



ENVIRONMENTAL STATEMENT
VOLUME 1
CHAPTER 14 – CUMULATIVE EFFECTS

14 CUMULATIVE EFFECTS

14.1 INTRODUCTION

- 14.1.1 This chapter reports the likely significant cumulative environmental effects (both effect interactions and in-combination effects) resulting from the Proposed Development. Cumulative effects can occur as either interactions between effects associated with a single development ('combined effects') or interactions between the effects of a number of developments on the same receptor ('cumulative effects'). Developments with the potential to result in cumulative effects are hereafter referred to as 'committed developments' and are set out in the Consultation section below and in **Table 14-3**.
- 14.1.2 As such, the following types of cumulative effects are assessed:
- **Cumulative Effects:** The interaction and combination of likely significant environmental effects of the Proposed Development and other committed developments affecting the same receptor, identified within this ES. An example could include existing residential properties along a road experiencing changes in local air quality and noise levels due to a cumulative increase in road traffic from the Proposed Development and other committed developments in the surrounding area; and
 - **Combined Effects:** The interaction and combination of likely significant environmental effects of the Proposed Development affecting the same receptor (identified within this ES) either within the Site or in the surrounding area. An example could include increased air quality pollutants and noise from traffic generated by the Proposed Development on an existing residential property.
- 14.1.3 This chapter draws together the findings from the individual inputs in the ES; defines inter-relationships between the committed developments in the surrounding area and establishes whether there are any other cumulative effects on sensitive receptors identified in this ES.
- 14.1.4 Sensitive receptors relevant to this ES have been set out in **Table 2-2, Chapter 2: Approach to the Assessment**. These have varying degrees of sensitivity to change as a result of the Proposed Development. The professional judgement of the EIA team as well as topic specific criteria, legislation or guidelines have been used to determine the degree of sensitivity.

14.2 REQUIREMENT FOR THE CONSIDERATION OF CUMULATIVE EFFECTS

- 14.2.1 Paragraph 5(e), Schedule 4 of the EIA Regulations (**Ref. 14.1**) require that the cumulative effects of a development are considered within an EIA, specifically:

"The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resource"

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development, resulting from: a) the existence of the development; b) the use of natural resources; c) the emission of pollutants, the creation of nuisances and the elimination of waste; and the description by the applicant or appellant of the forecasting methods used to assess the effects on the environment."

- 14.2.2 The Government's Guidance on Environmental Impact Assessment (**Ref. 14.2**) also refers to the requirement for cumulative effects to be assessed.

14.3 CONSULTATION

- 14.3.1 As set out in the EIA Scoping Report (**Appendix 2.1**), Cherwell District Council (CDC) were requested to confirm the committed developments required to inform the cumulative assessment. A draft list of 13 committed developments were included in **Table 14-1** of the EIA Scoping Report (**Appendix 2.1**). CDC requested in the EIA Scoping Opinion that Numbers 2 and 6 Portal Way were included in the cumulative assessment.
- 14.3.2 The EIA Scoping Opinion requested that the land allocated under Bicester 10 of the Cherwell Local Plan (2015) (16/02586/OUT and 17/02557/REM) should be included within the list of committed developments, this has since been added to **Table 14-3** of this chapter. The EIA Scoping Opinion otherwise has agreed with our approach to the cumulative assessment. This is set out below.

14.4 METHODOLOGY OF ASSESSMENT

- 14.4.1 This section should be read in conjunction with the cumulative effects section of **Chapter 2: Approach to the Assessment**.

CUMULATIVE EFFECTS METHODOLOGY

- 14.4.2 The approach to the assessment of in-combination effects considers the deviation from the baseline conditions at sensitive receptors as a result of changes brought about as a result of the Proposed Development in combination with one or more other committed developments.
- 14.4.3 At present, there is no widely accepted methodology or best practice for the assessment of cumulative effects although there are a number of guidance documents available. These include the Environmental Impact Assessment Guidance (March 2019) published by the Ministry of Housing, Communities and Local Government (**Ref. 14.2**).
- 14.4.4 The following approach is based on previous experience and professional judgement, the types of receptors being assessed, the nature of the Proposed Development and the environmental information available to inform the assessment.
- 14.4.5 The approach to the assessment of in-combination interactions is in line with that set out in the EIA Scoping Report (**Appendix 2.1**). The assessment of the cumulative effects has been based upon environmental information available for the committed developments.
- 14.4.6 CDC has confirmed through the Scoping exercise that the ES should include an assessment of the cumulative effects of the Proposed Development and other existing approved developments (referred to as 'committed developments'). The committed developments considered within this ES have been agreed with CDC through the Scoping Exercise as described in **Section 14.3** of this chapter.
- 14.4.7 The consideration of in-combination effects has been undertaken on a topic by topic basis, dependent upon the availability of relevant environmental information pertaining to each committed development.

COMBINED EFFECTS METHODOLOGY

- 14.4.8 The assessment of effect interactions has used the output of the technical assessments reported within Chapters 5 - 13. A review of the residual effects of all technical assessments has been undertaken. Each residual effect was tabulated against the receptor or receptor groups to determine the potential for effect interactions and therefore the potential for any combined effects. Only residual effects classified as being of minor, moderate or major significance have been considered. Residual effects of negligible significance have been excluded from the assessment as they are considered to be imperceptible effects to an environmental receptor.
- 14.4.9 **Section 14.5** below comprises a summary of the construction and operational phase of the Proposed Development showing the residual effect interactions between environmental topics, following the implementation of the required mitigation measures set out in **Technical Chapters 5 – 13** and **Volume 2**.
- 14.4.10 The effect interactions during the construction stage will vary dependent on the stage/activity, the exact location of works, the duration of works and the extent of the activities being undertaken. In general, construction phase effects are temporary and short to medium term.

DETERMINING SIGNIFICANT EFFECTS

- 14.4.11 In addition, there is no formal guidance on the criteria for determining significance of cumulative effects. The following principles have been considered when assessing the significance of cumulative effects in relation to both cumulative and combined effects:
- The nature of the receptors/resources affected;
 - How the impacts identified combine to affect the condition of the receptor/resource;
 - The probabilities of the impacts occurring in relation to each other in such a way so as to produce a cumulative effect; and
 - The ability of the receptor/resource to absorb further effects.

