landscape and visual matters, for the site and surrounding areas.
 - Agreement of the main study area radius with the local planning authority.
 - A desk study of nationally and locally designated landscapes for the site and surrounding areas.
 - A desk study of existing landscape character assessments and capacity and sensitivity studies for the site and surrounding areas.
 - A desk study of historic landscape character assessments (where available) and other information sources required to gain an understanding of the contribution of heritage assets to the present day landscape.
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- Collation and evaluation of other indicators of local landscape value such as references in landscape character studies or parish plans, tourist information, local walking & cycling guides, references in art and literature.
- The identification of valued character types, landscape elements and features which may be affected by the proposal, including rare landscape types.
- Exchanging information with other consultants working on other assessment topics for the development as required to inform the assessment.
- Draft Zone of Theoretical Visibility (ZTV) studies to assist in identifying potential viewpoints and indicate the potential visibility of the proposed development, and therefore scope of receptors likely to be affected. The methodology used in the preparation of ZTV studies is described within Appendix 12.4.
- The identification of and agreement upon, through consultation, the scope of assessment for cumulative effects.
- The identification of and agreement upon, through consultation, the number and location of representative and specific viewpoints within the study area.
- The identification of the range of other visual receptors (e.g. people travelling along routes, or within open access land, settlements and residential properties) within the study area.
- Site visits to become familiar with the site and surrounding landscape; verify documented baseline; and to identify viewpoints and receptors.
- Input to the design process.

The information gathered during the baseline assessment is drawn together and summarised in the baseline section of the report and reasoned judgements are made as to which receptors are likely to be significantly affected. Only these receptors are then taken forward for the detailed assessment of effects (ref. GLVIA 3rd edition, 2013, para 3.19).

Design

The design and assessment stages are necessarily iterative, with stages overlapping in parts. Details of any mitigation measures incorporated within the proposals to help reduce identified potential landscape and visual effects are set out within the LVIA.

Assessment

The assessment of effects includes further desk and site based work, covering the following key activities:

- The preparation of a ZTV based on the finalised design for the development.
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- An assessment, based on both desk study and site visits, of the sensitivity of receptors to the proposed development.
- An assessment, based on both desk study and site visits, of the magnitude and significance of effects upon the landscape character, designated and recreational landscape and the existing visual environment arising from the proposed development.
- An informed professional judgements as to whether each identified effect is positive, neutral or adverse.
- A clear description of the effects identified, with supporting information setting out the rationale for judgements.
- Identification of which effects are judged to be significant based on the significance thresholds set out within the LVIA
- The production of photomontages from a selection of the agreed viewpoints showing the anticipated view following construction of the proposed development.

Site

The effect of physical changes to the site are assessed in terms of the effects on the landscape fabric.

Landscape and Townscape Character Considerations

The European Landscape Convention (2000) provides the following definition:

“Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.”

And notes also in Article 2 that landscape includes *“natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas”*.

An Approach to Landscape Character Assessment (Natural England, 2014) defines landscape character as:

“a distinct and recognisable pattern of elements, or characteristics, in the landscape that make one landscape different from another, rather than better or worse.”

The susceptibility of landscape character areas is judged based on both the attributes of the receiving environment and the characteristics of the proposed development as discussed under ‘susceptibility’ within the methodology section of the LVIA. Thus, the key characteristics of the landscape character types/areas are considered, along with scale, openness, topography; the absence of, or presence, nature and patterns of development, settlement, landcover, the contribution of heritage assets and historic landscape elements and patterns, and land uses in forming the character. The

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condition of the receiving landscape, i.e. the intactness of the existing character will also be relevant in determining susceptibility. The likelihood of material effects on the landscape character areas can be judged based on the scale and layout of the proposal and how this relates to the characteristics of the receiving landscape.

The introduction of any development into a landscape adds a new feature which can affect the 'sense of place' in its near vicinity, but with distance, the existing characteristics reassert themselves.

The baseline is informed by desk study of published landscape character assessments and field survey. It is specifically noted within An Approach to Landscape Character Assessment (Natural England, 2014) that:

“Our landscapes have evolved over time and they will continue to evolve – change is a constant but outcomes vary. The management of change is essential to ensure that we achieve sustainable outcomes – social, environmental and economic. Decision makers need to understand the baseline and the implications of their decisions for that baseline.”

At page 51 it describes the function of Key Characteristics in landscape assessment, as follows:

“Key characteristics are those combinations of elements which help to give an area its distinctive sense of place. If these characteristics change, or are lost, there would be significant consequences for the current character of the landscape. Key characteristics are particularly important in the development of planning and management policies. They are important for monitoring change and can provide a useful reference point against which landscape change can be assessed. They can be used as indicators to inform thinking about whether and how the landscape is changing and whether, or not, particular policies – for example - are effective and having the desired effect on landscape character.”

It follows from the above that in order to assess whether landscape character is significantly affected by a development, it should be determined how each of the key characteristics would be affected. The judgement of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals.

Landscape value - considerations

Paragraph 5.19 of GLVIA states that “A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape- such as trees, buildings or hedgerows -may also have value. All need to be considered where relevant.”

Paragraph 5.20 of GLVIA indicates information which might indicate landscape value, including:

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- Information about areas recognised by statute such as National Parks, Areas of Outstanding Natural Beauty;
- Information about Heritage Coasts, where relevant;
- Local planning documents for local landscape designations;
- Information on features such as Conservation Areas, listed buildings, historic or cultural sites;
- Art and literature, identifying value attached to particular areas or views; and
- Material on landscapes of local or community interest, such as local green spaces, village greens or allotments.

An assessment of landscape value is made based on the following factors outlined in Box 5.1 of GLVIA3: Landscape quality (condition); scenic quality; rarity; representativeness; conservation interest; recreational value; perceptual aspects; and associations.

In addition to the above list, consideration is given to any evidence that indicates whether the landscape has particular value to people that would suggest that it is of greater than Community value.

Viewpoints and Visual Receptors - considerations

A wide variety of visual receptors can reasonably be anticipated to be affected by the proposed development. Within the baseline assessment, the ZTV study and site visits are used to determine which visual receptors are likely to be significantly affected and therefore merit detailed assessment. In line with guidance (GLVIA, 3rd Edition, 2013); both representative and specific viewpoints may be identified to inform the assessment. In general, the majority of viewpoints will be representative – representing the visual receptors at the distance and direction in which they are located and of the type(s) that would be present at that location. The representative viewpoints have generally been selected in locations where significant effects would be anticipated; though some may be selected outside of that zone – either to demonstrate the reduction of effects with distance; or to specifically ensure the representation of a particularly sensitive receptor.

The types of visual receptors likely to be included with the assessment are:

- Users of walking routes or accessible landscapes including Public Rights of Way, National and Regional Trails and other long distance routes, Common Land, Open Access Land, permissive paths, land held in trust (e.g. Woodland Trust, National Trust) offering free public access, and other regularly used, permitted walking routes;
 - Visitors to and residents of settlements;
-

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- Visitors to specific valued viewpoints;
- Visitors to attractions or heritage assets for which landscape and views contribute to the experience; and
- Users of roads or identified scenic routes.

Visual receptors are grouped for assessment into areas which include all of the routes, public spaces and homes within that area. Groups are selected as follows:

- Based around settlements in order to describe effects on that that community – e.g. a settlement and routes radiating from that settlement; or
- An area of open countryside encompassing a number of routes, accessible spaces and individual dwellings; or
- An area of accessible landscape and the routes within and around it e.g. a country park; and
- such that effects within a single visual receptor group are similar enough to be readily described and assessed.

With the exception of specific viewpoints, each route, settlement or location will encompass a range of possible views, which might vary from no view of the development to very clear, close views. Therefore effects are described in such a way as to identify where views towards the development are likely to arise and what the scale, duration and extent of those views are likely to be. In some cases this will be further informed by a nearby viewpoint and in others it will be informed with reference to the ZTV, aerial photography and site visits. Each of these individual effects are then considered together in order to reach a judgement of the effects on the visual receptors along that route, or in that place.

The representative viewpoints are used as ‘samples’ on which to base judgements of the scale of effects on visual receptors. The viewpoints represent multiple visual receptors, and duration and extent are judged when assessing impacts on the visual receptors.

For specific viewpoints (key and sometimes promoted viewpoints within the landscape), duration and extent are assessed, with extent reflecting the extent to which the development affects the valued qualities of the view from the specific viewpoint.

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Visual Receptor Sensitivity – typical examples

	High	Medium	Low
National/International	1	4	8
Local/District	2	5	8
Community	3	6	9
Limited		7	10

- 1) Visitors to valued viewpoints or routes which people might visit purely to experience the view, e.g. promoted or well-known viewpoints, routes from which views that form part of the special qualities of a designated landscape can be well appreciated; key designed views; panoramic viewpoints marked on maps.
- 2) People in locations where they are likely to pause to appreciate the view, such as from local waypoints such as benches; or at key views to/from local landmarks. Visitors to local attractions, heritage assets or public parks where views are an important contributor to the experience, or key views into/out of Conservation Areas.
- 3) People in the streets around their home, or using public rights of way, navigable waterways or accessible open space (public parks, open access land).
- 4) Users of promoted scenic rail routes.
- 5) Users of promoted scenic local road routes.
- 6) Users of cycle routes, local roads and railways.
- 7) Outdoor workers.
- 8) Users of A-roads which are nationally or locally promoted scenic routes.
- 9) Users of sports facilities such as cricket grounds and golf courses.
- 10) Users of Motorways and A-roads; shoppers at retail parks, people at their (indoor) places of work.

Preparation and use of Visuals

The ZTVs are used to inform the field study assessment work, providing additional detail and accuracy to observations made on site. Photomontages may also be produced in order to assist readers of the assessment in visualising the proposals, but are not used in reaching judgements of effect. The preparation of the ZTVs (and photomontages where applicable) is informed by the Landscape Institute’s Advice Note 01/11 – ‘Photography and photomontage in landscape and visual impact

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assessment' and SNH 'Visual Representation of Wind Farms Best Practice Guidance' (both the 2007 and 2017 editions).

The following points should be borne in mind in respect of the ZTV study:

- Areas shown as having potential visibility may have visibility of the development obscured by local features such as trees, hedgerows, embankments or buildings.

A detailed description of the methods by which ZTVs and visualisations are prepared is included in Appendix 4.

In addition to the main visualisations, illustrative views are used as appropriate to illustrate particular points made within the assessment. These are not prepared to the same standard as they simply depict existing views, character or features rather than forming the basis for visualisations.

Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development. A search area from the proposal site (typically of a similar scale to the study area) is agreed with the planning authority. For each of the identified cumulative schemes agreement is reached with the Planning Authority as to whether and how they should be included in the assessment.

Only operational and consented developments are considered, unless specific circumstances indicate that a development in planning should be included, with progressively decreasing emphasis placed on those which are less certain to proceed. Typically, operational and consented developments are treated as being part of the landscape and visual baseline. i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed.

The cumulative assessment examines the same groups of landscape and visual receptors as the assessment for the main scheme, though different viewpoints may be used in order to better represent the likely range of effects arising from the combination of schemes. The assessment is informed by cumulative ZTVs as necessary, showing the extent of visual effects of the schemes in different colours to illustrate where visibility of more than one development is likely to arise. Cumulative wirelines or photomontages may also be prepared.

In addition, the effects on users of routes through the area, from which developments may be sequentially visible as one passes through the landscape are also considered, if appropriate. This assessment is based on the desk study of ZTVs and aerial photography, and site visits to travel along the routes being assessed.

In relation to landscape and visual cumulative assessment, it is important to note the following:

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- For each assessed receptor, combined cumulative effects may be the same as for the application scheme, or greater (where the influence of multiple schemes would increase effects, or where schemes in planning other than the application scheme would have the predominant effects).
- For each assessed receptor, incremental cumulative effects may be the same as for the application scheme, or reduced (where the influence of other schemes in planning would be such that were they consented and considered to be part of the baseline, the incremental change arising from the addition of the application scheme would be less).
- Subject to the distance and degree of intervening landform, vegetation and structures there may be no cumulative effects.

The way in which the assessment is described and presented is varied depending on the number and nature of scenarios which may arise. This variation is needed in order to convey to the reader the key points of each assessment. For example, the three different cumulative combinations that may arise for an assessment in which there are two existing undetermined applications each can be assessed individually. A situation in which there are 10 applications cannot reasonably be assessed in this way and the developments may need to be grouped for analysis.

Residential Amenity

Paragraph 6.17 of GLVIA, 3rd edition notes that:

“In some instances it may also be appropriate to consider private viewpoints, mainly from residential properties.... Effects of development in private property are frequently dealt with mainly through ‘residential amenity assessments’. These are separate from LVIA although visual effects assessment may sometimes be carried out as part of a residential amenity assessment, in which case this will supplement and form part of the LVIA for a project. Some of the principles set out here for dealing with visual effects may help in such assessments but there are specific requirements in residential amenity assessment”

When dealing with effects on residential properties, the outlook from a private property is essentially a private matter. The difference between that private interest and what should be protected in the public interest has been the subject of particular focus at Public Inquiries in relation to wind farm cases and the lessons learnt from Inspector’s decisions have informed how effects on views from residential properties influence a planning decision. This is fully described and set out in paragraphs 209-211 of the decision regarding Spring Farm Ridge wind farm (APP/Z2830/A/11/2165035 – December 2014), which sets out the approach that in considering effects on private residential amenity – whether effects are visually significant is not relevant – effects which fall below the threshold of being “so unpleasant, overwhelming and oppressive that this would become an unattractive place to live” (known as the Lavender Test) “would not feature in the planning balance, irrespective of how many dwellings were so affected”. The

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Inspector's report also makes clear that this is a separate exercise to "*weighing in the balance, as a component of the character and appearance issue, the effects on the locality generally that would derive from visual effects on resident receptors*", which is covered within the assessment of effects on visual receptors.

The Spring Farm Ridge Inspector's decision is for a wind farm but makes it clear that "*the level of impact or threshold at which the public interest would be so engaged should be no different for wind turbines than would be the threshold applicable to other types of development.*" Wind farms are unusually tall developments with a greater chance that they could have such an effect. Most forms of development are unlikely to cause effects of such a high magnitude to render a property an unattractive place in which to live unless in very close to the property and occupying a large proportion of views.

Residential properties closest to the site are viewed on site and from aerial photography to consider whether a residential amenity assessment is required. Where such an assessment is required, it is provided as an appendix to the LVIA.

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Appendix 4 Visualisations and ZTV Studies

ZTV Studies

ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled. LDA Design undertake a ZTV study that is designed to include visual barriers from settlements and woodlands (with heights derived from NEXTMAP 25 surface mapping data). If significant deviations from these assumed heights are noted during site visits, for example young or felled areas of woodland, or recent changes to built form, the features concerned will be adjusted within the model or the adoption of a digital surface model will be used to obtain actual heights for these barriers.

The model is also designed to take into account both the curvature of the earth and light refraction, informed by the SNH guidance. LDA Design undertake all ZTV studies with observer heights of 2m.

The ZTV analysis begins at 1m from the observation feature and will work outwards in a grid of the set resolution until it reaches the end of the terrain map for the project.

For all plan production LDA Design will produce a ZTV that has a base and overlay of the 1:50,000 Ordnance Survey Raster mapping or better. The ZTV will be reproduced at a suitable scale on an A3 template to encompass the study area.

Ground model accuracy

Depending on the project and level of detail required, different height datasets may be used. Below is listed the different data products and their specifications:

Product	Distance Between Points	Vertical RMSE Error
LiDAR	50cm – 2m	up to +/- 5cm
Photogrammetrically Derived Heights	2m – 5m	up to +/- 1.5m
Ordnance Survey OS terrain 5	5 m	up to +/- 2.5m
NextMap25 DTM	25 m	+/- 2.06m
Ordnance Survey OS terrain 50	50 m	+/- 4m

Site-specific topographical survey data may also be used where available.

Photomontages and Photowires

Verified / verifiable photomontages are produced in seven stages. Photowires (wireframe visualisations) are produced using the same overall approach, but only require some of the steps outlined below.

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- 1) Photography is undertaken using a digital SLR camera and 50mm equivalent lens. A tripod is used to take overlapping photographs which are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to enable correct sizing when reproduced in the final images. The photographer also notes the GPS location of the viewpoint and takes bearings to visible landmarks whilst at the viewpoint.
 - 2) Creation of a ground model and 3D mesh to illustrate that model. This is created using NextMap25 DTM point data (or occasionally other terrain datasets where required, such as site-specific topographical data or Photogrammetrically Derived Heights) and ground modelling software.
 - 3) The addition of the proposed development to the 3D model. The main components of the proposed development are accurately modelled in CAD and are then inserted into the 3D model at the proposed locations and elevations.
 - 4) Wireline generation – The viewpoints are added within the 3D CAD model with each observer point being inserted at 1.5m above the modelled ground plane. The location of the landmarks identified by the photographer may also be included in the model. The view from the viewpoint is then replicated using virtual cameras to create a series of single frame images, which also include bearing markers. As with the photographs, these single frame images are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to ensure that they are the same size as the photographs.
 - 5) Wireline matching – The photographs are matched to the wirelines using a combination of the visible topography, bearing markers and the landmarks that have been included in the 3D model.
 - 6) For the photomontage, an industry standard 3D rendering application is used to produce a rendered 3D view of the proposed development from the viewpoint. The rendering uses materials to match the intended surface finishes of the development and lighting conditions according to the date and time of the viewpoint photograph.
 - 7) The rendered development is then added to the photograph in the position identified by the wireline (using an image processing application) to ensure accuracy. The images are then layered to ensure that the development appears in front of and behind the correct elements visible within the photograph. Where vegetation is proposed as part of the development, this is then added to the final photomontage.
-

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Appendix 5 National Planning Practice Guidance

Planning Practice Guidance for Natural Environment, January 2016

This document is intended to explain the key issues in implementing policy to protect biodiversity, but also contains a section on landscape. This section reiterates the policy set out in the NPPF, clarifying that development outside National Parks and Areas of Outstanding Natural Beauty “*might have an impact on the setting of, and implementation of, the statutory purposes of these protected areas*” (para 003), that “*National Parks and Areas of Outstanding Natural Beauty management plans may also be material considerations in making decisions on individual planning applications, where they raise relevant issues*” (para 004) and that Natural England has published advice on Heritage Coasts. This guidance indicates that heritage coasts are “*managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors*”.

Planning Practice Guidance for Design, March 2014

The guidance sets out principles in respect of the design of a development, noting that:

“Achieving good design is about creating places, buildings, or spaces that work well for everyone, look good, last well, and will adapt to the needs of future generations.

Good design responds in a practical and creative way to both the function and identity of a place. It puts land, water, drainage, energy, community, economic, infrastructure and other such resources to the best possible use – over the long as well as the short term.”

In respect of the determining applications and the relationship between a proposal and the surrounding townscape, the guidance notes that:

“Local planning authorities are required to take design into consideration and should refuse permission for development of poor design. Local planning authorities should give great weight to outstanding or innovative designs which help to raise the standard of design more generally in the area. This could include the use of innovative construction materials and techniques. Planning permission should not be refused for buildings and infrastructure that promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design...”

In respect of local character, the guidance further notes that:

“Development should seek to promote character in townscape and landscape by responding to and reinforcing locally distinctive patterns of development, local man-made and natural heritage and culture, while not preventing or discouraging appropriate innovation.

The successful integration of all forms of new development with their surrounding context is an important design objective, irrespective of whether a site lies on the urban fringe or at the heart of a town centre.

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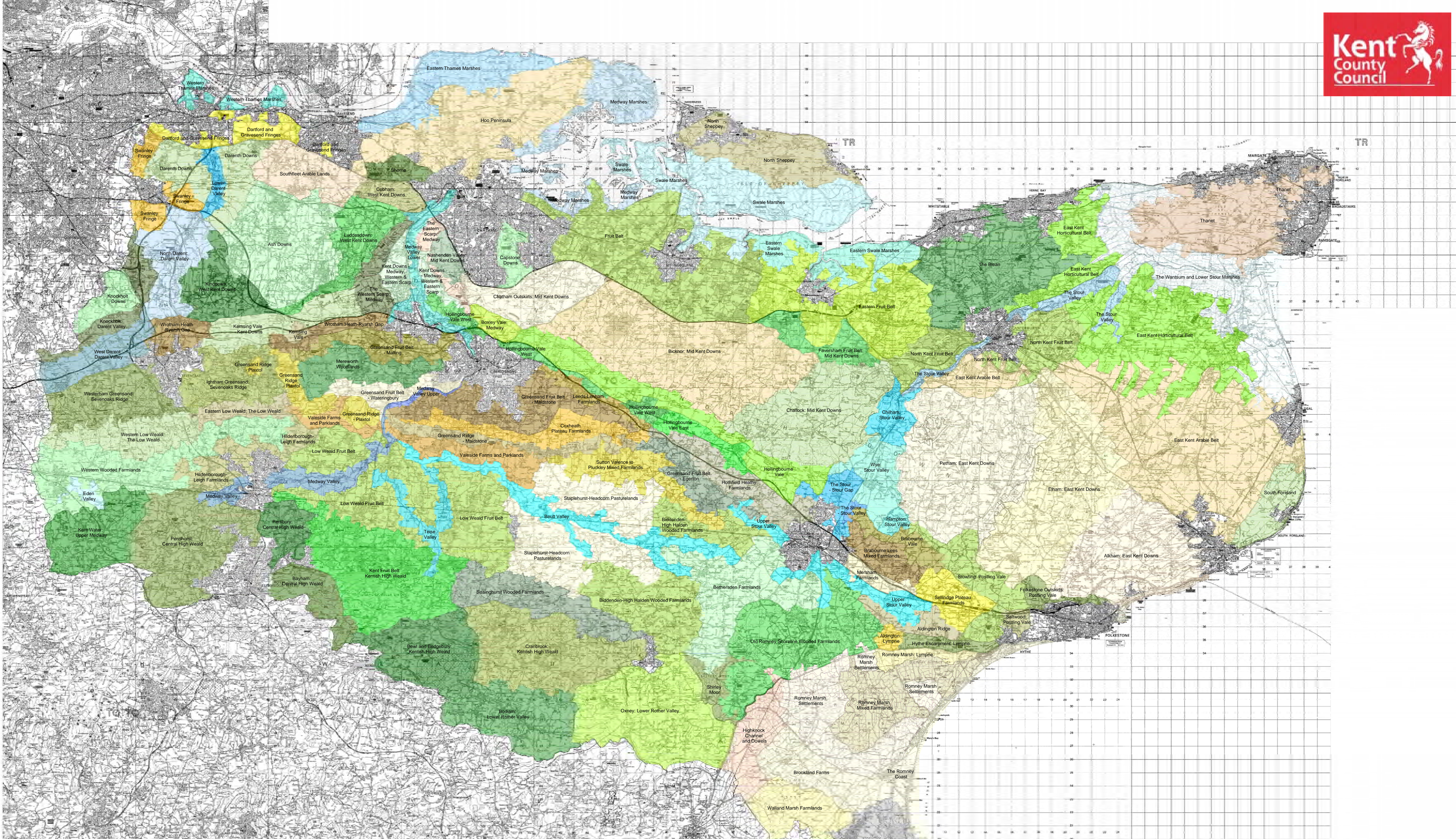
When thinking about new development the site's land form should be taken into account. Natural features and local heritage resources can help give shape to a development and integrate it into the wider area, reinforce and sustain local distinctiveness, reduce its impact on nature and contribute to a sense of place. Views into and out of larger sites should also be carefully considered from the start of the design process.

Local building forms and details contribute to the distinctive qualities of a place. These can be successfully interpreted in new development without necessarily restricting the scope of the designer. Standard solutions rarely create a distinctive identity or make best use of a particular site. The use of local materials, building methods and details can be an important factor in enhancing local distinctiveness when used in evolutionary local design, and can also be used in more contemporary design. However, innovative design should not be discouraged.

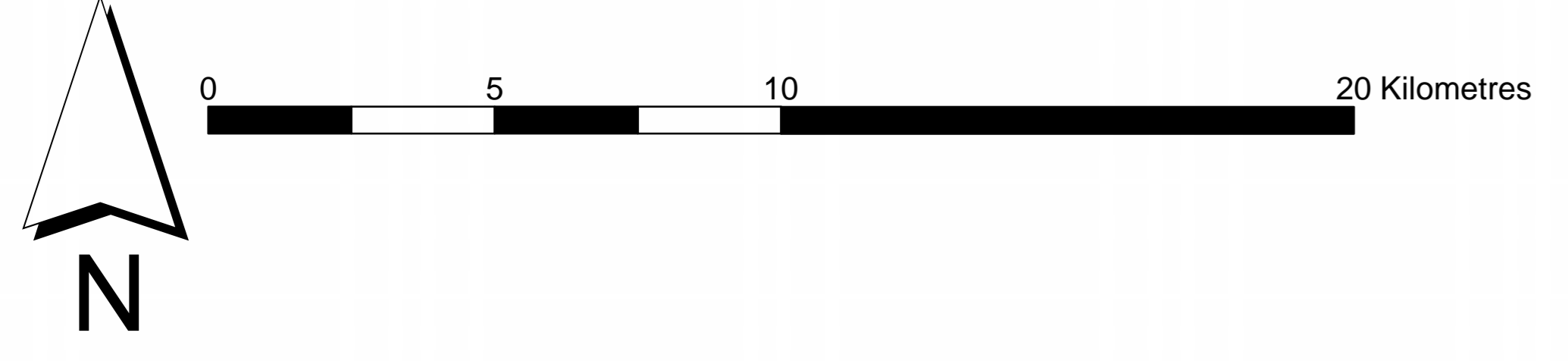
The opportunity for high quality hard and soft landscape design that helps to successfully integrate development into the wider environment should be carefully considered from the outset, to ensure it complements the architecture of the proposals and improves the overall quality of townscape or landscape. Good landscape design can help the natural surveillance of an area, creatively help differentiate public and private space and, where appropriate, enhance security.”

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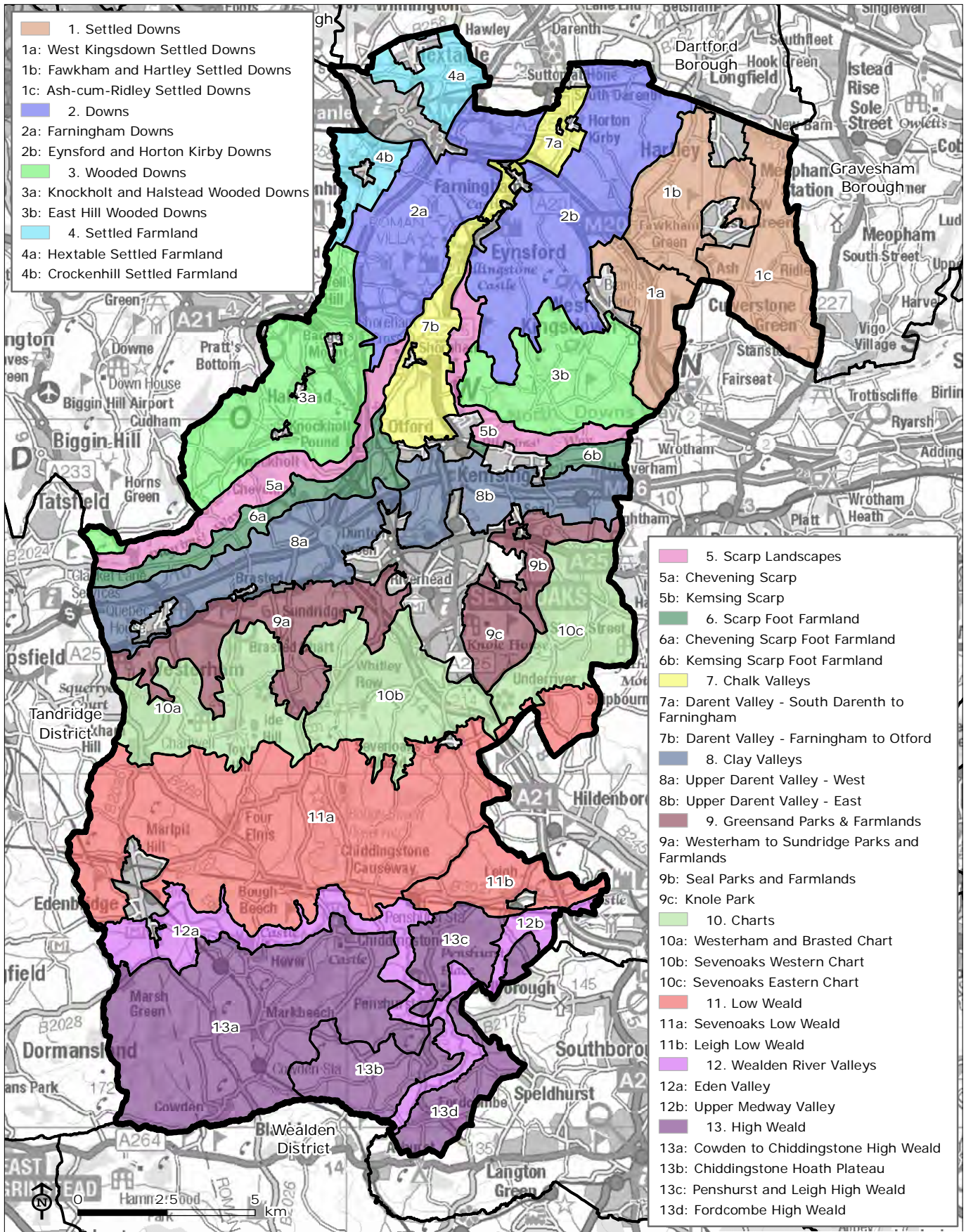
Appendix 6 Extracts from Landscape Character Assessment



Kent Character Area Map



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Sevenoaks Landscape Character Assessment

Figure 5.1: Classification For Sevenoaks



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Comment Final

This document has been prepared and checked in accordance with ISO 9001:2008.

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1.0 Summary

This assessment describes the existing landscape and views; considers their sensitivity to change; identifies the changes likely to arise from the proposed development; and provides judgements of the significance of effects arising.

The Fort Halstead application is occupied by defence related industries and is currently home to Defence Science and Technology Laboratory (DSTL), which is part of the Ministry of Defence, and QinetiQ, a private defence technology company. The companies operate out of a range of office, laboratory and storage type buildings which are scattered throughout the Fort Halstead site.

The application site, despite its location on the ridge of the Kent Downs escarpment, is not overly apparent within the landscape. The perimeter woodland and vegetation surrounding the application site provides enclosure and forms an effective screen. Taller elements of existing buildings and structures do protrude above the perimeter vegetation although views into the application site itself are generally limited to certain locations along the boundary where gaps in the vegetation exist.

The proposed development is for up to 750 residential dwellings; employment / mixed use land uses (including a potential school site); a centrally located village centre comprising public space and community facilities; and retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure.

Inevitably, there would be changes to the character and visual resource of the application site itself as a result of the construction activities and these effects are considered to be adverse. However, given the screening properties of perimeter vegetation, impacts would be localised and construction activity would not be intrusive in the surrounding landscape. The removal of buildings currently visible above and beyond the perimeter vegetation and the partial removal of perimeter security fencing is considered beneficial. Any construction effects would be temporary in nature, and overall no significant impacts to the landscape and visual resource are therefore concluded during the construction phase.

The operational development is considered to improve the visual amenity and character of the application site. The majority of the utilitarian structures, workshops, car park and disturbed land that currently dominate the application site will be removed and replaced by residential and employment built form, punctuated and intertwined by new areas of green infrastructure. In addition, the visual amenity of adjacent Public Rights of Way would be substantially improved by the removal of the vast majority of the existing perimeter security fencing. The application site will become publicly accessible, giving people the opportunity to experience the new areas of public realm, open space and heritage features.

Beyond the application site, based on the maximum spatial and height parameters, the proposed development would be generally contained by the perimeter vegetation. In short range views to the north, around Otford Lane, certain parts of the employment area / village centre may just break above the tree line but would not be a prominent feature in view and would be consistent with the baseline views of existing buildings and structures protruding above the perimeter woodland. To the east and west, along Pole Hill and Star Hill respectively, the proposed development is generally screened by the perimeter woodland, with the exception of minor changes to the existing access points into the application site.

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From the south, at the base of the scarp slope and around the M25 / A224, the proposed development will not be visible, set back from the scarp slope and sitting below the tree line. In middle to longer distance views to the east and south, from areas of higher ground around Otford and Sevenoaks, the proposed development would be generally screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible at this distance and there would be no perceptible change to baseline views.

It should also be noted that the assessment of effects is based on maximum building height parameters and does not consider the effects of individual building design, which would result in variations to height and roofscape and which would inevitably further reduce any visual impact.

There is likely to be nominal beneficial changes to the night time environment as a result of the proposed development, with existing lighting replaced with no modern fixtures that limit sky glow and light spill. The most noticeable changes would occur in the vicinity of the Star Hill Road junction with the removal of the Star Hill Road Gatehouse and associated security lighting and general reduction of sky glow above the application site.

Overall it is concluded that the proposed development will not result in any significant landscape and visual effects.

The LVIA for the permitted development also concluded that there would be no significant landscape and visual effects, and that the scheme improves the visual amenity and character of the application site. With particular reference to visual effects, it was concluded that while certain the vast majority of the built development would be screened by the perimeter woodland, the proposed energy centre flue would be a visible feature, extending well above the tree-line.

When considering the effects of the operational development against the future baseline of the permitted development (of up to 450 dwellings and employment uses) it is considered that there will be no discernible changes to landscape character and views, with the proposed development confined to areas of previously developed land and not exceeding the building height parameters of the permitted scheme. However, the exclusion of the flue zone as part of the proposed development is beneficial overall, removing the element of the permitted scheme that was most visually prominent.

1.1. Statement of Significance

As set out in the assessment methodology, effects that are Major-Moderate or Major are judged to be significant. Effects of Moderate significance or less are judged to constitute additional considerations. It should be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable.

The findings of the Landscape and Visual Impact Assessment indicate that significant effects would arise to the following receptors:

- LCA1: Darent Valley – Major-moderate, permanent, positive effects resulting from the operational development, as a consequence of general improvements to the character and appearance of the application site

No significant effects are anticipated during the temporary construction phase.

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2.0 Introduction

2.1. Background

LDA Design was commissioned to carry out a Landscape and Visual Impact Assessment (LVIA) of the proposed development at Fort Halstead (the application site) on behalf of the Mersey Pension Fund, the Applicant. The development comprises a mix of employment and residential uses, with up to 750 dwellings.

The LVIA has been carried out by Paul Lishman, an Environmental Planner and chartered Landscape Architect, with over 15 years experience of undertaking LVIA's.

The LVIA defines the existing landscape and visual baseline environments; assesses their sensitivity to change; describes the key landscape and visual related aspects of the proposed development; describes the nature of the anticipated change upon both the landscape and visual environments; assesses the effects during construction, the period following completion prior to the maturing of mitigation planting (short to medium term) and once the mitigation planting is mature (long term).

The LVIA forms part of a suite of documents supporting the planning application for this development proposal. A separate landscape and visual chapter is included within the Environmental Statement (ES), which summarises the findings of the LVIA and identifies key assessment findings.

It should be noted that the application site already has outline planning permission (Application Reference 15/00628/OUT) for a mix of employment and residential development, with up to 450 dwellings. As such the LVIA considers the effect of the operational development on both the existing baseline environment (i.e. the current land uses) and the future baseline environment (i.e. with the permitted development built-out in accordance with planning permission).

The original application included an LVIA (2015) which was also prepared by Paul Lishman at LDA Design.

2.2. The Application Site and Proposed Development

As shown on Figure 1, the application site is located in Kent, approximately 5km to the north-west of the town centre of Sevenoaks and approximately 8km to the south-east of the town centre of Orpington.

The application site falls entirely within the administrative area of Sevenoaks District Council (SDC). As shown on Figure 1, it also falls entirely within the Kent Downs Area of Outstanding Natural Beauty (AONB) and is within the Metropolitan Green Belt (Figure 2).

The application site is in close proximity to several major transport routes, including the M25 motorway; its junction with the M26; the A21 (T) road leading south to Sevenoaks; and the London-Ashford railway line.

The application site was originally an area of undeveloped woodland, but was developed in the 1890's as a fort / mobilisation centre as part of the London Defence Positions Scheme. The facility was expanded in the late 1930's / early 1940's when the 'Armaments Design Department and Research Department' moved to Fort Halstead from Woolwich, and

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continued to be used for military / defence operations during the mid / late Twentieth century.

Today, the application site is still occupied by defence related industries and is currently home to Defence Science and Technology Laboratory (DSTL), which is part of the Ministry of Defence, and QinetiQ, a private defence technology company. The companies operate out of a range of office, laboratory and storage type buildings which are scattered throughout the Fort Halstead site. They are typically low-rise buildings 1 – 2 storeys in height, although there are a number of taller buildings within the Site, including N2 and the boiler house chimneys of building S2. The buildings are interspersed with internal roads; large areas of hard standing used for parking / access; smaller storage buildings and bunkers.

However, due to the current consolidation and relocation of DSTL, the majority of the application site will become vacant which has created the opportunity for redevelopment. As part of the relocation of DSTL (and under the current planning permission) some demolition and clearance works have already been undertaken. It is noted that QinetiQ intend to remain on site and improve its existing premises.

In terms of the landscape fabric and character of the application site, it is dominated by woodland which surrounds the existing built-up area providing visual enclosure. The wooded character extends into the built-up area with wide-spread mature trees typically set within areas of amenity grassland. Figure 3 (Topography and Woodland) and Figure 5 (Visible Structures) show the extent of woodland within and around the application site.

The topography of the Fort Halstead site is varied. Although the core of the site appears relatively flat, the topography varies from approximately 200m AOD in the north-east to 220m AOD in the south-west. There is gradual fall to the north of the site, towards the woodland edge, where the site is at around 190m AOD. The site also falls steeply to the south-east and south, which encompasses the scarp slope. Figure 3 shows the topography of the application site and surrounding area.

A summary of the proposed development is set out below, and the full project description can be found in the ES (Chapter 3 –Application Site and Proposed Development).

- Residential land uses allowing for up to 750 residential dwellings.
- Employment / mixed use land uses (including a potential school site and existing employments uses at QinetQ).
- A centrally located village centre comprising public square, community facilities, and incorporating retained and enhanced Listed Buildings.
- Retention and enhancement of the Fort as an Historic Interpretation Centre and with other buildings within the Fort used as workshop space.
- Retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure providing public open space, recreational routes, drainage, and biodiversity benefits.

2.3. The Study Area

It is accepted practice within landscape and visual assessment work that the extent of the study area for a development proposal is broadly defined by the visual envelope of the

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application site and the anticipated extent of visibility arising from the proposed development itself, based on the Zone of Theoretical Visibility (ZTV) study. In this case a study area of 7.5km has been used to cover all potentially material landscape and visual impacts and this is consistent with the study area used for the 2015 LVIA.

The study area is shown on Figure 1 and is repeated on the majority of the other Figures.

2.4. Report Structure

This report is structured as set out in the table of contents.

The LVIA should be read in conjunction with four complimentary reports:

- The AONB Report (prepared by LDA Design) considers the impact of the proposed development on the natural beauty criteria of the Kent Downs AONB.
- The Summary Lighting Assessment (prepared by Royal Haskoning) considers the impact of the proposed development on the night-time environment and recommends an outline lighting strategy.
- Arboricultural Impact Assessment (including Tree Retention Plan) (prepared by Middlemarch) considers the impact of the proposed development on existing trees.

