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A2Dominion Developments Ltd North West Bicester Exemplar Local Centre Environmental Compliance Report

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CONTENTS

1	Introduction and Planning Background	4
1.1	Introduction.....	4
1.2	Report Structure	4
1.3	Legal Basis of the Environmental Compliance Report	5
1.4	The Development Background	6
1.5	The Planning Background	7
2	The Development	8
2.1	Development Context.....	8
2.2	Development Description and Parameters	8
2.3	Construction Strategy	13
3	Assessment Methods	14
3.1	Introduction.....	14
3.2	Scoping of Environmental Topics	14
3.3	Consultation	14
3.4	Environmental Compliance Report General Methodology.....	14
3.5	Cumulative Impacts	15
4	Landscape and Visual	17
4.1	Introduction.....	17
4.2	Review of Changes	17
4.3	Baseline Update	17
4.4	Legislation Update.....	17
4.5	Assessment Methodology	18
4.6	Assessment of Effects Resulting from the Proposed Changes.....	18
4.7	Summary	19
5	Ecology and Nature Conservation	20
5.1	Introduction.....	20
5.2	Review of Changes	20
5.3	Baseline Update	20
5.4	Legislation Update.....	22
5.5	Assessment Methodology	23

5.6	Assessment of Effects Resulting from the Proposed Changes.....	23
5.7	Mitigation Measures	24
5.8	Residual Effects	26
5.9	Summary	26
6	Flood Risk and Hydrology.....	28
6.1	Introduction.....	28
6.2	Review of Changes	28
6.3	Baseline Update	28
6.4	Legislation Update.....	29
6.5	Assessment Methodology	29
6.6	Assessment of Effects Resulting from the Proposed Changes.....	29
6.7	Mitigation Measures	30
6.8	Residual Effects	30
6.9	Summary	31
7	Air Quality	32
7.1	Introduction.....	32
7.2	Review of Changes	32
7.3	Baseline Update	33
7.4	Legislation Update.....	34
7.5	Assessment Methodology	35
7.6	Assessment of Effects Resulting from the Proposed Changes.....	35
7.7	Mitigation Measures	35
7.8	Residual Effects	35
7.9	Summary	36
8	Noise and Vibration	37
8.1	Introduction.....	37
8.2	Baseline Update	37
8.3	Legislation Update.....	38
8.4	Assessment Methodology	39
8.5	Assessment of Effects Resulting from the Proposed Changes.....	42
8.6	Mitigation Measures	43
8.7	Residual Effects	44
8.8	Summary	44
9	Cultural Heritage.....	45
9.1	Introduction.....	45
9.2	Review of Changes	45
9.3	Baseline Update	45
9.4	Legislation Update.....	45
9.5	Assessment of Effects Resulting from the Proposed Changes.....	47
9.6	Summary	47

10	Contaminated Land	48
	10.1 Introduction.....	48
	10.2 Review of Changes	48
	10.3 Baseline Update	48
	10.4 Legislation Update.....	48
	10.5 Assessment Methodology	48
	10.6 Assessment Resulting from the Proposed Changes	49
	10.7 Summary	49
11	Agriculture and Land Use	50
	11.1 Introduction.....	50
	11.2 Review of Changes	50
	11.3 Baseline Update	50
	11.4 Legislation Update.....	50
	11.5 Assessment Resulting from the Proposed Changes	51
	11.6 Summary	51
12	Human Health.....	52
	12.1 Introduction.....	52
	12.2 Review of Changes	52
	12.3 Baseline Update	52
	12.4 Legislation Update.....	58
	12.5 Assessment of Effects Resulting from the Proposed Changes.....	60
	12.6 Summary	60
13	Socio-Economics and Community	61
	13.1 Introduction.....	61
	13.2 Review of Changes	61
	13.3 Baseline Update	61
	13.4 Legislation Update.....	65
	13.5 Assessment Methodology	66
	13.6 Assessment of Effects Resulting from the Proposed Changes.....	66
	13.7 Mitigation Measures	68
	13.8 Residual Effects	68
	13.9 Summary	68
14	Waste.....	69
	14.1 Introduction.....	69
	14.2 Review of Changes	70
	14.3 Baseline Update	71
	14.4 Legislation Update.....	72
	14.5 Assessment Methodology	74
	14.6 Mitigation Measures	77
	14.7 Residual Effects	77
	14.8 Summary	77
15	Transport	78
	15.1 Introduction.....	78