14.5 ASSESSMENT OF COMBINED EFFECTS

CONSTRUCTION

- 14.5.1 **Table 14-1** comprises a summary matrix for the construction phase of the Proposed Development, showing the effect interactions between the relevant environmental topics assessed following implementation of the recommended mitigation measures, based on the assessments presented with **Chapters 5 – 13**.

Table 14-1 – Assessment of Effect Interactions – Construction Phase

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
Local Population, including demolition and construction workers, existing and future residential properties, future Site users, economic receptors (at local and regional level), community receptors (including schools).	Noise and Vibration Construction noise – minor adverse Construction vibration – minor adverse	No other effects to interact with (all in relation to Noise and Vibration).

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
<p>Transport Network, including motorised and non-motorised users of the local roads, PRow and non-designated public routes (including vehicle drivers, public transport users, pedestrians and cyclists).</p>	<p>No effects of minor, moderate or major significance identified.</p>	<p>N/A.</p>
<p>Biodiversity within the Site and surrounding area including designated ecological sites (international, national, regional and local designations) within and surrounding the Site; Protected species and species of conservation concern within the Site and surrounding area.</p>	<p>Biodiversity</p> <p>Off-site habitat of ecological importance – site scale adverse</p> <p>On-site habitat of ecological importance – site scale adverse</p> <p>Bats – site scale adverse</p> <p>Badger – site scale adverse</p> <p>Other mammals – site scale adverse</p> <p>Birds – site scale adverse</p> <p>Reptiles – site scale adverse</p> <p>Amphibians – site scale adverse</p> <p>Invertebrates – site scale adverse</p>	<p>No other effects to interact with (all in relation to Biodiversity).</p>
<p>Landscape character, local amenity and open space within the Site and surrounding area, including visual amenity, local and long-distance views.</p>	<p>Landscape and Visual</p> <p>Change to landscape character: Site level – moderate adverse</p> <p>Change to landscape character: local level – minor adverse</p> <p>Change to visual amenity: Viewpoint 18: Adjacent residents, Viewpoint 3: PRow 161/6/10, visitors to hotel and spa – moderate – major adverse</p> <p>Change to visual amenity: Viewpoint 4 – minor – moderate adverse</p> <p>Change to visual amenity: Viewpoints 1a, 1b, 2, 14a, 14b & A to E – minor adverse</p>	<p>No other effects to interact with (all in relation to Landscape and Visual).</p>
<p>Archaeology and Cultural Heritage assets, including buried archaeological remains; Non-designated and designated heritage assets; and historic landscape character.</p>	<p>Archaeology and Cultural Heritage</p> <p>Potential buried archaeological remains – significance unknown; further evaluation by trial trenching to be undertaken during the</p>	<p>No other effects to interact with (all in relation to Archaeology and Cultural Heritage).</p>

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
	determination to further inform this potential effect.	
Ground conditions, contaminated land, subsurface and surface utilities	No effects of minor, moderate or major significance identified.	N/A.
Controlled water receptors, including on-site and off-site surface water features and groundwater.	No effects of minor, moderate or major significance identified.	N/A

OPERATION

14.5.2 **Table 14-2** comprises a summary matrix for the operation phase of the Proposed Development, showing the effect interactions between the relevant environmental topics assessed following implementation of the recommended mitigation measures, based on the assessments presented with **Chapters 5 – 13**.

Table 14-2 – Assessment of Effect Interactions - Operation

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
Local Population, including demolition and construction workers, existing and future residential properties, future Site users, economic receptors (at local and regional level), community receptors (including schools).	<p>Socio-economics</p> <p>Operational employment – minor beneficial</p> <p>Contribution to leisure – moderate beneficial</p> <p>Employee training and college partnerships – moderate beneficial</p> <p>Noise and Vibration</p> <p>Road traffic – minor beneficial</p>	Yes, in relation to Socio-Economics, Noise and Vibration.
Transport Network, including motorised and non-motorised users of the local roads, PRow and non-designated public routes (including vehicle drivers, public transport users, pedestrians and cyclists).	No effects of minor, moderate or major significance identified.	N/A.
Social infrastructure and community facilities, including users of community facilities and resources within the surrounding area (i.e. nursery and primary schools, secondary schools and leisure and recreational facilities).	<p>Socio-economics</p> <p>Operational employment – minor beneficial</p> <p>Contribution to leisure – moderate beneficial</p> <p>Employee training and college partnerships – moderate beneficial</p>	No other effects to interact with (all in relation to Socio-economics).

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
<p>Biodiversity within the Site and surrounding area including designated ecological sites (international, national, regional and local designations) within and surrounding the Site; Protected species and species of conservation concern within the Site and surrounding area.</p>	<p>Biodiversity</p> <p>On-site habitat of ecological importance – site scale beneficial</p> <p>Invertebrates – site scale beneficial</p>	<p>No other effects to interact with (all in relation to Biodiversity).</p>
<p>Landscape character, local amenity and open space within the Site and surrounding area, including visual amenity, local and long-distance views.</p>	<p>Landscape and Visual (Year 0)</p> <p>Change to landscape character: Site level – minor adverse</p> <p>Change to visual amenity: Viewpoint 18: Adjacent residents, Viewpoint 3: PRow 161/6/10, visitors to hotel and spa – moderate – moderate adverse</p> <p>Change to visual amenity: Viewpoint 4 – minor – moderate adverse</p> <p>Change to visual amenity: Viewpoints 1a, 1b, 2, A to E – minor adverse</p> <p>Landscape and Visual (Year 15)</p> <p>Change to landscape character: Site level – minor beneficial</p> <p>Change to visual amenity: Viewpoint 18: Adjacent residents – minor - moderate</p> <p>Change to visual amenity: Viewpoint 3: PRow 161/6/10, visitors to hotel and spa and Viewpoint 4 – minor adverse</p> <p>Change to visual amenity: Viewpoints 1b, A & B – negligible - minor adverse</p>	<p>No other effects to interact with (all in relation to Landscape and Visual).</p>
<p>Archaeology and Cultural Heritage assets, including buried archaeological remains; Non-designated and designated heritage assets; and historic landscape character.</p>	<p>Archaeology and Cultural Heritage</p> <p>Setting of designated heritage assets – no effect to minor adverse</p>	<p>No other effects to interact with (all in relation to Archaeology and Cultural Heritage).</p>
<p>Ground conditions, contaminated land, subsurface and surface utilities</p>	<p>No effects of minor, moderate or major significance identified.</p>	<p>N/A</p>

Sensitive Receptors	Residual Effects	Potential for Effect Interactions
Hydrological receptors including controlled water receptors, including on-site and off-site surface water features and groundwater.	<p>Water Resources, Flood Risk and Drainage</p> <p>Effects on the Existing Surface Water Drainage Ditch Network and Outfall – Water Quality – minor adverse</p>	No other effects to interact with (all in relation to Water Resources, Flood Risk and Drainage).

