2. ASSESMENT SCOPE AND METHODOLOGY

2.1 INTRODUCTION

2.1.1 This chapter explains the methodology used to prepare the technical chapters of this ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant environmental effects of the Proposed Development.

2.2 GENERAL APPROACH TO ENVIRONMENTAL STATEMENT

2.2.1 In accordance with the EIA Regulations (Regulation 2), an ES means a statement:–

> **"(a) That includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile, but**
>
> **(b) That includes at least the information referred to in Part 2 of Schedule 4."**

2.2.2 Accordingly, in summary this ES comprises the following information:

- A description of the development proposed comprising information about the site including the nature, size and scale of the development;
- The data necessary to identify and assess the main effects which the development is likely to have on the environment;
- A description of the likely significant effects of the Proposed Development covering, direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects, explained by reference to the Proposed Development's possible effect on: human beings, flora, fauna, soil, water, air, climate, cultural and archaeological heritage, landscape and the interaction between any of the foregoing material assets (as appropriate);
- Where significant adverse effects are identified with respect to any of the foregoing, mitigation measures will be proposed in order to avoid, reduce or remedy those effects; and
- A summary in non-technical language of the information specified above.

2.3 DEVELOPMENT PARAMETERS

2.3.1 This ES is to assess a detailed planning application for 297 residential dwellings. The detailed plans have been submitted to support this application and CDC will determine the application against these detailed plans. The environmental topics included within this ES have been assessed against a Parameter Plan rather than the detailed plans which accompany this application. This Parameter Plan shows the same design constraints as shown within the detailed plans (e.g. locations of access points, internal roads, areas for and maximum heights of dwellings and landscaping) but they do not show the individual locations of each proposed dwelling. Using a Parameter Plan in this way ensures that the Environmental Statement remains robust, if at a later date the applicant needs to make a minor amendment to the detailed plans, such as orientation of a few of the properties. Such a minor amendment would not alter the parameters

of the design and so the ES will not have to re-assess such an amendment. The Parameter Plan can be viewed in **Figure 4.1 Parameter Plan.**

2.3.2 The Proposed Development, which has been the subject of this EIA, is described in more detail within **Chapter 4**: The Proposed Development and Alternatives Considered. To ensure that the Proposed Development, as it evolves with the benefit of subsequent approvals and/or reserved matters, will remain the same as that assessed within this ES, Development Parameters and an accompanying Parameter Plan has been established and assessed. Together, these contain the parameters and controls defining those aspects of the Proposed Development capable of having significant environmental effects, as defined in the EIA Regulations.

2.3.3 The matters encapsulated within the Development Parameters and Parameter Plans include:

- Land use;
- Demolition;
- Accommodation;
- Building footprints and maximum heights;
- Principal means of vehicle access;
- Internal vehicle/pedestrian access and parking;
- Green Infrastructure; and
- Utilities and infrastructure.

2.4 CONSIDERATION OF ALTERNATIVES

2.4.1 Schedule 4 (Part 1), Paragraph 2, of the EIA Regulations requires that the ES contain "An outline of the main alternatives studied by the applicant ... and an indication of the main reasons for the choice made, taking into account the environmental effects" (emphasis added). Furthermore, the recently published National Planning Practice Guidance (NPPG) on EIA (Paragraph 035, 06/03/2014) states that "Where alternative approaches to development have been considered, the Environmental Statement should include an outline of the main alternatives studied and the main reasons for the choice made, taking into account the environmental effects" (emphasis added). Accordingly, it is clear within the EIA Regulations and accompanying NPPG that the consideration of Alternatives does not necessitate a sequential test of alternative sites, but an outline of only the main alternatives where considered by the Applicant.

2.4.2 This ES contains a section setting out the main alternative locations, development proposals (i.e. land uses) and/or design iterations (i.e., layouts, appearance, materials etc.), as appropriate, as considered by the Applicant (see **Chapter 4**).

2.5 SCOPE OF ENVIRONMENTAL IMPACT ASSESSMENT

2.5.1 As set out within the Introduction (**Chapter 1**), the Applicant has elected to undertake an EIA to consider the potential effects of the Proposed Development and to submit this ES to accompany the planning application.