The LVIA is supported by a number of Figures and Appendices.

All appendices are listed below:

- Appendix 1: Glossary
- Appendix 2: References
- Appendix 3: Methodology
- Appendix 4: Methodology for Visualisations and ZTV Studies
- Appendix 5: National Planning Practice Guidance Notes
- Appendix 6: Extracts from Landscape Character Assessment

Figures are listed below and are included at the end of this report:

- Figure 1: Site Location and Planning Policy
- Figure 2: Green Belt
- Figure 3: Topography
- Figure 4: AONB Landscape Character
- Figure 5: Visible Structures
- Figure 6: Viewpoints
- Figure 7: Viewpoints Inset Plan
- Figure 8: Photograph Panels
- Figure 9: ZTV of Existing Development
- Figure 10: ZTV of Permitted Development (excluding energy flue)

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- Figure 11: ZTV of Permitted Development (including energy flue)
- Figure 12: ZTV of Proposed Development
- Figure 13: Wireframe Visualisations

For the purpose of this LVIA, the 'application site' is defined by the red line boundary (shown on the Figures) and represents the area within which the proposed development would be built out.

The 'wider survey area' is defined by the blue line boundary (also shown on the Figures) represents an area of land which falls within the Applicant's ownership and which would be subject to landscape and ecological enhancements but would not contain any new built form.

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3.0 Methodology

3.1. Overview

“Landscape and Visual Impact Assessment 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 people’s views and visual amenity.” GLVIA 3, para. 1.1).

Paras. 2.20-2.22 of the same guidance indicate that the two components (assessment of landscape effects, and assessment of visual effects) are *“related but very different considerations”*.

The assessment method for this LVIA draws upon the established GLVIA3; An Approach to Landscape Character Assessment (Natural England, 2014), Landscape Institute Technical Information Note (LI TIN) 05/2017 regarding townscape character; and LI TIN 02/17, Visual Representation, and other recognised guidelines.

The methodology is described in more detail in Appendices 3 and 4.

3.2. Assessment Terminology and Judgements

A full glossary is provided in Appendix 1. The key terms used within this assessment are:

- Susceptibility and Value – which contribute to Sensitivity of the receptor.
- Scale, Duration and Extent - which contribute to the Magnitude of effect.
- Significance.

These terms are described in more detail below

3.2.1. Sensitivity of the Receptor

Susceptibility indicates the ability of a landscape or visual receptor to accommodate the proposed development <i>“without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.”</i> (GLVIA3, para. 5.40).	
High	Undue consequences are likely to arise from the proposed development.
Medium	Undue consequences may arise from the proposed development.
Low	Undue consequences are unlikely to arise from the proposed development.

Susceptibility of landscape character areas is influenced by their characteristics and is frequently considered (though often recorded as ‘sensitivity’ rather than susceptibility) within documented landscape character assessments and capacity studies.

Susceptibility of designated landscapes is influenced by the nature of the special qualities and purposes of designation and/or the valued elements, qualities or characteristics, indicating the degree to which these may be unduly affected by the development proposed.

Susceptibility of accessible or recreational landscapes is influenced by the nature of the landscape involved; the likely activities and expectations of people within that landscape and the degree to which those activities and expectations may be unduly affected by the development proposed.

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Susceptibility of visual receptors is primarily a function of the expectations and occupation or activity of the receptors (GLVIA 3rd version, para 6.32).

Landscape Value is “the relative value that is attached to different landscapes by society” (GLVIA3, page 157).	
National/International	Designated landscapes which are nationally or internationally designated for their landscape value.
Local / District	Locally or regionally designated landscapes; also areas which documentary evidence and/or site observation indicates as being more valued than the surrounding area.
Community	‘Everyday’ landscape which is appreciated by the local community but has little or no wider recognition of its value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by the community.

Areas of landscape of greater than Community value may be considered to be ‘valued landscapes’ in the context of NPPF paragraph 170.

Sensitivity is assessed by combining the considerations of susceptibility and value described above. The differences in the tables below reflect a slightly greater emphasis on value in considering landscape receptors, and a greater emphasis on susceptibility in considering visual receptors.				
Landscape Sensitivity				
		Susceptibility		
		High	Medium	Low
Value	National/International	High	High-Medium	Medium
	Local/District	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Limited	Low	Low-Negligible	Negligible
Visual Receptor Sensitivity				
		Susceptibility		
		High	Medium	Low
Value	National/International	High	High-Medium	Medium
	Local/District	High-Medium	High-Medium	Medium
	Community	High-Medium	Medium	Medium-Low
	Limited	Medium	Medium-Low	Low

For visual receptors; susceptibility and value are closely linked - the most valued views are also likely to be those where viewer’s expectations will be highest. The value attributed relates to the value of the view, e.g. a National Trail is nationally valued for access, not necessarily for the available views. Typical examples of visual receptor sensitivity are plotted in a diagram in Appendix 3.

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3.2.2. **Magnitude of Effect**

Scale of effect is assessed for all landscape and visual receptors and identifies the degree of change which would arise from the development.	
Large	Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed.
Medium	Partial alteration to key elements, features, qualities or characteristics, such that post development the baseline will be noticeably changed.
Small	Minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences.
Negligible	Very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences.

Duration of effect is assessed for all landscape and visual receptors and identifies the time period over which the change to the receptor as a result of the development would arise.	
Permanent	The change is expected to be permanent and there is no intention for it to be reversed.
Long-term	The change is expected to be in place for 15-25 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Medium-term	The change is expected to be in place for 7-15 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Short-term	The change is expected to be in place for 0-7 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.

Most effects will be Long term or Permanent; however, Medium or Short term effects may be identified where mitigation planting is proposed or local factors will result in a reduced duration of effect (for example where maturing woodland will screen views in future). The effects arising from the construction of the development will usually be Short term.

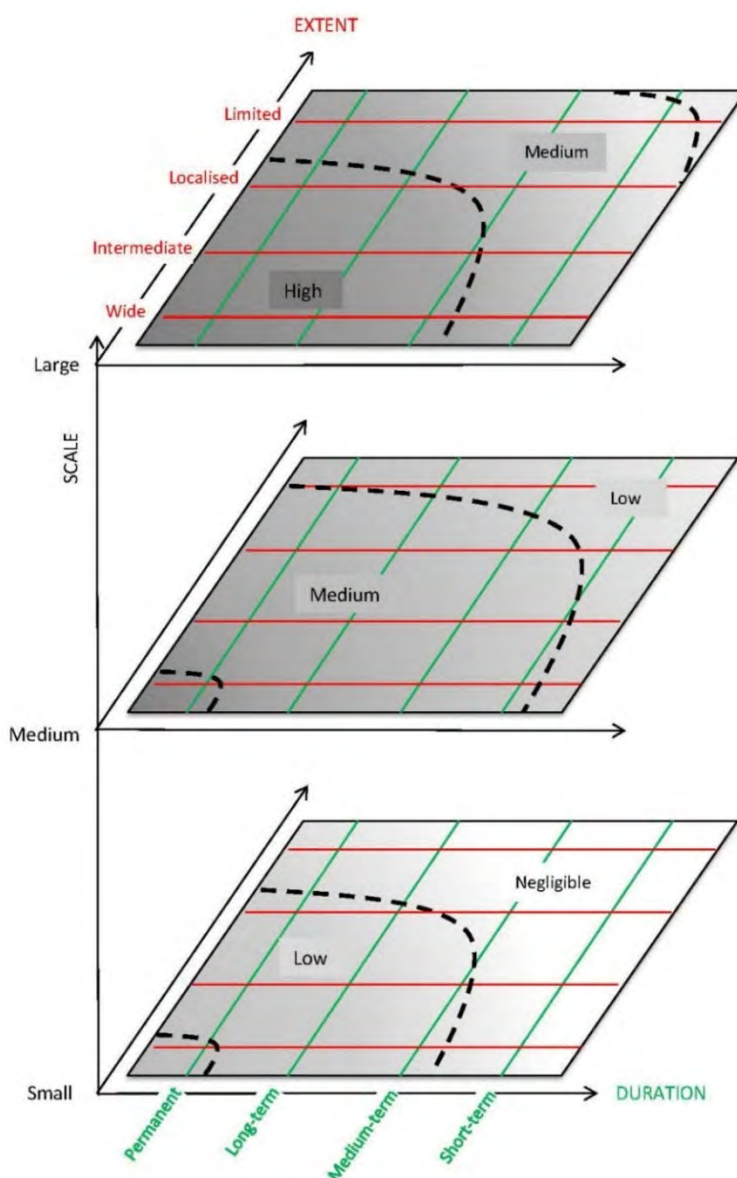
Extent of effects is assessed for all receptors and indicates the geographic area over which the effects will be felt.	
Wide	Beyond 4km, or more than half of receptor.
Intermediate	Up to approx. 2-4km, or around half of receptor area.
Localised	Site and surroundings up to 2km, or part of receptor area (up to approx. 25%).
Limited	Site, or part of site, or small part of a receptor area (< approx. 10%).

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The **Magnitude** of effect is informed by combining the scale, duration and extent of effect. **Diagram 1** below illustrates the judgement process:

Diagram 1: Magnitude of Effect



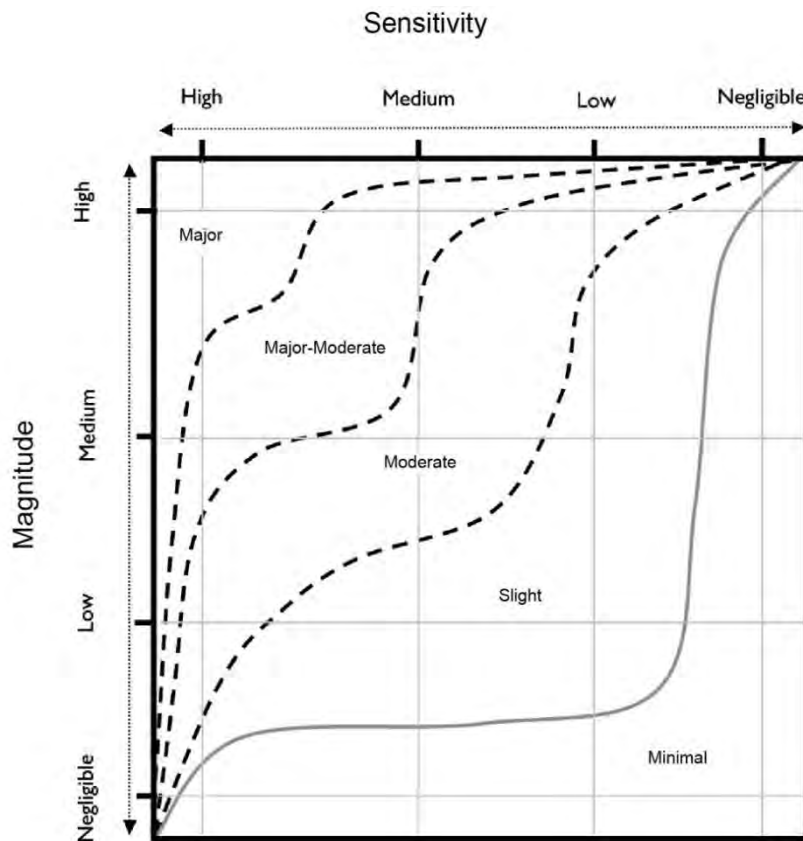
As can be seen from the illustration above, scale (shown as the layers of the diagram) is the primary factor in determining magnitude; most of each layer indicates that magnitude will typically be judged to be the same as scale, but may be higher if the effect is particularly widespread and long lasting, or lower if it is constrained in geographic extent or timescale. Where the Scale of effect is judged to be Negligible the Magnitude is also assumed to be Negligible and no further judgement is required.

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3.2.3. **Significance**

Significance indicates the importance or gravity of the effect. The process of forming a judgement as to the degree of significance of the effect is based upon the assessments of magnitude of effects and sensitivity of the receptor to come to a professional judgement of how important this effect is. This judgement is illustrated by the diagram below:

Diagram 2: Significance



The significance ratings indicate a ‘sliding scale’ of the relative importance of the effect, with Major being the most important and Minimal being the least. Effects that are Major-Moderate or Major are considered to be significant. Effects of Moderate significance or less are “of lesser concern” (GLVIA, 3rd edition, para 3.35). It should also be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable, or should necessarily be regarded as an “undue consequence” (GLVIA, 3rd edition, para 5.40).

Where intermediate ratings are given, e.g. “Moderate-Slight”, this indicates an effect that is both less than Moderate and more than Slight, rather than one which varies across the range. In such cases, the higher rating will always be given first; this does not mean that the impact is closer to that higher rating, but is done to facilitate the identification of the more significant effects within tables. Intermediate judgements may also be used for judgements of Magnitude.

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Positive/Adverse/Neutral

Effects are defined as adverse, neutral or positive. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both.

The decision regarding the significance of effect and the decision regarding whether an effect is beneficial or adverse are entirely separate. For example, a rating of Major and Positive would indicate an effect that was of great significance and on balance positive, but not necessarily that the proposals would be extremely beneficial.

Whether an effect is Positive, Neutral or Adverse is identified based on professional judgement. GLVIA 3rd edition indicates at paragraph 2.15 that this is a “*particularly challenging*” aspect of assessment, particularly in the context of a changing landscape.

3.3. Baseline Environment

The existing baseline environment refers to the existing land-use, character and visual amenity of the application site in its current form – i.e. occupied by defence related industries.

The future baseline environment refers to the future land-use, character and visual amenity of the application site assuming the permitted development (of up to 450 dwellings and employment uses) is built out.

The effects of construction activity are considered on the existing baseline environment only. It is considered that construction activity would have a similar effect on landscape and visual receptors regardless of whether the application site was occupied by defence related industries or mixed-use residential / employment development.

The effects of the operational development are considered on both the existing baseline environment and the future baseline environment. It is considered that the effects of the operational development on landscape and visual receptors would vary depending on the application site was occupied by defence related industries or mixed-use residential / employment development.

3.4. Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development.

Typically, operational and consented developments are treated as being part of the landscape and visual baseline – i.e. it is assumed they will be built out in accordance with the planning approval. In addition, in line with most recent Environmental Impact Assessment Regulations (EIA) (2017), it is not considered necessary to consider the cumulative impact of other developments that have not yet been approved.

A review of relevant planning applications revealed that at the time of the preparation of this LVIA there are no developments that should be considered as part of a cumulative assessment and this was agreed with the LPA during the EIA scoping exercise.

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3.5. Residential Amenity

This LVIA does not include a separate residential amenity assessment. It is considered that the effects resulting from the proposed development would fall below the threshold of being “*so unpleasant, overwhelming and oppressive that this would become an unattractive place to live*” (known as the Lavender Test) and “*would not feature in the planning balance, irrespective of how many dwellings were so affected*”.

3.6. Green Belt

As shown on Figure 2, the application site falls entirely within the Metropolitan Green Belt.

As Green Belt is a land use designation rather than one which indicates a valued landscape, effects on Green Belt do not fall under the remit of this LVIA. However, landscape and visual matters such as effects on openness inform Green Belt considerations.

The findings of this LVIA have therefore contributed to the consideration of effects on Green Belt and the relevant findings are reported within the Planning Statement which accompanies the planning application.

3.7. Distances

Where distances are given in the assessment, these are approximate distances between the nearest part of the application site and the nearest part of the receptor in question, unless explicitly stated otherwise.

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4.0 Legislation and Planning Policy

4.1. Legislation

As shown on Figure 1, the application site falls within the Kent Downs Area of Outstanding Natural Beauty (AONB). An AONB is an area of high scenic quality which has statutory protection in order to conserve and enhance its natural beauty.

AONBs are designated under the provisions of the 1949 National Parks and Access to the Countryside Act and subsequent legislation has introduced new measures to strengthen their protection.

In clarifying what natural beauty covers, Section 114 (2) of the National Parks and Access to the Countryside Act 1949 states that *“references in this Act to the preservation of the natural beauty of an area shall be construed as including references to the preservation of the characteristic natural features, flora and fauna thereof.”*

The Countryside and Rights of Way (CROW) Act 2000 (ref. 2) generally re-enacts the provisions of the 1949 Act with regard to AONBs. The relevant sections of the CROW Act are:

- Section 82 – sets out the primary purpose of designations an AONB to conserve and enhance natural beauty.
- Section 84 – states the powers that Local Planning Authorities (LPA) have to take action to achieve conservation and enhancement.
- Section 85 – requires all public bodies and relevant authorities to demonstrate that they have taken account of the purposes of the AONB in their decision making.
- Section 89 – refers to the production of AONB management plans.

With regard to the Kent Downs AONB, the first management plan was published in April 2004 and the first revision management plan (2009 to 2014) was published in April 2009. More recently the second revision management plan (2014 to 2019) was published in April 2014.

The Natural Environment and Rural Communities (NERC) Act 2006 (ref. 3) updates the definition of natural beauty to include the cultural dimension of the landscape. It states (in Section 99 - under the heading ‘Natural Beauty in the Countryside’) that:

“The fact that an area in England or Wales consists of or includes—

(a) land used for agriculture or woodlands,

(b) land used as a park, or

(c) any other area whose flora, fauna or physiographical features are partly the product of human intervention in the landscape, does not prevent it from being treated, for the purposes of any enactment (whenever passed), as being an area of natural beauty (or of outstanding natural beauty).”

The implication of the Natural Environment and Rural Communities Act 2006 (ref. 3) is that natural beauty includes natural features (flora, fauna and geological and physiographical features) and features of the cultural landscape (fields, woodlands, parkland, etc.).

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This is confirmed in Natural England’s ‘Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England’ (March 2011) (ref. 4) which states that:

“It is Natural England’s view that fauna and flora (i.e. wildlife), geological and physiographical features and cultural heritage can contribute to the natural beauty of all landscapes and that any assessment of natural beauty must take these factors into consideration, whether in relation to a National Park or an AONB designation. For example, the presence of particular wildlife or cultural heritage features can make an appreciable contribution to an area’s sense of place and thereby heighten the perception of natural beauty. There is now express statutory clarification that wildlife and cultural heritage may be taken into account in assessing natural beauty for National Park designations (s.59(1)) of NERC.”

It goes on to state that Natural England has developed a list of factors that contribute to natural beauty, and it provides a practical framework for an evidence base which assists in making judgements about natural beauty in a rigorous and transparent way. The ‘factors related to natural beauty’ are set out in Table 1 below:

Table 1: Natural Beauty Framework (Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England, 2011)

Criteria	Description
Landscape Quality	This is a measure of the physical state or condition of the landscape.
Scenic Quality	The extent to which the landscape appeals to the senses (primarily, but not only, the visual senses).
Relative Wildness	The degree to which relatively wild character can be perceived in the landscape makes a particular contribution to sense of place.
Relative Tranquillity	The degree to which relative tranquillity can be perceived in the landscape.
Natural Heritage Features	The influence of natural heritage on the perception of the natural beauty of the area. Natural heritage includes flora, fauna, geological and physiographical features
Cultural Heritage Features	The influence of cultural heritage on the perception of natural beauty of the area and the degree to which associations with particular people, artists, writers or events in history contribute to such perception.

AONB legislation is considered in more detail in the separate AONB Report, which specifically considers the impact of the proposed development on the natural beauty of the Kent Downs AONB.

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4.2. Planning Policy

4.2.1. National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF) makes clear that the purpose of planning is to help achieve sustainable development (Section 2), and that design (Section 12) and effects on the natural environment (Section 15) are important components of this.

Paragraph 11 sets out that plans and decisions should apply a presumption in favour of sustainable development unless *“the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area”* or *“any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole”*.

‘Areas or assets of particular importance’ are referred to a footnote 6 and include an Area of Outstanding Natural Beauty (AONB). The list also includes important and/or irreplaceable habitats, designated heritage assets, and other land-use designations (Green Belt, Local Green Space).

Section 11 sets out considerations in ‘Making effective use of land’ and notes in paragraph 122 that in achieving appropriate densities, planning policies and decisions should consider *“the desirability of maintaining an area’s prevailing character and setting (including residential gardens), or of promoting regeneration and change”*. Furthermore paragraph 123 states that in locations where there is a shortage of land to meet housing need *“it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site”*.

Section 12 deals with ‘Achieving well-designed places’ and states that planning policies and decisions seeks to ensure that developments:

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience”*.

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Section 15 relates ‘Conserving and enhancing the natural environment’ and covers both ecological and landscape matters. Paragraph 170 requires that planning decisions should contribute to enhancing the local environment by:

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

In respect of valued landscapes, paragraph 171 notes that planning policy should “*distinguish between the hierarchy of international, national and locally designated sites*” and “*allocate land with the least environmental or amenity value*”.

In relation to AONB’s paragraph 172 requires that:

“Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*

Footnote 55 notes that “*whether a proposal is ‘major development’ is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined*”.

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Paragraph 180 requires decisions to ensure that “*new development is appropriate for its location*” including by limiting the impact of light pollution on local amenity and “*intrinsically dark landscapes*”.

Relevant details of the Planning Practice Guidance Notes that support the NPPF can be found in Appendix 5.

4.2.2. Local Planning Policy

Local planning policy is contained within the following documents:

- Sevenoaks District Council Adopted Core Strategy Development Plan (2011)
- Sevenoaks District Council Adopted Allocations and Development Management Plan (ADMP) (2015)
- Sevenoaks District Council Proposed Submission Version of the Local Plan (2018)

4.2.3. Core Strategy Development Plan

The Core Strategy was adopted by Sevenoaks District Council (SDC) in 2011 and provides overarching development principles for the District. The application site is identified as a Major Developed Site (MDS) within the Green Belt within this document.

Policy LO1 concerns distribution of development and notes that “*development will only take place where it is compatible with policies for protecting the Green Belt and the High Weald and Kent Downs Area of Outstanding Natural Beauty, where relevant*”.

Policy LO8 relates to the countryside and rural economy and seeks to protect the “*distinctive features that contribute to the special character of the landscape*”. The policy notes the distinctive character of the Kent Downs AONB will be conserved and enhanced.

Design of new development is addressed in Policy SP1 which notes “*all new development should respond to the distinctive local character of the area in which it is situated.*” The policy notes that account should be made to adopted design guidance such as local character area assessments and AONB management plans.

Policy SP10 relates to Green Infrastructure, Open Space, Sport and Recreation and states:

“A Green Infrastructure Network will be developed of accessible multi-functional green space, primarily based on maintaining and linking existing areas of open space ... provision should include arrangements for maintenance of the open space. For the purposes of this policy, open space includes amenity open space, parks and formal gardens, natural and semi natural open space, children's play areas, outdoor sports facilities, churchyards and allotments.”

4.2.4. Allocations and Development Management Plan (ADMP), 2015

The ADMP was formally adopted in February 2015 and provides specific site allocations and policies.

Policy EN1 relates to design principles and seeks to encourage development of appropriate height, scale, materials while respecting the topography and character of the surrounding area and sensitively incorporating natural features such as trees and hedges.

Policy EN5 relates to landscape and states:

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“The Kent Downs and High Weald Areas of Outstanding Natural Beauty and their settings will be given the highest status of protection in relation to landscape and scenic beauty. Proposals within the AONB will be permitted where the form, scale, materials and design would conserve and enhance the character of the landscape and have regard to the relevant Management Plan and associated guidance.

Proposals that affect the landscape throughout the District will be permitted where they would:

- a) conserve the character of the landscape, including areas of tranquillity, and*
- b) where feasible help secure enhancements in accordance with landscape actions in accordance with the Sevenoaks Countryside Assessment SPD.”*

Policy EMP2 designates the application site as a Major Developed Employment Site (MDES 1) within the Green Belt. The accompanying text notes at 4.16 that:

“The Green Belt status of the site constrains the scale of development that can acceptably be accommodated, while its AONB status provides a further constraint on future development. However, there is substantial development on the site at present ... and it remains an important employment site subject to Core Strategy Policy SP8 on the protection and regeneration of such sites.”

Policy EMP3 sets out overarching principles for the redevelopment of Fort Halstead and allocates the application site for up to 450 dwellings as part of a mixed-use scheme. The policy states that *“redevelopment should have no greater impact on the openness of the Green Belt and the height of buildings must take into account the need to conserve and enhance the natural beauty of the countryside in this location.”* Moreover, redevelopment is expected to make a positive contribution to the achievement of the aims and objectives of the Kent Downs AONB.

Policy EN6 - Outdoor Lighting, seeks to minimise impact on the night sky, ensure any impacts on wildlife are adequately mitigated; and where proposal affect an AONB, lighting can be demonstrated to be essential for safety and security reasons.

Policy GI1 - Green Infrastructure and New Development, seeks green infrastructure to provide connectivity for biodiversity with the existing features of the green infrastructure network and to provide habitat creation and restoration.

4.2.5. Proposed Submission Version of the Local Plan (2018)

SCD are currently consulting on the Proposed Submission Version of the Local Plan, which will replace the Core Strategy and ADMP.

It is noted that Fort Halstead is identified as proposed allocation, with capacity for an additional 300 residential dwellings, over and above the 450 already allocated. The allocation states that any additional development must be of high-quality design; protect the ancient woodland; and conserve and enhance the AONB.

Policy LA1 seeks to protect and enhance the character of the landscape. It states that the AONB will be given the highest level of protection in relation to landscape and scenic beauty, and that development proposals within the AONB and their settings must be of an appropriate layout, form, scale and appearance. Potential enhancements within the AONB include:

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“Improvement of scenic beauty e.g. the removal or improvement of currently detrimental buildings or features; or by obscuring or distracting from negative features such as pylons, substations and major roads.

Restoring historic features and replacing existing materials with more appropriate and local materials.

Supporting the local economy e.g. using local materials, including features reliant on local materials such as wood for biomass boilers, supporting new rural business etc.

Restoring historic settlement patterns, historic field patterns or historic routeways.

Allowing new appropriate public access.

Restoration of native planting and natural features including trees, hedgerows, meadows and grassland.

Improving tranquillity and reducing the existing impact of noise and lighting”.

Policy WN1 primarily relates to wildlife and nature conservation issues and supports the creation of new blue-green infrastructure. It states that proposals for new development must retain the majority of existing features where possible (i.e. trees, hedgerows and ponds) and create new landscape and habitat features to ensure a net gain in biodiversity. Any new planting must be predominantly comprised of native species suitable to the local area. In addition, the policy states that veteran tree and ancient woodland should be incorporated into development proposals and with a suitable buffer between development and trees/woodland.

Policy EN1 relates to design principles and states that proposals must exhibit high quality design and respond to local character. This includes respecting the topography of a site; sensitively incorporating natural features such as trees, hedges and ponds; and creating new blue green infrastructure and open space.

Policy EN1 also covers lighting and seeks to limit the impact on the night sky. Where proposals affect AONBs or open countryside, lighting must be essential for safety or security reasons.

Policy OS1 relates to open space, sport and leisure. It states that open spaces should be incorporated into new developments alongside onsite blue green infrastructure and connections to the existing PRoW network. It continues that all open space should include arrangements for long term maintenance and management. It also states that proposals to improve the quality of / access to the District's open spaces, the Public Right of Way Network (PRoW) and cycling routes will be supported.

4.3. Other Guidance

In addition to the policy documents identified above, there are other guidance documents as follows:

- Sevenoaks Landscape Character Assessment (2017)
- Kent Downs AONB Management Plan 2014 - 2019
- The Kent Downs AONB Landscape Design Handbook (undated)

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- Kent Design Guide (undated)
- Adopted Development in the Green Belt SPD (2015)
- Sevenoaks District Council Green Infrastructure Topic Paper (2013)

These form part of the documented baseline and are reviewed in Section 5.0, with accompanying commentary on the implications for the development siting and design and the assessment methodology, as appropriate.

It is noted SDC's Countryside Character Assessment (2011) is an adopted SPD but has been updated by the 2017 character assessment. As such, the Countryside Character Assessment SPD is not considered further.

It is also noted that SDC have produced a Landscape Sensitivity Study, covering the sensitivity of land around key settlements. This study does not include the application site and this therefore not considered to be of relevance / is not considered further within this assessment.

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5.0 Baseline

5.1. Introduction

An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors being provided alongside the assessment in Section 7.0 for ease of reference.

This section provides a review of the key local guidance documents and identifies those landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are not taken forward for further assessment as effects “*have been judged unlikely to occur or so insignificant that it is not essential to consider them further*” (GLVIA3, para. 3.19).

Both this baseline section and the effects section describe landscape character and visual receptors before considering designated landscape. It is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation. It therefore makes a more natural reading sequence to draw together those aspects of character and views which relate to the designation if they have been described earlier in the chapter.

5.2. Key Local Guidance Documents

The following guidance documents provide advice relevant to this assessment. Landscape character studies are considered separately as part of the landscape baseline in Section 5.4.

Kent Downs AONB Management Plan 2014 -2019

The Kent Downs AONB Management Plan sets in place clear aims, policies and actions for the conservation management and enhancement of the AONB and sets out a longer term vision. It also details the special characteristics and qualities of the AONB and landscapes within it.

Specifically in relation to landscape character, Section 4: Landform and Landscape Character describes the following issues, opportunities and threats:

- *“Loss of and damage to the quality of views in and out of the AONB through development and occasionally obstructing tree growth and vegetation.*
- *Degradation of the setting and urban fringe impacts in certain Kent Downs landscape character areas through development, infrastructure, urbanisation and recreational pressure.*
- *The erosion of natural beauty and special character through illegal activities particularly fly-tipping, abandoned cars and illegal off-road vehicles.*
- *The importance of the setting of the Kent Downs has been emphasised in policy development management decisions which provides an opportunity to work with Local Planning Authorities to develop planning policy protection for the setting of the Kent Downs and to ensure that the setting is taken into account when Local Planning Authorities determine planning applications.*
- *The opportunity to promote landscape character conservation and enhancement specifically focusing on addressing and seeking to remove or mitigate identified detractors from it.*

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- *General lack of awareness of the importance and value of the Kent Downs landscape, its characteristic features and the social and economic benefits it brings.*
- *Landscape character approach not used sufficiently or appropriately in land use, land management and development management decisions and landscape character assessments are not always consistent or up to date.”*

As set out above, views in and out of the AONB are considered to be an important characteristic of the landscape, and the AONB Management Plan supports the promotion, management, restoration and appropriate creation of prominent views and viewpoints.

The Management Plan is described in more detail in the AONB Report, which considers the impacts of development on the natural beauty criteria of the Kent Downs AONB, with reference to landscape quality, scenic quality, relative wildness, relative tranquillity, natural heritage features and cultural heritage features.

The Kent Downs AONB Landscape Design Handbook

The Kent Downs AONB Landscape Design Handbook identifies 13 individual landscape character areas within the AONB, as shown on Figure 4. For each character area, design guidance is provided which seeks to ensure new development makes a positive contribution to the conservation and enhancement of the AONB.

The design guidance mainly relate to new development as opposed to the redevelopment of existing sites. However, there are a number of principles that are of direct relevance to the proposed development, namely:

- Avoiding the loss of important views.
- Retaining key landscape features, such as hedgerows, trees and woodland.
- Integration of development into the landscape through the use of open space and planting.
- Considering the mass, height and colour of development, including use of materials.
- Considering the need for lighting and the control of light spillage.

The handbook also offers specific guidance on issues such as road improvements, woodland management and chalk grassland management:

- The handbook seeks to ensure that any road improvements respect the character of rural lanes and avoid the introduction of standard materials, lighting, signs and barrier.
- The handbook encourages the management of woodlands through natural regeneration and supplementary planting. Woodland edge habitats are also encouraged to create a gradual transition between woodland and grassland areas.
- The handbook seeks to retain area of chalk grassland and control scrub invasion through an appropriately managed grazing regime.

The design principles and guidance for the relevant landscape character areas are summarised below in Section 5.4.

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Kent Design Guide

The Kent Design Guide is adopted by SDC as an SPD and champions good design within Kent, setting out guidance and case studies as to how this may be achieved.

In relation to the landscape, the guide states on page 48:

- *“Landscape is a combination of nature and culture; it is formed by topography, trees, hedges, paths, roads, structures and materials. These elements determine the landscape character of an area.*
- *A well-designed landscape will provide:*
 - *an attractive setting for a development, its users and occupiers a positive environment of wider economic benefit*
 - *a sense of place with a clear identity*
 - *a sense of space and enclosure*
 - *spatial benefits including integrating the visual impact of the built environment with nature environmental benefits including micro-climate creation, pollution attenuation and the reduction of water and energy consumption*
 - *noise and visual screening, and*
 - *retention of cultural associations with the natural environment.”*

Adopted Development in the Green Belt SPD

This SPD provides guidance for development proposals within the Green Belt (the extent of the Green Belt is shown on Figure 2). Generally SDC will expect redevelopment proposals to:

- *“have no greater impact than the existing development on the openness of the Green Belt and the purposes of including land within in, and where possible have less;*
- *not exceed the height of existing buildings; and*
- *not occupy a larger area of the site than the existing buildings.”*

Chapter 11 of the SPD details design guidance and states within paragraph 11.11:

“The landscape is very important to the openness and visual amenity of the Green Belt. All applications for development in the Green Belt will be required to demonstrate how they protect the openness and visual amenity of the Green Belt, through the form and design of buildings and all external areas, landscape works and planting.”

Sevenoaks District Council Green Infrastructure Topic Paper

This topic paper sets out the existing Green Infrastructure (GI) network in the District and also identifies priorities and projects to deliver future GI enhancements. ‘Landscape and Countryside’ is listed as a key priority with a number of projects identified.

The application site is within the Central North Downs Biodiversity Opportunity Area (BOA) which identifies priority areas for the restoration and creation of Biodiversity Action Plan (BAP) habitats and also contains ancient woodland, recognised for its biodiversity value. Target for the Central North Downs BOA include:

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“Restore, extend and reconnect chalk grassland. By 2015, restore at least 10ha of chalk grassland in the Darenth Valley area, and pursue opportunities for:

- *Enhance or reinstate woodland management, and restore plantations on ancient woodland sites to native woodland; extend and reconnect fragmented woodlands where this would not conflict with grassland conservation and enhancement.*
- *Restore natural floodplain habitats, and restore/create flower-rich neutral grassland on suitable soils. Pursue opportunities for creation of species-rich neutral grassland where this would contribute to the county-wide target of creating 50ha on new lowland meadow in blocks of at least 2ha by 2015.*
- *Achieve a quantifiable improvement in habitat quality of the River Darent, as judged by appropriate EA quality indicators.*
- *Implement conservation grazing management on grassland and wood pasture habitats.*
- *Encourage appropriate physical and intellectual access to the landscape and wildlife of the area.”*

The document also provides a list of current and proposed landscape and countryside projects which includes the Kent Downs AONB Woodfuel Pathfinder project – which seeks to encourage the use of sustainable woodfuel for energy, the Kent Orchards project – promoting the replanting of traditional Kent orchards, and the nationwide Magnificent Meadows project – which seeks to raise the awareness of wildflower meadows.

5.3. ZTV Study

The ZTV is a theoretical model that illustrates the maximum theoretical visibility of development and is used to inform the assessment process.

A ZTV has been prepared for the proposed development, based on the building heights defined by Parameter Plan PP02 – Building Heights (up to a maximum of 16m). Figure 12 shows the ZTV of the proposed development.

The ZTV is also based on the indicative ground model for the application site, prepared in discussion between the masterplanners and engineers. Levels vary across the application site, with many of the larger buildings spanning changes in level that allow level access at one end but are partially buried at the other. A ground modelling exercise was undertaken aimed at creating suitable development platforms whilst minimising cut and fill / export of material off site; allowing for the retention of trees, particularly at the perimeter of the application site; maintaining existing levels along Crow Drive which is an arterial route through the application; and ensuring a buffer to the scheduled monument and existing retained development.

The ZTV also uses a topographic model (derived from NEXTMAP 25 surface mapping data) for the areas outside of the application site. This includes woodland and settlement as visual barriers in order to provide a more realistic indication of potential visibility.

However, it should be noted that the ZTV does not take into account any localised features such as small copses, mature trees and hedgerows which can have significant screening properties. Consequently, the actual visibility when on the ground is likely to be substantially less than that shown on the ZTV.

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In order to allow for the assessment of effects of the proposed development against both the baseline environment and future baseline environment, the following ZTV's have been included which were submitted as part of the 2015 LVIA:

- Figure 9 - ZTV of Existing Development (baseline)
- Figure 10 – ZTV of Permitted Development - excluding energy flue (future baseline)
- Figure 11 – ZTV of Permitted Development - including energy flue (future baseline)

Existing Application Site

Figure 9 illustrates the ZTV of the existing development within the application site. The ZTV indicates the main area of theoretical visibility lies between 2.5km and 5km to the south of the application site, principally between the M25 motorway and Goathurst Common within the River Darent. Potential visibility is likely to occur in an area between the M25 motorway and A25 from Westerham in the west to Ightham Common in the east, and as far south as Ide Hill. Many of the potential views from Sevenoaks would be screened by built form although some glimpses from within the built form are possible.

To the north of the application site, topography is much more gently sloping which serves to limit potential views. The ZTV indicates an area of visibility from Halstead northward across Knockholt Station to Chelsfield at the edge Orpington and also to the north-east in an area around Farningham. Field verification has shown that in reality the combination of relatively flat topography and intervening vegetation of this area screens views of the application site.

Permitted Development

Figure 10 illustrates the ZTV of the permitted development, modelled at a maximum height of 16m (excluding the energy flue, and which is no higher than the proposed development). This indicates a general increase in theoretical visibility between the existing development within the application site and the permitted development. However, the ZTV does indicate slightly less theoretical visibility to the north of the application site than at present.

The additional areas of theoretical visibility are primarily located to the east around Kemsing with some additional areas to the south, adjacent to the M25 motorway and along the River Darent. However, field verification has shown that much of the additional areas of theoretical visibility indicated within the Darent Valley are screened by vegetation, whilst those on the valley sides around Kemsing are of a distance of at least 2.5km, meaning that any built form visible would not form a prominent feature in the view.

Figure 11 illustrates the ZTV of the permitted development, including the energy flue, which is modelled at 25m). Despite this relatively large increase in building height parameters around the flue zone, this indicates that the main areas of potential visibility would be similar to that of the permitted development without the flue, with only an additional area to the east of the application site around Twitton within the Darent Valley.

Proposed Development

Figure 12 illustrates the ZTV of the proposed development (which no longer includes an energy centre / flue). This indicates that – in comparison with the ZTVs for the permitted

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development (including energy centre flue) – there is substantial less visibility due to the reduction in building height parameters. In comparison with the ZTV for permitted development (excluding energy centre flue), there is also less visibility. This is likely to be as result of more refined ground model data and some changes to land-use distribution within the application site. The ZTV for the proposed development is very similar to that the existing development with potential visibility from around Sevenoaks to the south and some intervisibility around Halstead and Farningham to the north.

Effects on landscape or visual receptors outside the areas of visibility indicated by the ZTV would be negligible and are therefore not assessed in detail.

5.4. Landscape Character

Paragraphs 5.13-5.15 of GLVIA, 3rd edition indicates that landscape character studies at the national or regional level are best used to “*set the scene*” and understand the landscape context. It indicates that Local Authority Assessments provide more detail and that these should be used to form the basis of the assessment of effects on landscape character – with (appropriately justified) adaptation, refinement and interpretation where required.