14.6 SUMMARY OF COMBINED EFFECTS

CONSTRUCTION

- 14.6.1 There are no effect interactions within the construction phase of the Proposed Development, therefore no combined effects are anticipated during this phase.

OPERATION

- 14.6.2 There is potential for the interaction of effects during the operational phase of the Proposed Development. This may give rise to combined beneficial effects on the local population regarding operational employment, contribution to leisure, employee training and college partnerships and noise and vibration of road traffic.

14.7 ASSESSMENT OF CUMULATIVE EFFECTS

- 14.7.1 **Table 14-3** provides information regarding the committed developments considered within this ES whilst their locations in relation to the Proposed Development are provided in **Figure 14.1**.
- 14.7.2 For the purposes of this assessment, as phasing details relating to the construction of some of the identified committed developments are currently unknown, it is assumed that the construction and operational phases could overlap.

Table 14-3 – Summary of Committed Developments

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
1	Bicester Golf And Country Club Bicester Golf and Country Club, Akeman Street, Chesterton, Bicester, Oxfordshire, OX26 1TE	15/01068/F	Erection of two storey extension to existing hotel to form 62 new bedrooms (60 net increase).	Adjacent to the Site	Permission Granted with Conditions (12th February 2016) Not Under Construction
2	Kingmere Land South West Of Bicester Adjoining Oxford Road And Middleton Stoney Road, Bicester	06/00967/OUT	Outline - Up to 1585 no. dwellings; health village to include health and employment uses and elderly persons nursing home; B1 and B2 employment uses; local centre comprising of shops, a pub/restaurant, children's day nursery, offices and a community centre; 2 no. primary schools and 1 no. secondary school; a hotel; a sports pavilion; formal and informal open space; a link road between A41 and Middleton Stoney Road/Howes Lane junction; associated new roads, junctions, parking, infrastructure, earthworks and new accesses to agricultural land.	1.1km north east	Permission Granted with Conditions (30th June 2008) Under construction
3	South West Bicester Phase 2 Phase 2 SW Bicester Parcel 7849 North Of Whitelands Farm Adjoining Middleton Stoney Road, Bicester, Oxfordshire	13/00847/OUT	Outline - Residential development within use Class C3, Extra care facility, primary school, retail, formal and informal public open space, play facilities, sports pitches, allotments and associated infrastructure including landscaping, highways, footpaths/cycleways, drainage utilities and parking.	1.1km east	Permission Granted with Conditions (12th February 2016) Under construction

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
4	Bicester Gateway Retail Park Land South of and Adjoining Bicester Services, Oxford Road, Bicester	16/02505/OUT	Bicester Gateway (Kingsmere - Retail) Four Class A1 (retail) units, one Class A3 (cafe/restaurants) unit, a Class D2 (gym) unit, surface level car parking, access, servicing and associated works.	2.24km east	Permission Granted with Conditions (13 th November 2017) Not Under Construction
5	Bicester Office Park, Land North Of Bicester Avenue Garden Centre, Oxford Road, Bicester	17/02534/OUT	Outline - The construction of a business park of up to 60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace; associated vehicle parking, landscaping, highways, infrastructure and earthworks.	2.3km east	Resolution to grant planning permission subject to S106 in August 2018. Awaiting decision
6	Graven Hill Site C Ploughley Road & Site D & E Ambrosden Road, MOD Bicester, Upper Arncott, Oxfordshire	11/01494/OUT	Outline - Redevelopment of former MOD sites including demolition of existing buildings, development of 1900 homes; local centre to include a 2 form entry primary school (class D1), a community hall of 660sqm, five local shops or facilities to include A1, A2, A3, A5 and D1 uses totalling up to 1358sqm, up to 1000sqm gross A1 uses, a pub/restaurant/hotel (class A4/A3/C1) up to 1000sqm and parking areas; employment floorspace comprising up to B1(a) 2160sqm, B1(b) 2400sqm, B1(c) and B2 20520sqm and B8 uses up to 66960sqm; creation of public open space and associated highway improvement works, sustainable urban drainage systems, biodiversity improvements, public transport improvements and services infrastructure. Erection of a 70400sqm fulfilment centre on 'C' site and associated on site access improvement works, hardstanding, parking and circulation areas.	2.7km south east	Permission Granted with Conditions (8th August 2014) Under construction

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
7	Wretchwich Green South East Bicester, Wretchwick Way, Bicester	16/01268/OUT	Outline application with all matters reserved apart from access for residential development including up to 1,500 dwellings, up to 7ha of employment land for B1 and/ or B8 uses, a local centre with retail and community use to include A1 and/ or A2 and/ or A3 and/ or A4 and/ or A5 and/ or D1 and/ or D2 and/ or B1, up to a 3 Form Entry Primary School, drainage works including engineering operations to re-profile the land and primary access points from the A41 and A4421, pedestrian and cycle access, circulation routes, related highway works; car parking; public open space and green infrastructure and sustainable drainage systems.	4km south east	Awaiting decision
8	Audley Gardens, Chesterton	14/01737/OUT and 16/00219/REM	Outline - With means of access for consideration (layout, scale, appearance and landscaping reserved for subsequent approval) for the erection of up to 45 dwellings served via a new vehicular and pedestrian access; public open space and associated earthworks to facilitate surface water drainage; and all other ancillary and enabling works.	530m south east	Under construction
9a	RAF Bicester Bicester Heritage, Buckingham Road, Bicester	18/01253/F	Erection of hotel and conference facility with associated access, parking, and landscaping.	4.9km north east	Awaiting decision
9b		18/01333/F	Extension to existing Technical Site to provide new employment units comprising flexible B1(c) light industrial, B2 (general industrial), B8 (storage or distribution) uses with ancillary offices, storage, display and sales, together with associated access, parking and landscaping	4.7km north east	Awaiting decision