15.2	Review of Changes	78
15.3	Assessment of Effects Resulting from the Proposed Changes.....	78
15.4	Summary	79
16	Interrelationships and Cumulative Impacts	80
16.1	Introduction.....	80
16.2	Baseline Update	80
16.3	Assessment Methodology	84
16.4	Assessment of Effects Resulting from the Proposed Changes.....	84
16.5	Summary	84
17	Summary	85

Figures

Figure 1-1	Site Boundary
Figure 2-1	Site Layout
Figure 2-2	Revised Layout and Permitted Layout for the Exemplar Local Centre

Appendices

Appendix 6.1	Flood Risk Assessment and Drainage Strategy
Appendix 10.1	Geo Environmental Appraisal Report
Appendix 14.1	Site Waste Management Plan
Appendix 14.2	Sustainable Waste and Resources Plan

Abbreviations

CDC	Cherwell District Council
CD&E	Construction, demolition and excavation
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CTA	Conservation Target Areas
DMRB	Design Manual For Roads and Bridges
ECR	Environmental Compliance Report
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
ELMP	Ecology and Landscape Management Plan
ES	Environmental Statement
HCA	Homes and Communities Agency
HGV	Heavy Goods Vehicle
IAQM	Institute of Air Quality Management
IMD	Index of Multiple Deprivation
LNR	Local Nature Reserve
LOAEL	Lowest Observed Effects Level
LPA	Local Planning Authority
LSOA	Lower Super Output Areas
LVIA	Landscape and Visual Assessment
LWS	Local Wildlife Site
NOAEL	No Observed Effects Level
NPPF	National Planning Policy Framework
NPSE	Noise Policy Statement for England
OWLS	Oxfordshire Wildlife and Landscape Study
PPC	Pollution Prevention and Control
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
SSSI	Site of Special Scientific Interest
SuD	Sustainable Drainage System
SWMP	Site Waste Management Plan
SWRP	Sustainable Waste and Resources Plan

1 Introduction and Planning Background

1.1 Introduction

- 1.1.1 In July 2012, Cherwell District Council (CDC) granted planning permission (Ref 10/01780/HYBRID) for the development of 21 ha of land within the North West Bicester Masterplan Area, the 'Exemplar Phase'. The permission for this hybrid application included detailed consent for 393 residential homes, roads and infrastructure including an Energy Centre. It also granted outline permission for a neighbourhood centre comprising non-residential use including community facilities, local retail, a pub and office space and a new primary school.
- 1.1.2 At the time the consented application constituted a Schedule 2 development under the Town and Country Planning (Environmental Impact Assessment EIA)) (England and Wales) Regulations 1999 as amended, based upon the scale of development exceeding 0.5ha. Due to the nature and scale of the proposals and its associated infrastructure, the development was deemed likely to have significant effects on the environment, and therefore triggered the need for an EIA which was reported in an Environmental Statement (ES) (Ref 0505-UA001881-UP31R-01).
- 1.1.3 The approved planning application for the 'Exemplar Phase' comprised the development of a new local centre comprising 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) with associated access, servicing, landscaping and parking (Ref 0505-UA001881-UP31R-01).
- 1.1.4 This Environmental Compliance Report (ECR) is submitted in support of a subsequent full planning application under the Town and Country Planning Act (1990) relating to amendments made to the quantum and mix of floorspace within the Local Centre. The principle of the development of a local centre, providing retail and related uses is established by the extant grant of permission for the Exemplar phase (Reference 10/01780/HYBRID).
- 1.1.5 This ECR provides an overview of the likely significant environmental effects resulting from the revised Development parameters for each relevant environmental topic considered in the ES for the 'Exemplar Phase'. The application is to make changes to the Exemplar Local Centre set out in the aforementioned hybrid application, in the context of the changes brought about by the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended) (Ref 1-11) (hereafter referred to as 'the EIA Regulations').

1.2 Report Structure

- 1.2.1 The remainder of this section (Section 1) sets out the background planning applications regarding the Exemplar Local Centre site.