2.5.2 The scope of the EIA has been determined by technical specialists based on their professional experience, their respective Chartered Institute's guidance and best practice, supported by informal consultation with technical bodies.

2.5.3 In the absence of a formal EIA Scoping Opinion, the Applicant has taken a precautionary approach to scoping in/out environmental themes, such that environmental themes have been scoped in where there is a 'potential' for notable

environmental effects, albeit following assessment it may be determined that such effects are unlikely to be significant. The environmental themes scoped into or out of the EIA are given in **Table 2.1.**

Table 2.1: Environmental Themes Scoped In / Out

Environmental Theme	Scoped In/Out	How/ Where Addressed / Reason for Scoping Out
Human Beings	In	• The most notable socio-economic effects would occur from the provision of new housing, both market and affordable, to meet the needs of the local communities and District Authority. Consequential effects include adequate provision of education, health, local services, employment opportunity, community and recreational/amenity services. These are considered in **Chapter 5**: Socio Economics. • The increases traffic on the surrounding public highway network, both during construction and operation (occupation), have potential to disrupt users (public transport, cars, pedestrians, cyclists, equestrians etc.) as well as give rise to safety concerns. These are considered in **Chapter 6:** Transport and Access. • The increases in traffic in the local area would have potential to give rise to noise and/or vibration affecting existing residents and those of the new dwellings. The potential effects are considered in **Chapter 7:** Noise and Vibration. • Similarly, the increases in traffic have potential to give rise to adverse effects through reductions in air quality, affecting existing residents and those of the new dwellings. The potential effects are considered in **Chapter 8:** Air Quality. • The introduction of new buildings/structures has potential to affect the visual amenity of existing residents and users of the public highway and/or public rights of way. These are addressed in **Chapter 11**: Landscape and Visual Amenity.
Fauna	In	• The Application Site is circa 3km from the nearest statutory protected sites (Ardley Trackways SSSI and Ardley Cutting and Quarry SSSI), however due consideration is given to the potential air quality effects as a consequence of increases in traffic and transport on the habitat species therein. • The Application Site is located on a brownfield site with existing buildings that are to be demolished; there is an existing water tank to the south-east of the site; and there is some boundary vegetation and scattered trees/scrub within the site. Accordingly, there is considered to be potential effects on protected and/or locally valued species and habitats. • Consideration of the potential effects on both fauna and flora have been considered in **Chapter 12**: Ecology and Nature Conservation.
Flora	In	
Soil	In	• The Proposed Development would give rise to localised ground disturbance associated with site clearance (removal of existing foundations, cabling etc) and construction of new foundations to dwellings and base layers to

Environmental Theme	Scoped In/Out	How/ Where Addressed / Reason for Scoping Out
		roads/surfaced areas. The application site is brownfield land; however, the nature of existing development / previous land use (school facilities) is such that contamination is not considered a high risk. However, given that the site forms part of the wider former operational military airbase it is considered pertinent to address the potential for contamination. These have been addressed within **Chapter 10**: Ground Conditions and Contamination.
Water	In	• The Application Site is located within Flood Zone 1 (low probability of flooding) and is not within an area known to be prone to surface water flooding. The Application Site exceeds the 1-hectare threshold for undertake a Flood Risk Assessment. Matters relating to flood risk are addressed within **Chapter 9:** Water Resources and Flood Risk. • Disturbance of the ground/soils (as mentioned above) could give rise to contamination affecting ground and surface waters. These matters are addressed within **Chapter 10:** Ground Conditions and Contamination.
	Water Supply – Out	• Water supply and foul drainage to / from the Proposed Development is proposed to be serviced through existing/upgraded utilities and managed in consultation with the relevant provider. Accordingly, it is not considered that there would be any significant environmental effects.
Air	In	• The potential for reductions in localised air quality associated with increases in traffic (as set out above) are addressed within **Chapter 8**: Air Quality
Climatic Factors	Out	• It is not anticipated that there would be any unusual or excessive use of natural resources during either construction or operation; accordingly, it is not considered that there would be any significant environmental effects. The Proposed Development would be subject to the Building Regulations regarding sustainability, including the conservation of fuel and power, and associated standards. The construction phase would be subject to a Construction Environmental Management Plan (CEMP) and Site Waste Management Plan (SWMP) both of which would set out measures to avoid/reduce waste and maximise opportunities for recycling/use of recycled materials and minimisation of travel. Accordingly, given the conventional nature of development and thereby likely use of natural resources, there are sufficient safeguards in place to ensure measures to limit potential effects on climate change.
	Flood Risk – In	• Matters associated with the potential for increased flood risk arising from climate change are addressed within **Chapter 9**: Water Resources and Flood Risk.
Material Assets	Out	• Matters relating to the public highway as a material asset are addressed within **Chapter 6**: Transport and Access. • There are no other public material assets located within the Application Site or directly affected by the Proposed