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
10a	Heyford Park	18/00825/HYBRID	Demolition of buildings and structures as listed in Schedule 1; Outline planning permission for up to 1,175 new dwellings (Class C3); 60 close care dwellings (Class C2/C3); 929 m2 of retail (Class A1); 670 m2 comprising a new medical centre (Class D1); 35,175 m2 of new employment buildings, (comprising up to 6,330 m2 Class B1a, 13,635 m2 B1b/c, 9,250 m2 Class B2, and 5,960 m2 B8); 2.4 ha site for a new school (Class D1); 925 m2 of community use buildings (Class D2); and 515 m2 of indoor sports, if provided on-site (Class D2); 30m in height observation tower with zip-wire with ancillary visitor facilities of up of 100 m2 (Class D1/A1/A3); 1,000 m2 energy facility/infrastructure with a stack height of up to 24m (sui generis); 2,520 m2 additional education facilities (buildings and associated external infrastructure) at Buildings 73, 74 and 583 for education use (Class D1); creation of areas of Open Space, Sports Facilities, Public Park and other green infrastructure; Change of Use of the following buildings and areas: Buildings 357 and 370 for office use (Class B1a); Buildings 3036, 3037, 3038, 3039, 3040, 3041, and 3042 for employment use (Class B1b/c, B2, B8); Buildings 217, 3102, 3136, 3052, 3053, 3054, and 3055 for employment use (Class B8); Buildings 2010, 3008, and 3009 for filming and heritage activities (Sui Generis/Class D1); Buildings 2004, 2005 and 2006 for education use (Class D1); Buildings 366, 391, 1368, 1443, 2007, 2008 and 2009 (Class D1/D2 with ancillary A1-A5 use); Building 340 (Class D1, D2, A3); 20.3ha of hardstanding for car processing (Sui Generis); and 76.6ha for filming activities (Sui Generis); the continuation of use of areas, buildings	4.7km north west	Awaiting decision

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
10b		19/00446/F	and structures already benefiting from previous planning permissions, as specified in Schedule 2; associated infrastructure works including surface water attenuation provision and upgrading Chilgrove Drive and the junction with Camp Road. Erection of up to 57 residential units (Use Class C3) comprising a mix of open market and affordable housing, together with associated works including provision of vehicular and pedestrian accesses, public open space, landscaping, infrastructure and site clearance.	4.9km north west	Awaiting decision
10c		15/01357/F	Erection of 79 dwellings, creation of new access from Camp Road, creation of new open space, hard and soft landscaping and ancillary works.	4.6 km north west	Awaiting decision
10d		16/02446/F	Erection of 296 residential dwellings (Use Class C3) comprising a mix of open market and affordable housing, together with associated works including provision of new and amended vehicular and pedestrian accesses, public open space, landscaping, utilities and infrastructure, and demolition of existing built structures and site clearance works.	5.3 km north west	Awaiting decision
10e		16/00196/F	Demolition of existing bungalows and erection of 13 dwellings with associated car parking and landscaping.	4.8 km north west	Permission Granted with Conditions (17 th August 2016) Under construction

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
10f		16/00263/F	Demolition of Buildings 485 and 488 and the erection of 43 dwellings with associated parking, infrastructure, landscaping and public open space.	4.7 km north west	Permission Granted with Conditions (8 th May 2017)
10g		10/01642/OUT	Proposed new settlement of 1075 dwellings including the retention and change of use of 267 existing military dwellings to residential use Class C3 and the change of use of other specified buildings, together with associated works and facilities, including employment uses, a school, playing fields and other physical and social infrastructure.	4.7 km north west	Permission Granted with Conditions (22 nd December 2011) Under construction
10h		13/01811/OUT	Up to 60 dwellings and public open space with associated works	4.8 km north west	Permission Granted with Conditions (31 st March 2016)
11a	NW Bicester	10/01780/HYBRID	Development of Exemplar phase of NW Bicester Eco Town to secure full planning permission for 393 residential units and an energy centre (up to 400 square metres), means of access, car parking, landscape, amenity space and service infrastructure and outline permission for a nursery of up to 350 square metres (use class D2), a community centre of up to 350 square metres (sui generis), 3 retail units of up to 770 square metres (including but not exclusively a convenience store, a post office and a pharmacy (use class A1)), an Eco-Business Centre of up to 1,800 square metres (use class B1), office accommodation of up to 1,100 square metres (use class B1), an Eco-Pub of up to 190 square metres (use class A4), and a primary school site measuring	3.9 km north east	Permission Granted with Conditions (10 th July 2012) Under construction

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
11b		18/00484/OUT	up to 1.34 hectares with access and layout to be determined. Outline planning permission for up to 75 homes, pedestrian and cycle routes, creation of new access point from Charlotte Avenue, provision of open space, play space, allotments, orchard, parking and associated works.	4.1km north east	Awaiting decision
11c		14/01675/OUT	Erection of up to 53,000 sqm of floor space to be for B8 and B2 with ancillary B1 (use classes) employment provision within two employment zones covering an area of 9.45ha; parking and service areas to serve the employment zones; a new access off the Middleton Stoney Road (B4030); temporary access of Howes Lane pending the delivery of the realigned Howes Lane; 4.5ha of residential land; internal roads, paths and cycleways; landscaping including strategic green infrastructure (G1); provision of sustainable urban systems (suds) incorporating landscaped areas with balancing ponds and swales. Associated utilities and infrastructure.	1.4km north east	Approved at appeal.
11d		14/01384/OUT	Development comprising redevelopment to provide up to 2600 residential dwellings (Class C3), commercial floorspace (Class A1 - A5, B1 and B2), social and community facilities (Class D1), land to accommodate one energy centre, land to accommodate one new primary school (Up to 2FE) (Class D1) and land to accommodate the extension of the primary school permitted pursuant to application (reference 10/01780/HYBRID). Such development to include provision of strategic	2.9 km north east	Awaiting decision