Relevant assessments are:

- Natural England’s Character Map of England
- Landscape Character Assessment of Kent (2004)
- Kent Downs AONB Landscape Design Handbook (1995)
- Sevenoaks Landscape Character Assessment (2014)

National Landscape Character

Natural England’s ‘National Character Areas’ (NCAs) identify landscape character at the strategic level for the whole of England. These national character areas provide the context for understanding the landscape within the LVIA Study Area, but given their scale, and the presence of more detailed character areas at a local level, the NCAs are not assessed in detail.

The application site is within NCA profile 119: North Downs; the key characteristics of which are noted as being:

- *“Cretaceous Chalk forms the backbone of the North Downs. A distinctive chalk downland ridge rises up from the surrounding land, with a steep scarp slope to the south providing extensive views across Kent, Surrey and Sussex and across the Channel seascape to France.*
- *The broad dip slope gradually drops towards the Thames and the English Channel, affording extensive views across London and the Thames Estuary. The carved topography provides a series of dry valleys, ridges and plateaux.*
- *The area is cut by the deep valleys of the Stour, Medway, Darent, Wey and Mole. The river valleys cut through the chalk ridge, providing distinctive local landscapes which contrast with the steep scarp slope.*
- *Woodland is found primarily on the steeper slopes of the scarp, valley sides and areas of the dip slope capped with clay-with-flints. Well-wooded hedgerows and shaws are an important*

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component of the field boundaries, contributing to a strongly wooded character. Much of the woodland is ancient.

- *Tracts of species-rich chalk grassland and patches of chalk heath are important downland habitats and of international importance.*
- *In the western part of the area, around and to the west of Sevenoaks and into Surrey, there is increased urban development.”*

The Wealden Greensand NCA (NCA 120) lies approximately 1.2km to the south of the application site and can be identified by its scarp and dip slope topography creating an undulating topography, ancient mixed woodland and scattered settlement.

To the far north of the study area, approximately 6.2km north of the application site, is the North Kent Plain NCA (NCA 113). This NCA is characterised by its open, low lying and gently undulating topography and abundance of fertile soils supporting a very productive agricultural, giving the area’s moniker as the ‘Garden of England’.

Sub-Regional Character

The Kent Landscape Character Assessment identifies character at the county level. As with the NCAs, this study provides useful context but given its scale, and the presence of more detailed character areas at a local level, the study is not assessed in detail.

An extract of the character map is provided in Appendix 6 for reference, and the following character areas are within the 7.5km LVIA Study Area:

- Knockholt Downs
- Knockholt: Darent Valley
- Westerham and Greensand Sevenoaks Ridge
- Western Low Weald: The Low Weald
- Western Wooded Farmlands
- Eastern Low Weald: The Low Weald
- Ightham Greensand: Sevenoaks Ridge
- Greensand Ridge – Plaxtol
- Kemsing Vale Kent Downs
- Kingdown: West Kent Downs
- North Darent: Darent Valley
- Wrotham Heath – Ryarsh Group

The application site is within the Knockholt: Darent Valley character area, key characteristics of which include:

- *“Dense woodlands along the top of the western escarpment conceal a small scale landscape of mixed farming and deciduous coppiced woodlands.*
- *Several dry valleys extending out of the AONB give a gently rolling character.*

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- *A densely settled area...with the considerable influence of M25 on the landscape.”*

The Kent LCA notes the landscape action priority for this regional character area is to ‘conserve’, particularly the woodland cover, narrow roads and isolated farming settlements.

The application site itself demonstrates characteristics of this character area, notably the dense woodland along the top of the escarpment, much of which is ancient woodland.

Landscape Character Assessment of the Kent Downs AONB

The Kent Downs AONB Landscape Design Handbook identifies 13 character areas across the designation. As shown on Figure 4, the application site is within LCA1: Darent Valley which occupies a broad sweep of land between Westerham to Farningham west to east and Sevenoaks and the edge of Greater London north to south. Key characteristics are noted to be:

- *“Steep, often wooded scarp top and greensand ridge.*
- *Strong hedgerow patterns on valley sides.*
- *River within tree-lined corridor.*
- *Riverside trees and pasture.*
- *Flint and brick and weather boarded buildings.*
- *Much of the floodplain is arable farmland*
- *Motorway.”*

The overall design objectives for LCA1: Darent Valley are as follows:

- *“To maintain and improve where necessary the existing hedge network, in particular on the scarp foot and on the northern downland “prairies”.*
- *To enhance the river corridor by conserving and extending the variety of tree and grassland habitats.*
- *To curb the general suburbanisation of the countryside due to inappropriate development, introduction of non-native species and use of unsympathetic materials and design.*
- *To protect and enhance unimproved chalk grassland.*
- *Conserve the historic landscape and special character of villages and settlements.*
- *To reduce the impact of major roads in the landscape.”*

This LCA is further divided into three sub LCAs – West Darent, North Darent, Knockholt, all of which fall within the 7.5km Study Area. It is not possible to determine within which sub-LCA the application site falls as no definition of their extents is provided within the Design Handbook. For completeness, the key characteristics and relevant design guidance for each sub LCA is set out in Table 2 below.

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Table 2: Key characteristics and Design Guidance of Sub LCAs

Sub LCA	Key Characteristics	Design Guidance
West Darent	<ul style="list-style-type: none"> • Woodland of upper scarp bordered by extensive pasture on slopes below. • Intensively cultivated arable fields on fertile strip at scarp foot. • Mixed agriculture within the valley bottom. • Several areas of historic parkland adjacent to the Pilgrim’s Way above Westerham. • Historic villages. • M25 and M26 motorways run through the middle of the vale. • Sparse network of narrow hedges. • Wet pastures. • Pilgrims Way is a strong visual and cultural feature. 	<ul style="list-style-type: none"> • Conserve the pattern of irregular wet pastures in the valley bottom, and the form and features of historic parkland around the Pilgrims Way. • Create wooded links / shaws from the wooded ridge to the base of the scarp. • Conserve and manage scarp-top woodlands. • Integrate any new development around the edge of the scarp foot and river valley settlements by copse and thick hedgerow planting. • Integrate the motorway corridor with a strong framework of copses and hedgerows. • Seek the use of sympathetic local materials – brick, tile, ragstone and flint. • Seek to reduce impact of motorway noise. • Conserve features of Pilgrims Way.
North Darent	<ul style="list-style-type: none"> • Steep wood-topped scarps, with fragmented areas of chalk grassland on upper valley sides. • Lower intensively farmed scarp foot with strong pattern of hedges and shaws (which are sometimes overgrown). • Thick belts of trees along the river, road and railway in the valley bottom. • Ordered pattern of hedgerows in the north. 	<ul style="list-style-type: none"> • Conserve and restore hedgerows on lower slopes, thick belts of trees along the river valley bottom, and unique mature beech avenues along roads leading up valley sides. • Ensure any new land uses such as horse pasture, golf courses and smallholdings conserve and enhance the strong pattern of hedgerows and shaws. • Conserve the wood pastures of Lullingstone Park including its ancient oak trees.

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	<ul style="list-style-type: none"> • Open arable fields around Eynsford. • M25 cuts through western edge of area, isolating small sections of AONB. • Unenclosed wood-pastures of Lullingstone Park. 	<ul style="list-style-type: none"> • Seek the sympathetic use of local materials – brick, tile and flint. • Avoid inappropriate use of non-native species. • Avoid suburban boundary treatments. • Conserve, enhance and seek to connect chalk grassland areas.
Knockholt	<ul style="list-style-type: none"> • Dense woodlands along top of western escarpment. • Small-scale mixed farmland and deciduous coppice woodlands concealed by escarpment. • Several dry valleys give the landscape a gently rolling character. • Densely settled area (settlement associated with the railway). • M25, although hidden, exerts considerable influence on the landscape. • Flint and brick buildings. 	<ul style="list-style-type: none"> • Conserve existing oak, beech, chestnut coppice woodlands and restore on open arable farmland in the north. • Conserve small enclosed pastures, and narrow historic lanes with wood banks. • Seek the use of sympathetic local materials – brick, tile and ragstone. • Avoid inappropriate use of non-native species. • Avoid suburban boundary treatments. • Create formal parkland features as part of new development. • Create appropriate and manageable woodland boundaries to the common boundary between existing woodland and housing.

Given the location of the application site within the Kent Downs AONB, an assessment is made of the potential impacts on the LCA1: Darent Valley, and taking into account the relevant characteristics of the sub LCA's.

The impact of the proposed development on the natural beauty and special qualities of the Kent Downs AONB is considered in more detail within the AONB report.

Local Landscape Character

The Sevenoaks Landscape Character Assessment (2017) provides analysis of landscape character at the detailed level. Extracts from the Landscape Character Assessment, including the plan of character areas, is provided in Appendix 6.

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The original LVIA for the permitted development determined that the permitted development would only give rise to any potential significant impacts on the following Landscape Character Areas (as identified by the 2011 Countryside Character Assessment):

- Ide Hill
- Knockholt and Halstead Downs
- Knockholt Scarp
- Westerham and Brasted Parklands

The findings of the updated ZTV studies (Figure 12 / see Section 5.3 above) indicates a that – in comparison with the ZTVs for the permitted development – there is less theoretical visibility. This is largely as a consequence of the exclusion of the flue zone and more accurate ground modelling of likely levels.

As such, it is considered that the proposed development would not give rise to any potential significant impacts on any other additional areas of landscape to those listed above. In addition, it is considered there is limited potential intervisibility between the application site / proposed development and the (former) Ide Hill landscape character area due to the extensive woodland coverage and distance from the application site (typically over 5km)

Accordingly, the following landscape character areas are taken forward to the assessment of effects:

- Knockholt and Halstead Wooded Downs (containing the application site and covering similar extents as the Knockholt and Halstead Downs landscape character area).
- Chevening Scarp (immediately to the south of the application site and covering similar extents as the Knockholt Scarp landscape character area).
- Westerham to Sundridge Parks and Farmlands (covering similar extents as the Westerham and Brasted Parklands landscape character area).

The Westerham and Brasted Chart landscape character area (which broadly corresponds to the 2011 Ide Hill landscape character area) is excluded from further assessment.

These character areas are described in Table 3 below.

Table 3: Summary of Landscape Character Areas with potential to be significantly affected by the proposed development

LCA	Key Characteristics / Condition
3a: Knockholt and Halstead Wooded Downs	Key characteristics comprise: <ul style="list-style-type: none"> • <i>“Generally gently undulating, but with some steep valley slopes.</i> • <i>Mainly agricultural land use (arable and pasture), with plant nurseries, horsiculture, residential, commercial and recreational (including a golf course).</i> • <i>During the Second World War, Ivy Farm House in Kent was an outpost to the Bletchley Park decoding centre.</i>

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LCA	Key Characteristics / Condition
	<ul style="list-style-type: none"> • <i>Varied field pattern comprising some small and medium regular parliamentary enclosures as well as some earlier more irregular fields.</i> • <i>Large areas of woodland, including ancient coppice woods. Mature in-field oaks are frequent. Fields are bounded by hedgerows with mature beech trees.</i> • <i>Small historic flint and brick vernacular properties at core of settlements, large C20th housing to the outskirts.</i> • <i>Suburban development including golf courses, glass houses and distribution depots.</i> • <i>Narrow rural lanes contrast with the M25 corridor and other main roads which introduce noise and movement.</i> • <i>Mostly enclosed due to the extensive tree cover and high hedgerows.</i> • <i>Ivy House Farm was an outpost to the Bletchley Park decoding station in the Second World War”.</i> <p>The Sevenoaks Landscape Character Assessment states that “<i>intrusive new residential development, extensive horsiculture, urban recreation, and hedgerow loss have adversely affected the condition of this area. Nevertheless, historic field patterns, areas of woodland and rough grassland provide a sense of intactness and ecological connectivity</i>”.</p> <p>It is noted that part of this LCA falls within the AONB.</p>
5a: Chevening Scarp	<p>Key characteristics comprise:</p> <ul style="list-style-type: none"> • <i>“Steep wooded scarp supporting a mosaic of woodland and scrub, pasture and pockets of chalk grassland.</i> • <i>Ancient trackways follow contours along the ridge top and base of the scarp.</i> • <i>Steep enclosed lanes with no verges and high hedged banks climb up the scarp slopes.</i> • <i>Areas of native broadleaf woodland, irregular pastures and chalk grassland.</i> • <i>Settlement limited to large detached houses and scattered farmsteads.</i> • <i>Long-distance panoramic views across the Darent Valley from the scarp.</i> • <i>Working and redundant chalk quarries.</i> <p>The Sevenoaks Landscape Character Assessment states that “<i>the landscape has an intact and coherent pattern of pastures, chalk grassland and frequent blocks of ancient woodland. There are relatively few visual detractors although unsympathetic farm buildings and the presence of the M25 in the valley below are detractors. The decline of the heritage shaws and hedgerows</i></p>

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LCA	Key Characteristics / Condition
	<p><i>(sometimes replaced with post and wire fencing) has also had an adverse effect on the condition of the landscape”.</i></p> <p>It is noted that the LCA is entirely within the Kent Downs AONB.</p>
<p>9a: Westerham to Sundridge Parks and Farmlands</p>	<p>Key characteristics comprise:</p> <ul style="list-style-type: none"> • <i>“Northern undulating slopes of the Greensand Ridge to the west of Sevenoaks, supporting small to medium scale fields.</i> • <i>Small to medium scale enclosed agricultural landscape with strong hedgerows and scattered dense woodland.</i> • <i>Rural low density settlement pattern of scattered farms and hamlets.</i> • <i>Traditional vernacular building styles including Oasts, timber framed barns and properties in ragstone and/or brick, some half tile hung, and with clay tile roofs.</i> • <i>Some newer residential properties, well sited within vegetative screening.</i> • <i>Large country manor houses sited in areas of parkland at Squerryes Court, Dunsdale and Valence.</i> • <i>Narrow sunken hedge lined lanes and droving roads.</i> • <i>Glimpsed views out northwards to the North Downs scarp”.</i> <p>The Sevenoaks Landscape Character Assessment states that <i>“the shaws, intact field boundaries and historic parkland contribute positively to landscape condition, while detractors include the A21 crossing the landscape, traffic noise from the A21 and M25, loss of parkland to arable and golf course (e.g. at Valence), and modern housing development.</i></p> <p>It is noted that the majority of this Landscape character area is within the Kent Downs AONB.</p>

Historic Landscape Character

The Historic Landscape Character (HLC) types in the surrounding study area indicate the land has continued to be mainly agricultural fields (some of which display elements of post 1801 settlement), woodland and fields bounded by paths and tracks.

Although the majority of the site was covered by woodland up until the end of the 19th century, there is evidence of a suspected prehistoric trackway within the northern extent of the site and a likely post-medieval bank boundary that defines part of the limits of part of the woodland at a time when it was divided into three parcels (recorded as Beaumont Wood, Dutchmore Wood and Anisbirches Wood). This is evidenced from the 1871 OS map, which shows it running into the northern extent of the site and separating woodland from open fields. Today, the course of the historic trackway has been mainly occupied by roads and buildings, and it survives to a greater extent outside of the Site boundary.

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Historic landscape character, including commentary of the evolution of application site from predominately an area of woodland to built development, is included within the ES (Chapter 8: Historic Environment and Built Heritage).

Historic features within the landscape are referred to within this report where relevant to the consideration of current landscape character and views.

5.5. Views and Visual Amenity

Visual Environment Surrounding the Application Site

The chalk escarpment of the Kent Downs and the low lying flood plain of the River Darent valley shape the visual composition of the landscape surrounding the application site.

The most notable visual feature is the chalk escarpment which rises from the valley floor forming a prominent ridgeline running east to west. The face of the scarp is given over to pastoral and arable fields, portioned by a series of rectilinear field boundaries. The ridge and upper slopes of the escarpment are cloaked by mature woodland, much of it ancient, and strong vegetative network of tree belts and hedges. Some of the mature vegetation can be linked to the numerous historic parks and gardens that are present in the landscape (Figure 1). Vegetation along the escarpment ridge forms a continuous, sinuous green backdrop and prominent horizon to many views from the east, south and west whilst allowing wide, panoramic views southward over the River Darent valley from its slopes. In these views the M25 and settlement of Sevenoaks form notable built elements.

The River Darent forms a wide, low-lying valley to the south of the escarpment; undulating away southward in a series of clay valleys and Greensand ridges synonymous of the High Weald. The valley benefits from a strong vegetative network of tree block and hedgerows which serve to restrict potential long-distance views to the ridges of higher ground. Small lakes, associated with the abstraction of clay and sand, are present within the valley. The habitation of the valley in comparison to that of the chalkland is notable, with settlement nested within the wooded folds of the ridges. Larger buildings associated with industrial areas of Sevenoaks are also visible.

As the land begins to rise to the south of Sevenoaks, open views northward to the chalk escarpment become available although the river and the M25 motorway are not overly apparent amongst the undulating landform.

Visual Environment of the Application Site

The application site sits upon the ridge of the Kent Downs chalk escarpment which forms the northern valley side to the wide, meandering River Darent to the south. From certain areas within the southern most extent of the application site, on the chalk escarpment, wide panoramic views are possible across the Darent valley to Sevenoaks and countryside beyond to the High Weald. In these views the M25 forms a notable linear feature. Settlement within the valley is also notable, the built-up area of Sevenoaks being a prominent feature.

The majority of views from within the application site are contained by the perimeter vegetation of the surrounding woodland. Buildings of the defence research complex form the main composition of internal views, arranged in a military camp layout with Crow Road forming the main visual axis in an east to west orientation. Buildings are utilitarian in

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appearance and of little aesthetic value. They are, however, set within large grassed areas and punctuated by mature trees and small tree groups which serve to soften built structures. Some of the mature trees are likely to be remnants of the woodland that occupied the application site before it was developed. Buildings are generally small scale, being two to three storeys in height. The large Building N2 and Boiler House chimneys (Building S2) are more visually prominent within the application site, being approximately 22m and 23m Above Ground Level (AGL) respectively. Organ chimneys of other laboratory buildings are around 13m AGL in height and also visible from certain locations, although not a prominent feature in the view.

Figure 5 identifies buildings and structures on the application site that are more visible owing to their greater height, location beyond the perimeter vegetation, or protruding chimney flues. The perimeter security fence is also a notable visual feature both in views near to the application site and in longer distance views from the south where it can be seen on the face of the scarp slope.

A long distance view northward to Central London, where Canada Tower at Canary Wharf can be seen, is possible from the western area of the application site, within the area of open space that extends down to Crow Road and the Star Hill Road gatehouse.

Visual Receptors

Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA, 3rd edition, para 6.3). In order to identify those groups who may be significantly affected the ZTV study, baseline desk study and site visits have been used.

The different types of groups assessed within this report encompass local residents; people using key road routes; and people using Public Rights of Way.

Representative viewpoints were previously agreed (as part of the LVIA for the permitted development) in consultation with SDC and Kent Downs AONB and selected to assess the impacts on visual receptors identified within the Study Area. These representative viewpoints were subsequently agreed with SDC through the EIA Scoping process for the proposed development.

Table 4 below lists the representative viewpoints and summaries the nature of the existing view.

Representative viewpoint locations are shown on Figures 6 and 7. Figure 7 also shows public rights of way within the immediate vicinity of the application site.

The photographs associated with each viewpoint are shown on Figure 8. For each representative viewpoint, photographs are provided for winter 2015, summer 2015 and night-time 2015. Updated photopanels taken during autumn 2018 as part of field study to determine if there were any changes to the baseline environment. As demonstrated by the 2018 photographs, there are no changes between 2015 – 2018 that would alter the understanding of the baseline environment or alter the assessment of effects.

For ease of reference the description of the view (as set out in Table 4 below) is repeated on the photograph panels.

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Table 4: Representative Viewpoints

VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
01: View from Crow Drive	Motorists, cyclists and pedestrians along Crow Drive Motorists, cyclists and pedestrians at Crow Drive / Otford Lane / Polhill junction	0m	The application site is well screened behind the perimeter vegetation which forms an effective screen at the eastern end of Crow Drive. The eye is drawn along Crow Drive to toward the application site where the perimeter vegetation can be seen. More open views across adjacent countryside are possible northward.
02: View from Crow Drive / PRow SR97	Residents along Armstrong Close / Fort Lane Recreational users of local footpath network Motorists, cyclists and pedestrians along Crow Drive	0m	The eye is drawn along Crow Drive to the buildings at the application site entrance. Security fencing is prominent along with mature trees and car parking areas. Filtered views of the canteen (Building N10) are also possible.
03: View from footpath SR172	Recreational users of local footpath network Motorists, cyclists and pedestrians along Star Hill	200m	The perimeter vegetation forms an effective screen to views into the application site. The security fence and former quarry can be seen in the view.
04: View from Star Hill Road	Recreational users of local footpath network Motorists, cyclists and	0m	The view is characterised by perimeter security fencing, gate, gatehouse building, lighting and signage. A glimpse view into the application site is possible along Crow Road although views further into the application site are not possible.

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	pedestrians along Star Hill		
05: View from PRoW SR172	Recreational users of local footpath network	0m	The perimeter vegetation of the application site forms an effective barrier to views into the application site / of built development. The security fence dominates the composition, creating an imposing feature.
06: View from junction of Morants Court Road	Recreational users of the North Downs Way Motorists along Star Hill Road / A224 Polhill / B2211 Sundridge Road / M25	600m	The scarp slope is the main feature of the view. Woodland along the top of the scarp slope is visible and screens all built development, with the exception of Building X40, X54 and X58 which sit just in front of the tree-line. The security fence is also visible, running across the scarp slope and also the quarry.
07: View from Otford Lane	Residents in and around Halstead Motorists, cyclists and pedestrians along Otford Lane	400m	The existing view is across paddocks and fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of Building N2 which protrudes above the tree-line.
08: View from PRoW SK690	Residents in and around Halstead Recreational users of the local footpath network	1.1km	The existing view is across agricultural fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of building N2 and the boiler house chimneys (Building S2) which protrude above the tree-line. The strong vegetative network to the north of the application site is apparent.
09: View from the Darent Valley Path	Residents on edge of Riverhead /	1.8km	The scarp slope of the North Downs constitutes the main feature within the view, a continuous belt of woodland

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	Dunton Green (Sevenoaks) Recreational users of the Darent Valley Path		along its ridge forming the horizon. Views of the application site are largely screened by the perimeter vegetation although the security fence is visible.
10: View from Hale Lane Recreation Ground	Residents in and around Twitton / Otford Recreational users of Hale Lane Recreation Ground	1.4km	The wooded scarp slope of the North Downs is the prominent feature of the view. Views of the application site are largely screened by the perimeter vegetation with only the security fencing visible.
11: View from Fackenden Lane	Motorists, cyclists and pedestrians along Fackenden Lane	2.6km	A glimpsed view through a break in vegetation, the escarpment forms a prominent landform feature in the composition with woodland along its ridge. The perimeter vegetation forms an effective visual screen to the application site and the aspect of the slope means the security fencing is not visible.
12: View from footpath SR60	Recreational users of the local footpath network	2.7km	A wide panoramic view over the settled Darent Valley with the North Downs escarpment forming a prominent backdrop to the composition. The perimeter vegetation forms an effective screen to views of the application site.
13: View from Otford Mount / North Downs Way	Recreational users of the North Downs Way	3.4km	A glimpsed view through vegetation aligning the North Downs Way toward the application site. The scarp slope forms the prominent landform of the view where the security fence can be seen on its face although the majority of the application site is concealed behind the perimeter vegetation.
14: View from London Road, Sevenoaks	Residents in Sevenoaks Pedestrians, cyclists and motorists	4.8km	The North Downs escarpment forms an attractive backdrop to views out from the town where its face and wooded ridge can be seen. The former quarry at the North Downs Business Park is also visible along

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VP no. and location	Visual receptors	Approx. distance to application site boundary	Description of view (winter)
	within and around Sevenoaks		with the perimeter security fence. The majority of the application site is hidden from view by the perimeter vegetation.
15: View from Knole Park / Footpath SU18, on the south-eastern edge of Sevenoaks, looking north-west	Residents in Sevenoaks Visitors to Knole Park Recreational users of the Greensand Way	5.8km	Vegetation within the parkland screens views toward the application site. Only glimpses through the vegetation are afforded to the North Downs escarpment where the application site is primarily indiscernible.
16: Views from PRoW SR236	Residents in and around Ide Hill Recreational users of the local footpath network	6.6km	The escarpment forms a prominent landform feature to the composition with woodland forming a continuous horizon along its ridge. The quarry can also be seen. The perimeter security fence of the application site is just discernible at this distance, however the majority of the application site is screened from view by the perimeter vegetation.

Views are described in more detail below in relation to settlements, principle routes, local roads, recreational routes, accessible and recreational landscapes, and specific viewpoints.

Settlement

Crow Drive, Armstrong Close and Fort Road

A cluster of houses are located immediately to the north of the application, outside of the secure perimeter, extending from Crow Drive (Figure 8 / Viewpoint 2)

The ZTV studies indicate the area has potential visibility of the application and proposed development. Field study confirms that from Crow Drive itself there are relatively open views towards the existing Fort Halstead complex with the perimeter fence and reception building visible. There are also open views across the existing helipad site. From along Armstrong Close and Fort Road, the majority of the application site is screened from view by boundary vegetation along private gardens and along the northern application site boundary, however, some taller elements of built from within the application site can be seen above the boundary vegetation from along Armstrong Close, namely Building N2.

Halstead

The village of Halstead is sited approximately 1km to the north of the application site (Figure 8 / Viewpoints 7 and 8)

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The ZTVs indicate some of the southern fringe areas of have potential visibility of the application site and proposed development. However, field survey confirms that the majority of the application site is screened from view by the northern perimeter vegetation. Some glimpsed views of the taller elements of existing form within the application site can be seen above the boundary vegetation, including the Boiler House chimneys (Building S2) and the roof of Building N2, although these are limited to the isolated points within the landscape as a result of intervening vegetation. Views from further within Halstead are screened by built form.

Knockholt and Knockholt Pound

The ZTV studies indicate there are no views possible of the application site and proposed development from Knockholt Pound, approximately 400m to the north-west of the application site, as a result of intervening vegetation. This has been verified by field study.

Further north from Knockholt and Orpington views are screened by vegetation and, at this distance, any taller built elements of the application site that glimpsed are likely to be largely indiscernible.

As such, these settlement areas are not considered further within this assessment.

Otford (inc. Twitton and Shoreham)

Otford is the closest settlement to the application site, approximately 1km south-east (Figure 8 / Viewpoint 10).

The ZTV studies indicate there are views of the proposed development from Otford, and field study has confirmed that the wooded slopes of the escarpment is a prominent feature in views on the edge of the settlement where available, rising from the Darent Valley floor. The majority of existing built form within the application site is hidden by the southern perimeter vegetation although the pipework of flues on Buildings A28 and A10 and the roof line of Building A10 can just be seen rising above this.

Sevenoaks (inc. Dunton Green and Riverhead)

The Sevenoaks urban area extends up to around 2km to the south of the application site, and the ZTV studies indicate there are views from the urban edge of Dunton Green / Riverhead and throughout the town.

From the edge of Riverhead (Figure 8 / Viewpoint 9), the scarp slope of the North Downs forms the main feature within the view, a continuous belt of woodland along its ridge forming the horizon. Traffic on the M25 is a notable feature. Views of the application are largely screened by the perimeter vegetation although the perimeter security fence and building X54 are visible.

From within the town of Sevenoaks (Figure 8 / Viewpoint 14), where the alignment of streets and break in the built form allow, there are longer distance views towards the application site. The scarp slope is the notable feature in views, along with the former quarry workings at North Downs Business Park. The perimeter security fence and building X54 are visible however views into the application site itself are screened by the perimeter woodland.

Further south within Sevenoaks views towards the application site are generally screened by a combination of intervening built form, vegetation and topography. From within Knole

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Park to the south of Sevenoaks (Figure 8 / Viewpoint 15), views of the application site are generally screened by intervening vegetation.

Field assessment indicates that beyond circa 5km to the south are unlikely to have any discernible views towards application site. The scarp slope is visible from certain locations but not a prominent feature in view.

Summary

In views from settlements to the north, including Knockholt and Halstead, the flatter topography and intervening vegetation forms an effective barrier to views although taller built elements within the application site, namely Building N2, Boiler House Chimneys and, less prominently, laboratory chimneys are visible above the perimeter vegetation of the application site.

The topography of the land means it is settlements to the east / south that have more open views towards the application site. The scarp slope is a feature within the view, although the perimeter vegetation forms an effective screen to built form within the application site. The perimeter security fence, Building X54 and Flues of Buildings A10 and A28 are visible features from these locations.

Principal Routes

Rail

The Brighton to London railway line is the main rail route that passes through the study area. The ZTVs indicate that there is little potential visibility of the application site and proposed development from the route. This was confirmed in the field, with the route observed to be sited in cuttings or within built form for much of its length. When not within cuttings or screened by built form, intervening vegetation forms an effective visual barrier to the majority of views.

As such, the Brighton to London Railway is not considered further as part of this assessment.

M25 Motorway

The M25 is the main arterial route around Outer London and runs south-west to north-east through the study area. Open views of the scarp slope and perimeter woodland are possible from the M25 as it sweeps to the south of the application site. Flues of Buildings A10 and A28 are visible in these views along with Buildings X40 and X54 which lie just beyond the perimeter vegetation. The perimeter security fence is also a discernible feature from the road across the scarp slope, running through the open grassland (it is aligned this far from the main built form for security / safety reasons). The majority of the application site is not visible, being hidden behind the perimeter woodland.

A224 Polhill Road

The A224 runs adjacent to the eastern boundary of the application site leading northward from Junction 5 of the M25.

At the northern end of Polhill, at the junction of Otford Lane (Figure 8 / Viewpoint 1) view of the application site are screened by intervening vegetation. Towards the south end of Polhill, at the junction with Morants Court Road (Figure 8 / Viewpoint 6) more open views of the scarp slope perimeter vegetation and Buildings X40 and X54 are possible along with the

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former quarry. However, the application site itself is not visible, screened by the perimeter woodland.

A25

The A25 runs parallel to the M25 to the south. Glimpsed views towards the application site are possible, although the sinuous nature of the route and road-side vegetation limits viewing opportunities. Where visible the chalk scarp slope, perimeter vegetation and Buildings X40 and X54 can be seen although the perimeter woodland screens the application site itself.

Summary

Generally open views of the scarp slope are possible from the M25, A25 and A224. The perimeter security fence and Buildings X54 and X40 can also be seen. However, the application site itself is generally screened from view by the perimeter vegetation.

Local Roads

Star Hill Road

Star Hill Road abuts the application site to the west running from the A224 northward to Knockholt. The road is a curving route that climbs the steep face of the North Downs scarp slope. Views from Star Hill Road are represented by Viewpoint 3 (near Lime Pit Lane) and Viewpoint 4 (at the entrance to Crow Drive).

From the southern section of the route, near Lime Pit Lane (Figure 8 / Viewpoint 3) there are relatively open views of the scarp slope, perimeter security fence and Buildings X54 and X40, although the application site itself is screened by the perimeter woodland.

Further north along this route, at the junction with Crow Drive (Figure 8 / Viewpoint 4) there are glimpsed view of the Star Hill entrance security gate, gatehouse and associated security lighting although views further into the application site are generally restricted by perimeter vegetation and fencing.

Otford Lane

Otford Lane runs to the north of the application site between the A224 in the east and Halstead in the west. It is a narrow lane with a strong network of vegetation lining its course, limiting the opportunity for views of the application site (Figure 8 / Viewpoint 7).

Where gaps in the aligning hedgerow or field gateways occur, the application site is generally screened by the perimeter vegetation forming the northern boundary although fleeting glimpses of Building N2, and the Boiler House chimneys of Building S2 are possible.

Other Local Roads

Hedgerows and woodlands form an effective screen to the application site from the majority of local roads, limiting views to glimpses between the vegetation.

Other local roads in relatively close proximity to the application site include Lime Pit Lane – a dead end used for access to North Downs Business Park and former quarry and the B2211 Sundridge Road. The scarp slope is visible, however, the application site itself is screened by its perimeter vegetation.

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The flat topography and vegetation beyond Otford Lane means that views from other local roads to the north are severely restricted. Glimpses may be possible, but only the tallest elements within the application site (Building N2 and the Boiler House chimneys) would be fleetingly visible, the majority of the application site being hidden by the perimeter vegetation.

Further east, there are views towards the application site from rising ground to the east of Otford, such as along Frackenden Lane (Figure 8 / Viewpoint 11). The scarp slope is clearly visible and contrasts with the low lying the intervening valley landscape, however, the application site is screened the perimeter vegetation and at this distance, none of the existing built form is discernible.

Overall, no other local roads are considered to warrant further consideration in this assessment.

Summary

Key local routes with views to the application site are Star Hill Road and Otford Lane. View are filtered by vegetation along these routes, and where views of the application site are possible, the perimeter vegetation of the application site forms an effective screen, with only taller building elements rising above.

Recreational Routes

North Downs Way

The North Downs Way is a National Trail that runs from Farnham in Surrey to Dover on the south-east coast of Kent for a distance of approximately 251km. The route passes to the west and south of the application site, running at its nearest point parallel to the west of Star Hill Road. However, views from this stretch of the route are filtered by vegetation aligning Star Hill Road. The ZTV studies indicate that for much of the route's length through the study area views of the application site are not possible. This was confirmed by field observation.

More open views towards the application site are possible from where the route runs to the south of the application site, along the B2211 Sundridge, A224 Morants Court Road (Figure 8 / Viewpoint 6), and coinciding with the Darent Valley Path. In these views the scarp slope and wooded ridge are a notable features within the landscape. Existing buildings including Buildings X40 and X54 and chimneys of Building A28 can also be seen but views into the application site itself are screened by the perimeter vegetation.

There are also view towards the application site to the east, where the North Downs Way extends from Otford and along higher ground around Otford Mount (Figure 8 / Viewpoint 13). There are glimpsed views towards the application site through gaps in vegetation along the path, however, the application site is screened the perimeter vegetation and at this distance, none of the existing built form is discernible.

Darent Valley Path

The Darent Valley Path is a waymarked path running 30.5km along the banks of the River Darent. Owing to topography, views from the route towards the application site are limited to a short stretch between Dunton Green and Chipstead to the south of the application site (Figure 8 / Viewpoint 9). In these views the scarp slope is a prominent feature, and security fencing and Buildings X40, X54 and roofline of A10 can be seen, along with traffic along the

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M25 in the middle distance. Views of the application site itself are screened by the perimeter vegetation.

Greensand Way

The Greensand Way is a circular 173km waymarked trail spanning the counties of Kent and Surrey. It runs approximately 3km from the application site boundary at its closest point, within the built up area of Sevenoaks meaning that views are often screened or sporadic at best. The majority of the route within the study area is located circa 7km to the south of the application site and in any views the application site will be largely indiscernible. As such views from the Greensand Way are not considered further in this assessment.

Tandridge Border Path

The Tandridge Border Path is a circular route of 80km around the district boundary of Tandridge. Its closest point is approximately 7km to the south-west of the application and in any views the application site will be largely indiscernible. As such views from the Tandridge Border Path are not considered further in this assessment.

National Cycle Network

A small section of National Cycle Network runs along the A25 westward from Westerham in the far south-west of the study area. Given the distance of this route from the application site, any views the application site will be largely indiscernible and the views from the NCN are not considered further as part of this assessment.

Other Public Rights of Way

There is reasonably dense Public Right of Way (PRoW) network within the study area, in the form of local footpaths and rights of way, particularly within the Darent Valley. Views of the application site from these are similar to that of the Darent Valley Path described above, in that where gaps in the vegetation within the valley occur, open views of the chalk escarpment and application site buildings on the scarp slope beyond the perimeter woodland is possible. However, for much of these routes vegetation is an effective screen.

In terms of local PRoWs, footpaths SR97, SR172 and SR722 run around the perimeter of the application site outside of the security fencing within the wider survey area (Figure 8 / Viewpoints 2, 3, 4 and 5). Even from these footpaths, views into the application site are restricted by the perimeter woodland and shelter belt planting although open views of the scarp slope are possible from the Footpath SR722.

Views of the scarp slope are also possible from Bridleway SR728 links Lime Kiln Lane to Polhill Road but the majority of the application site is hidden by the perimeter vegetation.

From PRoW on higher ground to the east of the application site, such as SR60 (Figure 8 / Viewpoint 12), there are open views towards the application site and the scarp is clearly visible and in contrast to the low lying intervening valley landscape. However, the perimeter vegetation would largely screen views of the application site itself and as this distance none of the existing built form is discernible.

Summary

Given the vegetated and undulating nature of the landscape, views from PRoW are heavily dependent on local circumstances. The majority of PRoW within the LVIA Study Area are

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largely limited or obscured and therefore unlikely to experience substantial change to their recreational amenity as a result of the Development. However, the following may experience significant change and are taken forward for detailed assessment:

- North Downs Way
- Darent Valley Path
- Local PRow SR97, SR172, SR722 and SR728
- PRow SR60 on rising ground to the east

Accessible and Recreational Landscapes

Figure 1 illustrates accessible and recreational landscapes within the study area. The application site includes an area of open access land, designated under the Countryside and Rights of Way Act 2000 (CRoW) in the south of the application site on the scarp slope within the DSTL operational site. However, this area is within the perimeter security fencing of the application site and is not publicly accessible due to operational constraints.

There are a number of registered parks and gardens where public access is possible within the study area, the closest being the Grade II* Chevening approximately 500m to the south west of the application site. Also present is High Elms and Lullingstone and Preston Hill country parks and several Woodland Trust Sites.

The ZTVs indicate the potential visibility between these and the application site is limited and given the distances involved would render the majority of the application site largely indiscernible.

Views from accessible and recreational landscape are therefore not considered further as part of this assessment.

Specific Viewpoints

The tumulus at Otford Mount, approximately 3.5km to the east of the application site, is shown as a recognised viewpoint on OS mapping and is also on the North Downs Way. However, the orientation of the view is shown to the south, and views westward toward the application site are largely blocked by intervening woodland and vegetation aligning the North Downs Way itself.

The view from Otford Mount tumulus is therefore not considered further within the LVIA, however, views from the North Downs Way (including where it passes across Otford Mount) are assessed.

5.6. Designated Landscape Designations

Kent Downs AONB

The application site is within the Kent Downs AONB. This is a designation afforded to landscapes that are of national importance and provides a legislative obligation to 'conserve and enhance the natural beauty' of the landscape. The LVIA considers the impacts of Development on the landscape character areas identified by the Landscape Character Assessment of the Kent Downs AONB and impacts to its natural beauty are considered in the stand-alone AONB Report.

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Surrey Hills AONB

The Surrey Hills AONB lies to the far south-west of the Study Area, only including a very small area of this designation (Figure 1). No significant change is likely to occur and thus it is not considered further within this assessment or the AONB Report.

5.7. Future Baseline Environment

The permitted development forms a potential future baseline environment, upon which the proposed development can also be assessed.

In summary, the permitted development comprises:

- 450 residential dwellings
- A village centre comprising community facilities
- A new 80 bed hotel, adjacent to proposed village green / cricket pitch
- A new employment park (with potential energy centre)
- Retention of the Fort and its reuse as an Historic Interpretation Centre / small scale employment space
- Retention of existing important landscape / habitat features and creation of new green infrastructure, providing public open space, habitat corridors, and drainage systems.