Environmental Theme	Scoped In/Out	How/ Where Addressed / Reason for Scoping Out
		Development; the former RAF Upper Heyford site contains private services and facilities within the Applicant's control.
Cultural and Archaeological Heritage	In	• The former RAF Upper Heyford site is designated a Conservation Area and contains several Scheduled Monuments and Listed Buildings, albeit the individual statutory protected heritage sites are located to the north of Camp Road and the application site itself is identified as having a degraded edge to the north and west with negative landmark. Matters relating to the potential effects on archaeology and cultural heritage are addressed within **Chapter 13:** Archaeology and Cultural Heritage.
Landscape	In	• The Proposed Development would replace the existing predominantly prefabricated structures with residential dwellings and associated structures. The potential effects on landscape features, the landscape character and visual amenity of surrounding residents and users of the public rights of way are addressed within **Chapter 11:** Landscape and Visual Amenity.
Inter-relationship between above factors	In	• Consideration of the inter-relationship between the above environmental themes is considered within each of the technical **Chapters 5 to 13**, under the heading Cumulative and In-combination Effects

2.6 ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY

2.6.1 The content of the ES is based on the following:

- Review of the baseline situation through existing information, including data, reports, site surveys and desktop studies;
- Consideration of the relevant National Planning Policy Framework (NPPF) and accompanying National Planning Practice Guidance (NPPG), and the statutory extant and emerging development plan policies;
- Consideration of potential sensitive receptors;
- Identification of likely significant environmental effects and an evaluation of their duration and magnitude;
- Expert opinion;
- Modelling;
- Use of relevant technical and good practice guidance; and
- Specific consultations with appropriate bodies.

2.6.2 Environmental effects have been evaluated with reference to definitive standards and legislation where available. Where it has not been possible to quantify effects, assessments have been based on available knowledge and professional judgment.

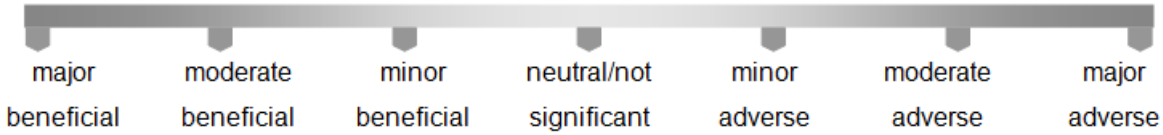
2.7 DETERMINING SIGNIFICANCE

2.7.1 The purpose of the EIA is to identify the likely 'significance' of environmental effects (beneficial or adverse) arising from a Proposed Development. In broad terms, environmental effects are described as:

- Adverse – detrimental or negative effects to an environmental resource or receptor;

- Beneficial – advantageous or positive effect to an environmental resource or receptor; or
- Negligible – a neutral effect to an environmental resource or receptor.

2.7.2 It is proposed that the significance of environmental effects (adverse, negligible/neutral or beneficial) would be described in accordance with the following 7-point scale:-



2.7.3 Significance reflects the relationship between two factors:

- The magnitude or severity of an effect (i.e. the actual change taking place to the environment); and
- The sensitivity, importance or value of the resource or receptor.

2.7.4 The broad criteria for determining magnitude are set out in **Table 2.2**.

Table 2.2: Degrees of Magnitude and their Criteria

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

2.7.5 The sensitivity of a receptor is based on the relative importance of the receptor using the scale in **Table 2.3**.