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
11e		14/01641/OUT	landscape, provision of new vehicular, cycle and pedestrian access routes, infrastructure, ancillary engineering and other operations. To provide up to 900 residential dwellings (Class C3), commercial floor space (Class A1-A5, B1 and B2), leisure facilities (Class D2), social and community facilities (Class D1), land to accommodate one energy centre and land to accommodate one new primary school (up to 2 FE) (Class D1), secondary school up to 8 FE (Class D1). Such development to include provision of strategic landscape, provision of new vehicular, cycle and pedestrian access routes, infrastructure, ancillary engineering and other operations.	2.1 km north east	Awaiting decision
11f		14/01968/F	Construction of new road from Middleton Stoney Road roundabout to join Lord's Lane, east of Purslane Drive, to include the construction of a new crossing under the existing railway line north of the existing Avonbury Business Park, a bus only link east of the railway line, a new road around Hawkwell Farm to join Bucknell Road, retention of part of Old Howes Lane and Lord's Lane to provide access to and from existing residential areas and Bucknell Road to the south and associated infrastructure.	1.5 km north east	Awaiting decision
11g		14/02121/OUT	Development to provide up to 1,700 residential dwellings (Class C3), a retirement village (Class C2), flexible commercial floorspace (Classes A1, A2, A3, A4, A5, B1, C1 and D1), social and community facilities (Class D1), land to accommodate one energy centre and land to	1.3 km north east	Awaiting decision

Ref Number	Development	Planning Application Reference	Description	Approximate Distance from the Site	Status as of June 2019
			accommodate one new primary school (up to 2FE) (Class D1). Such development to include provision of strategic landscape, provision of new vehicular, cycle and pedestrian access routes, infrastructure and other operations (including demolition of farm buildings on Middleton Stoney Road)		
12	Bicester Sports Association The Tudor Jones Building Akeman Street Chesterton Bicester OX26 1TH	19/00934/F	Change of Use of Agricultural land and extension of the existing Bicester Sports Association facilities for enhanced sports facilities including relocation and reorientation of existing pitches and archery zone, 2 No training pitches with floodlighting, 2 No match pitches, new flexible sports pitch, new rugby training grids, new clubhouse with events space, new rifle and shooting range, cricket scorers building, storage and maintenance buildings and provision of associated car parking, amended access, landscaping and other associated works.	350m south	Awaiting decision
13a 13b	Bicester 10 OS Parcel 2200 Adjoining Oxford Road North of Promised Land Farm	16/02586/OUT and 17/02557/REM	Phase 1 of the proposed new business park ('Bicester Gateway') comprising up to 14,972 sq m (Gross External Area) of B1 employment, plus a hotel (up to 149 bedrooms) and associated infrastructure, car parking and marketing boards.	2 km east	Permission Granted with Conditions (26 th July 2017)

14.7.3 The potential for cumulative effects arising from committed developments referred to in **Table 14.3** are considered on a topic by topic basis below.

SOCIO-ECONOMICS

14.7.4 There are 27 schemes that have been identified as committed developments and analysed for the purposes of this assessment. They are all located in relative proximity to the Site. These schemes are detailed in **Table 14-4** Error! Reference source not found..

Table 14-4 – Cumulative Developments included in the Socio-economic Assessment

Development	Planning Application Reference
Bicester Golf And Country Club Bicester Golf and Country Club, Akeman Street, Chesterton, Bicester, Oxfordshire, OX26 1TE	15/01068/F
Kingmere Land South West Of Bicester Adjoining Oxford Road And Middleton Stoney Road, Bicester	06/00967/OUT
South West Bicester Phase 2 Phase 2 SW Bicester Parcel 7849 North Of Whitelands Farm Adjoining Middleton Stoney Road, Bicester, Oxfordshire	13/00847/OUT
Bicester Gateway Retail Park Land South of and Adjoining Bicester Services, Oxford Road, Bicester	16/02505/OUT
Bicester Office Park, Land North Of Bicester Avenue Garden Centre, Oxford Road, Bicester	17/02534/OUT
Graven Hill Site C Ploughley Road & Site D & E Ambrosden Road, MOD Bicester, Upper Arcnott, Oxfordshire	11/01494/OUT
Wretchwich Green South East Bicester, Wretchwick Way, Bicester	16/01268/OUT
Audley Gardens, Chesterton	14/01737/OUT and 16/00219/REM
RAF Bicester Bicester Heritage, Buckingham Road, Bicester	18/01253/F
RAF Bicester Bicester Heritage, Buckingham Road, Bicester	18/01333/F
Heyford Park	18/00825/HYBRID
Heyford Park	19/00446/F
Heyford Park	15/01357/F
Heyford Park	16/02446/F
Heyford Park	16/00196/F
Heyford Park	16/00263/F

Development	Planning Application Reference
Heyford Park	10/01642/OUT
Heyford Park	13/01811/OUT
NW Bicester	10/01780/HYBRID
NW Bicester	18/00484/OUT
NW Bicester	14/01675/OUT
NW Bicester	14/01384/OUT
NW Bicester	14/01641/OUT
NW Bicester	14/01968/F
NW Bicester (Himley Village)	14/02121/OUT
Bicester Sports Association The Tudor Jones Building Akeman Street Chesterton Bicester OX26 1TH	19/00934/F
Bicester 10 OS Parcel 2200 Adjoining Oxford Road North of Promised Land Farm	16/02586/OUT and 17/02557/REM

14.7.5 The following analysis considers the effects of committed developments on the likely significant effects as outlined in **Table 5-3** within **Chapter 5: Socio-economics**.

14.7.6 Whilst some planning applications for the committed developments had floorspace use class assignments, others provided a range of uses for the allocated commercial floorspace. This variation has been factored into **Table 14-5** and presented as a low and high range. The overall effects have been assessed on the low end of the range in order to remain conservative.

Operational Employment

14.7.7 The committed developments will collectively result in an increase in commercial floorspace – of a variety of different employment uses – totalling between 49,150 and 120,810 sqm (NIA). This large range is reflective of the large amount of flexible use allocated to various floorspaces.