The residential areas are predominately 2 storey, with a maximum of 3 storeys proposed for the village centre and employment park.

Key design principles that are of most relevance to the landscape and visual context include:

- Ensure development occupies the same area of the existing defence research facility and does not result in major changes to topography.
- Consideration of the design of new development to ensure it reflects the character of local settlement.
- Retention of all areas of woodland on the application site and consideration of building height parameters to ensure that they are not generally visible above the perimeter woodland.
- Enhancement of woodland through appropriate management, including thinning and replanting.
- Protection of Ancient Woodland, and creation of new woodland / woodland edge habitats, by creating a 15m buffer from the developed area.
- Retention of existing green infrastructure and individual trees, wherever possible.
- Creation of green infrastructure, which would provide new areas of open space, linkages and new habitats within the application site.
- New individual trees / tree groups within areas of green infrastructure and all new woodland, tree and scrub planting to be of local provenance.
- Retention of all areas of calcareous grassland on the application site and wider survey area and enhancement through appropriate management, potentially grazing.

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- New areas of species rich grassland within woodland buffers and areas of open space.
- Retention of all designated heritage features within the application site and enhancement through appropriate management, reuse and interpretation.
- Retention and enhancement of features that are not designated but reflect the Site's contemporary military heritage.
- Retention of all PRoW within the application site and partial upgrade of footpath SR172 - between the application site and Knockholt Pound – to a cycle path.
- Provision of way-finder signs and interpretation signs throughout the Site, aiding navigation and providing interpretation of key landscape, ecology and heritage features
- Partial removal of the perimeter security fence (a new security fence would be built for QientiQ), improving the setting of the Site, improving public access and improving recreational amenity.
- Removal of intrusive security lighting. A lighting strategy would be developed for the detailed design stage. All external lighting for the proposed development would be designed to meet the requirements of the ILP guidance, based on category E2 Rural (low district brightness, typical of a small village). External lighting would be controlled to limit light spill and glow and include would include the specification of standard LED light sources to improve colour definition, limitation of upward lighting, based on a coherent design approach across the Development.

In terms of existing trees, there are approximately 2,700 trees on site, the majority of which are located in-between buildings and areas of hard standing. Although it was not possible at the OPA stage to identify the exact trees for removal / retention, it was estimated that around 75% of trees could be retained (subject to detailed design proposals).

Overall it is considered that the permitted development would not fundamentally alter the landscape character of the Knockholt and Halstead Wooded Downs, Chevening Scarp or wider landscape. The application site would remain a developed area within a mainly agricultural landscape, and would not substantially alter the topography of the application site; the mosaic of surrounding woodland; or the chalk scarp. At the site scale, the permitted development would enhance the character and amenity of the application site by removing many of the existing industrial buildings and large areas of hard standing; creating a more legible site layout with high quality buildings and spaces; creating new areas of green infrastructure; and retaining, protecting and enhancing key features such as the ancient woodland and chalk grassland. There would be a loss of trees resulting from the proposed development, however, the design of the development seeks to retain existing trees where possible; new tree planting is proposed throughout the application site; and new and retained trees / woodland would benefit from improved management.

Visually, the ZTV studies have indicated that there would be very little perceptible difference between the existing development on application site and the permitted development due to the screening nature of the surrounding woodland. Some taller elements, namely the energy centre chimney and the maximum height of the new employment park in places, would potentially break this vegetation but would appear as small features within the wider panorama and off-set by the removal of existing tall structures and chimneys.

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In relation to the AONB, the permitted development would deliver a range of environmental improvements and benefits the natural beauty criteria of the AONB. Specifically the permitted development would enhance natural heritage features, ensuring the sensitive management of the woodland, mature trees and areas of chalk, semi-improved and neutral grassland. The permitted development would also benefit the understanding and enjoyment of the AONB, and the social and economic wellbeing of communities within the AONB. A range of new housing, employment and recreational facilities would be created, including providing public access and interpretation of the application site.

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6.0 The Proposed Development

6.1. The Proposal

The proposed development will comprise the following elements as described in more detail in the Design and Access Statement (DAS):

- Residential land uses, allowing for up to 750 residential dwellings.
- Employment / mixed use land uses (including a potential school site and existing employments uses at QinetQ).
- A centrally located village centre comprising public square, community facilities, and incorporating retained and enhanced Listed Buildings.
- Retention and enhancement of the Fort as an Historic Interpretation Centre and with other buildings within the Fort used as workshop space.
- Retention and enhancement of existing important landscape / habitats features and creation of new green infrastructure providing public open space, recreational routes, drainage, and biodiversity benefits.
- Some limited vegetation clearance on the southern edge of the Fort to better reveal it's heritage significance and allow for long distance views south across the landscape.
- Key open spaces include:
 - Village green at the heart of the proposed development.
 - Green corridors running through the built-up area and acting as a buffer to the Ancient Woodland.
 - Community recreation area within open land to the north-west of the application site, including 'bunker park' (which incorporated some the existing, retained bunkers).
 - Ecology zone within land to the south-west of the application site.

Key changes between the permitted development and current scheme include:

- Overall increase of 300 of new homes, achieved mainly through a combination of higher densities in key locations and inclusion of the 'bunkers' and 'helipad' sites for residential uses.
- Variations in building height parameters with predominantly 2.5 storey residential development; 3 storey residential development for landmark buildings; and a maximum of 4 storey development for the employment area.
- No requirements for an energy centre / flue zone, with an energy strategy focussing on passive design measures and solar PVs.
- Larger mixed-use village centre, including village square, centred around retained buildings.
- Relocation of some proposed employment uses closer to the village centre, creating new frontage to QinetiQ.

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- Relocation / reduction in size of the village green, so that it is more clearly defined and closely associated with the village centre.
- Exclusion of the hotel which was found not to be viable.
- Exclusion of the energy centre / flue zone, with an energy strategy focussing on passive design measures and solar PVs.

It should be noted that in relation to residential and employment building heights, the maximum height parameter of the proposed development is the same as the permitted development i.e. 16m. In addition, as stated above, the proposed development does not include an energy centre / flue, for which a maximum height parameter of 25m was permitted.

6.2. Site Fabric

The proposed developed in entirely contained within areas of previously developed land. As such the following existing open spaces / landscape features will be retained and enhanced as part of the development proposals:

- The woodland surrounding the application site, some of which is classified as Ancient Woodland.
- The area of chalk grassland to the south of the application site, on the scarp slope.
- The area of grassland to the west of the application site, along Crow Drive.

A small area of non-Ancient Woodland is indicated within the 'Flood Risk Assessment and Drainage Strategy' as potentially being removed to accommodate drainage features, however, this will be subject to detailed design.

The layout of the scheme has also been designed to ensure the majority of higher value trees are incorporated into areas of green infrastructure and can be retained. Other trees – that fall within the proposed development parcels – also have the potential to be retained, subject to more detailed design proposals. However, it is inevitable that a number of trees will be lost as a result of proposed development in order to accommodate the development proposals. It is anticipated that overall around 67% of the existing tree stock can be retained; a further 17% of existing tree stock could be retained within development parcels, subject to more detailed design; and around 16% of trees will be to removed. Further details of tree loss and retention can be found in the Arboricultural Impact Assessment (AIA) which accompanies the planning application.

There will be some reprofiling of the application site in order to create suitable development platform and create drainage features. As set out in Section 5.4, levels vary across the application site, with many of the larger buildings spanning level changes that allow level access at one end but are partially buried at the other. A ground modelling exercise was undertaken aimed at creating suitable development platforms whilst minimising cut and fill / export of material off site; allowing for the retention of trees, particularly at the perimeter of the site; maintaining existing levels along Crow Drive which is an arterial route through the application; and ensuring a buffer to the scheduled monument and existing retained development. Overall it was concluded that retaining features are needed to facilitate raising and lowering of site levels and creating development platforms with gradients of no more

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than 1 in 20. These changes are considered to be relatively minor alterations and will be consistent with the existing varied topography of the application site.

There would remain some excess spoil material to be retained within the application site. It is proposed that this will be deposited within the area of open space to the north-east of the application (north of Crow Road and the Star Hill Road gatehouse). This area is not considered to be sensitive from landscape, ecology or heritage perspective, and due to the relatively large scale of the space, can easily accommodate some minor change in levels. Subject to more detailed design, it is anticipated that the spoil could be evenly distributed across the space, or designed to create features within the landscape. This later approach would be particularly suitable given the proximity to the 'bunker park' and the potential to creating viewing platform, with views northwards towards London and potentially southwards towards Sevenoaks.

6.3. Design approach in respect of landscape and visual matters

Landscape and visual considerations have informed the design of the proposal from the outset, and the design principles remain as per the permitted development project, namely:

- Locating development within areas of previously developed land.
- Ensuring there are no major changes to the topography of the application site.
- Retention and enhancement of existing woodland.
- Retention and enhancement of individual trees wherever possible.
- Retention and enhancement of open areas of grassland to the south and west of the application site.
- Retention of all PRoW within the application site and partial upgrade of footpath SR172 - between the application site and Knockholt Pound to a cycle path.
- Retention and enhancement of key heritage features within the application site, including reuse of the historic fort as an interpretation centre / work space.
- Creation of new green infrastructure throughout the application site, including new footpaths / cycle path and signage.
- Partial removal of the perimeter security fence (a new security fence would be built for QientiQ), improving the character and appearance of the application site.
- Removal of intrusive security lighting and all new lighting designed to minimise light spill.

6.4. Construction and Phasing

Construction phase activities might include site vehicles and construction traffic within the application site and in surrounding areas; other components typical of construction activities, including workers' accommodation and stockpiles of materials; lighting of specific areas, such as construction compounds; and gradual modification of site as part of a phased programme of works.

It is anticipated that demolition and enabling works will commence in approximately 2020, with construction commencing in approximately 2021.

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The opening year of Phase 1 (which is likely to include some residential and commercial uses) is anticipated to be around 2023, with completion of the entire scheme by approximately 2030.

Further details of construction and phasing can be found in ES (Chapter 5: Demolition and Construction Strategy & Programme).

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7.0 Landscape and Visual Effects

7.1. Introduction

The likely significant impacts on landscape character and views, both for the construction and operation (completed development) phases of the proposed development, are set out below.

As described in Section 6.0 in relation to the project description, the potential for landscape and visual impacts has been addressed from an early stage in the project, and a range of measures embedded and inherent in the development proposals. Nonetheless, additional measures are proposed where appropriate to further mitigate potential impacts.

As set out in the methodology, the effects of construction are considered on the existing baseline environment.

The effects of the operational development are considered on both the existing baseline environment and the future baseline of the permitted development (of up to 450 dwellings and employment uses).

For the purposes of assessment, construction activity is considered to be ‘medium-term’ in duration (lasting for approximately 10 years), with the operational development being ‘permanent’ in duration.

Where relevant a distinction is made between summer and winter views, acknowledging that in certain circumstances there may be differences in view resulting from the degree of screening provided by the perimeter vegetation. However, it is noted that in the majority of views, the dense planting around the application site will form an effective screen during the summer and winter months.

Where relevant a distinction is also made between the effects at Year 1 of Operation and Year 10 of Operation, once proposed planting has matured. However, while the maturity of planting will inevitably be beneficial in terms of enhancing the appearance of the application site and providing an attractive setting for new development, it is the retention of the existing woodland and open spaces around the application site that is most important in mitigating landscape and visual effects.

7.2. Landscape Character Effects

Demolition and Construction

The substantial demolition and construction required for the proposed development is likely to result in significant changes to the character of the application site. The demolition of selected buildings, removal of some trees, movement of plant and materials, and construction of new buildings and infrastructure would inevitably alter the pattern and appearance of the landscape within the application site. However, the majority of landscape features within the application site and wider survey area – such as woodland, mature trees where possible and areas of chalk, semi-improved and neutral grassland - would be retained. Furthermore the phasing of the proposed development would mean that construction activities would be restricted to certain areas of the application site at any one time and not disrupt the whole of the application site for the duration of the construction phase.

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Although landscape change would occur within the application site, the change to the landscape beyond the immediate application site boundary (in the wider survey area) would be extremely limited to landscape and ecological enhancement measures. The perimeter vegetation (woodland) would form an effective screen to the majority of construction activity, and therefore restricting intervisibility with the wider landscape within the study area.

It is only the upper levels of construction activity, such as movement of temporary mobile cranes, which would potentially be visible from the surrounding landscape. Any machinery would appear as a small feature within the wider composition of the wooded horizon set by the perimeter woodland and would not be a prominent feature or result in any changes to the key characteristics of the surrounding landscape.

The movement of plant and traffic travelling to and from the application site also has the potential to affect landscape character, increasing the degree of movement within the local area. Impacts on landscape character will be minimised through management measures set out within the Construction and Logistics Management Plan, which will include an agreement not to use the Star Hill access for construction traffic. HGV's will be required to use the Otford Lane access onto A224 Polhill, with the route north towards the M25 Junction 4 identified as the main route for construction. The A224 Polhill is already a busy trunk road and is characterised by frequent vehicle movements.

Operational Development

It is anticipated the landscape character of the study area would remain largely unaffected by the proposed development. The proposed development would occupy the same area of the existing defence research facility and would not increase the extent of built development. Furthermore, the majority of landscape features within the application and wider survey area – such as woodland, mature trees where possible and areas of chalk, semi-improved and neutral grassland - would be retained.

The majority of built form would be contained within the perimeter vegetation that forms an effective screen and limits intervisibility. The removal of many of the chimney structures and taller buildings, notably N2 and Boiler House chimneys, would result in improvements to views towards the application site and across the landscape, reducing the amount of built form currently visible on the escarpment ridge. Some taller elements of the proposed development – such as the taller employment areas - may protrude slightly above the perimeter vegetation but would not be a prominent feature within the wider landscape.

It is considered the integrity of principal landscape features within the study area, including the chalk escarpment of the Kent Downs, the low lying flood plain of the River Darent valley, and extensive woodland within the valley and along the escarpment ridge would remain unchanged, and overall there would be a neutral impact on the surrounding landscape within the study area.

Beneficial impacts are anticipated within the application site itself. The majority of the utilitarian structures, workshops, car park and disturbed land that currently dominate the application site being will be removed and replaced by residential and employment built form, punctuated and intertwined by new areas of green infrastructure. Existing areas of open space, such as the chalk grassland on the scarp slope and ancient woodland around the

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perimeter of the application site, would be retained and managed in the long-term, enhancing the character and appearance of the application site and wider survey area.

For the purposes of this assessment, the proposed development would result in a permanent change to the landscape resource.

LCA1: Darent Valley

Sensitivity

The application site falls within Darent Valley LCA. As the proposed development would be contained entirely within the footprint of previously developed land associated with the existing defence research facility the susceptibility of the Darent Valley LCA is judged to be Medium.

The Darent Valley LCA falls within the Kent Downs AONB and it therefore judged to be of National / International Value, and High-Medium sensitivity overall.

Construction Effects

During construction the only area of landscape likely to experience a large scale of impact is within the application site, which would change from a defence research facility to an area of construction activity. The application site occupies a relatively small area of the wider Darent Valley LCA and the surrounding landscape would not be discernibly affected by the proposed development as construction activity would appear as a small feature within the wider landscape. In addition there would be no discernible change to any of the key characteristics of Darent Valley LCA, or of the West Darent, North Darent, or Knockholt sub LCAs. Specifically there would be no change to:

- The wooded scarp.
- The areas of chalk grassland on the scarp slope.
- The network of hedgerows and tree belts.
- The pattern of agriculture, parkland and settlement.
- The presence of the motorways in the landscape.

There may be minor alterations to the surrounding landscape resulting from intervisibility of the proposed development and the presence of tall machinery protruding above the existing perimeter woodland. However, construction would not be a prominent feature in view and any change in views within and across the Darent Valley LCA would be barely perceptible.

At the site scale, construction would have a greater effect, introducing machinery and plant, and gradually new built development, into the already existing built form of the landscape. Construction would also add additional movement and activity into the landscape. However, the application site is already characterised by buildings and structures, and there are existing sources of disturbance as a result of the ongoing operational activity associated with DSTL and QinetiQ.

Overall, the extent of effect on the Darent Valley LCA is considered to be Limited, largely contained within the site and affecting a very small part of a much wider character area. The scale of effect would be Medium as there would be partial alterations to key elements,

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features, qualities and characteristics of the landscape such that the baseline will be noticeably changed. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect would be **Low** resulting in a **Slight** significance of effect. As result of the changes to the fabric of the site itself the effect of construction on the Darent Valley LCA is considered to be **Adverse**, albeit the vast majority of the LCA will remain unaffected.

Operational Effects

During operation of the proposed development the only area of landscape likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. The application site occupies a relatively small area of the wider Darent Valley LCA, and the surrounding landscape would experience no discernible change to any of the key characteristics of Darent Valley LCA, or of the West Darent, North Darent, or Knockholt sub LCA's.

The proposed development has the potential to enhance the overall character of the application site by removing many of the existing industrial-type buildings and large areas of hard standing and creating a more legible layout with high quality buildings and open space.

The design principles and network of green infrastructure (as described in Section 6.0) would integrate the proposed development into the landscape, retaining all woodland around the application site; trees within the application site (where possible); and providing resources for long-term tree and woodland management. The large areas of chalk / neutral grassland to the south and west of the application site in the wider survey area would be enhanced through an appropriate management regime.

The design principles also seek to enhance the character and appearance of the application site. The proposed development is planned around a village centre (and associated village square and village green), ensuring landscape and open space is at the core of the proposed development. The village centre includes existing heritage assets and retained buildings, and provides strong links to the Fort, which would be open to the public and would contain the heritage interpretation centre. 'Green fingers' extend from the village centre and throughout the residential area, to provide areas of public open space, pedestrian links, allow for tree retention (and new planting) and SuDS, and provide habitat corridors between areas of woodland. The green fingers are also important from a place making perspective, creating an attractive, diverse residential environment of differing characters.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the integration of development into the landscape through the use of open space and new planting.

Overall, the extent of effect on the Darent Valley LCA is considered to be Limited and the scale of effect would be Medium as there would be partial alteration to key elements, features, qualities or characteristics, such that during the operational phase the landscape character would be noticeably changed. The duration of effect would be permanent.

It is judged that the overall magnitude of effect would be **Medium**, resulting in a **Major-Moderate** significance of effect.

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Considering that the proposed development has the potential to enhance the character and appearance of the application Site, and would be well integrated into the landscape, the effects are considered to be **Positive** overall.

Positive effects would continue over the longer term as the proposed green infrastructure and planting matures.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in very little change to the landscape character of the Darent Valley.

While there would a slight increase in the overall building footprint when compared to the permitted development, built form would remain contained within areas of previously developed land; would not result in the loss of any boundary woodland; would still allow for the retention of the vast majority of trees; and would retain the open areas of grassland to the south and west of the application site. The maximum height parameters for residential and employment buildings would be no greater than the maximum height parameters for the permitted development, and there would be no energy centre flue (up to a maximum height parameter of 25m). From within the wider landscape of the study area, the proposed development would remain largely concealed by surrounding woodland and would not be a prominent feature in view. Overall, there would be no perceptible changes to any of the key characteristics of Darent Valley LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect. Given that the application site is already characterised by mixed-use development, the effects are considered to be **Neutral** overall.

3a: Knockholt and Halstead Wooded Downs

The application site falls within the Knockholt and Halstead Wooded Downs LCA. As the proposed development would be contained entirely within the footprint of the existing defence research facility the susceptibility of the Knockholt and Halstead Wooded Downs LCA is judged to be Medium.

Knockholt and Halstead Downs LCA falls within the Kent Downs AONB; however, its condition diminished by residential development, extensive horsiculture, urban recreation, and hedgerow loss. It is therefore judged to be of Local Value, and Medium Sensitivity overall.

Construction Effects

During demolition and construction works, the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of construction activity. While the application site falls largely within the Knockholt and Halstead Downs LCA, the vast majority of the surrounding landscape would not be affected by the proposed development, and there would be no discernible change to any of the key characteristics of Knockholt and Halstead Downs LCA. Specifically there would be no change to:

- Any areas of agricultural land, pasture, grassland, woodland or parkland.

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- Topography of the landscape surrounding the application site.
- Existing settlements pattern.
- Pattern of roadside trees and hedgerows surrounding the application site.

At the application site scale, demolition and construction would have a greater effect, introducing machinery and plant, demolition of existing buildings and gradually new built development, into the landscape. Construction would also add additional movement and activity into the landscape. However, the application site is already characterised by buildings and structures, and there are existing sources of disturbance as a result of the ongoing operational activity associated with DSTL and QinetiQ.

There would be a degree of change to the pattern of trees and vegetation within the application site as the proposed development would result in some removal of trees, although where possible trees would be retained and integrated into the layout of the proposed development. However, all woodland within the wider survey area would be retained. A complete tree survey has been undertaken to identify the location and condition of trees across the application site, and the layout of the proposed development seeks to ensure that areas of proposed green infrastructure coincide with existing groups of trees, and therefore minimise overall tree loss. The Arboricultural Impact Assessment and DAS provides more detail on potential tree loss / retention and how the proposed development has responded sensitively to the arboricultural context.

Overall, the extent of effect is considered to be Limited, largely contained within the site and affecting a small part of a wider character area. The scale of effect would be Medium, as there would be partial alternation to key elements, features, qualities and characteristics, such that during the construction phase the landscape character would be noticeably changed. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect of construction would be **Low**, resulting in a **Slight** significance of effect. As result of the changes to the fabric of the site itself the effect of construction on the Knockholt and Halstead Downs LCA is considered to be **Adverse**, albeit the vast majority of the LCA will remain unaffected.

Operational Effects

During operation of the proposed development the only landscape area likely to experience a large scale of impact is the application Site itself, which would change from a defence facility to an area of employment and residential development, with associated road infrastructure and open space. The surrounding landscape would not be affected by the proposed development due to lack of intervisibility, and there would be no discernible change to any of the key characteristics of Knockholt and Halstead Wooded Downs LCA.

The proposed development has the potential to enhance the overall character of the application site by removing many of the existing industrial type buildings and large areas of hard standing and create a more legible site layout with high quality buildings and open space.

The proposed development would be well integrated into the landscape, whereby all woodland around the application site would be retained and managed providing resources for long-term enjoyment. The large areas of chalk grassland to the south and neutral

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grassland to west of the application site would also be retained and enhanced through an appropriate management regime.

The design principles also seek to enhance the character and appearance of the application site. The proposed development is planned around a village square / village green, ensuring landscape and open space is at the core of the community. The village centre includes existing heritage assets and retained buildings, and provides strong links to the Fort Scheduled Monument, which would be open to the public and would contain the heritage interpretation centre. 'Green fingers' would extend from the village centre and throughout the residential area, and between the residential and new employment park to provide areas of public open space, pedestrian links, allow for tree retention and SuDS, and provide habitat corridors between areas of woodland. The green fingers are also important from a place making perspective, creating an attractive, diverse green space of differing characters.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the integration of development into the landscape through the use of open space and new planting.

Overall, the extent of effect is considered to be Limited and the scale of effect would be Medium as there would be partial alternation to key elements, features, qualities and characteristics as described above, such that during the operational phase the landscape character would be noticeably changed. The duration of effect would be Permanent.

It is judged that the overall magnitude of effect of operation would be **Medium**, resulting in a **Moderate** significance of effect.

Considering the proposed development has the potential to enhance the character and appearance of the application site and would be well integrated into the landscape with key landscape features retained, the impacts are assessed to be **Positive** overall.

Positive effects would continue over the longer term as the proposed green infrastructure and planting matures.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in very little change to the landscape character of the Darent Valley.

While there would a slight increase in the overall footprint when compared to the permitted development, built form would remain contained with areas of previously developed land; would not result in the loss of any boundary woodland; would allow for the retention of the vast majority of trees; and would retain the open areas of grassland to the south and west of the site. The maximum height parameters for residential and employment buildings would be no greater than the maximum height parameters for the permitted development, and there would be no energy centre flue (up to a maximum height parameter of 25m). From with the wider landscape, the proposed development would remain largely concealed by surrounding woodland and would not be a prominent feature in view. Overall, there would be no perceptible changes to any of the key characteristics of the Knockholt and Halstead Wooded Downs LCA

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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5a: Chevening Scarp

The Chevening Scarp LCA is located immediately to the south of the application site and extends along the eastern application site boundary. It contains land within the wider survey area which would be subject to enhancement. As the application site is already developed and the proposed development would be contained within the footprint of the existing defence research facility, the susceptibility of the Chevening Scarp LCA is judged to be Medium, in that undue negative consequences may arise from the proposed development.

The Chevening Scarp LCA falls within the Kent Downs AONB; however, its condition is diminished by the presence of the M25 and the decline of shaws and hedgerow loss. It is therefore judged to be of Local Value, and Medium Sensitivity overall.

Construction Effects

The only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence facility to an area of temporary demolition and construction activity. No construction activity would occur within the Chevening Scarp LCA itself and there would be no discernible change to any of the key characteristics of the LCA.

There may be minor alterations to the baseline environment resulting from the proximity of the Chevening Scarp LCA to the application site and presence of machinery (such as cranes) protruding above the existing perimeter woodland, however, the vast majority of activity would not be perceptible and screened by the intervening vegetation and topography.

Overall, the extent of effect is considered to be Limited and the scale of effect would be Small-Negligible as there would be minor alternation to key elements, features, qualities and characteristics, such that during the construction phase the landscape character would be largely unchanged despite some discernible differences. The duration of effect would be Medium term.

It is judged that the overall magnitude of effect of construction would be **Negligible**, resulting in a **Minimal** significance of effect. As a result of there being no direct changes to the fabric of the Chevening Scarp LCA, and that the vast majority of activity would not be perceptible, the overall effect is considered to be **Neutral**.

Operational Effects

The only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. No built development would occur in the Chevening Scarp LCA itself.

The design principles seek to integrate the proposed development into the landscape, retaining the large area of calcareous grassland to the south of the application site beyond the perimeter security fence – on the scarp slope – which is of high ecological value. Its long-term integrity would be secured through the adoption of an appropriate management regime.

It is noted that the Kent Downs AONB Landscape Design Handbook specifically encourages the retention / management of chalk grassland.

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The extent of effect is therefore considered to be Limited, and the scale of effect would be Negligible. The duration of effect would be Permeant.

It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect. Considering that the proposed development would allow for the long-term management of areas chalk / neutral grassland within the Chevening Scarp LCA, the effects are judged to be **Positive** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in no perceptible change to the landscape character of the Chevening Scarp LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect. Given the future baseline environment is already incorporates the management of the calcareous grassland on the scarp slope, the effects are judged to be **Neutral** overall.

Westerham to Sundridge Parks and Farmlands

The Westerham to Sundridge Parks and Farmlands LCA is located approximately 3.5km to the south of the application site. Considering that the proposed development would be contained entirely within the footprint of the existing defence facility, the susceptibility of the Westerham to Sundridge Parks and Farmlands LCA is judged to be Low, in that undue negative consequences are unlikely to arise from the proposed development.

The majority of the Westerham to Sundridge Parks and Farmlands LCA falls within the Kent Downs AONB. Despite a number of notable detractors, the landscape is considered to be relatively intact and in good condition. Therefore, the Westerham to Sundridge Parks and Farmlands LCA is judged to be of National / International Value, and Medium Sensitivity overall.

Construction Effects

During demolition and construction the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of construction activity. There may be minor alterations to the surrounding landscape resulting from indivisibility with the application site and the presence of tall machinery protruding above the existing perimeter woodland. However, any change in outward views from the Westerham to Sundridge Parks and Farmlands LCA would be barely perceptible. Furthermore there would be no change to any of the key characteristics of the Westerham to Sundridge Parks and Farmlands LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Operational Effects

During operation the only receptor likely to experience a large scale of impact is the application site itself, which would change from a defence research facility to an area of employment and residential development, with associated road infrastructure and open space. There would be no direct change to any of the key characteristics of the Westerham to

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Sundridge Parks and Farmlands LCA and the proposed development would not be perceptible from within the Westerham to Sundridge Parks and Farmlands LCA, screened by the retained perimeter woodland and other intervening vegetation and landform.

The proposed development would be well integrated into the landscape, retaining all woodland around the application site; trees within the application site (where possible); and providing resources for long-term woodland management. This would ensure that the condition and structure of the woodland is enhanced and would improve its overall screening function. The area of chalk grassland to the south of the application site (on the exposed scarp slope) is visible from certain locations and would remain as open grassland.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the operational proposed development would result in no perceptible change to the landscape character of the Westerham and Brasted Chart LCA.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Summary of Landscape Effects

Table 5: Construction Effects – Landscape – Existing Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Low	Slight	Adverse
Knockholt and Halstead Wooded Downs	Medium	Low	Slight	Adverse
Chevening Scarp	Medium	Negligible	Minimal	Neutral
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

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Table 6: Operational Effects – Landscape – Existing Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Medium	Major-moderate	Positive
Knockholt and Halstead Wooded Downs	Medium	Medium	Moderate	Positive
Chevening Scarp	Medium	Negligible	Minimal	Positive
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

Table 7: Operational Effects – Landscape – Future Baseline

Landscape Receptor	Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
LCA1: Darent Valley	High-Medium	Negligible	Minimal	Neutral
Knockholt and Halstead Wooded Downs	Medium	Negligible	Minimal	Neutral
Chevening Scarp	Medium	Negligible	Minimal	Neutral
Westerham to Sundridge Parks and Farmlands	Medium	Negligible	Minimal	Neutral

7.3. Visual Effects

Demolition and Construction

The substantial demolition and construction required for the proposed development is likely to result in significant visual change within the application site. The demolition of buildings, removal of trees, movement of plant and materials and construction of new buildings and infrastructure would inevitably create significant visual disruption both within the application site and to some visual receptors adjacent to the application site boundary. However, the phasing of the demolition and construction activities would mean that construction activities would be restricted to certain areas of the application site at any one time and not disrupt the whole of the application site for the duration of the construction phase.

Although significant visual change would occur within the application site, the change to visual receptors beyond the immediate application site boundary would be relatively limited

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as a result of the perimeter vegetation (woodland) that would form an effective screen to the majority of construction activity. In these views it is only the upper levels of construction activity, such as movement of mobile cranes, that would potentially be seen. These elements would appear as a small feature within the wider composition of wooded horizon set by the North Downs escarpment and wooded ridge and is not, in general, anticipated to be overly conspicuous or prominent within views.

The movement of plant and traffic to and from the application site also has the potential to affect views, however, as described in relation to landscape character, vehicles will be required to use the Otford Lane access onto A224 Polhill, with the route north towards the M25 Junction 4 identified as the main route for construction. The A224 Polhill is already a busy trunk road and is characterised by frequent vehicle movements.

Operational Development

It is anticipated the visual amenity of the study area would remain largely unaffected and unchanged by the proposed development as the majority of built form would be contained within the perimeter vegetation that forms an effective screen to wider views. The removal of many of the existing chimney structures and taller buildings, notably N2 and Boiler House chimneys (Building S2), would result in minor improvements to wider views compared to the existing development, reducing the amount of built form visible on the escarpment ridge. Some taller elements of the proposed development may extend slightly above the perimeter vegetation but, would not be overly prominent in middle to long distance views of the application site (approximately 1km and beyond), and with the majority of built form screened. The integrity of principal visual features surrounding the application site including the chalk escarpment of the Kent Downs, the low lying flood plain of the River Darent valley, and extensive woodland within the valley and along the escarpment ridge would remain unchanged.

Some beneficial impacts are anticipated from PRoWs in close proximity to the application site. Views would be improved by removal of the imposing perimeter security fence which currently dominate these routes, along with the creation of more open views into the application site from certain routes and local vantage points.

However, it is views from within the application site itself that significant beneficial changes to the visual amenity would occur. The majority of the utilitarian structures and workshops that currently dominate the application site would be removed, replaced by residential and employment built form, and punctuated by new areas of public open space. In addition existing areas of open space, such as the chalk grassland and ancient woodland would be bought under active management, improving their character and visual appearance.

The opening up of the application site would also allow the residents (of the proposed development) and members of the local community / wider public to experience views of the various heritage features within the application site, including the historic Fort which will be opened up as an interpretation centre; retained and enhanced Listed Buildings, which will form the part of the village centre; and retained bunkers which will be integrated in area of public open space.

Residents and visitors will also be able to experience panoramic views over the Darent Valley from the escarpment near to the Fort, which includes some limited vegetation clearance to better reveal the heritage significance of the Fort and allow for long-distance views across the

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landscape. In addition residents and visitors will experience long distance views to Canary Wharf from the open space in the western part of the Site and the landscape design of this area could provide land forms from which to better appreciate the view.

Settlement

The sensitivity of visual receptors at settlements is considered to be High-Medium, including a variety of receptors from private residents, pedestrians along local roads and paths, and recreational users of open space.

Crow Drive, Armstrong Close and Fort Road

Construction

From along Crow Drive, construction activity will be visible within the north-eastern part of the application site (Figure 8 / Viewpoint 2). This includes close range, open views of construction activity within the helipad site. From the cluster of houses along Armstrong Close and Fort Road, views of construction activity will be filtered by intervening vegetation however, taller elements of construction would be seen above the perimeter vegetation.

The scale of effect would therefore be Medium. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Medium**, resulting in a **Moderate** significance of effect that is **Adverse** overall.

Completed Development

From along Crow Drive, views of new built form would be visible but this would not be substantially different from existing views of building and structures. In particular new housing in the 'helipad' site will sit opposite housing along Beckman Close. In addition the removal of security fence in this location is considered to be beneficial. From along Armstrong Close and Fort Road, views of new built form would be largely filtered by the perimeter woodland. Where the new built form is visible it will not appear out of context with existing residential land uses. The removal of taller built structures such as the N2 Building and Boiler House is considered beneficial.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Positive** overall.

Halstead

Construction

Views from the settlement of Halstead to the application site are largely restricted by intervening vegetation at the application site's perimeter and field boundaries and hedgerows in the vicinity (Figure 8 / Viewpoints 7 and 8). Some glimpses between gaps in hedgerows are possible along with likely views from upper storeys of buildings at the edge of Halstead. However, the perimeter woodland blocks views into the application site itself. Only taller elements of construction would potentially be seen above the perimeter vegetation that forms an effective screen to views from Halstead.

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The scale of effect would therefore be Small. The extent of effect is considered to be Limited and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Completed Development

The new built form of the proposed development would be generally screened by the perimeter woodland that serves as an effective screen to local views. The wireframe visualisation from viewpoint 7 (Figure 13) demonstrates that any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view. The more notable change to view is from the removal of existing structures and the removal of taller built structures such as the N2 Building and Boiler House is considered beneficial to the composition of view.

The scale of effect would therefore be Small/negligible. The extent of effect is considered to be Limited and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Knockholt and Knockholt Pound

Construction and Completed Development

There are no open views of the application site from Knockholt / Knockholt (approximately 400m to the north-west of the application site) as a result of intervening vegetation and construction activity / the proposed development is unlikely to be visible.

Desk and field study has also concluded that there will be no views from the settlement of Orpington further to the north as the proposed development would be screened from view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Otford (inc. Twitton and Shoreham)

Construction and Completed Development

Although open views towards the application site are possible from the edge of Otford (Figure 8 / Viewpoint 10), most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would be small features on the wider escarpment and no prominent in view.

The majority of new built form would be screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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Sevenoaks (inc. Dunton Green and Riverhead)

Construction and Completed Development

From the edge of Riverhead (Figure 8 / Viewpoint 9), the majority of construction activity / new built form would be screened by perimeter vegetation. Although taller elements may be visible above the tree line, they would not be overly prominent features within views.

From within the town of Sevenoaks (Figure 8 / Viewpoint 14) the majority of construction activity / new built form also be screened by perimeter vegetation. Any visible construction activity / structures that just break above the tree line would be indiscernible and there would be no perceptible change to baseline view. The wireframe visualisation from Viewpoint 14 (Figure 13) demonstrates the proposed development will not generally be visible. The removal of building X54 will also be beneficial, but this structure – on the edge of the scarp – are not very apparent at this distance.

Further south within Sevenoaks view towards the application site are generally screened by a combination of intervening built form, vegetation and topography. From within Knole Park to the south of Sevenoaks (Figure 8 / Viewpoint 15), construction activity / new built form will not be visible and / or indiscernible.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the completed proposed development would result in no perceptible change to views from the surrounding settlements.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Principal Routes

The sensitivity of visual receptors on key routes is considered to be Medium-Low.

M25

Construction and Completed Development

The majority of the M25 within the vicinity of the application site is in a slight cutting, with mature vegetation along the embankments, and as such, there are generally no open views towards the application site.

Where breaks in the road-side vegetation exist (predominately around the Morants Court M25 overbridge) views of construction activity / new built form would be generally screened from view, set back from the scarp slope and would sit below the tree line.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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A224 Polhill

Construction

The A224 runs adjacent to the eastern boundary of the application site leading northward from Junction 5 of the M25, and there are open views of the escarpment scarp slope, perimeter vegetation, security fence and quarry (Figure 8 / Viewpoint 6). Most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would not be a prominent feature in the view.

Some junction improvements to this road at the junction with Crow Drive would occur (Figure 8 / Viewpoint 1), but it is considered that this work would not significantly alter the visual amenity of the road as a busy, and urban arterial route to the M25 and Orpington.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Adverse** overall.

Completed Development

The new built form would be generally screened by the perimeter woodland. The wireframe visualisation from Viewpoint 6 (Figure 13) demonstrates the proposed development will not be visible from the junction of the A224 Polhill and Morants Court Road.

Although the QinetiQ security fence would remain, the removal of building X54 is considered to be beneficial.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain generally screened. As shown on Figure 8 / Viewpoint 6, even during winter months the existing built form within the application site is not clearly visible.

The completed junction improvements are considered to be entirely in keeping with the character and appearance of this main route.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

A25

Construction and Completed Development

The A25 runs along the northern edge of Sevenoaks, parallel and to the south of the M25. The majority of the route within the vicinity of the application site is lined with vegetation, and as such, there are generally no open views towards the application site. Where breaks in the road-side vegetation exist (predominately along the section of road between Sundridge and Riverhead) views of construction activity / new built form would be generally screened from view, set back from the scarp slope and would be sitting below the tree line.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

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Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the proposed development would result in no perceptible change to views from the principal routes.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Local Roads

The sensitivity of visual receptors on local roads is assigned to be Medium-Low.

Star Hill Road

Construction

To the south of the application site, the majority of the construction activity would be screened from Star Hill Road by the perimeter vegetation along the application site boundary (Figure 8 / Viewpoints 3 and 4). However, it is possible taller temporary construction activities such as crane movements may be glimpsed through and above the treeline and at the Star Hill Road entrance itself, with views along Crow Drive.

Works to the Star Hill Road entrance would be apparent but would be limited to a short stretch of the road near to this entrance (Viewpoint 4). Works would include the creation of speed management measures, minimal removal of some vegetation for visibility splays and anti-skid surface treatment.

The scale of effect would therefore be Medium. The extent of effect is considered to be Limited and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Adverse** overall

Completed Development

To the south of the application site, the majority of new built form would be screened by the perimeter woodland and the new built form is unlikely to be visible.