Table 2.3: Degrees of Sensitivity and their Criteria

Sensitivity	Criteria
High	The receptor / resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor / resource has moderate capacity to absorb change without significantly altering its present character, or is of high and more than local (but not national or international) importance.
Low	The receptor / resource is tolerant of change without detrimental effect, is of low or local importance.

Negligible	The receptor / resource can accommodate change without material effect, is of limited importance.

2.7.6 Placement within the 7-point significance scale would be derived from the interaction of the receptor's sensitivity and the magnitude of change likely to be experienced (as above), assigned in accordance with **Table 2.4** below, whereby effects assigned a rating of Major or Moderate would be considered as 'significant'.

Table 2.4: Degrees of Significance and their Criteria

Magnitude of Change	**Sensitivity of Receptor**				
		High	**Medium**	**Low**	**Negligible**
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

2.7.7 The above magnitude and significance criteria are provided as a guide for specialists to categorise the significance of effects within the ES. Where discipline-specific methodology has been applied that differs from the generic criteria above, this is clearly explained within the given chapter under the heading of Assessment Approach.

2.7.8 A significance of effects would be assigned both before and after mitigation.

2.8 MITIGATION

2.8.1 Standard measures and the adoption of construction best practice methods to avoid, minimise or manage adverse environmental effects, or to ensure realisation of beneficial effects, are assumed to have been incorporated into the design of the Proposed Development and the methods of its construction from the outset. Further information on the standard measures and construction best practice is detailed in **Chapter 4**: The Proposed Development and Alternatives Considered. Where outlined, the assessment is of the Proposed Development incorporating these measures.

2.8.2 Where mitigation measures are proposed that are specific to an environmental theme (i.e. ecological measures incorporated into the landscaping scheme, exclusion of areas of archaeological significance from development etc.) and incorporated into the design, these are also outlined within **Chapter 4**, and highlighted within the relevant technical chapter.

2.8.3 Where the assessment of the Proposed Development has identified potential for adverse environmental effects, the scope for mitigation of those effects, for example by way of compensatory measures, has been considered and is outlined in the appropriate technical chapter. It is assumed that such measures would be subject to appropriate planning conditions or obligations.

2.8.4 Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, then data and/or professional judgment has been introduced to support these assumptions.

2.9 CUMULATIVE AND IN-COMBINATION EFFECTS

Cumulative Effects

2.9.1 Within EIA, cumulative effects are generally considered to arise from the combination of effects from the Proposed Development and from other proposed or permitted schemes in the vicinity, acting together to generate elevated levels of effects. Examples of these kinds of effects that can be readily appreciated could include:

- Traffic generated from developments, affecting the surrounding road network;
- Air quality effects from developments; and
- Discharges to the water environment.

2.9.2 The Applicant has engaged in pre-application consultation with CDC regards this matter given the on-going implementation of planning permissions and extant planning applications across Heyford Park, and in the context of the extant CDC Local Plan Part 1 allocation of land within Heyford Park for future development (Policy Villages 5). A copy of the correspondence and accompanying plan are given in **Appendix 2.1** and **Figure 2.1** respectively.

2.9.3 CDC are still considering the proposed methodology for consideration of the cumulative effects. In the absence of a formal decision from CDC on the appropriateness of the methodology, it has been determined that the environmental assessments within this ES would progress using it, so that the proposal for new residential development could be submitted. In the context of constantly evolving development methodology presented to CDC was that the baseline would comprise:

- within existing buildings including Paragon); and
- Existing/new buildings subject to the Outline Consent (10/01642/OUT approved 22/12/2011) as confined to the New Settlement Area and set out within the schedule of development permitted (Condition 5) and the Parameters Plans, specifically Development Uses Plan 023 D (Condition 6) - Excluding future development parcels.