14.7.8 Using the standard approach to estimating employment in each use class, based on the HCA Employment Density Guide, it is estimated that the committed developments would generate a combined 3,270 to 8,930 additional FTEs, equivalent to between 4,140 and 10,990 jobs once part time workers are taken into account¹.

¹ Based upon the proportion of Cherwell employees that work part time in each industry, according to the Business Register and Employment Survey, 2018

Table 14-5 - Committed Development Schemes Direct Employment

	Floorspace (sqm NIA)		FTEs		Jobs	
	Low	High	Low	High	Low	High
A1 to A5 Retail and Restaurants	14,790	26,480	850	1,510	1,190	2,130
B1 Offices	23,050	83,030	1,920	6,920	2,280	8,200
C1 Hotel (number of rooms)	690		230		330	
D2 Leisure	11,310		80	190	100	240
Total	49,150	120,810	3,270	8,930	4,140	10,990

Source: Volterra calculations. Figures have been rounded to the nearest 10.

- 14.7.9 According to **Table 5-10** within **Chapter 5: Socio-economics**, there were 78,500 workers in Cherwell in 2017. The contributions of the cumulative schemes would be approximately 5% to 14% growth on current employment.
- 14.7.10 Employment projections for Bicester, the largest employment location in Cherwell and located close to the Site, can be used to give an idea of the cumulative employment contribution at the local level. Growing Bicester (**Ref. 14.3**) expects approximately 18,500 new jobs up to 2031 in Bicester. Growing Bicester has allocated the types of jobs for this growth, with the majority allocated for office (B1), industrial (B2) and storage/distribution (B8) uses. The combined impact of the Proposed Development and the committed developments accounts for between 22% and 59% of expected jobs growth in Bicester.
- 14.7.11 This is considered a medium magnitude of impact, which would result in a **permanent, minor beneficial** effect at the local level (**not significant**).

Geographical Distribution of Operational Employment Opportunities

- 14.7.12 According to the Census (2011), 60% of Cherwell workers resided in Cherwell, with a further 14% residing in the rest of Oxfordshire and a further 6% in the rest of the South East. Based on the employment estimates in **Table 14-5**, it is estimated that between 2,480 and 6,600 Cherwell residents will gain employment as a result of the committed developments. Coupled with the local jobs expected to be generated from the Proposed Development, there are estimated to be an additional 2,870 to 6,980 additional jobs for Cherwell residents.
- 14.7.13 Table 5-9 of **Chapter 5: Socio-economics** shows that there were 75,200 employed Cherwell residents in 2018. The committed developments would represent between 4% and 9% increase on 2018 residential employment in Cherwell. According to Oxfordshire County Council, Cherwell is expecting 19,500 additional working age residents between 2017 and 2027, some of which will require local employment.
- 14.7.14 This is considered a low magnitude of impact, which would result in a permanent, **minor beneficial** effect at the Cherwell level (**not significant**).

Additional Visitor Spending

- 14.7.15 **Table 14-5** notes that 690 additional hotel rooms are expected across the committed developments. A similar methodology used to estimate the visitor spend at the Proposed Development can be used

to estimate visitor spend for these new rooms, using an average daily rate of £75.00 and occupancy of 82%².

14.7.16 It is estimated that staying visitors will spend an average of £131 per night on shopping, food and drink and attractions, equating to £27.1m additional visitor spend. A proportion of this may be spent at the new hotels (for example, in a hotel restaurant), however, given that the new rooms are to be located in accessible places, it is estimated that a conservative 75% of this spend will take place in the Oxfordshire area, equating to £20.3m.

14.7.17 Combined with the estimated £4.9m additional local spend generated by the Proposed Development, the committed developments may be expected to generate £25.2m additional visitor spending. This equates to 1.4% of the total direct expenditure in Oxfordshire in 2017.

14.7.18 This is considered a low magnitude of impact, which would result in a permanent, **minor beneficial** effect at the Oxfordshire level (**not significant**).

Contribution to Leisure

14.7.19 The committed developments are estimated to contribute 11,300 sqm (NIA) of leisure floorspace across various types of leisure and the Proposed Development is expected to contribute 8,340 sqm (GIA) of leisure floorspace. This equates to c. 19,600 sqm of additional leisure floorspace in Cherwell.

14.7.20 This is considered a medium magnitude of impact, which would result in a **permanent, moderate beneficial** effect at the district level (**significant**).

Employee Training and College Partnerships

14.7.21 It is unclear from the planning applications what specific opportunities will be provided at the committed developments. It is assumed that the committed developments will offer jobs across a range of occupations and skill levels, which will give employees a chance to upskill, benefitting local residents. This is considered a medium magnitude of impact, which would result in a **permanent, moderate beneficial** effect at the district level (**significant**).

Summary of Significant Cumulative Socio-economic Effects

14.7.22 The Proposed Development and committed developments would generate the following significant socio-economic effects:

- Contribution to leisure provision; and
- Employee training and college partnerships.

TRANSPORT AND ACCESS

14.7.23 An assessment has been undertaken of the identified committed developments and their effect on the highway network local to the Proposed Development. The Transport Assessment prepared in

² VisitBritain (2019) England Occupancy Survey August 2019 (South East figures)

respect of each of the committed developments has been reviewed to identify expected traffic generation associated with committed developments.

Construction

- 14.7.24 The future construction year traffic flows presented in **Table 6.7** within **Chapter 6: Transport and Access** include traffic associated with identified committed developments. The effect of construction vehicle movements associated with the Proposed Development has been assessed against traffic flows inclusive of identified committed developments and demonstrates that the cumulative effect during the construction phase would continue to be **negligible (not significant)**.
- 14.7.25 As part of the Proposed Development a Construction Management Plan (CMP) will be prepared (based on the draft provided in **Appendix 4.1**) and developed with consideration of the impacts detailed in the ES and will include a requirement for the Principal Contractor to liaise with any other nearby developments regarding construction and access arrangements. The final CMP will be secured by Planning Condition or obligation.
- 14.7.26 On the basis of the above it is concluded that the cumulative effects during construction on the highway network, vehicle delay, pedestrian, cycle and public transport infrastructure would be **negligible (not significant)**.