Although the QinetiQ security fence would remain, the removal of building X54 is considered to be beneficial.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain generally screened. As shown on Figure 8 / Viewpoint 3, even during winter months the existing built form within the application site is not clearly visible.

The proposed development would see the removal of Star Hill Road gatehouse, perimeter security fencing and associated flood lighting, and would open up views into the application site from the northern section of Star Hill Road, to the west of the application site. Overall this is considered to be beneficial to the visual amenity and character of the road. From this specific location views of new built form itself would be limited, largely screened by intervening vegetation within the application site and with retained / enhanced open space forming a buffer between Star Hill Road and areas of built development.

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The scale of effect would remain Medium (mainly as a result of changes around the Star Hill entrance). The extent of effect is considered to be Limited and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Low**, resulting in a **Slight** significance of effect that is **Positive** overall.

Otford Lane

Construction

The majority of construction activity would be hidden from view from Otford Lane by vegetation aligning the lane and the perimeter vegetation around the applications site (Figure 8 / Viewpoint 7). Glimpsed views of to the construction activity may be possible between gaps in Otford Lane's vegetation and protruding above the perimeter vegetation, however, this would not be a prominent feature in view.

The scale of effect is therefore Small-Negligible. The extent of effects is considered to be Local and the duration of effect would be Medium Term. It is judged that the overall magnitude of effect of construction would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Completed Development

The majority of new built form would be screened by the perimeter woodland. Certain parts of the employment area / village centre may just break above the tree line but would not be a prominent feature in view and would be consistent with the baseline views of existing buildings and structures protruding above the woodland as demonstrated by the wireframe visualisation from Viewpoint 7 (Figure 13). The removal of building N2 and the boiler house chimneys of building S2 would be beneficial to the view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the completed proposed development would result in no perceptible change to views from the surrounding local roads.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall

Recreational Routes

The sensitivity of visual receptors on recreational routes is considered to be High-Medium, including people in locations where they are likely to pause to appreciate the view

North Downs Way

Construction

At its closest point, the North Downs Way runs parallel to the west of Star Hill Road, often within woodland where views toward the application site are generally screened. The path also skirts the edges of some of this woodland, however, the perimeter vegetation of the application site aligning Star Hill Road would form an effective screen to views. As such the views of majority of construction activities within the application site would be screened.

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Taller elements of construction may temporarily protrude above this although would not form prominent features within the view.

More open views toward the application site are available to the south, where the North Downs Way passes Morants Court Farm, and follows the B2211 and A224 Morants Court Road (Figure 8 / Viewpoint 6). Most of the construction activity would be screened by the perimeter vegetation. Some temporary crane movements may be visible above the perimeter vegetation but would not be a prominent feature in the view.

There are also view towards the application site to the east, where the North Downs Way extends from Otford and along higher ground around Otford Mount (Figure 8 / Viewpoint 13). From this location there are glimpsed views towards the application site through gaps in vegetation along the path, however, the majority of construction activity would be hidden from view by the perimeter woodland.

The scale of effect would therefore be Small. The extent of effect is considered to be Localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Negligible**, resulting in a **Minimal** significance of effect that is **Neutral** overall.

Operation

Where the North Downs Way runs parallel to the west of Star Hill Road, the proposed development will not generally be visible, screened by intervening vegetation. In addition, the western part of the application site would be retained / enhanced as open space, forming a buffer between Star Hill Road and areas of built development.

Where the North Down Way passes Morants Court Farm and follows the B2211 and A224 Morants Court Road to the south of the application site the majority of the proposed development would be hidden by the perimeter vegetation around the application site. The wireframe visualisation from Viewpoint 6 (Figure 13) demonstrates the proposed development will not be visible from the junction of the A224 Polhill and Morants Court Road.

At this relatively short distance from the application site, there may be some differences between summer and winter views, with built form visible through the perimeter vegetation during winter months, however, the proposed development will not be a prominent feature in view and will remain largely screened. As shown on Figure 8 / Viewpoint 6, even during winter months the existing built form within the application site is not clearly visible.

Where the North Downs Way extends from Otford and along higher ground around Otford Mount, the majority of new built form would be screened by the perimeter woodland. Any visible structures that just break above the tree line would be indiscernible and there would be no perceptible change to the baseline view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is **Neutral** overall.

Darent Valley Path

Construction and Completed Development

Owing to topography, views from the route within the study area are limited to a short stretch between Dunton Green and Chipstead to the south of the application site. In many of

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these views (Figure 8 / Viewpoints 9) vegetation within the valley forms and effective screen, however, open views are possible from more open areas. The majority of construction activities would be screened by perimeter vegetation and, although taller elements (such as cranes) may be visible above the tree-line, they would not be prominent features within views.

The majority of new built form would also be generally screened by the perimeter woodland and would there would be no perceptible change to the baseline view, which would continue to be open views across the valley and towards the scarp slope. The removal of building X54 would be beneficial to the view.

The scale of effect is therefore Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect that is, on balance, **Neutral** overall.

Other Public Rights of Way

Construction

PRoW SR97 (Figure 8 / Viewpoint 2) and SR172 (Viewpoints 4 and 5) largely follow the perimeter of the application site and would experience most change during the construction phase.

Being set predominantly beyond the perimeter woodland no construction of built form would take place in the immediate vicinity of these routes. However, the removal of perimeter security fence from sections of PRoW SR97 / SR172 and the construction of a cycle path along PRoW SR172 would cause some limited intrusion.

From PRoW SR722 (Figure 8 / Viewpoint 3) and SR723 in the wider survey area to the south there may also be some change to views where it passes close to the application site boundary and where modifications to the perimeter security fence are proposed.

From PRoW on higher ground to the east of the application site, such as SR60 (Figure 8 / Viewpoint 12), there are open views towards the application site and the scarp is clearly visible in contrast to the low lying intervening valley landscape. However, the perimeter vegetation would largely screen views of construction activity and machinery or built development that does break the perimeter vegetation would not be a prominent feature in view.

The scale of effect would therefore be Medium for PRoW SR97, SR172, and SR722. The extent of effect is considered to be localised and the duration of effect would be Medium term. It is judged that the overall magnitude of effect of operation would be **Medium** resulting in a **Moderate** significance of effect that is **Adverse** overall.

PRoW SR60 would experience a **Negligible** scale of effect and **Minimal** significance of effect that is **Neutral** overall.

Operation

The removal of the perimeter security fencing (barrier that retained for the QinetiQ area) would result in a beneficial improvement to the visual amenity of PRoW SR97, SR172 and SR722, removing the imposing fence structure that often aligns the path and allowing a more natural visual experience from them. New built form may be visible through the perimeter vegetation but would not be a prominent feature in view. Even during winter months, the retained perimeter vegetation provides an effective screen.

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The routes would all connect into newly created public links set within the green infrastructure within the application site.

From PRoW SR60 the perimeter vegetation would largely screen views of built development, and the wireframe visualisation from Viewpoint 12 (Figure 13) demonstrates the proposed development will not generally be discernible.

The scale of effect would therefore be Medium for Footpaths SR97, SR172 and SR722. The extent of effect is considered to be localised and the duration of effect would be permanent. It is judged that the overall magnitude of effect of operation would be **Medium** resulting in a **Moderate** significance of effect that is **Positive** overall.

PRoW SR60 would experience a **Negligible** scale of effect and **Minimal** significance of effect that is **Neutral** overall.

Future Baseline Environment

When assessed against the future baseline of the permitted development (as described in Section 5.7) it is considered that the proposed development would result in no perceptible change to views from the principal routes.

The scale of effect would be Negligible, resulting in a **Negligible** magnitude of effect and **Minimal** significance of effect this is **Neutral** overall.

Summary of Visual Effects

Table 8: Construction Effects – Visual – Existing Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Medium	Moderate	Adverse
	Halstead		Negligible	Minimal	Neutral
	Knockholt and Knockholt Pound		Negligible	Minimal	Neutral
	Otford (inc. Twiiton and Shoreham)		Negligible	Minimal	Neutral
	Sevenoaks (inc. Dunton Green and Riverhead)		Negligible	Minimal	Neutral
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224		Low	Slight	Adverse
	A25		Negligible	Minimal	Neutral
Local Roads	Star Hill Road	Medium-low	Low	Slight	Adverse
	Otford Road		Negligible	Minimal	Neutral

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Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path		Negligible	Minimal	Neutral
	Other Public Rights of Way		Medium	Moderate	Adverse

Table 9: Operational Effects – Visual – Existing Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Low	Slight	Positive
	Halstead		Negligible	Minimal	Neutral
	Knockholt and Knockholt Pound		Negligible	Minimal	Neutral
	Otford (inc. Twiton and Shoreham)		Negligible	Minimal	Neutral
	Sevenoaks (inc. Dunton Green and Riverhead)		Negligible	Minimal	Neutral
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224		Negligible	Minimal	Neutral
	A25		Negligible	Minimal	Neutral
Local Routes	Star Hill Road	Medium-low	Low	Slight	Positive
	Otford Road		Negligible	Minimal	Neutral
	Other local roads		Negligible	Minimal	Neutral
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path		Negligible	Minimal	Neutral
	Other Public Rights of Way		Medium	Moderate	Positive

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Table 10: Operational Effects – Visual – Future Baseline

Visual Receptor		Sensitivity	Magnitude	Significance	Beneficial, Neutral, Adverse
Settlement	Crow Drive, Armstrong Close and Fort Road	High-medium	Negligible	Minimal	Neutral
	Halstead				
	Knockholt and Knockholt Pound				
	Otford (inc. Twiiton and Shoreham)				
	Sevenoaks (inc. Dunton Green and Riverhead)				
Principal Routes	M25	Medium-low	Negligible	Minimal	Neutral
	A224				
	A25				
Local Routes	Star Hill Road	Medium-low	Negligible	Minimal	Neutral
	Otford Road				
Recreational Routes	North Downs Way	High-medium	Negligible	Minimal	Neutral
	Darent Valley Path				
	Other Public Rights of Way				

7.4. Night Time Effects

To allow a consideration of the potential impacts to the landscape and visual resource as a result of changes to lighting levels from the proposed development, a qualitative night time visual assessment has been undertaken.

The qualitative night time assessment has been informed by technical lighting studies undertaken by Royal Haskoning DHV submitted as part of the planning application. Night time photography for each representative viewpoint was also used to inform the assessment, taken from the technical lighting assessment and also captured by LDA Design. The night time images are presented in Figure 8, along with the day time photography for that location.

The Summary Lighting Assessment concludes there would be no adverse / impacts - minor beneficial impacts in terms of reducing sky glow; minor adverse - minor beneficial impacts in regards to light intrusion; and minor adverse - minor beneficial impacts in terms of luminaire intensity.

In landscape and visual terms, the ambient lighting levels of the area are relatively high with a number of notable light sources. These include lighting associated with major transport

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infrastructure including the M25, A224 and A21, made further prominent by the lights of traffic upon them.

There is also notable illumination from urban areas including Sevenoaks, Dunston Green and Otford lending an orange glow above these settlements and rendering the area within the Darent Valley to the south of the application site relatively illuminated (although there are notable darker areas, such as Knole Park and the river floodplain.. Lighting at The North Downs Business Park is also visible from medium and close range views.

The escarpment itself is relatively un-lit, although there is a noticeable orange glow above it when looking from the south as a result of light pollution from the urban areas of Greater London such as Orpington and Biggin Hill located to the north. A similar glow exists when looking southward from the north as a consequence of light spill from Sevenoaks and other urban areas such as Otford and Dunton Green. There is also some light spill from the illumination of villages and isolated dwellings causing some localised intrusion although this is not as prominent as larger, urban areas to the north and south.

The main current source of illumination at the application site is that associated with security lighting. This can be seen as a series of point sources across the application site and visible through the perimeter woodland, being visible from close distances to the north and close to medium distances to the south within the Darent Valley and allowing the application site to be pinpointed within the dark backdrop of the wooded escarpment. Sky glow above the application site (as a result of light pollution from within the application site) is also noticeable although direct views of street lighting within the application site are not noticeable from the wider environment.

To the north of the application site, in and around **Halstead**, the point light sources associated with security lighting currently visible in views would be removed creating a darker backdrop to views toward the application site. All new lighting would seek to minimise light spill whilst meeting the required standards. The majority of views would experience little change, but those on the settlement edge with views toward the application site may experience nominal improvements.

To the east of the application site, the **A224** is already well lit, and illumination changes as a result of the proposed development are likely to be indiscernible. The entrance to the application site at the A224 and Crow Drive junction would be upgraded with lighting and lit signage, however, this would be entirely keeping with night-time character of the road. Further east, within the in and around **Otford**, light emissions from the M25, M26 and Sevenoaks is noticeable in views, however, although there is a visible orange glow above the escarpment, illumination at the application site is relatively well screened. It is anticipated the proposed development would not result in any substantial night time visual change in landscape and visual terms from that currently extant as lighting would be more controlled and remain well screened through the implementation of the design principles.

To the south of the application site, the **M25 / A25 corridors** are well lit, and illumination changes as a result of the proposed development are likely to be indiscernible. In and around **Sevenoaks**, illumination levels are also relatively high and no discernible change would occur.

To the west of the application site, along **Star Hill Road**, the night time environment would remain largely as is, influenced by adjacent lighting of the M25 and A224. However, a short

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section in the vicinity of the Star Hill Road Gatehouse would be substantially improved with the removal of the Star Hill Gatehouse and its associated flood lighting. The currently brightly lit security lighting would be removed and replaced with, where necessary, low key lighting more in keeping with the semi-rural character of the road. Lighting within the proposed development would be controlled and would not spill out into this section of the road. Overall, the view would be darker in this area than currently experienced.

To the north-west of the application site, there would be a general improvement in the night time visual amenity from **local PRow**. Most change would occur at footpaths SR97, SR172 and SR722 adjacent to the perimeter of the application site with the removal of security lighting at and near to the perimeter security fence. The upgrading of footpath SR172 to a cycle path may require lighting. Any lighting of this route would be to BS EN 13201, with illumination controlled to limit intrusion into adjacent areas beyond the path. Other footpaths near to the application site would experience nominal change owing to the illumination from transport infrastructure and settlement.

7.5. Mitigation Measures

The mitigation of landscape and visual impacts has been addressed from an early stage in the design process, and consideration of the potential impacts of the proposed development has been an important part of the development of the proposals and associated landscape works. Key design principles of the proposed development are set out in Section 6.0 and include the creation of green corridors and open space; retention and enhancement of ancient woodland; retention and enhancement of areas of grassland; and retention and enhancement of heritage assets.

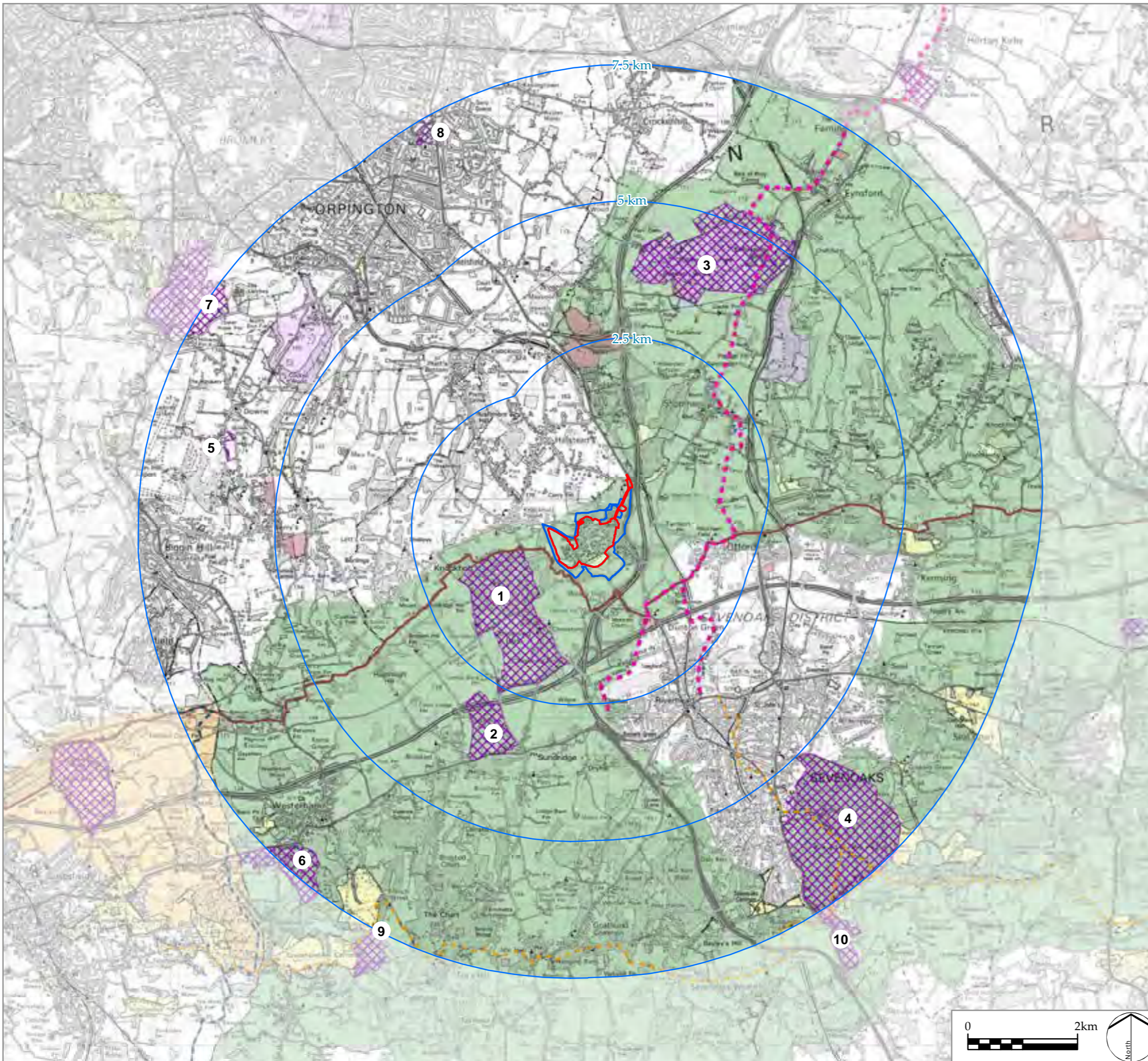
Additional mitigation measures that should be adopted, beyond those inherent within the design, include:

- Adoption of a Construction Environmental Management Plan (CEMP)
- Implementation of a Landscape and Ecological Management Plan (LEMP)

A CEMP will play an important role in ensuring considerate construction activity and that the identified woodland, trees and other landscape / habitat features are protected during the construction phase.

A LEMP is important to ensure the identified landscape / habitat features are appropriately managed, in particular in ensuring the long-term health and robustness of perimeter woodland which provides an important screen. The LEMP should build on the Framework Ecological Mitigation Strategy (prepared by Middlemarch) which sets out the approach to retention, creation and management of ecology features.

However, it is considered that the implementation of these mitigation measures it would not alter the overall assessment findings. The significance of effects for landscape and visual receptors, during both construction and operational phases, would therefore remain as assessed.



LEGEND

- Application Site
- Wider Survey Area (Land within the Applicants Ownership)
- 2.5 km, 5 km and 7.5 km Radii around the Application Site
- Kent Downs Area of Outstanding Natural Beauty
- Surrey Hills Area of Outstanding Natural Beauty
- Registered Park and Garden
 - 1. Chevening (II*)
 - 2. Combe Bank (II*)
 - 3. Lullington Castle (II)
 - 4. Knole (I)
 - 5. Down House (II)
 - 6. Suerries Court (II)
 - 7. Holwood Park (II)
 - 8. Priory Gardens (II)
 - 9. Chartwell (II*)
 - 10. Riverhill House (II)
- Country Parks
- Open Access Land (CROW Act) (inc. Registered Common land and Open Country land)
- Woodland Trust Sites
- North Downs National Trail
- Darent Valley Path
- Greensand Way
- Tandridge Border Path

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DRAWING TITLE
Figure 1: Site Location and Planning Policy

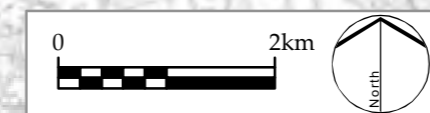
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DATE	June 2019	DRAWN DL
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STATUS	Final	APPROVED PL

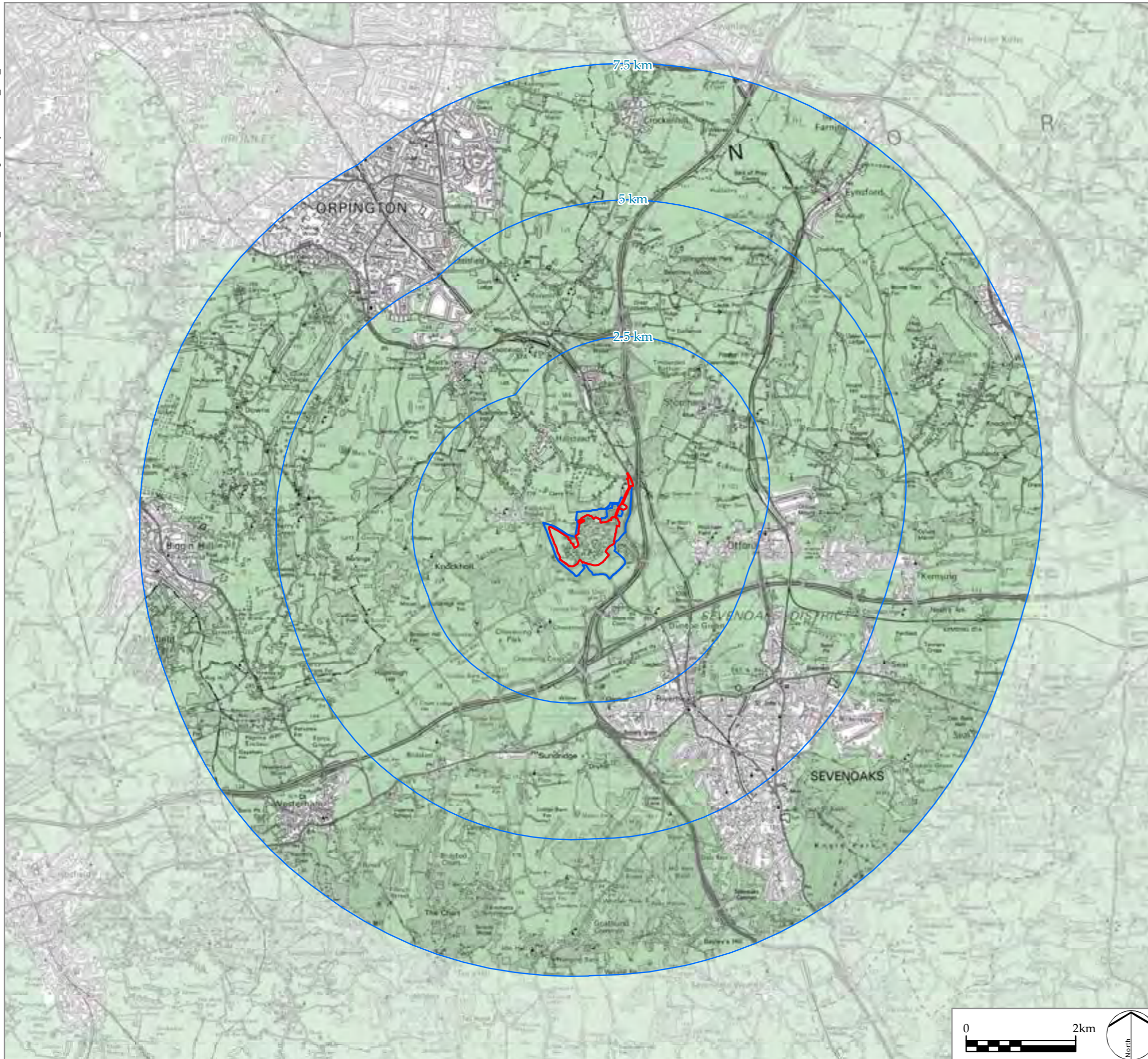
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Area measurements for indicative purposes only.

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Sources: Ordnance Survey, Natural England, Historic England, DEFA, Woodland Trust





LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Metropolitan Green Belt

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Figure 2: Metropolitan Green Belt

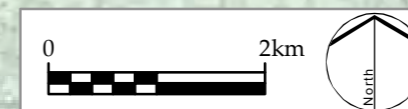
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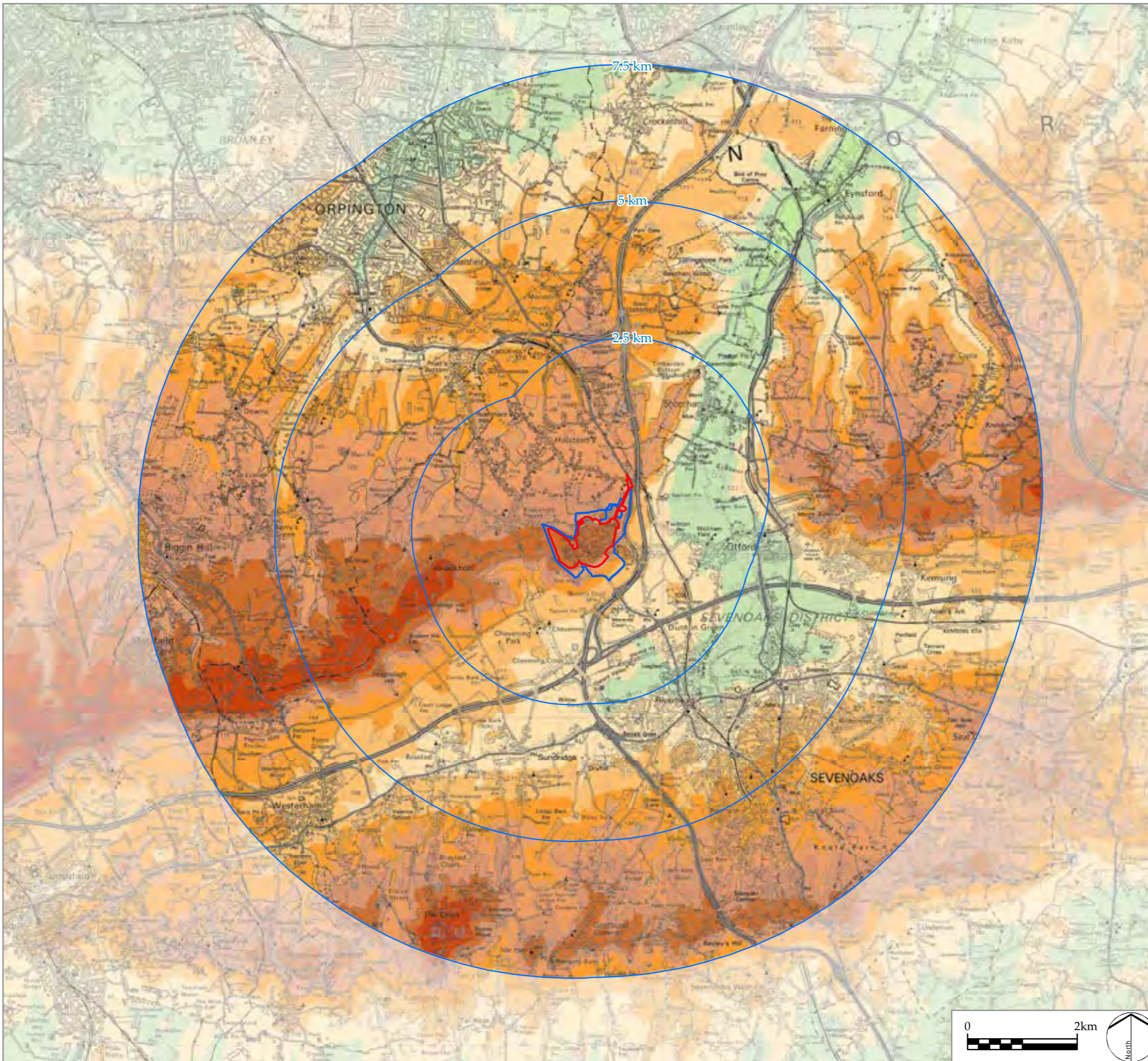
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Sources: Ordnance Survey, DCLG










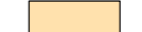






LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site

Topography (A.O.D.)

-  275m - 300m
-  250m - 275m
-  225m - 250m
-  200m - 225m
-  175m - 200m
-  150m - 175m
-  125m - 150m
-  100m - 125m
-  75m - 100m
-  50m - 75m
-  25m - 50m
-  10m - 25m

Note:
 In Great Britain, terrain heights are measured from AOD (also referred to as ODN) which is defined as the Mean Sea Level at Newlyn in Cornwall between 1915 and 1921.

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Figure 3: Topography

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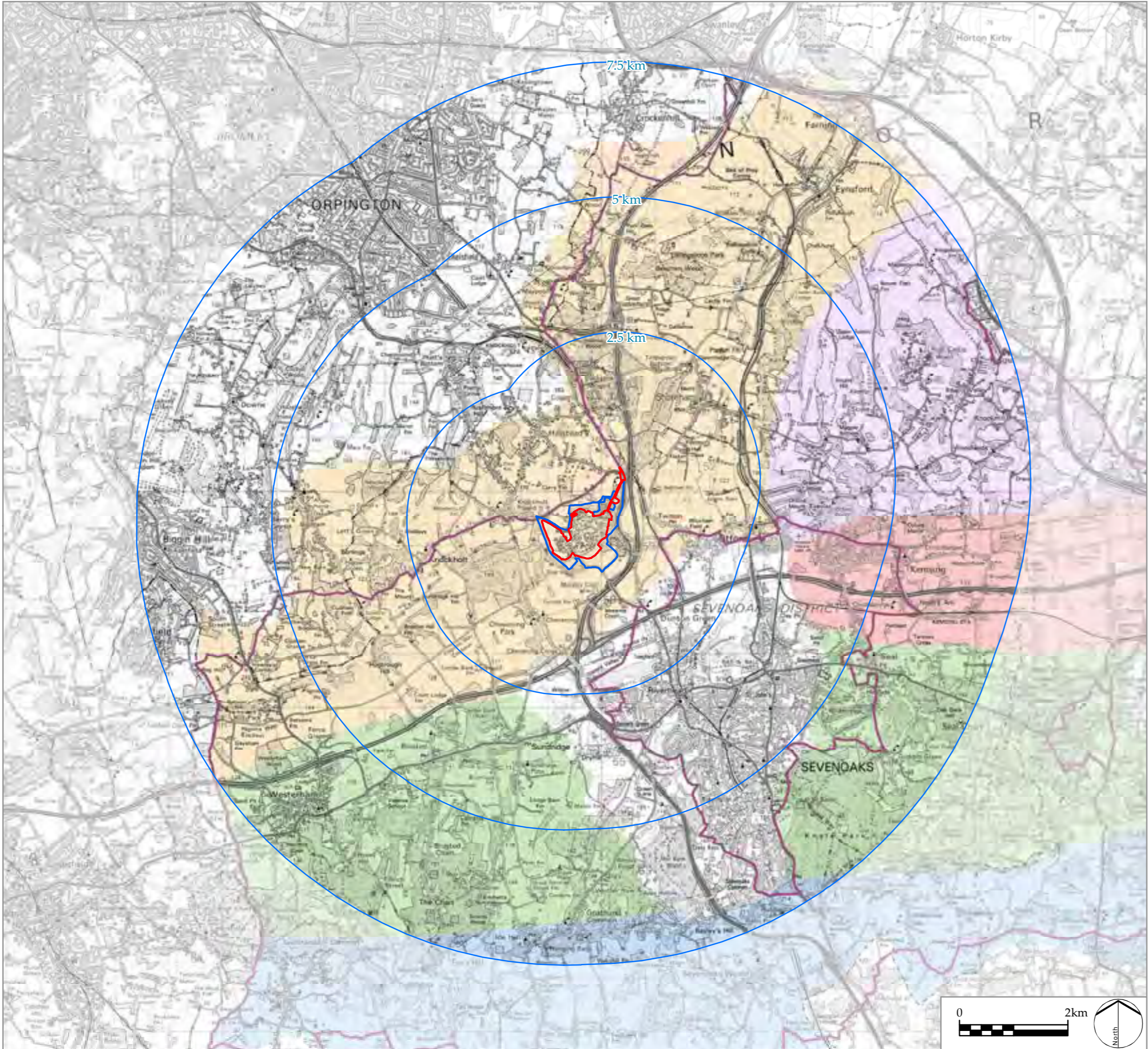
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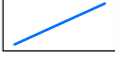

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Sources: Ordnance Survey.










LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Kent Downs AONB Boundary

Kent Downs AONB Landscape Character Areas (Kent Downs AONB Landscape Design Handbook -1995)

-  Darent Valley
-  Sevenoaks Greensand Ridge
-  Low Weald
-  West Kent Downs
-  Kemsing Vale

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Figure 4: Kent Downs AONB
Landscape Character

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Sources: Ordnance Survey. Natural England. Kent Downs AONB.



- LEGEND**
-  Site Boundary
 -  Building A10
 -  Building A28
 -  Building N2
 -  Building S2 (Boiler House)
 -  Building X40
 -  Building X48
 -  Building X54 and X54.1
 -  Building X58
 -  Star Hill Road Gatehouse
 -  Perimeter Security Fence
 -  Perimeter Woodland Vegetation
 -  Perimeter Shelter Belt Vegetation

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Figure 5: Location of Visible Structures

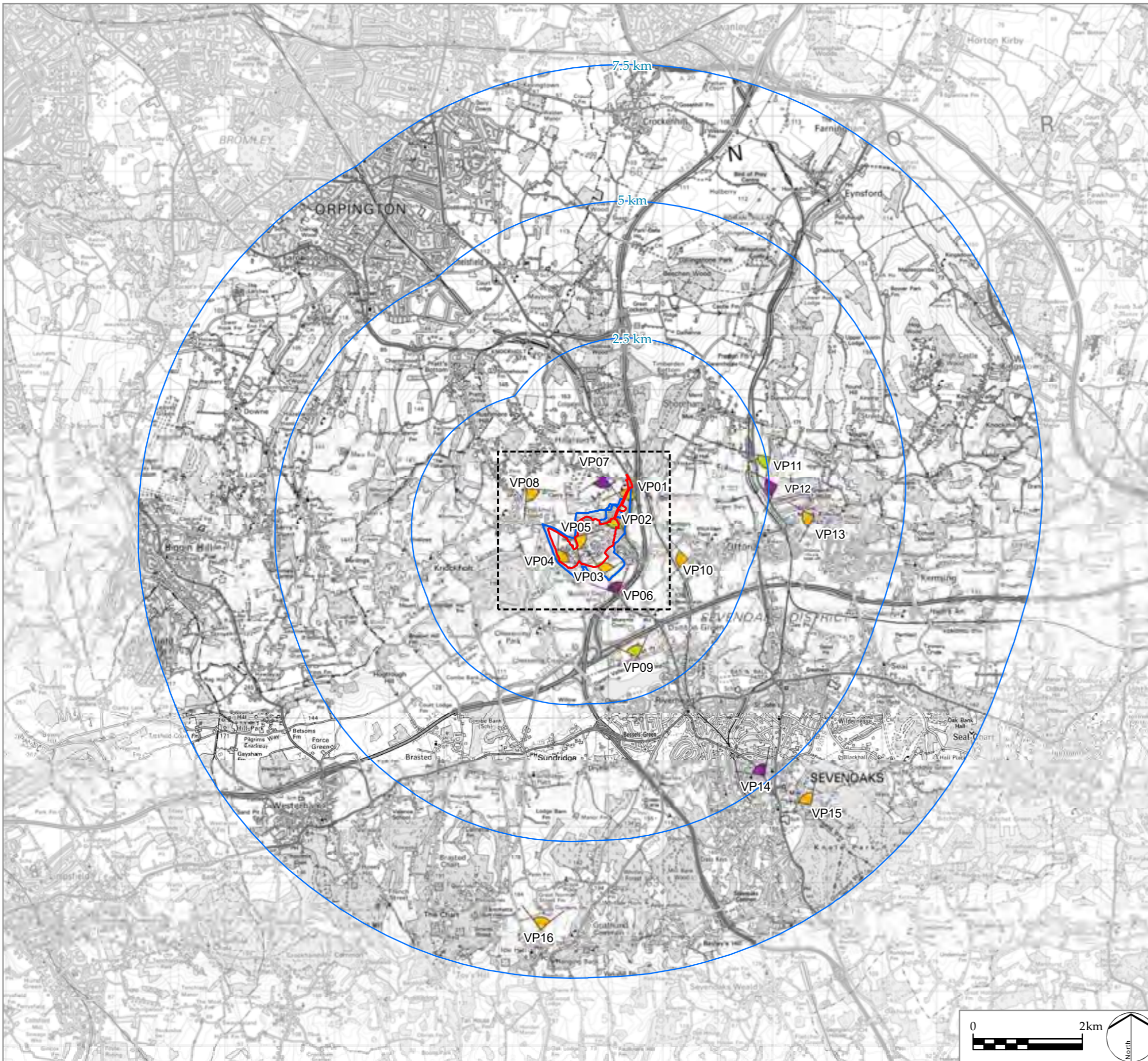
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STATUS	Final	APPROVED	PL

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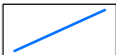



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LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Photoviewpoint Location
-  Photoviewpoint Location (from which AVR is prepared)
-  Inset plan boundary - Figure 7

Viewpoint No.	Location	Distance from Site Boundary (closest point)
01	View from Crow Drive looking south-west	0m
02	View from Crow Drive / footpath SR97 looking south-west	0m
03	View from footpath SR172 looking north	200m
04	View from Star Hill Road looking east	0m
05	View from footpath SR172 looking south	0m
06	View from junction of Morants Court Road / Pole Hill (A224), on the North Downs Way, looking north	600m
07	View from Otford Lane looking south	400m
08	View from Footpath SK690, to the north of Knockholt Pound, looking south	1.1km
09	View from the edge of Dunton Green, on the Darent Valley Path, looking north	1.8km
10	View from Hale Recreation Ground, Twitton, looking east	1.4km
11	View from Fackenden Lane looking south-west	2.6km
12	View from footpath SR60, near Otford Mount, looking south-west	2.7km
13	View from near Otford Mount, on the North Downs Way, looking west	3.4km
14	View from junction of London Road / Argyle Road, within Sevenoaks, looking north-west	4.8km
15	View from Knole Park / Footpath SU18, on the south-eastern-edge of Sevenoaks, looking north-west	5.8km
16	Views from southern edge of Ide Hill / Footpath SR236, looking north	6.6km

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Figure 6: Representative Viewpoints

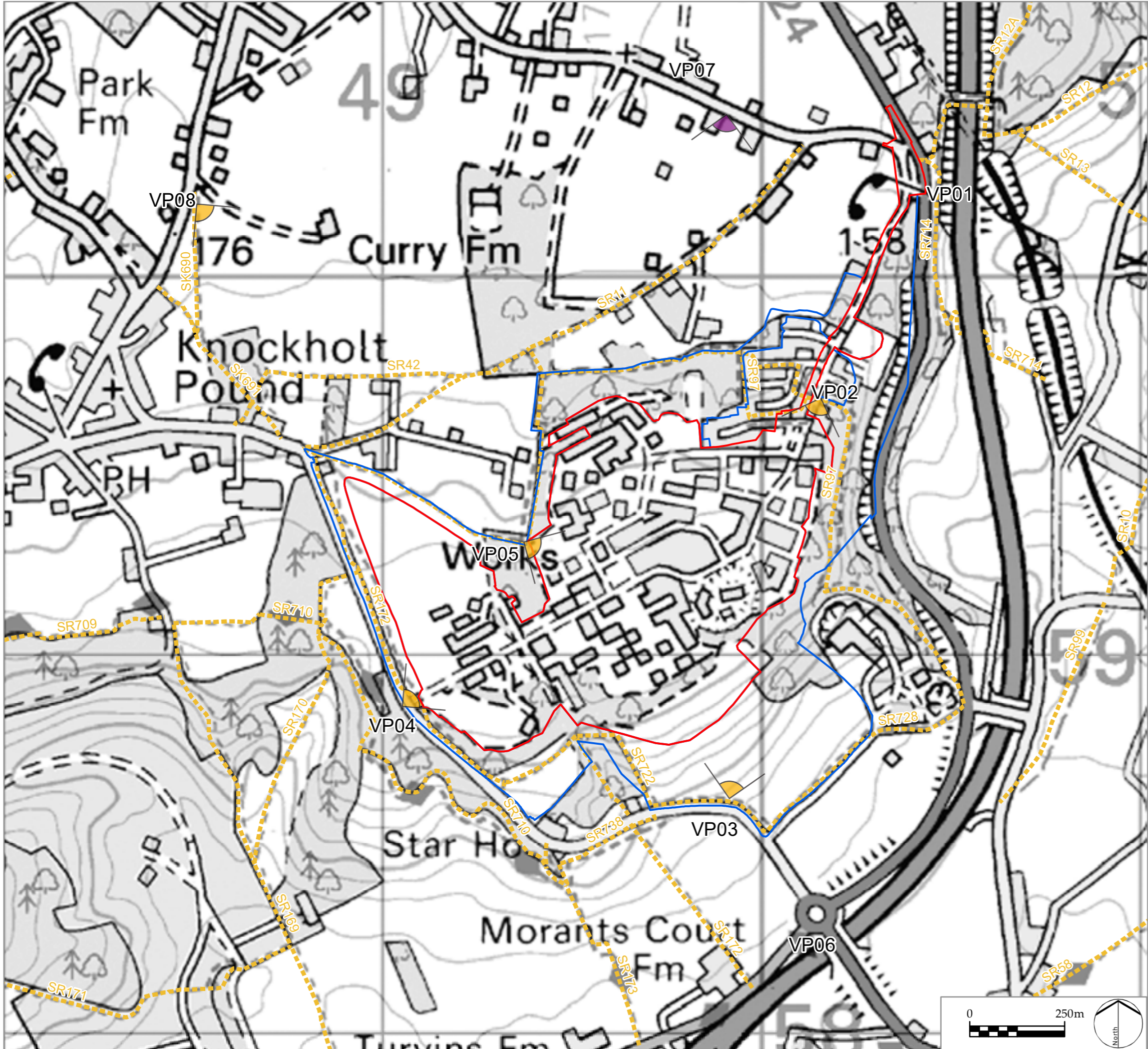
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SCALE @A3	1:70,000	CHECKED BC
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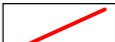




No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

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Sources: Ordnance Survey.



LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  Viewpoint Location
-  Photomontage Location
-  Public Rights of Way (ref. on plan)

Viewpoint No.	Location	Distance from Site Boundary (closest point)
01	View from Crow Drive looking south-west	0m
02	View from Crow Drive / footpath SR97 looking south-west	0m
03	View from footpath SR172 looking north	200m
04	View from Star Hill Road looking east	0m
05	View from footpath SR172 looking south	0m
06	View from junction of Morants Court Road / Pole Hill (A224), on the North Downs Way, looking north	600m
07	View from Otford Lane looking south	400m
08	View from Footpath SK690, to the north of Knockholt Pound, looking south	1.1km
09	View from the edge of Dunton Green, on the Darent Valley Path, looking north	1.8km
10	View from Hale Recreation Ground, Twitton, looking east	1.4km
11	View from Fackenden Lane looking south-west	2.6km
12	View from footpath SR60, near Otford Mount, looking south-west	2.7km
13	View from near Otford Mount, on the North Downs Way, looking west	3.4km
14	View from junction of London Road / Argyle Road, within Sevenoaks, looking north-west	4.8km
15	View from Knole Park / Footpath SU18, on the south-eastern-edge of Sevenoaks, looking north-west	5.8km
16	Views from southern edge of Ide Hill / Footpath SR236, looking north	6.6km

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Figure 7: Representative Viewpoints - Insert

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Sources: Ordnance Survey. Kent County Council.

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Representative Viewpoint 1: View from Crow Drive (Winter 2014)

Visual Receptors

Motorists, cyclists and pedestrians along Crow Drive
 Motorists, cyclists and pedestrians at Crow Drive / Otford Lane / Polhill junction

Description of View

The application site is well screened behind the perimeter vegetation which forms an effective screen at the eastern end of Crow Drive. The eye is drawn along Crow Drive to toward the application site where the perimeter vegetation can be seen. More open views across adjacent countryside are possible northward.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550394, 160215
 Distance to site: 0m

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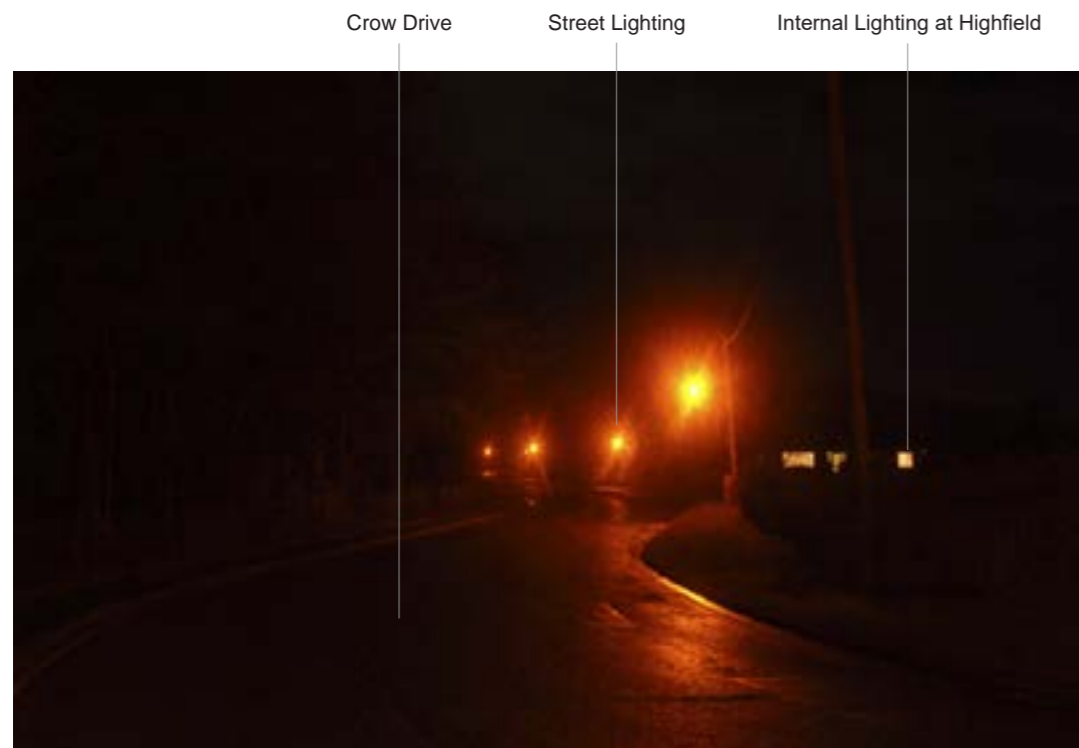
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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 1: View from Crow Drive at Summer 2014

During summer months the perimeter vegetation forms an even more effective screen to views toward the application site. More open views northward are still possible.



Representative Viewpoint 1: View from Crow Drive at Night (Winter 2014)

At night, the access road is illuminated by street lighting. As part of the proposed development, there is the potential to replace existing street lighting with more modern lighting fixtures that will better control glow/glare.

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Representative Viewpoint 1: View from Crow Drive at Autumn 2018

There is no discernible difference between the 2015 and 2018 views

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Representative Viewpoint 2: View from Crow Drive Road / PRow SR97 at Winter 2015

Visual Receptors

- Residents along Armstrong Close / Fort Lane
- Recreational users of local footpath network
- Motorists, cyclists and pedestrians along Crow Drive

Description of View

The eye is drawn along Crow Drive to the buildings at the application site entrance. Security fencing is prominent along with mature trees and car parking areas. Filtered views of the canteen (Building N10) are also possible.

Scale of Effect (winter)

Construction activity will be visible within the north-eastern part of the application site. This includes close range, open views of construction activity within the helipad site. The scale of effect would be Medium (Adverse).

The operational proposed development would be visible but this would not be substantially different from existing views of building and structures. In particular new housing in the 'helipad' site will sit opposite housing along Beckman Close. The removal of existing utilitarian buildings and the security fence is considered to be beneficial. The scale of effect would be Small (Positive).



Viewpoint Information:

Grid Reference: 550155, 159679
 Distance to site: 0m

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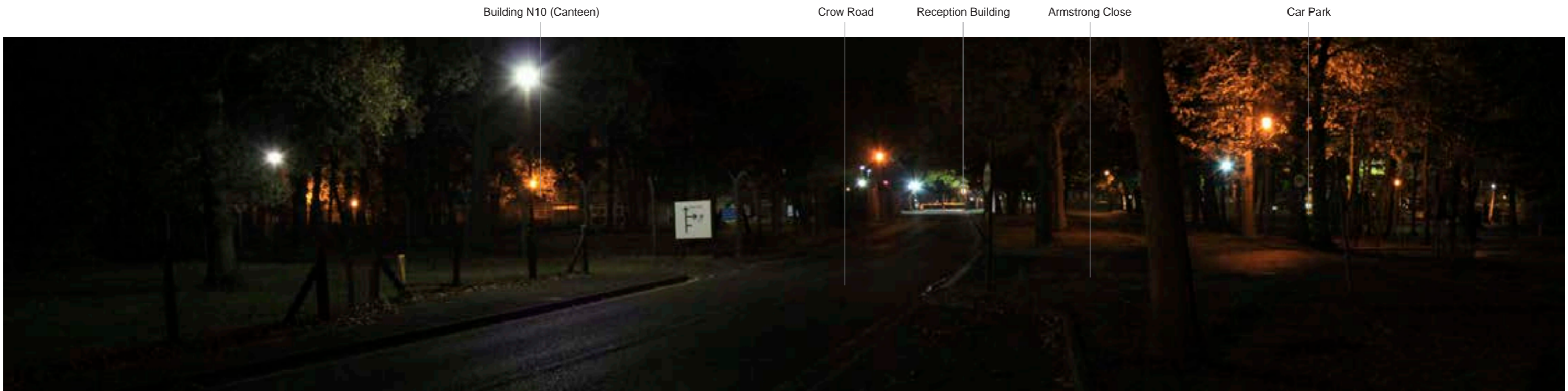
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**Figure 8: Representative Viewpoint
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Representative Viewpoint 2: View from Crow Drive Site Entrance at Summer 2014
 During summer months vegetation forms an even more effective filter to views, filtering views toward the application site.



Representative Viewpoint 2: View from Crow Drive Site Entrance at Night (Winter 2014)
 At night security lighting, street lighting and lighting of the car park all create point sources of illumination within the view. There is notable light spill from these sources into adjacent dark areas.

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Representative Viewpoint 2: View from Crow Drive Site Entrance at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There are some very minor changes to the location / position of signage.

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Representative Viewpoint 3: View from PRoW SR722 at Winter 2015

Visual Receptors

Recreational users of local footpath network
 Motorists, cyclists and pedestrians along Star Hill

Description of View

The perimeter vegetation forms an effective screen to views into the application site. The security fence and former quarry can be seen in the view.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. The scale of effect would be Small-negligible (Adverse).

The operational proposed development would not generally be visible, screened by the perimeter vegetation. Existing built development within the application site - including the QinetiQ area along the southern boundary - is not currently visible at winter. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 549915, 158621
 Distance to site: 0.2km

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Perimeter Security Fence

Woodland along top of scarp

Scarp slope to south of application site

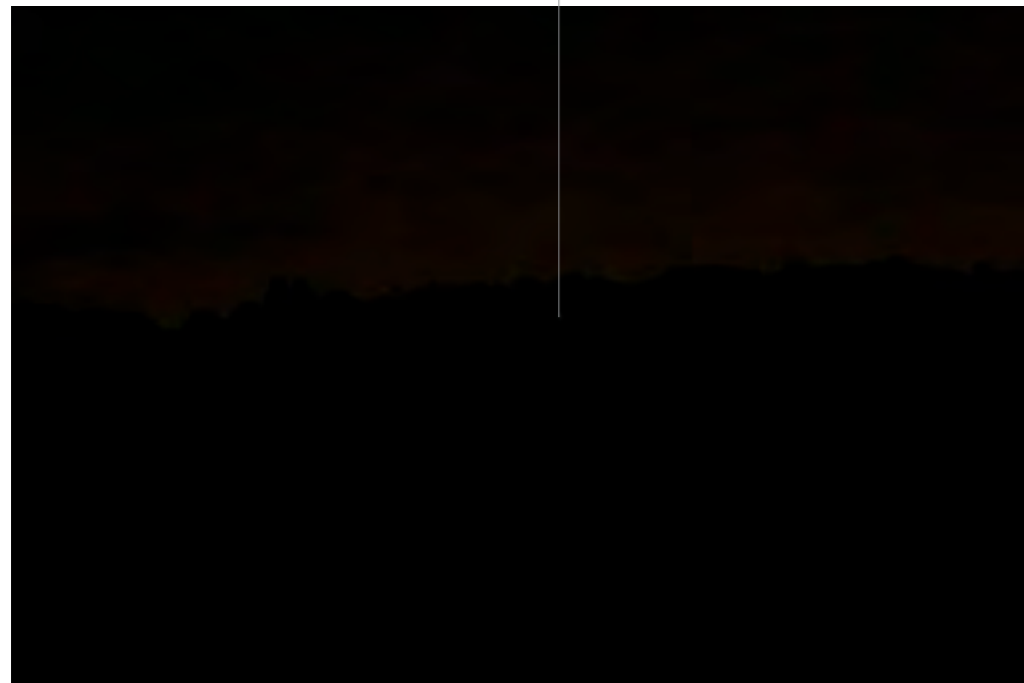
Edge of Quarry



Representative Viewpoint 3: View from footpath SR722 at Summer 2014

During summer months, leaf coverage of the perimeter vegetation forms a dense screen to views to within the application site.

Point light source within the Site



Representative Viewpoint 3: View from footpath SR722 at Night (Winter 2014)

At night point light sources associated with security lighting at the perimeter of the applicaiton site is visible.

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Representative Viewpoint 3: View from footpath SR722 at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 4: View from Star Hill Road at Winter 2014

Visual Receptors

Recreational users of local footpath network
Motorists, cyclists and pedestrians along Star Hill

Description of View

The view is characterised by perimeter security fencing, gate, gatehouse building, lighting and signage. A glimpse view into the application site is possible along Crow Road although views further into the application site are not possible.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. Works to the Star Hill Road entrance itself would be apparent. The scale of effect would be Medium (Adverse).

The operational proposed development would see the removal of Star Hill Road gatehouse, perimeter security fencing and associated flood lighting, and would open up views into the application site from the northern section of Star Hill Road, to the west of the application site. Overall this is considered to be beneficial to the visual amenity and character of the road. Views of new built from itself would be limited, largely screened by intervening vegetation within the application site and with retained / enhanced open space forming a buffer between Star Hill Road and areas of built development. The scale of effect would be Medium (Positive).



Viewpoint Information:

Grid Reference: 549051, 158864
Distance to site: 0m

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DATE March 2019 DRAWN SG
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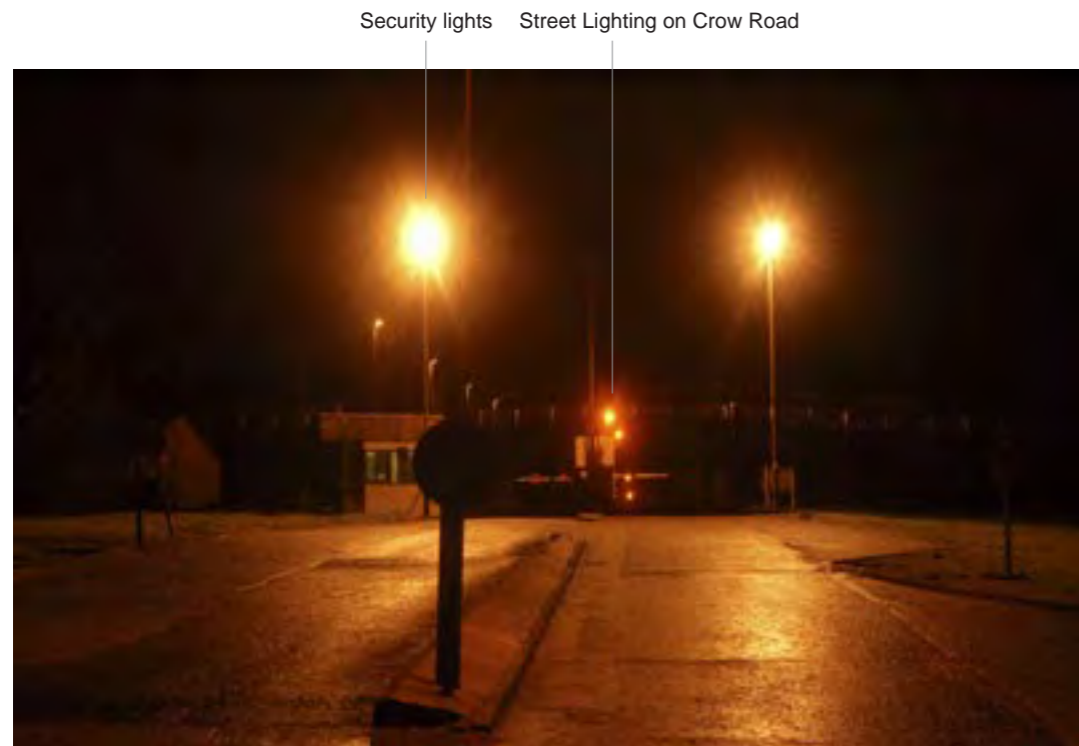
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Representative Viewpoint 4: View from Star Hill Road at Summer 2014

During summer months the view is relatively similar to that of winter although vegetation in leaf in the foreground provides more of a filter.



Representative Viewpoint 4: View from Star Hill Road at Night (Winter 2014)

At night, the entrance is illuminated by two security lights at the gate and street lighting running along Crow Road. The security lighting will be removed as part of the proposed development and lighting along the access road has the potential to be replaced by more modern lighting fixtures that will better control glow/glare.

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Representative Viewpoint 4: View from Star Hill Road at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 5: View from PRoW SR172 at Winter 2015

Visual Receptors

Walkers on the local footpath network

Description of View

The perimeter vegetation of the application site forms an effective barrier to views into the application site / of built development. The security fence dominates the composition, creating an imposing feature.

Scale of Effect (winter)

Being set predominantly beyond the perimeter woodland no construction of built form would take place in the immediate vicinity of this routes. However, the removal of perimeter security fence and the construction of a cycle path along PRoW SR172 would cause some limited intrusion. The scale of effect would be Medium (Adverse).

The removal of the perimeter security fencing would result in a beneficial improvement to visual amenity, removing the imposing fence structure that aligns the path and allowing a more natural visual experience. New built form may be visible through the perimeter vegetation but would not be a prominent feature in view. The scale of effect would be Medium (Positive)



Viewpoint Information:

Grid Reference: 549371, 159298
Distance to site: 0m

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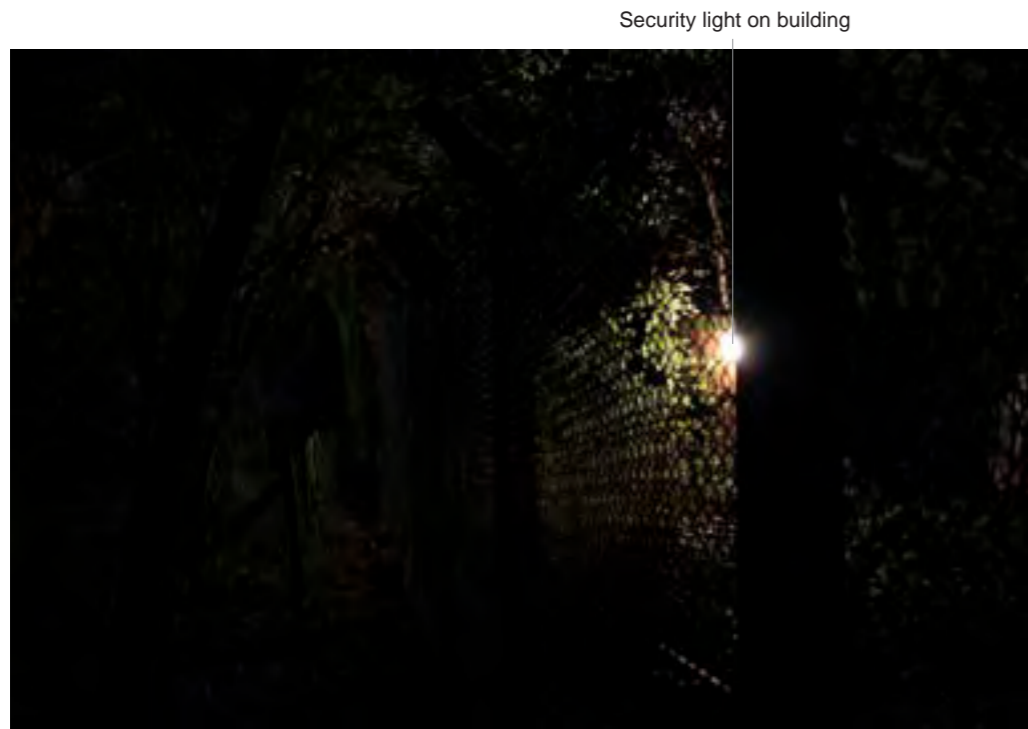
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Representative Viewpoint 5: View from footpath SR172 at Summer 2014
 During summer months vegetation in leaf adds to the screening effect of the perimeter vegetation.



Representative Viewpoint 5: View from footpath SR172 at Night (Winter 2014)
 At night, security lighting associated with structures within the application site result in localised light intrusion.

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Representative Viewpoint 5: View from footpath SR172 at Autumn 2018
 There is no discernible difference between the 2015 and 2018 views.

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**Figure 8: Representative Viewpoint
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Representative Viewpoint 6: View from Morants Court Road at Winter 2014

Visual Receptors

Recreational users of the North Downs Way
 Motorists along Star Hill Road / A224 Polhill / B2211 Sundridge Road / M25

Description of View

The scarp slope is the main feature of the view. Woodland along the top of the scarp slope is visible and screens all built development, with the exception of Building X40, X54 and X58 which sit just in front of the tree-line. The security fence is also visible, running across the scarp slope and also the quarry.

Scale of Effect (winter)

The majority of construction activities would be screened from view, although taller elements may be visible above the tree-line. The scale of effect would be Small-negligible (Adverse).

The operational proposed development would not generally be visible, screened by the perimeter vegetation. Existing built development within the application site - including the QinetiQ area along the southern boundary - is not currently visible at winter. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550159, 158266
 Distance to site: 0.6km

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PROJECT TITLE
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DRAWING TITLE
 Figure 8: Representative Viewpoint
 Photograph Panels

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Representative Viewpoint 6: View from Morants Court Road at Summer 2014
Vegetation in leaf further increases the screening and filtering of views of and toward the application site in summer views.



Representative Viewpoint 6: View from Morants Court Road at Night (Winter 2014)
Street lighting associated with the illumination of the roundabout is prominent in night time views. Illumination of the North Downs Business Park is also noticeable. Point light sources within the QinetiQ site are also visible.

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**Figure 8: Representative Viewpoint
Photograph Panels**

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Representative Viewpoint 6: View from Morants Court Road at Autumn 2018
 There is no discernible difference between the 2015 and 2018 views.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

Residential dwellings along Otford Lane

Woodland along northern application site boundary

Building N2

Private Road



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Representative Viewpoint 7: View from Otford Lane at Winter 2014

Visual Receptors

Residents in and around Halstead
 Motorists, cyclists and pedestrians along Otford Lane

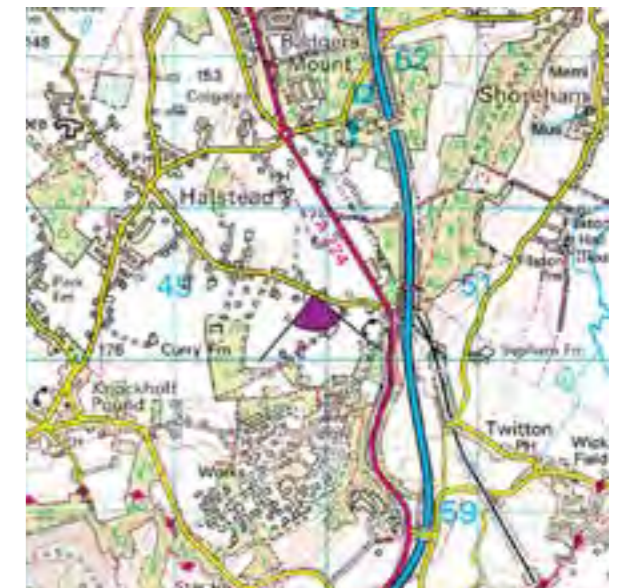
Description of View

The existing view is across paddocks and fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of Building N2 which protrudes above the tree-line.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view. The scale of effect would be Small-Negligible (Adverse).

The operational proposed development would be screened by the perimeter vegetation. The removal of building N2 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 549917, 160426
 Distance to site: 0.4km

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PROJECT TITLE
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**Figure 8: Representative Viewpoint
 Photograph Panels**

Residential dwellings along Otford Lane (largely screened from view)

Woodland along northern application site boundary

Building N2

Private Road



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Representative Viewpoint 7: View from Otford Lane at Summer 2014

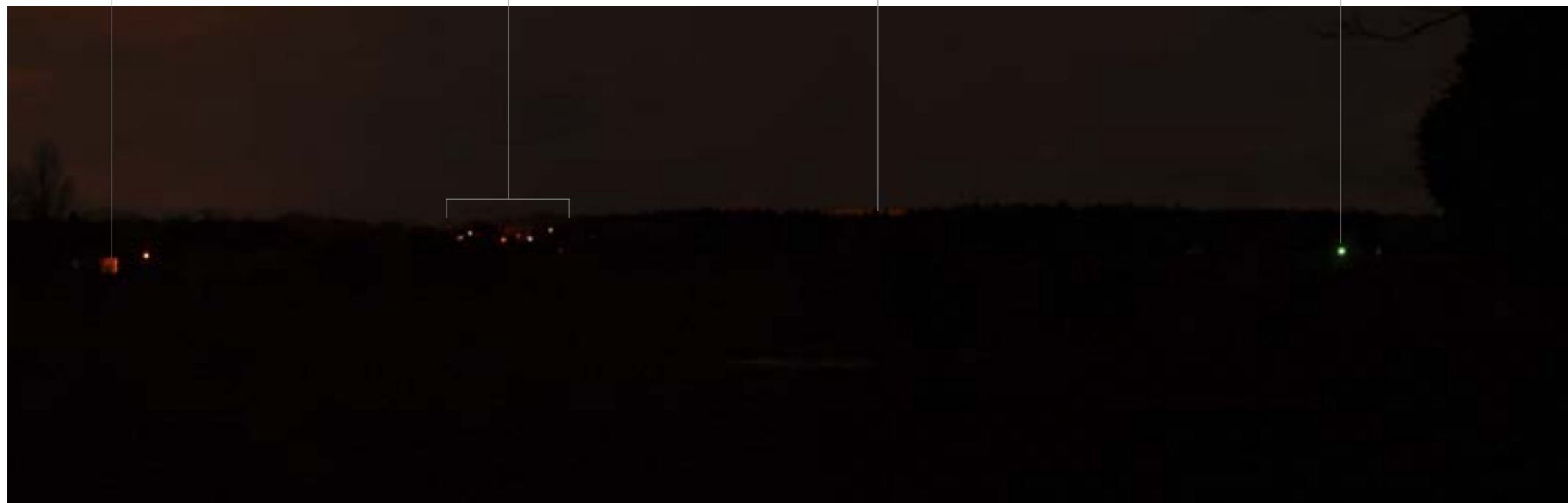
Vegetation in leaf further increases the screening and filtering of views of and toward the application site in summer views.

Internal lighting within dwelling

Point light sources within the Site

Glow around building N2

Traffic light along private road



Representative Viewpoint 7: View from Otford Lane at Night (Winter 2014)

At night, the local area is very dark, with no street lighting. Some point light sources within the application site are visible through the tree-line, and there is a slight glow surrounding building N2. The proposed development would include the demolition of N2 and its associated lighting. Furthermore, the overall level of lighting within the application site could potentially be reduced by the use of more modern lighting fixtures that will better control glow/glare.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 7: View from Offord Lane at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There are some very minor changes to the fencing in the foreground.

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Representative Viewpoint 8: View from PRoW SK690 at Winter 2014

Visual Receptors

Residents in and around Halstead
Recreational users of the local footpath network

Description of View

The existing view is across agricultural fields. Woodland along the northern application site boundary is visible and screens all built development within the application site, with the exception of building N2 and the boiler house chimneys (Building S2) which protrude above the tree-line. The strong vegetative network to the north of the application site is apparent.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view. The scale of effect would be Small-Negligible (Adverse).

The operational proposed development would be screened by the perimeter vegetation. The removal of building N2 and S2 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 548507, 160191
Distance to site: 1.1km

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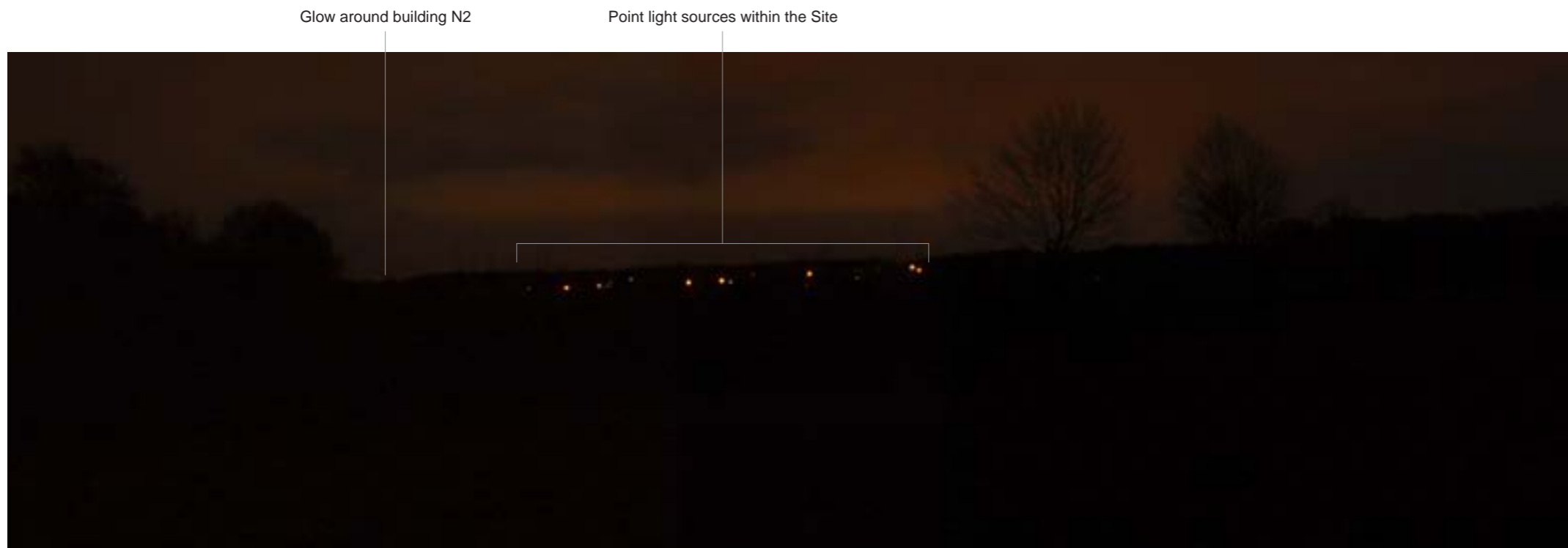
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Representative Viewpoint 8: View from PRow SK690 at Summer 2014

During summer months the screening properties of vegetation is increased. Building N2 not visible although the Boiler House chimneys can still be seen.



Representative Viewpoint 8: View from PRow SK690 at Night (Winter 2014)

At night, the local area is very dark, with no street lighting. Some point light sources within the application site are visible through the perimeter vegetation and there is a slight glow surrounding building N2. The proposed development would include the demolition of N2 and its associated lighting. Furthermore, the overall level of lighting within the application site could potentially be reduced by the use of more modern lighting fixtures that will better control glow/glare.

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 8: View from PRoW SK690 at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 9: View from Darent Valley Path at Winter 2015

Visual Receptors

Residents on edge of Riverhead / Dunton Green (Sevenoaks)
Recreational users of the Darent Valley Path

Description of View

The scarp slope of the North Downs constitutes the main feature within the view, a continuous belt of woodland along its ridge forming the horizon. Views of the application site are largely screened by the perimeter vegetation although the security fence is visible.

Scale of Effect (winter)

The majority of construction activities would be screened from view. Taller elements may be visible above the tree-line but would not be a prominent feature in view and seen at a distance. The scale of effect would be Negligible (Neutral).

The operational proposed development would be screened by the perimeter vegetation. The removal of building X54 would be beneficial to the view. The scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 550536, 157114
Distance to site: 1.8km

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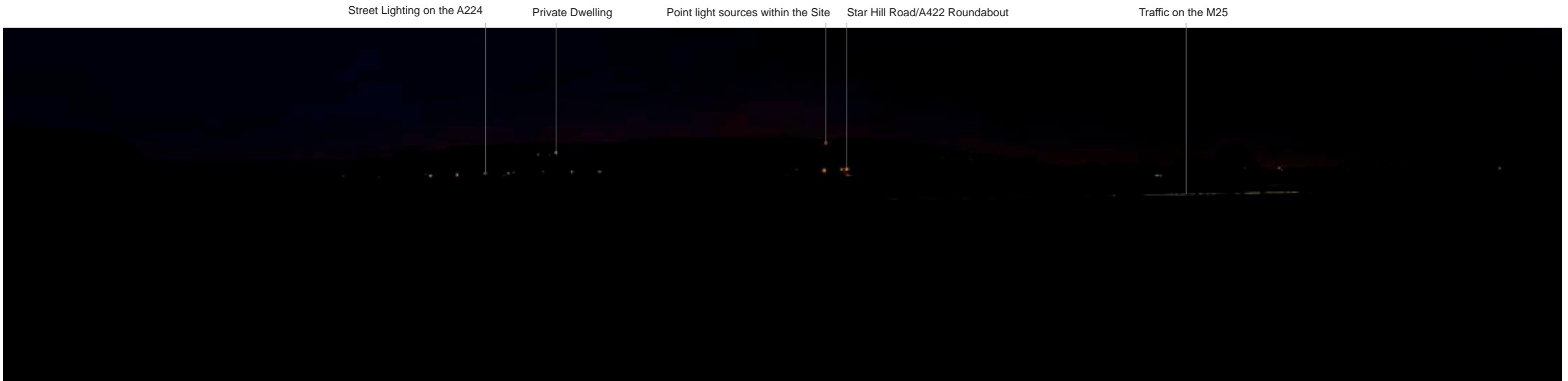
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**Figure 8: Representative Viewpoint
Photograph Panels**

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Representative Viewpoint 9: View from Darent Valley Path at Summer 2014

During summer months the view is similar to that of winter, with vegetation in the foreground providing increased filtering of views of the M25.



Representative Viewpoint 9: View from Darent Valley Path at Night (Winter 2015)

At night, lighting associated with the M25 and A224 provides the main sources of illumination. Several light point sources associated with the security lighting of the QientiQ site are also visible.

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Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 9: View from Darent Valley Path at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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PROJECT TITLE
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Figure 8: Representative Viewpoint
Photograph Panels

Scarp slope to south of the application site Perimeter Security Fence Woodland along the applications site's eastern boundary Recreation Ground M25



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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Winter 2015

Visual Receptors

Residents in and around Twitton / Otford
Recreational users of Hale Lane Recreation Ground

Description of View

The wooded scarp slope of the North Downs is the prominent feature of the view. Views of the application site are largely screened by the perimeter vegetation with only the security fencing visible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 551458, 158913
Distance to site: 1.4km

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PROJECT TITLE
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DRAWING TITLE
**Figure 8: Representative Viewpoint
Photograph Panels**

Scarp slope to south of the application site Perimeter Security Fence Woodland along the applications site's eastern boundary Recreation Ground M25

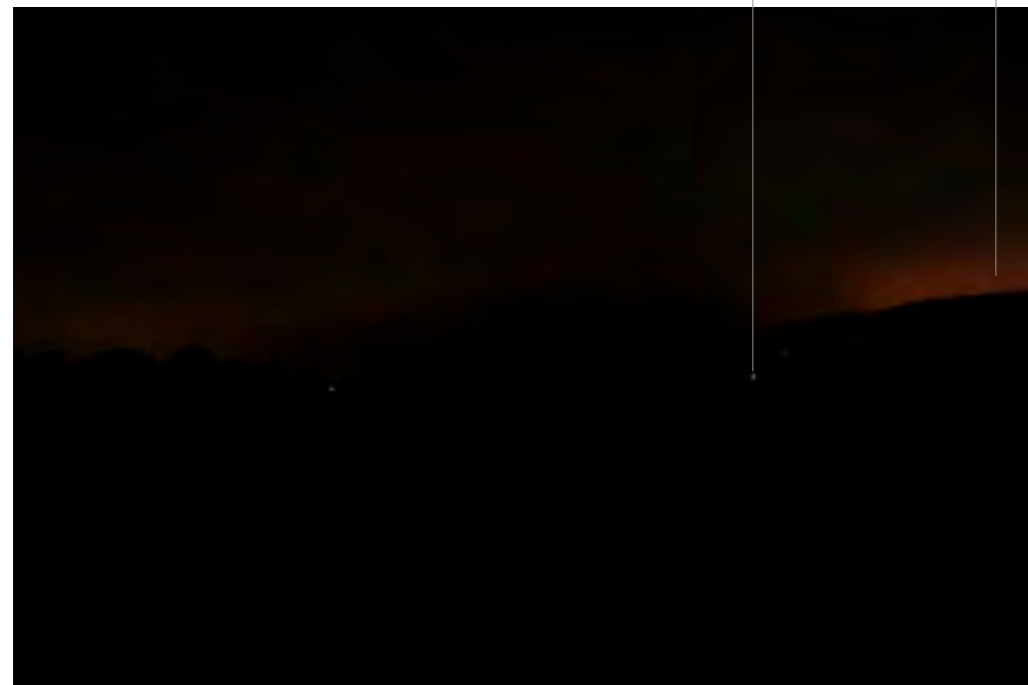
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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Summer 2014

During summer months vegetation in leaf in the foreground and on the scarp slope in the middle ground provides increased filtering of views. The Perimeter Security Fence is still visible.