Furthermore, whilst acknowledging that the following have not yet been built or in some cases consented, the nature of their development falls within the general scope of the approved Outline Consent as above and therefore would be largely double-counted if considered as cumulative development, and therefore it was agreed they should be considered as part of the baseline or at least excluded from the cumulative assessment:

- Phase 5A comprising 60 dwellings and associated access/infrastructure (13/01811/OUT approved 31/03/2016) - as approved, albeit amends the Outline Consent above
- Village Centre South comprising Hotel (403m^2 of D1); Bar/Brasserie (636m^2 of A3-A5); and Covered Market (1,642m^2 of A1-A3 & D1) (16/01000/F, yet to be determined) - however, the Outline Consent includes the provision of a Local Centre with A1-A5, D1 and C3 uses (ref Development Uses Parameters Plan) in the broad areas of the proposed VC(South) and the yet to be submitted VC(North); these are broadly in line with the planning permission.
- Phase 6 comprising 43 dwellings and associated access/infrastructure (16/00263/F, yet to be determined) - however, falls within the general scope of the Outline Consent in terms of residential/urban development within the New Settlement Area

2.9.4 With regards cumulative development, it is proposed that this should be carried out in two-stages, comprising:

- Stage 1 –Policy Villages 5 Application as CDC Local Plan Policy including Parcel 9: Pye Homes 77 dwellings development (15/01357/F) yet to be determined but excluding Parcels 1 and 2 (as these are included within baseline as set out above). It is also proposed to include the Southern Bomb Store (Phase1) as this application is newly submitted (November 2016).

- Stage 2 – Providing for the Policy Villages 5 Application to extend onto adjacent land; the extent of this land has been previously identified through the joint CDC/Applicant master-planning exercise and considered acceptable in principle subject to further assessment. Whilst the masterplan has no formal status at this time, it is considered prudent in the context of the ES to consider the proposed development alongside this planned growth.

2.9.5 In addition, whilst acknowledging two extant applications with regards land adjacent to Chilgrove Drive (14/02025/HYBRID) and land at Southern Bomb Stores extending beyond the development hereby proposed (15/00474/OUT) planning applications, it was agreed with CDC that these should be excluded from the cumulative assessment on the basis that both are subject to objections that have remained unresolved since early/mid 2015; furthermore, to include the Southern Bomb Stores live application would result in some double-counting.

2.9.6 Finally, it was acknowledged that there may be some minor differences with regards the Transport Modelling approach and thereby the incorporation of traffic flows into the air quality and noise quality assessments; such differences are identified within the relevant technical chapters.

In-Combination Effects

2.9.7 In-combination effects arise where effects from one environmental element bring about changes in another environmental element. These effects are also reviewed in each of the technical chapters of this ES. Examples of the main types of interactive effects are as follows:

- Effects of traffic on noise;
- Effects of traffic on air quality;
- Effects of water discharges on ecology;
- Effects of landscaping on ecology;
- Effects of waste on traffic; and
- Effects of land contamination on air and water quality.

2.10 GENERAL ASSUMPTIONS AND LIMITATIONS

2.10.1 The principal assumptions that have been made and any limitations that have been identified in preparing this ES are set out below:

- All of the principal land uses adjoining the Application Site remain as present day, except where redevelopment proposals have been granted planning consent. In those cases it is assumed the redevelopment proposals will be implemented or would but for the development being implemented;
- Information received from third parties is complete and up to date;
- The design, construction and completed stages of the Proposed Development will satisfy legislative requirements; and
- Conditions will be attached to the planning permission with regards "mitigation", where considered necessary to make the development acceptable.

2.11 STRUCTURE OF TECHNICAL CHAPTER

2.11.1 Throughout the EIA process, the likely significant environmental effects of the Proposed Development will be assessed. Within each of the technical chapters the information which will inform the EIA process has generally been set out in the following way:

- **Introduction** – to introduce the topic under consideration, state the purpose of undertaking the assessment and set out those aspects of the Proposed Development material to the topic assessment;
- **Assessment Approach** – to describe the method and scope of the assessment undertaken and responses to consultation in relation to method and scope in each case pertinent to the topic under consideration;
- **Baseline Conditions** – a description of the baseline conditions pertinent to the topic under consideration including baseline survey information;
- **Assessment of Likely Significant Effects** - identifying the likely effects, evaluation of those effects and assessment of their significance, considering both construction and operational and direct and indirect effects;
- **Mitigation and Enhancement** - describing the mitigation strategies for the significant effects identified and noting any residual effects of the proposals;
- **Cumulative and In-combination Effects** - consideration of potential cumulative and in-combination effects with those of other developments; and
- **Summary** – a non-technical summary of the chapter, including baseline conditions, likely significant effects, mitigation and conclusion.