Operation

- 14.7.27 An assessment has been undertaken of the cumulative effect of identified committed developments in addition to the Proposed Development and this is presented at **Table 6.8** within **Chapter 6: Transport and Access**. The cumulative effect of the Proposed Development, in addition to traffic associated with identified committed developments, on traffic movements, severance, delay and fear and intimidation would continue to result in a **negligible (not significant)** effect.

AIR QUALITY

Construction

- 14.7.28 The Construction Phase of the Proposed Development is expected to commence in June 2020 with completion in May 2022. During this time, there is the potential for construction activities to overlap with those at the committed developments detailed in **Table 14-3**. In particular, the proposed extension at Bicester Golf Club, located adjacent to the Proposed Development has the potential to cause cumulative effects on dust soiling and human health due to the close proximity, however mitigation measures included as part of the Bicester Golf Club development and those included in **Chapter 7: Air Quality** ensure that any cumulative effects will be minimised.
- 14.7.29 The committed developments agreed with CDC and the associated trip generation have been included within the traffic data provided used as the basis of the operational air quality assessment and therefore cumulative effects of road traffic emissions have been included with the Operational Phase assessment of the Proposed Development, presented in **Chapter 7: Air Quality**, which identified **negligible (not significant)** residual effects.

NOISE AND VIBRATION

- 14.7.30 The committed developments agreed with CDC and the associated trip generation have been included within the traffic data provided used as the basis of the operational noise and vibration assessment presented in **Chapter 8: Noise and Vibration**. Therefore, cumulative noise effects

have already been accounted for in the assessment in **Chapter 8: Noise and Vibration** which identified **negligible to minor beneficial (not significant)** residual effects.

BIODIVERSITY

- 14.7.31 Cumulative effects upon biodiversity can occur where multiple developments occur in the same area or along ecologically linked pathways such as rivers or migration routes. Overall, given that all committed developments would be subject to the same planning and legal constraints (e.g. a requirement to achieve a net-gain for biodiversity), theoretically no significant adverse in-combination effects should occur. Indeed in-combination positive effects should occur. Nevertheless, it is acknowledged that there is delivery and performance risk in any ecological protection/enhancement strategy, so this assumption carries some risk.
- 14.7.32 Approximately 14 committed developments lie within 5km of the Site. In line with the Cherwell Local Plan 2011-2031, many of these are new housing with associated facilities.
- 14.7.33 Developments over 2km away and separated from the Site by the existing town of Bicester have a reduced chance of causing cumulative biodiversity effects in combination with the Proposed Development.
- 14.7.34 Of the committed developments within 2km, the area collectively known as Land South West of Bicester which lies approximately 1.1km from the Site has had permission granted under various applications for the construction of up to 1585 dwellings and associated facilities. This is the nearest large, significant committed developments to the Site.
- 14.7.35 A review of the Environmental Statements for the applications for committed developments within this allocated area identified negligible residual biodiversity effects for most receptors, or slight beneficial biodiversity effects as a result of design features such as SuDS and habitat creation. A slight adverse effect upon hedgerows, badger and farmland birds is concluded, as well as the potential for pets of new residents to disturb and kill wildlife. A review of these individual effects suggests the below conclusions are reasonable:
- The Proposed Development is expected to cause a net loss of low-value species-poor intact hedgerow, however the creation of other woody habitat such as woodland and scrub will achieve a net-gain for biodiversity in habitat terms, as well as providing more habitat for faunal species which may use hedgerows (birds, small mammals, invertebrates etc). As such no cumulative effect with committed developments is anticipated in terms of habitat loss.
 - Badger may undergo slight temporary adverse effect from short term habitat loss during the construction phase of the Proposed Development. However, the temporal and spatial separation between the committed developments means that cumulative effects are unlikely, that is, badger will have sufficient habitat provided in a continuous manner.
 - The Site is not of value for farmland birds, so cumulative effects are not likely. Further, the Site will not cause pets to be present, and cumulative effects are not anticipated on this receptor.
- 14.7.36 In terms of great crested newt licencing, a housing development is located to the south-east at Chesterton. The nearest licenced site is located at Land West of Chesterton. This is a small residential development approximately 450m to the east of the Site, beyond the golf course (that part which will remain unaffected). A Natural England great crested newt Mitigation Licence was granted for this development in 2016 (Ref. 2016-23813-EPS-MIT), which ends in October 2021. On the reasonable assumption that the developers at this location complied with the terms of their

licence, then no lasting adverse effect upon the local great crested newt population should have occurred.

- 14.7.37 Further, given the great crested newt protection strategy for the Proposed Development includes on-site and off-site (District-Level Licencing) compensation, it is anticipated that the overall status of this species at a District level will remain unaffected.
- 14.7.38 The landscaping design of the Proposed Development has also sought to maintain connectivity in all directions (save beyond the M40 which is outside the scope of the Proposed Development), through establishment of vegetated boundaries to link with habitat in the remaining golf course and beyond. As such no significant cumulative adverse connectivity effects are anticipated.

ARCHAEOLOGY AND CULTURAL HERITAGE

- 14.7.39 Potential cumulative effects of the Proposed Development, during both the construction and operational Phases, have been reviewed in conjunction with the committed developments agreed with CDC. Cumulative effects relating to cultural heritage are for the most part limited to effects upon the settings of heritage assets. While there can, in some rare cases, be cumulative direct effects upon buried archaeological remains, none are currently anticipated to result from the construction phase of the Proposed Development. The potential for direct cumulative effects will be re-examined, if required, on completion of the ongoing archaeological trial trenching (see **Chapter 10: Archaeology and Cultural Heritage**).
- 14.7.40 In considering the potential for cumulative effects upon the setting of designated heritage assets, only one of those cumulative developments identified by the CDC, the erection of a two-storey extension to the existing hotel at Bicester Golf and Country Club (15/01068/F), has the potential to result in cumulative effects when considered together with the Proposed Development. Cumulative effects are unlikely to arise as a result of the Proposed Development and any of the other committed developments identified. This is as a result of the distances and orientations between the Proposed Development, the committed developments and the heritage assets under consideration.
- 14.7.41 Permission was granted for the erection of a two-storey extension of the existing Bicester Golf and Country Club in 2016. However, the elevations submitted as part of the planning application indicate that there would be no increase in the height of the existing building. As the current hotel building is not visible from, and does not impact upon, the setting of any of the heritage assets considered here, there would be no cumulative effect resulting from the addition of the Proposed Development. Any effects would be a result of the Proposed Development on its own and are discussed under **Section 10.6** within **Chapter 10: Archaeology and Cultural Heritage**.