Point light sources on transport network Glow above the Site



Representative Viewpoint 10: View from Hale Lane Recreation Ground at Night (Winter 2014)

At night the view is relatively dark although there is a notable glow above the escarpment ridge.

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Photograph Panels

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Representative Viewpoint 10: View from Hale Lane Recreation Ground at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. Some taller trees in the midground, along the boundary of the recreation / to the right of the shelter, have been removed

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Figure 8: Representative Viewpoint
Photograph Panels

Scarp slope to south of application site

Woodland along the application site's eastern boundary



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Representative Viewpoint 11: View from Fackenden Lane at Winter 2014

Visual Receptors

Motorists, cyclists and pedestrians along Fackenden Lane

Description of View

A glimpsed view through a break in vegetation, the escarpment forms a prominent landform feature in the composition with woodland along its ridge. The perimeter vegetation forms an effective visual screen to the application site and the aspect of the slope means the security fencing is not visible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 552947, 160781
 Distance to site: 2.6km

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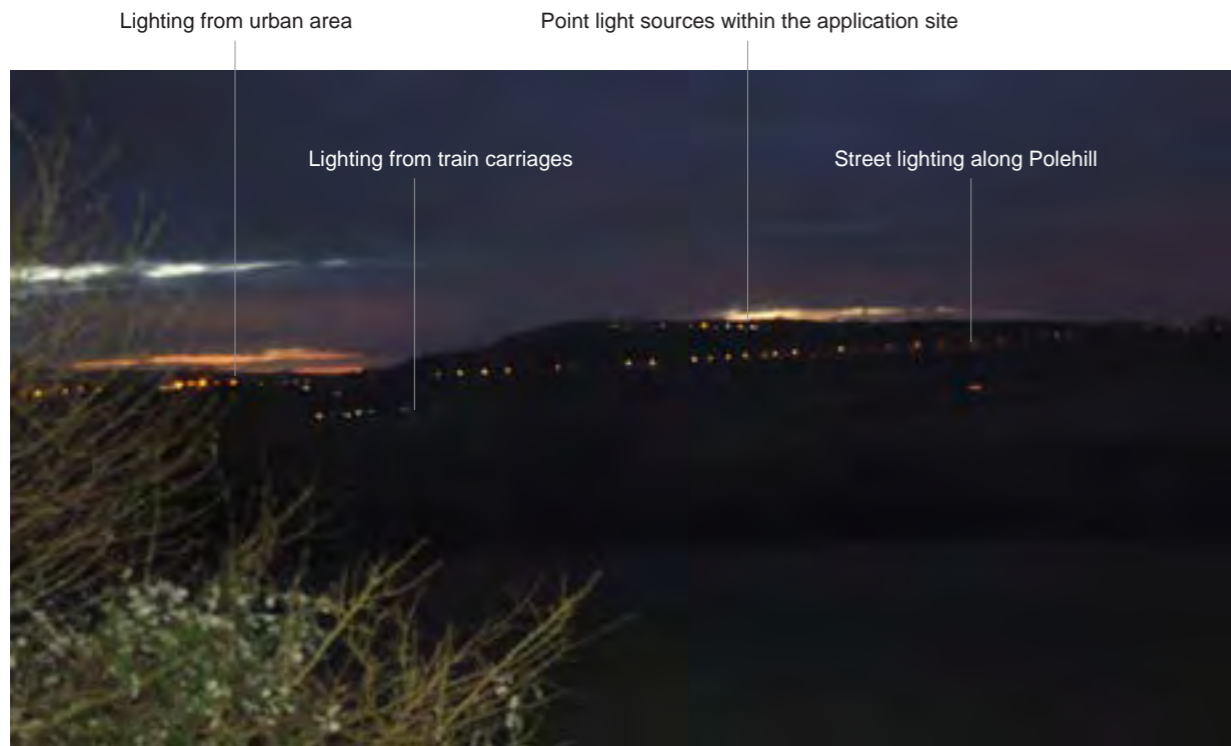
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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 11: View from Fackenden Lane at Summer 2014

During summer months the filtering and screening effect of vegetation is increased and the application site remains screened from view.



Representative Viewpoint 11: View from Fackenden Lane at Night

At night, lighting along Polehill is visible, as is street/residential lighting on the fringes of Sevenoaks and some point light sources within the application site. Trains travelling along the railway line also provide an intermittent source of illumination. The proposed development has the potential to reduce the overall level of lighting within the Site by the use of more modern lighting fixtures that will better control glow/glare.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 11: View from Fackenden Lane at Autumn 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
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Representative Viewpoint 12: View from PRow SR60 at Winter 2015

Visual Receptors

Walkers on the local footpath network

Description of View

A wide panoramic view over the settled Darent Valley with the North Downs escarpment forming a prominent backdrop to the composition. The perimeter vegetation forms an effective screen to views of the application site.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553111 160315
Distance to site: 2.7km

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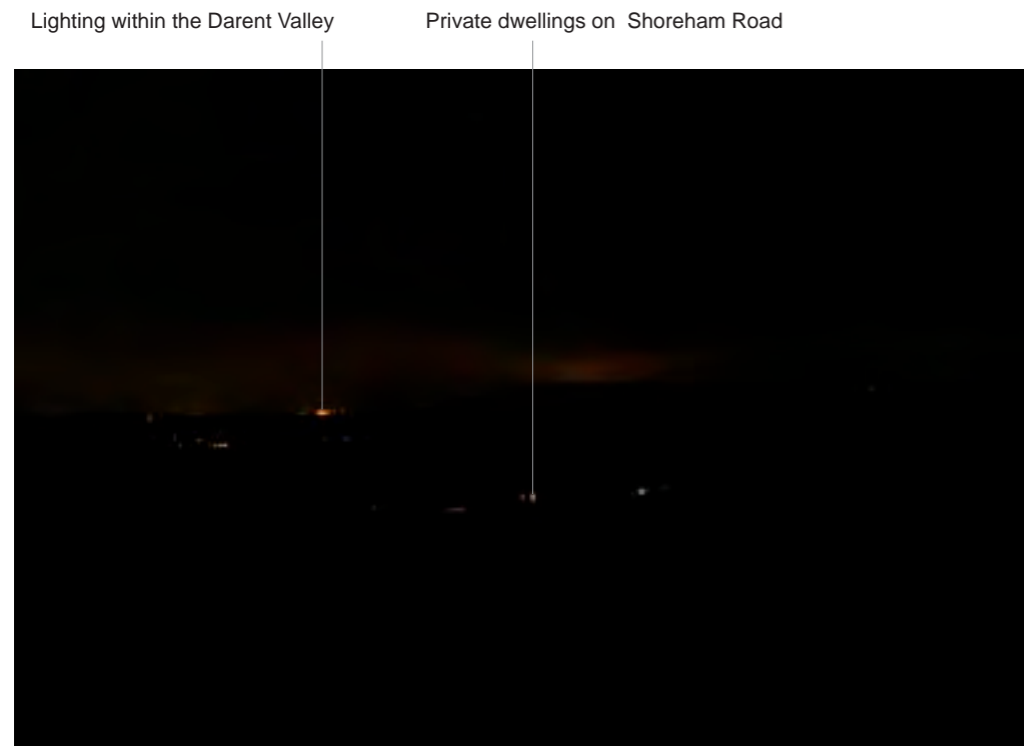
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Representative Viewpoint 12: View from PRow SR60 at Summer 2014

During summer months vegetation in the middle ground provides more filtering of middle views. Views of the application site remain relatively unchanged.



Representative Viewpoint 12: View from PRow SR60 at Night (Winter 2014)

At night lighting from settlement within the Darent Valley represents the main source of illumination within the view.

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Representative Viewpoint 12: View from PRoW SR60 at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Winter 2015

Visual Receptors

Recreational users of the North Downs Way

Description of View

A glimpsed view through vegetation aligning the North Downs Way toward the application site. The scarp slope forms the prominent landform of the view where the security fence can be seen on its face although the majority of the application site is concealed behind the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553761, 159686
 Distance to site: 3.4km

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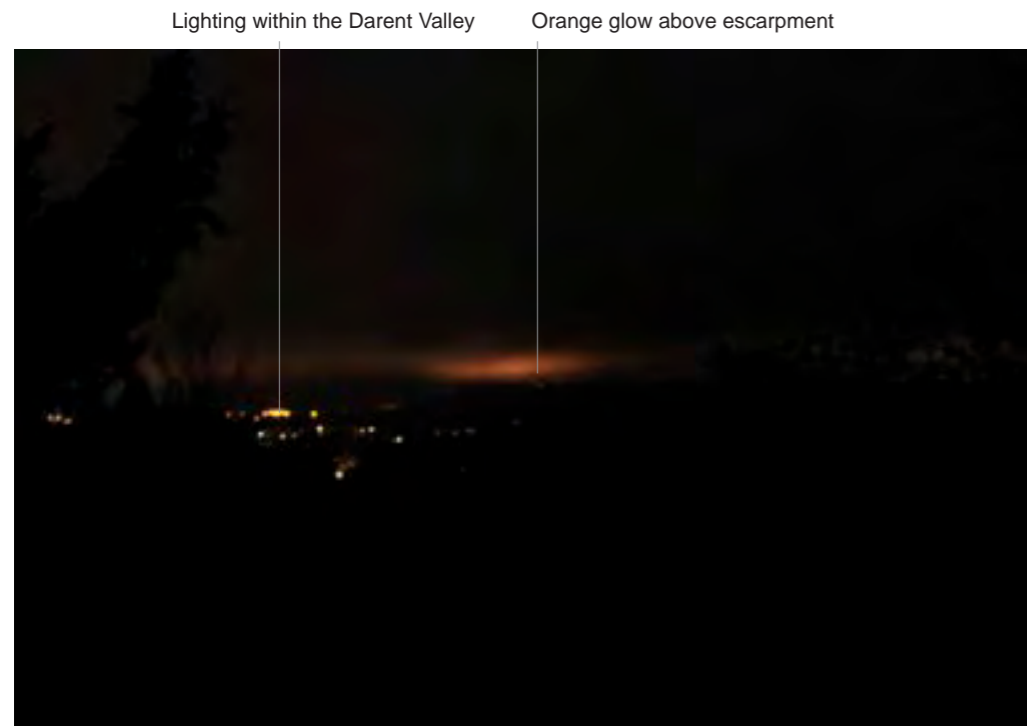
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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Summer 2014

During summer months the screening properties of vegetation aligning the North Downs Way increases. Although the perimeter security fence can be seen, the majority of the application site is screened from view.



Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Night (Winter 2014)

At night, lighting within the Darent Valley can be seen, along with an orange sky glow above the escarpment.

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Representative Viewpoint 13: Views from Otford Mount / North Downs Way at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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Figure 8: Representative Viewpoint
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Representative Viewpoint 14: View from London Road, Sevenoaks, at Winter 2015

Visual Receptors

Residents in Sevenoaks
 Pedestrians, cyclists and motorists within and around Sevenoaks

Description of View

The North Downs escarpment forms an attractive backdrop to views out from the town where its face and wooded ridge can be seen. The former quarry at the North Downs Business Park is also visible along with the perimeter security fence. The majority of the application site is hidden from view by the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 552784, 154977
 Distance to site: 4.8km

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Representative Viewpoint 14: View from London Road, Sevenoaks, at Summer 2014

During summer the view is very similar to that of winter given the urban surroundings. The majority of the applicaiton site is screened from view by perimeter vegetation with only the perimeter security fence and building X54 discernible.



Representative Viewpoint 14: View from London Road, Sevenoaks, at Night (Winter 2014)

At night, steet lighting within the foreground domiantes the nighttime composition.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 14: View from London Road, Sevenoaks, at Autumn 2018

There is no discernible difference between the 2015 and 2018 views. There is a new building in the midground which screens the eastern end of the application site / quarry from view.

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 15: View from Knole Park at Winter 2015

Visual Receptors

- Residents in Sevenoaks
- Visitors to Knole Park
- Recreational users of the Greensand Way

Description of View

Vegetation within the parkland screens views toward the application site. Only glimpses through the vegetation are afforded to the North Downs escarpment where the application site is primarily indiscernible.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 553696, 154418
 Distance to site: 5.8km

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**Figure 8: Representative Viewpoint
 Photograph Panels**

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Representative Viewpoint 15: View from Knole Park at Summer 2014

During summer months the screening and filtering properties of vegetation within and surrounding the Park is increased, screening views of the application site.



Representative Viewpoint 15: View from Knole Park at Summer (Winter 2015)

At night glimpses through the parkland boundary vegetation to light sources within the Darent Valley are possible.

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Figure 8: Representative Viewpoint
Photograph Panels

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Representative Viewpoint 15: View from Knole Park at Autumn 2018
 There is no discernible difference between the 2015 and 2018 views.

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PROJECT TITLE
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**Figure 8: Representative Viewpoint
 Photograph Panels**

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North Downs Escarpment
Scarp slope to south of application site
North Downs Business Park and quarry



Representative Viewpoint 16: View from PRow SR236 at Winter 2015

Visual Receptors

Residents in and around Ide Hill
Recreational users of the local footpath network

Description of View

The escarpment forms a prominent landform feature to the composition with woodland forming a continuous horizon along its ridge. The quarry can also be seen. The perimeter security fence of the application site is just discernible at this distance, however the majority of the application site is screened from view by the perimeter vegetation.

Scale of Effect (winter)

The majority of construction activities and the operational proposed development would be screened from view. The overall scale of effect would be Negligible (Neutral).



Viewpoint Information:

Grid Reference: 548764, 152133
Distance to site: 6.6km

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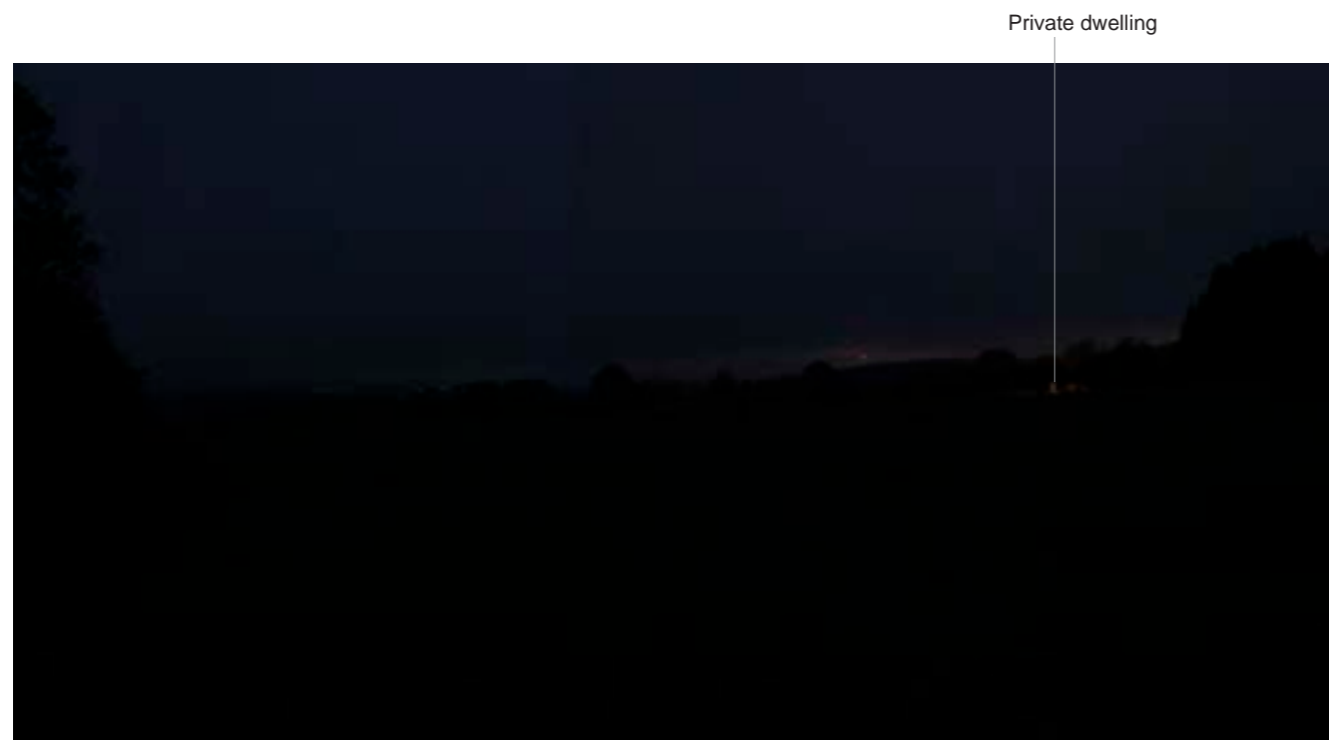
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Representative Viewpoint 16: View from PRoW SR236 at Summer 2014

During summer months the screening and filtering effects of vegetation in the fore and middle increases. The majority of the Site is screened by perimeter vegetation and, at this distance, existing features beyond the perimeter vegetation are not easily discernible.



Representative Viewpoint 16: View from PRoW SR236 at Night (Winter 2014)

At night the composition is relatively dark. Isolated point sources from can be seen.

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Representative Viewpoint 16: View from PRow SR236 at Summer 2018

There is no discernible difference between the 2015 and 2018 views.

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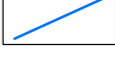

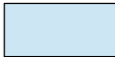


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PROJECT TITLE
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Figure 8: Representative Viewpoint
Photograph Panels



LEGEND

-  Application Site
 -  Wider Survey Area (Land within the Applicants Ownership)
 -  2.5 km, 5 km and 7.5 km Radii around the Application Site
 -  Area of Outstanding Natural Beauty
- Zone of Theoretical Visibility**
-  Zone of Theoretical Visibility of Existing Development
 -  Urban Areas
 -  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The height of existing buildings is modelled from the 'Existing Building Heights Plan' produced by Pegasus which identifies approximate building heights for 12 zones within the Site.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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Figure 9: Zone of Theoretical Visibility - Existing

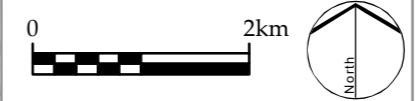
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DATE	June 2019	DRAWN SD
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STATUS	Final	APPROVED PL

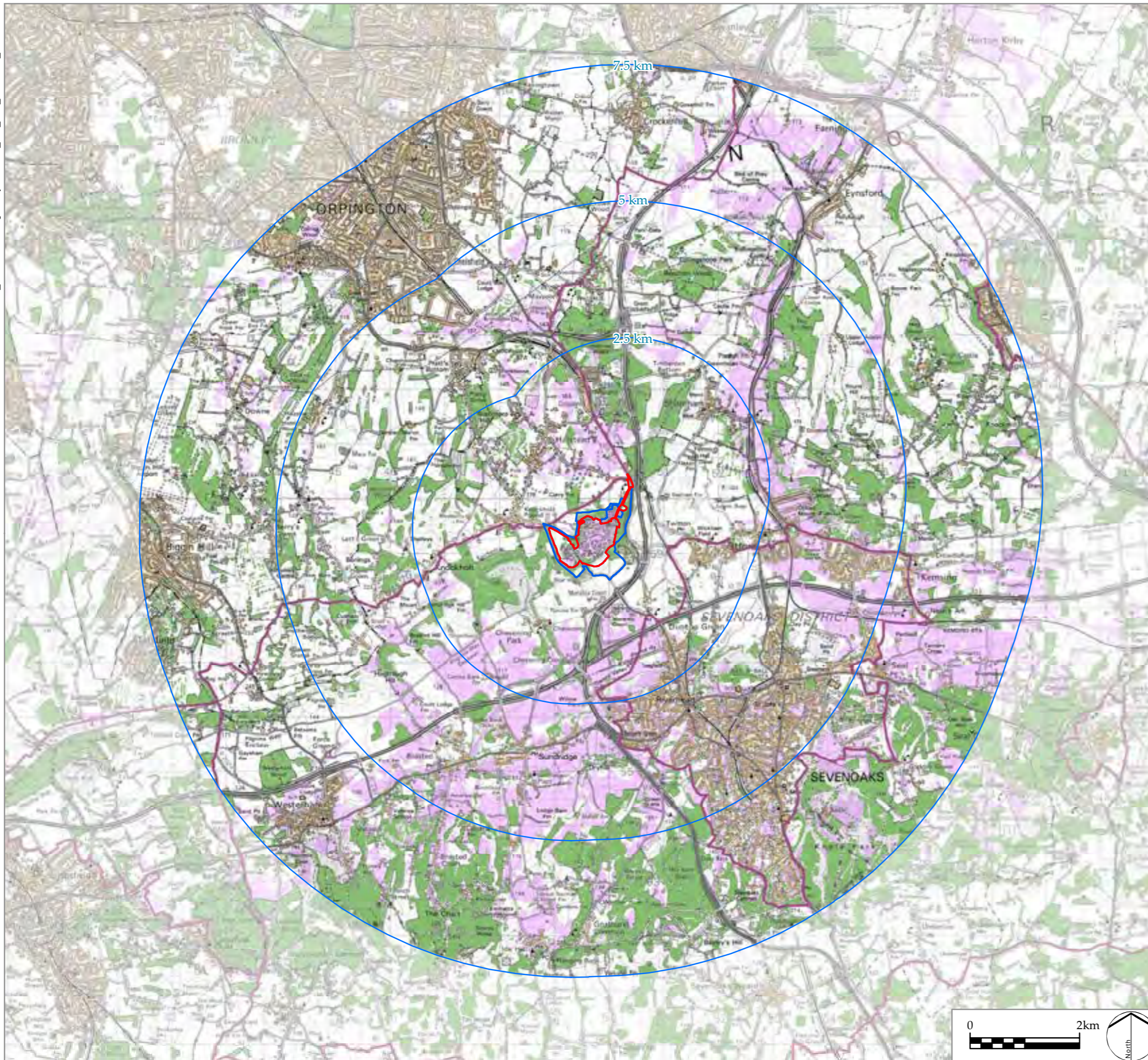
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All dimensions are to be checked on site.
Area measurements for indicative purposes only.



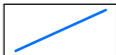

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Sources: Ordnance Survey, Natural England








LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Area of Outstanding Natural Beauty

Zone of Theoretical Visibility

-  Zone of Theoretical Visibility of the Permitted Development (ex. energy centre flue)
-  Urban Areas
-  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

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Figure 10: Zone of Theoretical Visibility - Permitted Development (excluding energy centre flue)

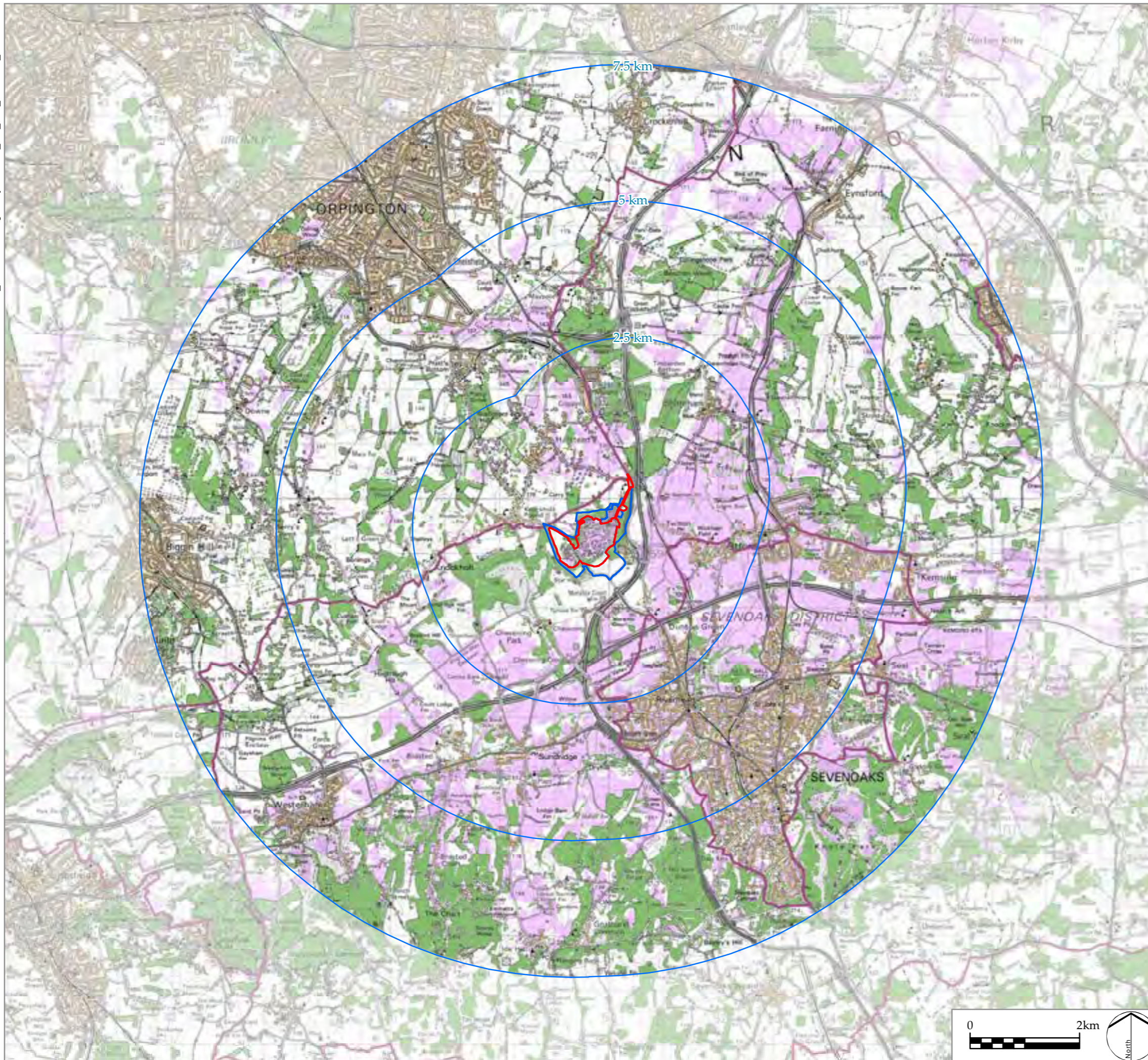
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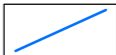




No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

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Sources: Ordnance Survey.



LEGEND

-  Application Site
 -  Wider Survey Area (Land within the Applicants Ownership)
 -  2.5 km, 5 km and 7.5 km Radii around the Application Site
 -  Area of Outstanding Natural Beauty
- Zone of Theoretical Visibility**
-  Zone of Theoretical Visibility of the Permitted Development (inc. enegery centre flue)
 -  Urban Areas
 -  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

LDĀDESIGN

PROJECT TITLE
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DRAWING TITLE
Figure 11: Zone of Theoretical Visibility - Permitted Development (inc. energy centre flue)

ISSUED BY	Oxford	T: 01865 887 050
DATE	June 2019	DRAWN SD
SCALE @A3	1:70,000	CHECKED BC
STATUS	Final	APPROVED PL

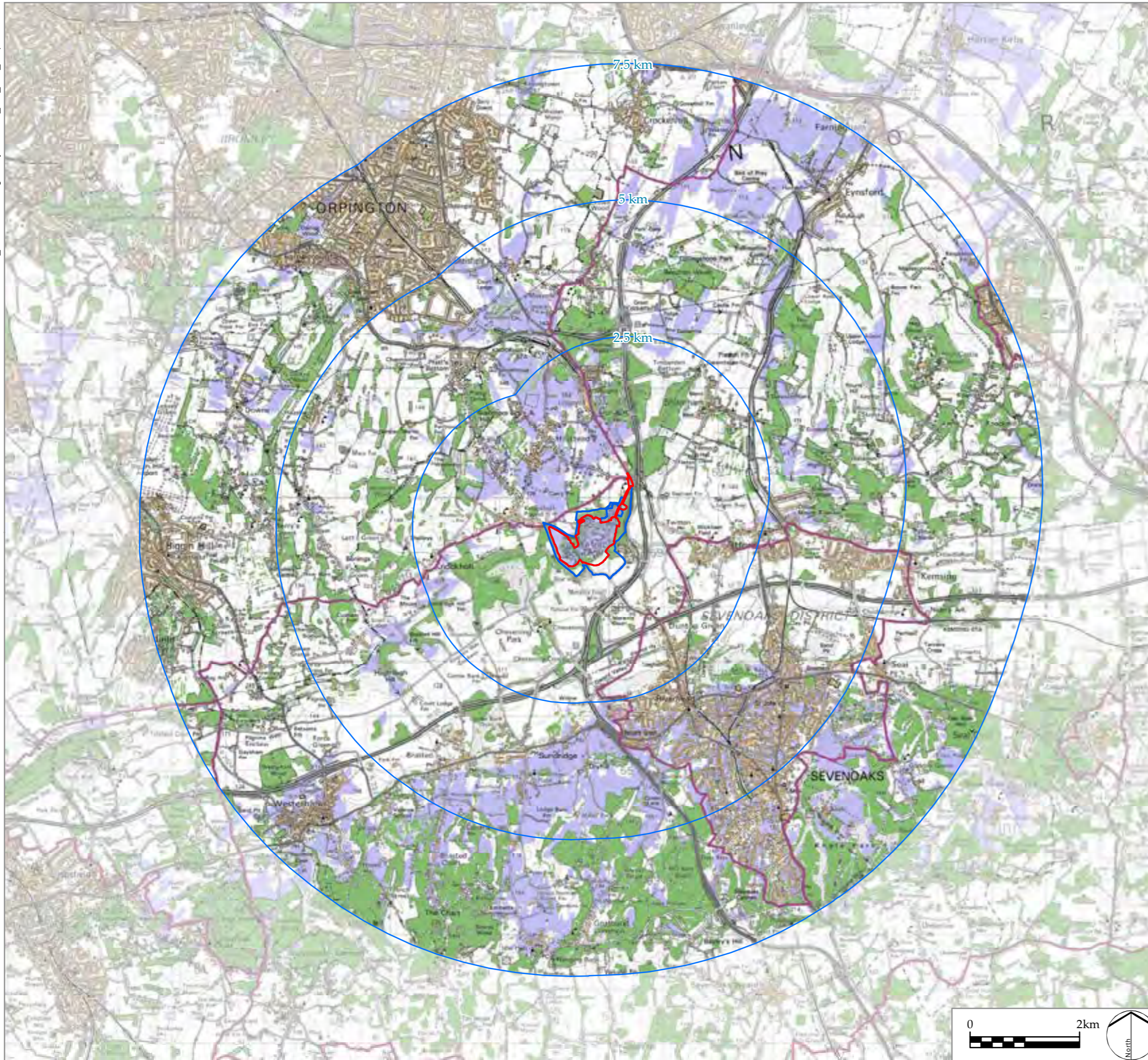
DWG. NO. 6559_011

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.


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Sources: Ordnance Survey








LEGEND

-  Application Site
-  Wider Survey Area (Land within the Applicants Ownership)
-  2.5 km, 5 km and 7.5 km Radii around the Application Site
-  Area of Outstanding Natural Beauty

Zone of Theoretical Visibility

-  Zone of Theoretical Visibility of the Proposed Development
-  Urban Areas
-  Woodlands

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights from Nextmap25. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

Proposed development is modelled to a uniform 7.5m (approximately 3 storeys) across the development footprint and does not take into account any variations in building heights/roof pitches that would occur.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 25m² resolution.

LDĀ DESIGN

PROJECT TITLE

FORT HALSTEAD

DRAWING TITLE

Figure 12: Zone of Theoretical Visibility - Proposed Development

ISSUED BY	Oxford	T: 01865 887 050
DATE	June 2019	DRAWN SD
SCALE @A3	1:70,000	CHECKED BC
STATUS	Final	APPROVED PL

DWG. NO. 6559_012

No dimensions are to be scaled from this drawing.
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Area measurements for indicative purposes only.

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Sources: Ordnance Survey



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Existing view



Wireframe overlay

ISSUED BY Oxford t: 01865 887050
 DATE June 2019 DRAWN SG
 PAGE SIZE 420mm x 297mm CHECKED SD
 STATUS Final APPROVED PL

DWG. NO. 6559_013

PROJECT TITLE
FORT HALSTEAD

DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224),
 on the North Downs Way, looking north

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No development on scarp slope

Approximate location of residential (up to 3 storeys) - screened by intervening landform

Approximate location of employment/mixed use (up to 4 storeys) - screened by intervening landform

Employment area (up to 3 storeys) - predominantly screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

Grid Reference: 550180, 158259
 Elevation (AOD): 109m
 Viewer Height: 1.6m
 Viewing Distance: 300mm
 Angle (width): 75°, buildings occupy - 64°
 Camera & Lens: Digital SLR, 50mm
 Photo date / time: 28/10/2014 13:30
 Distance to site boundary: 639m



Location Plan - 1:50,000 scale

ISSUED BY	Oxford	t: 01865 887050	
DATE	June 2019	DRAWN	SG
PAGE SIZE	420mm x 297mm	CHECKED	SD
STATUS	Final	APPROVED	PL

DWG. NO. 6559_013

PROJECT TITLE
FORT HALSTEAD

DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224), on the North Downs Way, looking north

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Wireframe overlay 2015



Wireframe overlay 2019

ISSUED BY Oxford t: 01865 887050
 DATE June 2019 DRAWN SG
 PAGE SIZE 420mm x 297mm CHECKED SD
 STATUS Final APPROVED PL

DWG. NO. 6559_013

PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 6: View from junction of Morants Court Road/Polehill Road (A224),
 on the North Downs Way, looking north

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Existing view



Wireframe overlay

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DATE	June 2019	DRAWN	SG
PAGE SIZE	420mm x 297mm	CHECKED	SD
STATUS	Final	APPROVED	PL

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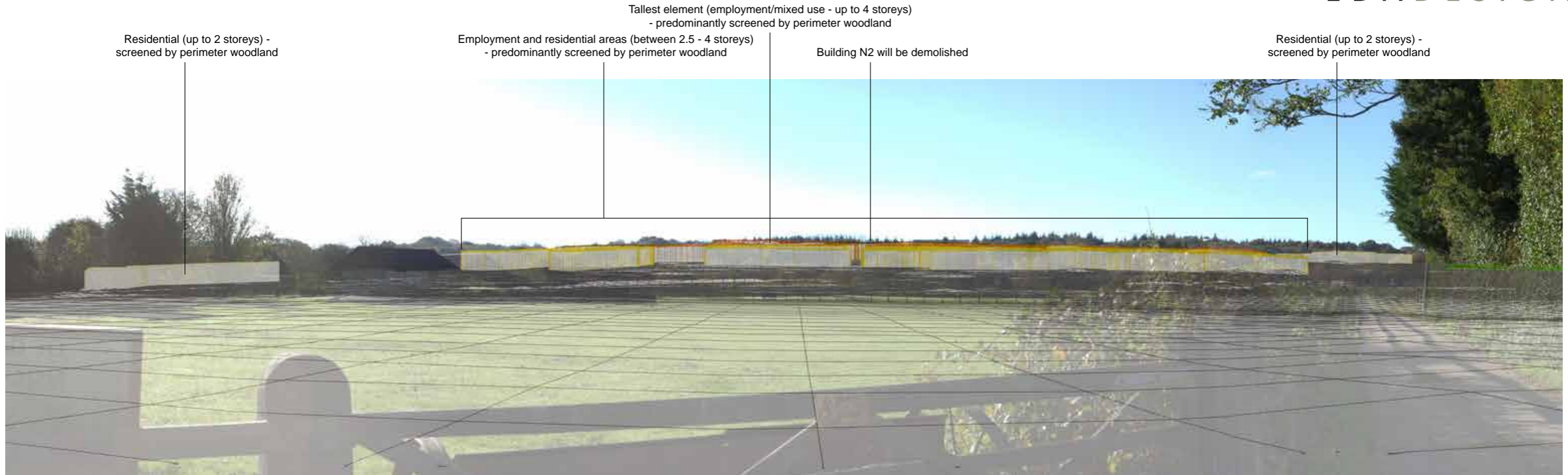
PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

- Grid Reference: 549906, 160429
- Elevation (AOD): 175m
- Viewer Height: 1.6m
- Viewing Distance: 300mm
- Angle (width): 75°, buildings occupy - 78°
- Camera & Lens: Digital SLR, 50mm
- Photo date / time: 28/10/2014 09:35
- Distance to site boundary: 424m



Location Plan - 1:50,000 scale

ISSUED BY	Oxford	t: 01865 887050	
DATE	June 2019	DRAWN	SG
PAGE SIZE	420mm x 297mm	CHECKED	SD
STATUS	Final	APPROVED	PL

DWG. NO. 6559_013

PROJECT TITLE
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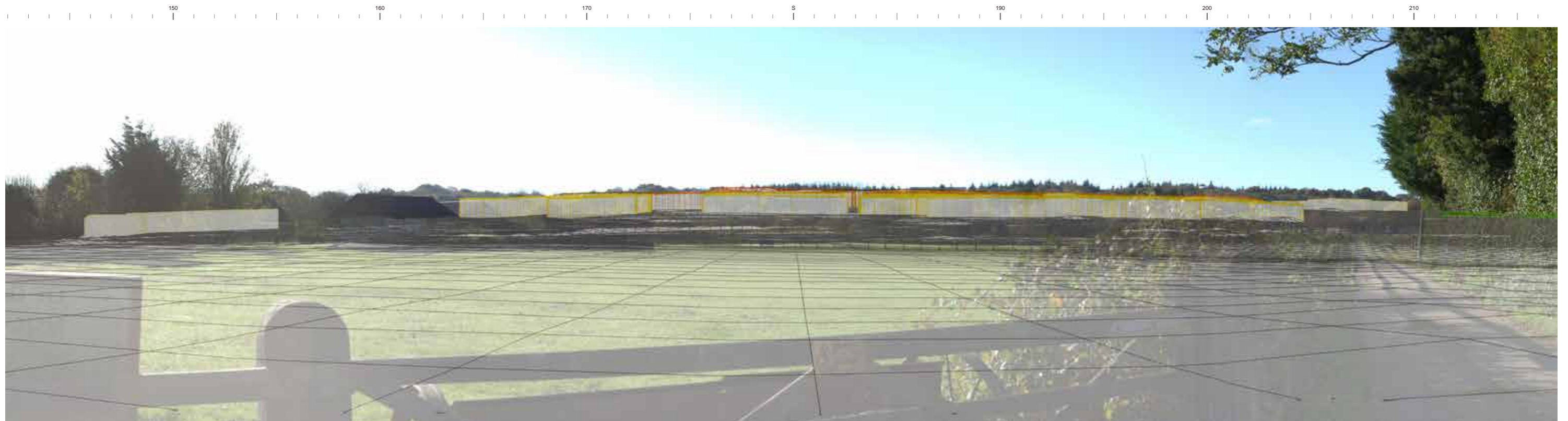
Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Wireframe overlay 2015



Wireframe overlay 2019

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PAGE SIZE	420mm x 297mm	CHECKED SD
STATUS	Final	APPROVED PL

DWG. NO. 6559_013

PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 7: View from Otford Lane looking south

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Existing view



Wireframe overlay

ISSUED BY	Oxford	t: 01865 887050	
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STATUS	Final	APPROVED	PL

DWG. NO. 6559_013

PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60,
near Otford Mount, looking south west

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Tallest element (employment/mixed use - up to 4 storeys) - predominantly screened by perimeter woodland
 Employment/school (up to 3 storeys) - predominantly screened by perimeter woodland
 Residential (up to 2.5 storeys) - screened by perimeter woodland
 Residential (up to 2 storeys) - screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
 All dimensions are to be checked on site.
 Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

Grid Reference: 553091, 160257
 Elevation (AOD): 126m
 Viewer Height: 1.6m
 Viewing Distance: 300mm
 Angle (width): 75°, buildings occupy - 14°
 Camera & Lens: Digital SLR, 50mm
 Photo date / time: 28/10/2014 11:50
 Distance to site boundary: 2.7km



Location Plan - 1:50,000 scale

ISSUED BY Oxford t: 01865 887050
 DATE June 2019 DRAWN SG
 PAGE SIZE 420mm x 297mm CHECKED SD
 STATUS Final APPROVED PL

DWG. NO. 6559_013

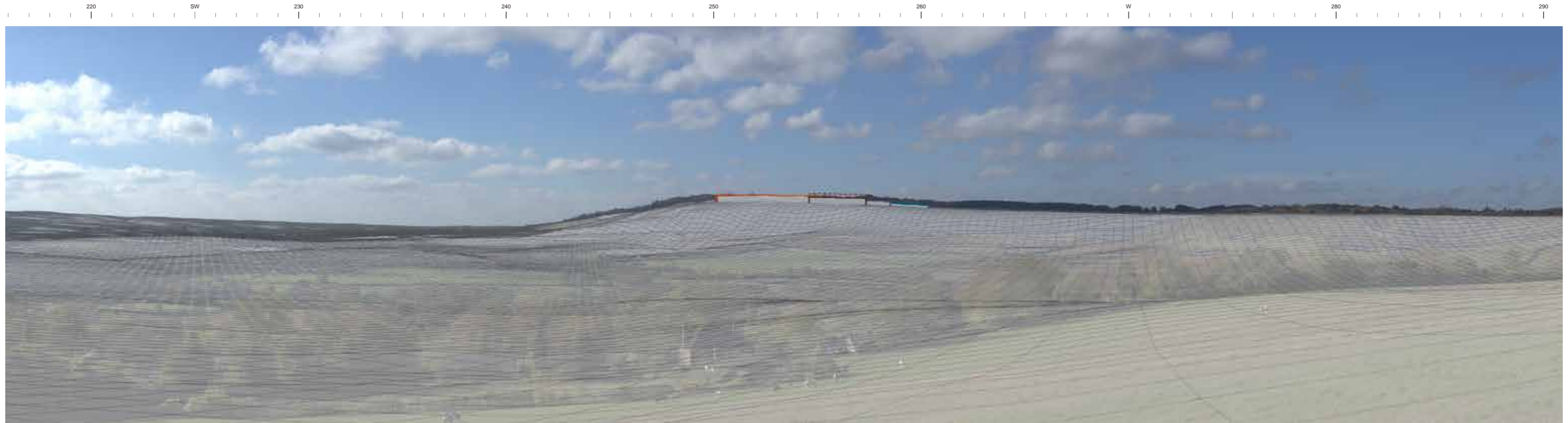
PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60, near Otford Mount, looking south west

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Wireframe overlay 2015



Wireframe overlay 2019

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DWG. NO. 6559_013

PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 12: View from Footpath SR60,
 near Otford Mount, looking south west

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Existing view



Wireframe overlay

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STATUS	Final	APPROVED	PL

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PROJECT TITLE
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Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 14: View from junction of London Road/Argyle Road,
within Sevenoaks, looking north-west

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Residential (up to 2 storeys) - screened by perimeter woodland

Employment and residential areas (between 2.5 - 4 storeys) - predominantly screened by perimeter woodland

Residential (up to 2 storeys) - screened by perimeter woodland



Annotated wireframe overlay

These visuals are based upon LiDAR terrain data with spot heights at 5m intervals and do not precisely model small scale changes in landform or sharp breaks in slope.