GROUND CONDITIONS

- 14.7.42 There are not considered to be any cumulative effects on ground conditions from the Proposed Development and other committed developments in the immediate area. A number of committed developments have been identified within the immediate vicinity of the Proposed Development, however, these are not considered likely to affect soil contamination at the Site. Additionally, it is considered that off-site groundwater contamination will be identified under planning conditions for off-site development and will be appropriately remediated in line with primary legislation and best practice.

WATER RESOURCES, FLOOD RISK AND DRAINAGE

- 14.7.1 No significant in-combination effects on sensitive receptors from the Construction Stage and Operational Stage will be generated from the Proposed Development in terms of water resource, flood risk and drainage
- 14.7.2 In general, there may be a slightly beneficial effect on surface water flood risk, as most new developments aim to attenuate flows during high intensity rainfall events and control discharge from the site/s at greenfield run-off rates or a betterment where the site is considered brownfield.
- 14.7.3 Foul water discharge will likely increase from Chesterton as a result of the committed developments in the area and as a result may pose capacity issues in the network. Thames Water are required to assess the impact of future developments and provide potential upgrade works for other major cumulative projects. Therefore, the effects are considered to be low to negligible, given that upgrade works would be provided for such case.
- 14.7.4 Similarly, the water demand will increase as a result of committed developments within the Cherwell area. However, Thames Water have a Statutory obligation to consider developments' water supply requirements, and are therefore consistently looking to improve water resources availability in both the short term and long term to cater for ongoing and future developments water demands. Thames Water will therefore identify any necessary remedial works to cater for Proposed Developments, to ensure adequate supply is provided within their water network.

LANDSCAPE AND VISUAL ASSESSMENT

- 14.7.5 The detailed assessment of cumulative effects is contained at the **Volume II: Appendix 13.7** based on the agreed list of committed developments as illustrated at **Figure 14-1**.

Cumulative Landscape Effects

- 14.7.6 In the context of the Wooded Estate Land LT and CW/59 Middleton Stoney LDU, the cumulative landscape effect is considered to be **negligible** or **neutral** for both construction and operation phases, which is considered to be **not significant**.
- 14.7.7 Committed developments 2, 3 and 4 are currently under construction, once completed, they will considerably extend the existing urban edge of Bicester south-westwards and shorten the distance to Chesterton. Committed development 8 is also under construction, and will enlarge the extent of development within Chesterton, filling in the gap between the current settlement edge and the golf course. Committed development 1 has been permitted and, if built, will bring additional built form of similar uses in close proximity to the Proposed Development. Committed development 12 will turn the existing agricultural land to recreational uses containing various pitches/court and associated facilities.
- 14.7.8 Given the above permitted or constructed committed developments, there will be a reduction in the rural extent of the local landscape and an increase in urban influence. Under this wider context, the Proposed Development will only result in a very limited scope for cumulative effects on the local landscape, albeit it will turn the existing green golf course to a new leisure resort. In addition, the enclosure / containment provided by the existing vegetation, including some woodland blocks, dense riparian vegetation, and hedgerow trees, will also help to offer strong screening or separation and further reduce any cumulative impacts.

Cumulative Visual Effects

- 14.7.9 Visual receptors in close proximity to the Proposed Development will experience **negligible (not significant)** cumulative visual effects at the construction phase, with specific reference to Viewpoints 1a, 1b, 2, 4, and 14a. At these locations, there would be the potential for construction activities of committed development 1 and Proposed Development to combine and slightly increase their influence on views from this point. During the operation phase, depending on the viewpoint the Proposed Development will either be situated in front of or behind committed development 1 and will not result in any increase in the overall extent of built form. Given the extensive intervening vegetation and existing buildings, together with the establishment of landscape mitigation as part of the Proposed Development and committed development 1, the cumulative effects will be reduced to neutral in the long term.
- 14.7.10 For all other visual receptors, there would be no cumulative visual effects, as combined views of the Proposed Development and the committed developments are very limited or not available.

14.8 SUMMARY OF CUMULATIVE EFFECTS

- 14.8.1 When considering the Proposed Development and the committed developments, beneficial cumulative effects are anticipated in relation to Socio-economics, including significant beneficial effects in relation to contribution to leisure and employee training and college partnerships. For the remaining topics, it is concluded from the above review that there will be no significant cumulative effects of the Proposed Development in-combination with other committed developments on sensitive receptors identified through the EIA process.

14.9 LIMITATIONS AND ASSUMPTIONS

- 14.9.1 The assessment of combined and cumulative effects resulting from the Proposed Developments have focused on the residual effects from the construction and operational phase following the implementation of mitigation measures. There is an assumption that mitigation measures identified in the respective **Chapters 5 – 13** have been incorporated or adopted to mitigate any adverse effects resulting from the Proposed Development.
- 14.9.2 The assessment of cumulative effects has been limited to publicly available information obtained from the relevant planning applications on the Cherwell District Council planning portal. For some of the identified committed developments, relevant information this assessment has not been available. As a result, some assessment considerations have been based upon assumptions and professional judgement and some statements made would rely on the review of mitigation measures proposed at the committed developments.

14.10 REFERENCES

- **Ref. 14.1:** HM Government (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. [Online] Available at: http://www.legislation.gov.uk/ukxi/2017/571/pdfs/ukxi_20170571_en.pdf
- **Ref. 14.2:** Ministry of Housing, Communities and Local Government (2014, updated March 2019). Environmental Impact Assessment. [Online] Available at: <https://www.gov.uk/guidance/environmental-impact-assessment>
- **Ref. 14.3:** Growing Bicester (2019). [Online] Available at: <http://growingbicester.co.uk/economy/>

FIGURES