The three dimensional model of the development is indicative and is not based on an accurate design.

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Location Plan: © Crown copyright and database rights 2019. Ordnance Survey 100030848.

LEGEND

- Residential - up to 2 Storeys (modelled at 11m)
- Residential - up to 2.5 Storeys (modelled at 13.5m)
- Residential - up to 3 Storeys (modelled at 13.5m)
- Mixed Use - up to 3 Storeys (modelled at 16m)
- Employment - up to 3 Storeys (modelled at 15m)
- School - up to 3 Storeys (modelled at 15m)
- Employment/Mixed Use - up to 4 Storeys (modelled at 16m)
- Potential landforms (modelled at 1.2m)

VIEWPOINT INFORMATION

- Grid Reference: 552850, 154935
- Elevation (AOD): 141m
- Viewer Height: 1.6m
- Viewing Distance: 300mm
- Angle (width): 75°, buildings occupy - 16°
- Camera & Lens: Digital SLR, 50mm
- Photo date / time: 28/10/2014 14:30
- Distance to site boundary: 4.9km



Location Plan - 1:50,000 scale

ISSUED BY	Oxford	t: 01865 887050	
DATE	June 2019	DRAWN	SG
PAGE SIZE	420mm x 297mm	CHECKED	SD
STATUS	Final	APPROVED	PL

DWG. NO. 6559_013

PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 14: View from junction of London Road/Argyle Road, within Sevenoaks, looking north-west

X:\JOBS\6559_For Halstead\6559_LVIA_2019\6559_013_Wireframe Visualisations.indd



Wireframe overlay 2015



Wireframe overlay 2019

ISSUED BY	Oxford	t: 01865 887050	
DATE	June 2019	DRAWN	SG
PAGE SIZE	420mm x 297mm	CHECKED	SD
STATUS	Final	APPROVED	PL

DWG. NO. 6559_013

PROJECT TITLE
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DRAWING TITLE

Figure 13: Wireframe Visualisations of Permitted Development

Viewpoint 14: View from junction of London Road/Argyle Road,
within Sevenoaks, looking north-west

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Appendices to Landscape and Visual Impact Assessment
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Appendix 6 Extracts from Landscape Character Assessment

Version: Submission Version

Version date: September 2019

Comment Final

This document has been prepared and checked in accordance with ISO 9001:2008.

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Appendix 1 Glossary

Cumulative effects. The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together. ¹

Landscape Character Areas These are single unique areas which are the discrete geographical areas of a particular landscape type. Each has its own individual character and identity, even though it shares the same generic characteristics with other types. ²

Landscape character type. These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use, and settlement pattern. ²

Landscape effects. Effects on the landscape as a resource in its own right. ¹

Landscape character. A distinct and recognisable pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. ²

Landscape quality (or condition). A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements. ¹

Landscape receptor. Defined aspects of the landscape resource that have the potential to be affected by a proposal. ¹

Landscape value. The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. ¹

Magnitude (of effect). A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration. ¹

Mitigation. Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects). ¹

Sensitivity. 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 related to that receptor. ¹

Susceptibility. The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences. ¹

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Visual amenity. The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area.¹

Visual effect. Effects on specific views and on the general visual amenity experienced by people.¹

Visual receptor. Individuals and/or defined groups of people who have the potential to be affected by a proposal.¹

Zone of Theoretical Visibility (ZTV). A map, usually digitally produced, showing areas of land within which a development is theoretically visible.¹

¹The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute with the Institute of Environmental Management and Assessment, 2013

²An Approach to Landscape Character Assessment Guidance for England and Scotland, Natural England, 2014.

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Appendix 2 References

- 1) The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute with the Institute of Environmental Management and Assessment, 2013.
 - 2) An Approach to Landscape Character Assessment, Natural England, 2014.
 - 3) Special Report – The State of Environmental Impact Assessment Practice in the UK, Institute of Environmental Management and Assessment, 2011
 - 4) Landscape Institute Advice Note 01/11 - Photography and photomontage in landscape and visual impact assessment.
 - 5) Landscape Institute Technical Note 02/17 – Visual Representation
 - 6) European Landscape Convention, 2000.
 - 7) Sevenoaks District Council Adopted Core Strategy Development Plan (2011)
 - 8) Sevenoaks District Council Adopted Allocations and Development Management Plan (ADMP) (2015)
 - 9) Sevenoaks District Council Proposed Submission Version of the Local Plan (2018)
 - 10) Sevenoaks Landscape Character Assessment (2014)
 - 11) Kent Downs AONB Management Plan 2014 - 2019
 - 12) The Kent Downs AONB Landscape Design Handbook (undated)
 - 13) Kent Design Guide (undated)
 - 14) Adopted Development in the Green Belt SPD (2015)
 - 15) Sevenoaks District Council Green Infrastructure Topic Paper (2013)
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Appendix 3 Methodology

Introduction

This appendix contains additional detail regarding the assessment methodology, supplementing the information provided within the LVIA text. This appendix sets out a standard approach – specific matters in terms of the scope of assessment, study area and modifications to the standard approach for this assessment are set out within the LVIA.

The methodology has the following key stages, which are described in more detail in subsequent sections, as follows:

- **Baseline** – includes the gathering of documented information; agreement of the scope of the assessment with the EIA co-ordinator and local planning authority; site visits and initial reports to the EIAA co-ordinator of issues that may need to be addressed within the design.
- **Design** – input into the design / review of initial design / layout / options and mitigation options.
- **Assessment** – includes an assessment of the landscape and visual effects of the scheme, requiring site based work and the completion of a full report and supporting graphics.
- **Cumulative Assessment** – assesses the effects of the proposal in combination with other developments, where required.

Baseline

The baseline study establishes the planning policy context, the scope of the assessment and the key receptors. It typically includes the following key activities:

- A desk study of relevant current national and local planning policy, in respect of landscape and visual matters, for the site and surrounding areas.
 - Agreement of the main study area radius with the local planning authority.
 - A desk study of nationally and locally designated landscapes for the site and surrounding areas.
 - A desk study of existing landscape character assessments and capacity and sensitivity studies for the site and surrounding areas.
 - A desk study of historic landscape character assessments (where available) and other information sources required to gain an understanding of the contribution of heritage assets to the present day landscape.
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- Collation and evaluation of other indicators of local landscape value such as references in landscape character studies or parish plans, tourist information, local walking & cycling guides, references in art and literature.
- The identification of valued character types, landscape elements and features which may be affected by the proposal, including rare landscape types.
- Exchanging information with other consultants working on other assessment topics for the development as required to inform the assessment.
- Draft Zone of Theoretical Visibility (ZTV) studies to assist in identifying potential viewpoints and indicate the potential visibility of the proposed development, and therefore scope of receptors likely to be affected. The methodology used in the preparation of ZTV studies is described within Appendix 12.4.
- The identification of and agreement upon, through consultation, the scope of assessment for cumulative effects.
- The identification of and agreement upon, through consultation, the number and location of representative and specific viewpoints within the study area.
- The identification of the range of other visual receptors (e.g. people travelling along routes, or within open access land, settlements and residential properties) within the study area.
- Site visits to become familiar with the site and surrounding landscape; verify documented baseline; and to identify viewpoints and receptors.
- Input to the design process.

The information gathered during the baseline assessment is drawn together and summarised in the baseline section of the report and reasoned judgements are made as to which receptors are likely to be significantly affected. Only these receptors are then taken forward for the detailed assessment of effects (ref. GLVIA 3rd edition, 2013, para 3.19).

Design

The design and assessment stages are necessarily iterative, with stages overlapping in parts. Details of any mitigation measures incorporated within the proposals to help reduce identified potential landscape and visual effects are set out within the LVIA.

Assessment

The assessment of effects includes further desk and site based work, covering the following key activities:

- The preparation of a ZTV based on the finalised design for the development.
-

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- An assessment, based on both desk study and site visits, of the sensitivity of receptors to the proposed development.
- An assessment, based on both desk study and site visits, of the magnitude and significance of effects upon the landscape character, designated and recreational landscape and the existing visual environment arising from the proposed development.
- An informed professional judgements as to whether each identified effect is positive, neutral or adverse.
- A clear description of the effects identified, with supporting information setting out the rationale for judgements.
- Identification of which effects are judged to be significant based on the significance thresholds set out within the LVIA
- The production of photomontages from a selection of the agreed viewpoints showing the anticipated view following construction of the proposed development.

Site

The effect of physical changes to the site are assessed in terms of the effects on the landscape fabric.

Landscape and Townscape Character Considerations

The European Landscape Convention (2000) provides the following definition:

“Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.”

And notes also in Article 2 that landscape includes *“natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas”*.

An Approach to Landscape Character Assessment (Natural England, 2014) defines landscape character as:

“a distinct and recognisable pattern of elements, or characteristics, in the landscape that make one landscape different from another, rather than better or worse.”

The susceptibility of landscape character areas is judged based on both the attributes of the receiving environment and the characteristics of the proposed development as discussed under ‘susceptibility’ within the methodology section of the LVIA. Thus, the key characteristics of the landscape character types/areas are considered, along with scale, openness, topography; the absence of, or presence, nature and patterns of development, settlement, landcover, the contribution of heritage assets and historic landscape elements and patterns, and land uses in forming the character. The

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condition of the receiving landscape, i.e. the intactness of the existing character will also be relevant in determining susceptibility. The likelihood of material effects on the landscape character areas can be judged based on the scale and layout of the proposal and how this relates to the characteristics of the receiving landscape.

The introduction of any development into a landscape adds a new feature which can affect the 'sense of place' in its near vicinity, but with distance, the existing characteristics reassert themselves.

The baseline is informed by desk study of published landscape character assessments and field survey. It is specifically noted within An Approach to Landscape Character Assessment (Natural England, 2014) that:

“Our landscapes have evolved over time and they will continue to evolve – change is a constant but outcomes vary. The management of change is essential to ensure that we achieve sustainable outcomes – social, environmental and economic. Decision makers need to understand the baseline and the implications of their decisions for that baseline.”

At page 51 it describes the function of Key Characteristics in landscape assessment, as follows:

“Key characteristics are those combinations of elements which help to give an area its distinctive sense of place. If these characteristics change, or are lost, there would be significant consequences for the current character of the landscape. Key characteristics are particularly important in the development of planning and management policies. They are important for monitoring change and can provide a useful reference point against which landscape change can be assessed. They can be used as indicators to inform thinking about whether and how the landscape is changing and whether, or not, particular policies – for example - are effective and having the desired effect on landscape character.”

It follows from the above that in order to assess whether landscape character is significantly affected by a development, it should be determined how each of the key characteristics would be affected. The judgement of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals.

Landscape value - considerations

Paragraph 5.19 of GLVIA states that “A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape- such as trees, buildings or hedgerows -may also have value. All need to be considered where relevant.”

Paragraph 5.20 of GLVIA indicates information which might indicate landscape value, including:

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- Information about areas recognised by statute such as National Parks, Areas of Outstanding Natural Beauty;
- Information about Heritage Coasts, where relevant;
- Local planning documents for local landscape designations;
- Information on features such as Conservation Areas, listed buildings, historic or cultural sites;
- Art and literature, identifying value attached to particular areas or views; and
- Material on landscapes of local or community interest, such as local green spaces, village greens or allotments.

An assessment of landscape value is made based on the following factors outlined in Box 5.1 of GLVIA3: Landscape quality (condition); scenic quality; rarity; representativeness; conservation interest; recreational value; perceptual aspects; and associations.

In addition to the above list, consideration is given to any evidence that indicates whether the landscape has particular value to people that would suggest that it is of greater than Community value.

Viewpoints and Visual Receptors - considerations

A wide variety of visual receptors can reasonably be anticipated to be affected by the proposed development. Within the baseline assessment, the ZTV study and site visits are used to determine which visual receptors are likely to be significantly affected and therefore merit detailed assessment. In line with guidance (GLVIA, 3rd Edition, 2013); both representative and specific viewpoints may be identified to inform the assessment. In general, the majority of viewpoints will be representative – representing the visual receptors at the distance and direction in which they are located and of the type(s) that would be present at that location. The representative viewpoints have generally been selected in locations where significant effects would be anticipated; though some may be selected outside of that zone – either to demonstrate the reduction of effects with distance; or to specifically ensure the representation of a particularly sensitive receptor.

The types of visual receptors likely to be included with the assessment are:

- Users of walking routes or accessible landscapes including Public Rights of Way, National and Regional Trails and other long distance routes, Common Land, Open Access Land, permissive paths, land held in trust (e.g. Woodland Trust, National Trust) offering free public access, and other regularly used, permitted walking routes;
 - Visitors to and residents of settlements;
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- Visitors to specific valued viewpoints;
- Visitors to attractions or heritage assets for which landscape and views contribute to the experience; and
- Users of roads or identified scenic routes.

Visual receptors are grouped for assessment into areas which include all of the routes, public spaces and homes within that area. Groups are selected as follows:

- Based around settlements in order to describe effects on that that community – e.g. a settlement and routes radiating from that settlement; or
- An area of open countryside encompassing a number of routes, accessible spaces and individual dwellings; or
- An area of accessible landscape and the routes within and around it e.g. a country park; and
- such that effects within a single visual receptor group are similar enough to be readily described and assessed.

With the exception of specific viewpoints, each route, settlement or location will encompass a range of possible views, which might vary from no view of the development to very clear, close views. Therefore effects are described in such a way as to identify where views towards the development are likely to arise and what the scale, duration and extent of those views are likely to be. In some cases this will be further informed by a nearby viewpoint and in others it will be informed with reference to the ZTV, aerial photography and site visits. Each of these individual effects are then considered together in order to reach a judgement of the effects on the visual receptors along that route, or in that place.

The representative viewpoints are used as ‘samples’ on which to base judgements of the scale of effects on visual receptors. The viewpoints represent multiple visual receptors, and duration and extent are judged when assessing impacts on the visual receptors.

For specific viewpoints (key and sometimes promoted viewpoints within the landscape), duration and extent are assessed, with extent reflecting the extent to which the development affects the valued qualities of the view from the specific viewpoint.

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Visual Receptor Sensitivity – typical examples

	High	Medium	Low
National/International	1	4	8
Local/District	2	5	8
Community	3	6	9
Limited		7	10

- 1) Visitors to valued viewpoints or routes which people might visit purely to experience the view, e.g. promoted or well-known viewpoints, routes from which views that form part of the special qualities of a designated landscape can be well appreciated; key designed views; panoramic viewpoints marked on maps.
- 2) People in locations where they are likely to pause to appreciate the view, such as from local waypoints such as benches; or at key views to/from local landmarks. Visitors to local attractions, heritage assets or public parks where views are an important contributor to the experience, or key views into/out of Conservation Areas.
- 3) People in the streets around their home, or using public rights of way, navigable waterways or accessible open space (public parks, open access land).
- 4) Users of promoted scenic rail routes.
- 5) Users of promoted scenic local road routes.
- 6) Users of cycle routes, local roads and railways.
- 7) Outdoor workers.
- 8) Users of A-roads which are nationally or locally promoted scenic routes.
- 9) Users of sports facilities such as cricket grounds and golf courses.
- 10) Users of Motorways and A-roads; shoppers at retail parks, people at their (indoor) places of work.

Preparation and use of Visuals

The ZTVs are used to inform the field study assessment work, providing additional detail and accuracy to observations made on site. Photomontages may also be produced in order to assist readers of the assessment in visualising the proposals, but are not used in reaching judgements of effect. The preparation of the ZTVs (and photomontages where applicable) is informed by the Landscape Institute’s Advice Note 01/11 – ‘Photography and photomontage in landscape and visual impact

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assessment' and SNH 'Visual Representation of Wind Farms Best Practice Guidance' (both the 2007 and 2017 editions).

The following points should be borne in mind in respect of the ZTV study:

- Areas shown as having potential visibility may have visibility of the development obscured by local features such as trees, hedgerows, embankments or buildings.

A detailed description of the methods by which ZTVs and visualisations are prepared is included in Appendix 4.

In addition to the main visualisations, illustrative views are used as appropriate to illustrate particular points made within the assessment. These are not prepared to the same standard as they simply depict existing views, character or features rather than forming the basis for visualisations.

Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development. A search area from the proposal site (typically of a similar scale to the study area) is agreed with the planning authority. For each of the identified cumulative schemes agreement is reached with the Planning Authority as to whether and how they should be included in the assessment.

Only operational and consented developments are considered, unless specific circumstances indicate that a development in planning should be included, with progressively decreasing emphasis placed on those which are less certain to proceed. Typically, operational and consented developments are treated as being part of the landscape and visual baseline. i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed.

The cumulative assessment examines the same groups of landscape and visual receptors as the assessment for the main scheme, though different viewpoints may be used in order to better represent the likely range of effects arising from the combination of schemes. The assessment is informed by cumulative ZTVs as necessary, showing the extent of visual effects of the schemes in different colours to illustrate where visibility of more than one development is likely to arise. Cumulative wirelines or photomontages may also be prepared.

In addition, the effects on users of routes through the area, from which developments may be sequentially visible as one passes through the landscape are also considered, if appropriate. This assessment is based on the desk study of ZTVs and aerial photography, and site visits to travel along the routes being assessed.

In relation to landscape and visual cumulative assessment, it is important to note the following:

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- For each assessed receptor, combined cumulative effects may be the same as for the application scheme, or greater (where the influence of multiple schemes would increase effects, or where schemes in planning other than the application scheme would have the predominant effects).
- For each assessed receptor, incremental cumulative effects may be the same as for the application scheme, or reduced (where the influence of other schemes in planning would be such that were they consented and considered to be part of the baseline, the incremental change arising from the addition of the application scheme would be less).
- Subject to the distance and degree of intervening landform, vegetation and structures there may be no cumulative effects.

The way in which the assessment is described and presented is varied depending on the number and nature of scenarios which may arise. This variation is needed in order to convey to the reader the key points of each assessment. For example, the three different cumulative combinations that may arise for an assessment in which there are two existing undetermined applications each can be assessed individually. A situation in which there are 10 applications cannot reasonably be assessed in this way and the developments may need to be grouped for analysis.

Residential Amenity

Paragraph 6.17 of GLVIA, 3rd edition notes that:

“In some instances it may also be appropriate to consider private viewpoints, mainly from residential properties.... Effects of development in private property are frequently dealt with mainly through ‘residential amenity assessments’. These are separate from LVIA although visual effects assessment may sometimes be carried out as part of a residential amenity assessment, in which case this will supplement and form part of the LVIA for a project. Some of the principles set out here for dealing with visual effects may help in such assessments but there are specific requirements in residential amenity assessment”

When dealing with effects on residential properties, the outlook from a private property is essentially a private matter. The difference between that private interest and what should be protected in the public interest has been the subject of particular focus at Public Inquiries in relation to wind farm cases and the lessons learnt from Inspector’s decisions have informed how effects on views from residential properties influence a planning decision. This is fully described and set out in paragraphs 209-211 of the decision regarding Spring Farm Ridge wind farm (APP/Z2830/A/11/2165035 – December 2014), which sets out the approach that in considering effects on private residential amenity – whether effects are visually significant is not relevant – effects which fall below the threshold of being “so unpleasant, overwhelming and oppressive that this would become an unattractive place to live” (known as the Lavender Test) “would not feature in the planning balance, irrespective of how many dwellings were so affected”. The

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Inspector's report also makes clear that this is a separate exercise to "*weighing in the balance, as a component of the character and appearance issue, the effects on the locality generally that would derive from visual effects on resident receptors*", which is covered within the assessment of effects on visual receptors.

The Spring Farm Ridge Inspector's decision is for a wind farm but makes it clear that "*the level of impact or threshold at which the public interest would be so engaged should be no different for wind turbines than would be the threshold applicable to other types of development.*" Wind farms are unusually tall developments with a greater chance that they could have such an effect. Most forms of development are unlikely to cause effects of such a high magnitude to render a property an unattractive place in which to live unless in very close to the property and occupying a large proportion of views.

Residential properties closest to the site are viewed on site and from aerial photography to consider whether a residential amenity assessment is required. Where such an assessment is required, it is provided as an appendix to the LVIA.

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Appendix 4 Visualisations and ZTV Studies

ZTV Studies

ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled. LDA Design undertake a ZTV study that is designed to include visual barriers from settlements and woodlands (with heights derived from NEXTMAP 25 surface mapping data). If significant deviations from these assumed heights are noted during site visits, for example young or felled areas of woodland, or recent changes to built form, the features concerned will be adjusted within the model or the adoption of a digital surface model will be used to obtain actual heights for these barriers.

The model is also designed to take into account both the curvature of the earth and light refraction, informed by the SNH guidance. LDA Design undertake all ZTV studies with observer heights of 2m.

The ZTV analysis begins at 1m from the observation feature and will work outwards in a grid of the set resolution until it reaches the end of the terrain map for the project.

For all plan production LDA Design will produce a ZTV that has a base and overlay of the 1:50,000 Ordnance Survey Raster mapping or better. The ZTV will be reproduced at a suitable scale on an A3 template to encompass the study area.

Ground model accuracy

Depending on the project and level of detail required, different height datasets may be used. Below is listed the different data products and their specifications:

Product	Distance Between Points	Vertical RMSE Error
LiDAR	50cm – 2m	up to +/- 5cm
Photogrammetrically Derived Heights	2m – 5m	up to +/- 1.5m
Ordnance Survey OS terrain 5	5 m	up to +/- 2.5m
NextMap25 DTM	25 m	+/- 2.06m
Ordnance Survey OS terrain 50	50 m	+/- 4m

Site-specific topographical survey data may also be used where available.

Photomontages and Photowires

Verified / verifiable photomontages are produced in seven stages. Photowires (wireframe visualisations) are produced using the same overall approach, but only require some of the steps outlined below.

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- 1) Photography is undertaken using a digital SLR camera and 50mm equivalent lens. A tripod is used to take overlapping photographs which are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to enable correct sizing when reproduced in the final images. The photographer also notes the GPS location of the viewpoint and takes bearings to visible landmarks whilst at the viewpoint.
 - 2) Creation of a ground model and 3D mesh to illustrate that model. This is created using NextMap25 DTM point data (or occasionally other terrain datasets where required, such as site-specific topographical data or Photogrammetrically Derived Heights) and ground modelling software.
 - 3) The addition of the proposed development to the 3D model. The main components of the proposed development are accurately modelled in CAD and are then inserted into the 3D model at the proposed locations and elevations.
 - 4) Wireline generation – The viewpoints are added within the 3D CAD model with each observer point being inserted at 1.5m above the modelled ground plane. The location of the landmarks identified by the photographer may also be included in the model. The view from the viewpoint is then replicated using virtual cameras to create a series of single frame images, which also include bearing markers. As with the photographs, these single frame images are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to ensure that they are the same size as the photographs.
 - 5) Wireline matching – The photographs are matched to the wirelines using a combination of the visible topography, bearing markers and the landmarks that have been included in the 3D model.
 - 6) For the photomontage, an industry standard 3D rendering application is used to produce a rendered 3D view of the proposed development from the viewpoint. The rendering uses materials to match the intended surface finishes of the development and lighting conditions according to the date and time of the viewpoint photograph.
 - 7) The rendered development is then added to the photograph in the position identified by the wireline (using an image processing application) to ensure accuracy. The images are then layered to ensure that the development appears in front of and behind the correct elements visible within the photograph. Where vegetation is proposed as part of the development, this is then added to the final photomontage.
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Appendix 5 National Planning Practice Guidance

Planning Practice Guidance for Natural Environment, January 2016

This document is intended to explain the key issues in implementing policy to protect biodiversity, but also contains a section on landscape. This section reiterates the policy set out in the NPPF, clarifying that development outside National Parks and Areas of Outstanding Natural Beauty “*might have an impact on the setting of, and implementation of, the statutory purposes of these protected areas*” (para 003), that “*National Parks and Areas of Outstanding Natural Beauty management plans may also be material considerations in making decisions on individual planning applications, where they raise relevant issues*” (para 004) and that Natural England has published advice on Heritage Coasts. This guidance indicates that heritage coasts are “*managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors*”.

Planning Practice Guidance for Design, March 2014

The guidance sets out principles in respect of the design of a development, noting that:

“Achieving good design is about creating places, buildings, or spaces that work well for everyone, look good, last well, and will adapt to the needs of future generations.

Good design responds in a practical and creative way to both the function and identity of a place. It puts land, water, drainage, energy, community, economic, infrastructure and other such resources to the best possible use – over the long as well as the short term.”

In respect of the determining applications and the relationship between a proposal and the surrounding townscape, the guidance notes that:

“Local planning authorities are required to take design into consideration and should refuse permission for development of poor design. Local planning authorities should give great weight to outstanding or innovative designs which help to raise the standard of design more generally in the area. This could include the use of innovative construction materials and techniques. Planning permission should not be refused for buildings and infrastructure that promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design...”

In respect of local character, the guidance further notes that:

“Development should seek to promote character in townscape and landscape by responding to and reinforcing locally distinctive patterns of development, local man-made and natural heritage and culture, while not preventing or discouraging appropriate innovation.

The successful integration of all forms of new development with their surrounding context is an important design objective, irrespective of whether a site lies on the urban fringe or at the heart of a town centre.

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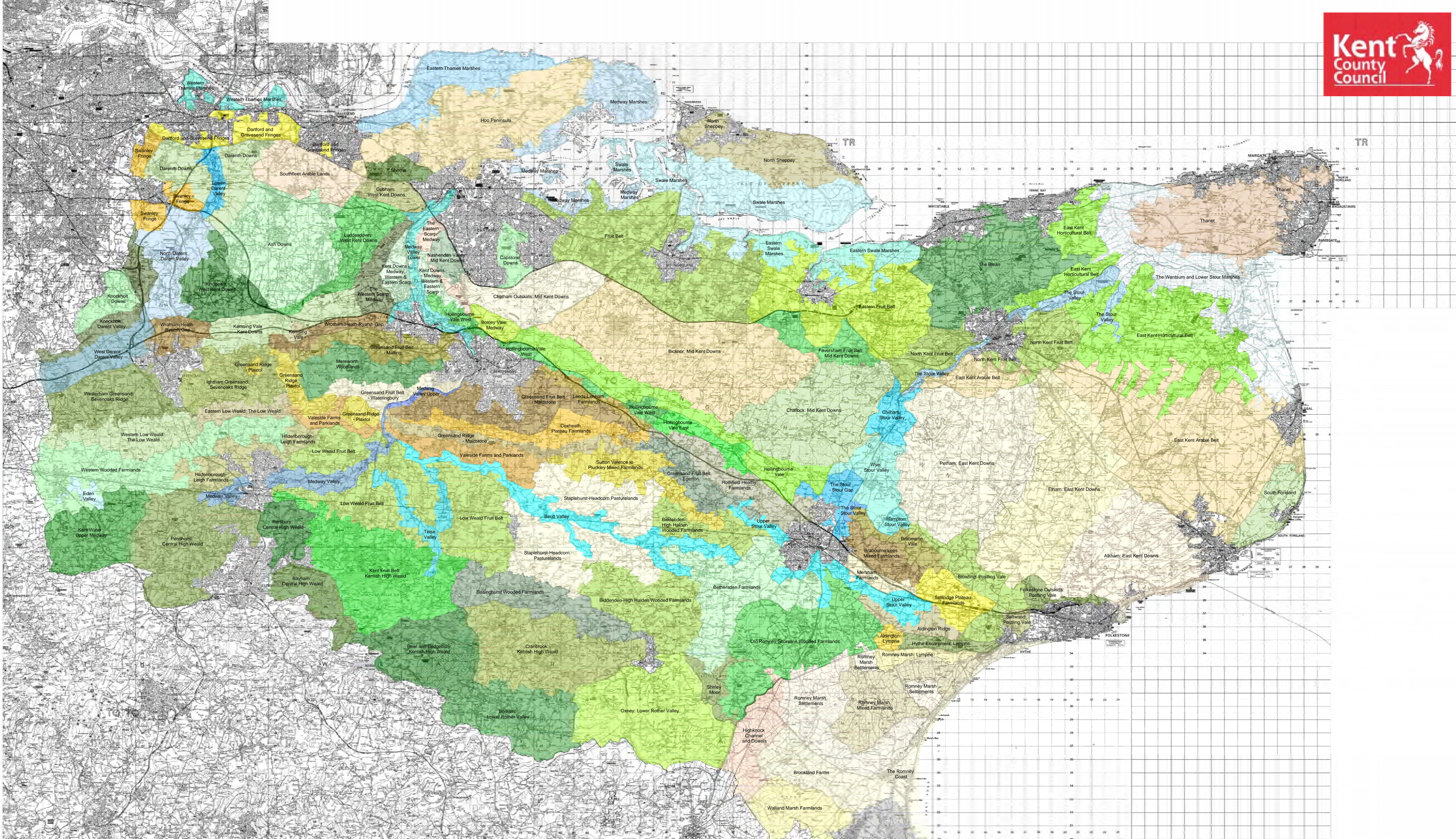
When thinking about new development the site's land form should be taken into account. Natural features and local heritage resources can help give shape to a development and integrate it into the wider area, reinforce and sustain local distinctiveness, reduce its impact on nature and contribute to a sense of place. Views into and out of larger sites should also be carefully considered from the start of the design process.

Local building forms and details contribute to the distinctive qualities of a place. These can be successfully interpreted in new development without necessarily restricting the scope of the designer. Standard solutions rarely create a distinctive identity or make best use of a particular site. The use of local materials, building methods and details can be an important factor in enhancing local distinctiveness when used in evolutionary local design, and can also be used in more contemporary design. However, innovative design should not be discouraged.

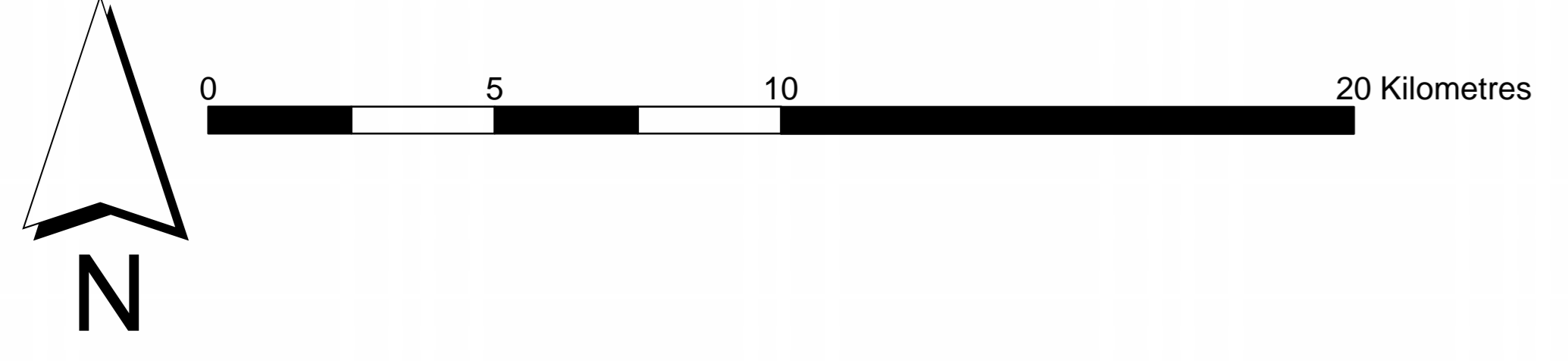
The opportunity for high quality hard and soft landscape design that helps to successfully integrate development into the wider environment should be carefully considered from the outset, to ensure it complements the architecture of the proposals and improves the overall quality of townscape or landscape. Good landscape design can help the natural surveillance of an area, creatively help differentiate public and private space and, where appropriate, enhance security.”

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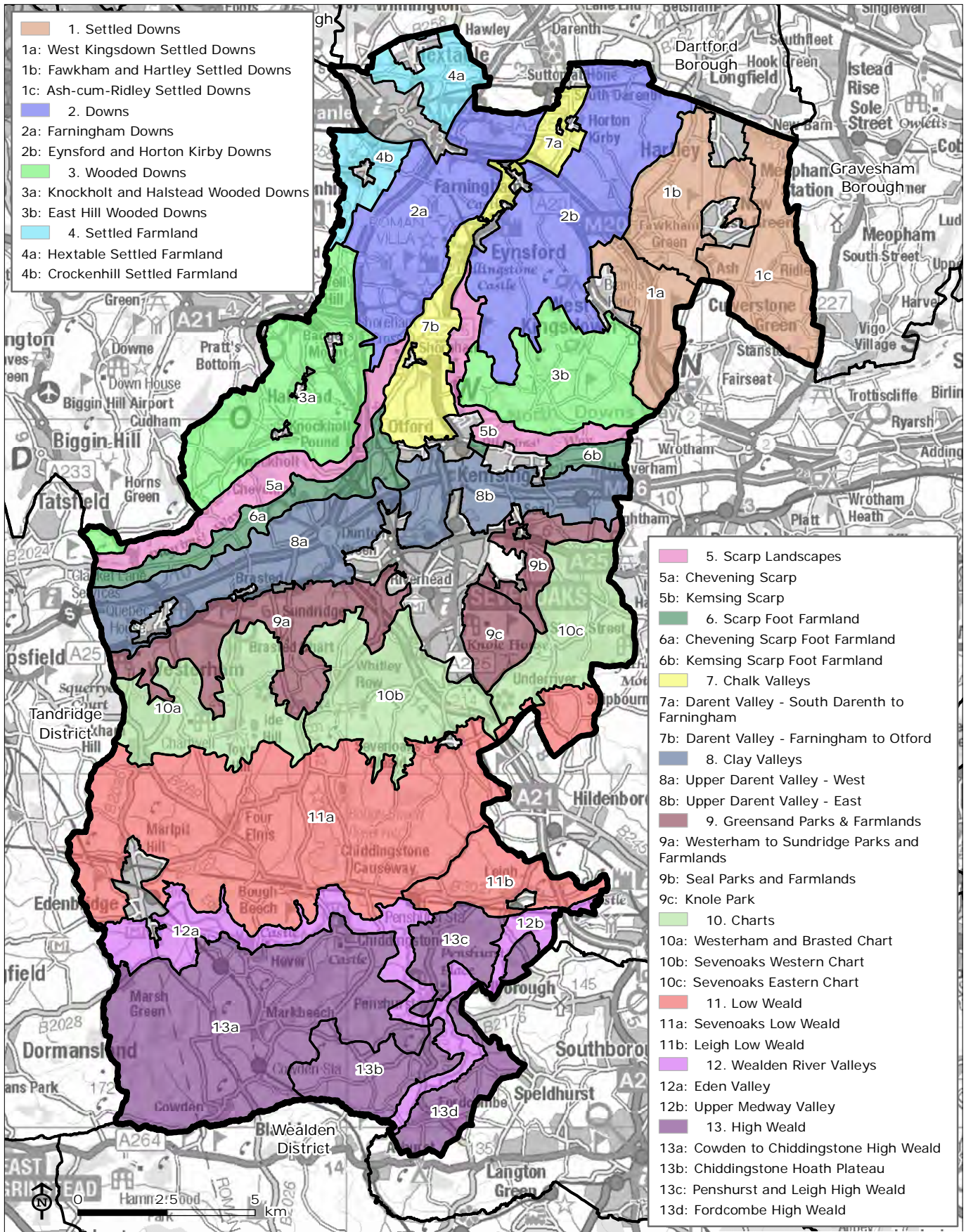
Appendix 6 Extracts from Landscape Character Assessment



Kent Character Area Map



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Sevenoaks Landscape Character Assessment

Figure 5.1: Classification For Sevenoaks