- 1.2.2 Section 2 describes the local centre parameters that were approved as part of the Exemplar planning permission (10/01780/HYBRID). Section 2 also provides a description of the Exemplar Local Centre as it is proposed and assessed within this ECR.
- 1.2.3 Section 3 sets out the assessment methodology that has been followed in compiling this ECR.
- 1.2.4 Sections 4 – 15 comprise detailed assessments for various environmental topics undertaken for the ECR. These assessments set out the environmental effects that are predicted to occur as a result of the proposed since the granting of the outline permission, and whether or not the revised Development will result in ‘significant environmental effects’ in the context of the EIA Regulations. The following environmental disciplines have been considered within the ECR:
- Landscape and Visual Impact;
 - Ecology;
 - Flood Risk and Hydrology;
 - Air Quality;
 - Noise;
 - Built Heritage and Archaeology;
 - Contaminated Land;
 - Agriculture and Land Use;
 - Human Health;
 - Socio-Economics and Community;
 - Waste; and
 - Traffic and Transport.
- 1.2.5 Section 16 sets out the likely cumulative and in-combination effects arising from the Exemplar Local Centre with other local developments, and the effects of the revised Exemplar Local Centre on specific receptors as a result of the revised parameters.

1.3 Legal Basis of the Environmental Compliance Report

- 1.3.1 The original Exemplar application (LPA Reference 10/01780/HYBRID) constituted Environmental Impact Assessment (‘EIA’) development, falling within Schedule 2 of The Town and Country Planning (Environmental Impact Assessment (England and Wales) Regulations 2011 (as amended). The Exemplar planning permission requires details of the Local Centre (reserved matters) to be submitted to CDC within three years of the date of planning permission.
- 1.3.2 The Section 106 Agreement requires planning applications for the retail store and community hall, which comprise part of the Local Centre, to be submitted within 12 months of implementation. The Eight Schedule of the Section 106 also

sets out timescales in which different elements of the Local Centre must be delivered.

- 1.3.3 As such the Exemplar planning permission requires details of the Local Centre to be submitted to the Council for approval; and Cherwell District Council, Officers have advised that the application constitutes a ‘Subsequent Application’ as defined in the EIA Regulations 2011 (as amended):

“Subsequent application” means an application for approval of a matter where the approval—

(a) is required by or under a condition to which a planning permission is subject; and

(b) must be obtained before all or part of the development permitted by the planning permission may be begun”.

- 1.3.4 In addition, the proposed amendments (as set out in Section 2 of this ECR) to the non-residential uses do not meet the EIA screening criteria and should not trigger the need for a new or supplementary ES to be submitted with the detailed planning application. Instead the ECR will draw together and report on the findings of a number of technical studies and will act as a ‘conformity check’ on the findings of the 2010 ES.

- 1.3.5 This ECR describes the Exemplar Local Centre’; changes to the baseline environment and changes to the significant and non-significant environmental effects after mitigation as a result of the material changes to the Exemplar Local Centre’. The purpose of the ECR is to determine the likely environmental effects of the material changes before any decision is taken by the Local Planning Authority (LPA).

- 1.3.6 This ECR has been prepared by Hyder Consulting (UK) Limited on behalf of A2Dominion Developments Ltd.

1.4 The Development Background

- 1.4.1 In July 2009, the Department for Communities and Local Government published ‘Planning Policy Statement (PPS): eco-towns’ (Ref 1-2²) as a supplement to PPS1 Delivering Sustainable Development (Ref 1-3³). The PPS1 supplement includes requirements on sustainability, waste reduction, zero carbon buildings and sustainable public transport.

- 1.4.2 Within the PPS1 supplement, Eco-towns are defined as sustainable developments of at least 5,000 homes. In July 2009, four ‘first wave’ locations were identified with the potential to have an Eco-town; one of which was NW Bicester.

- 1.4.3 The National Planning Policy Framework (NPPF) (Ref 1-4⁴) was published in March 2012 and with it the majority of Planning Policy Statements were replaced.

- 1.4.4 On 24th January 2014, the Secretary of State for Communities and Local Government published a Written Ministerial Statement that announced the Government's proposal to cancel the eco-towns PPS. Each of the identified eco-towns within the PPS have been withdrawn with the exception of the policies for north-west Bicester, which will be saved until Cherwell District Council has an up-to-date local plan in place (which is currently under examination).

1.5 The Planning Background

- 1.5.1 The North West Bicester site is identified in the CDC Local Plan submission (January 2014) as falling within an area to provide for circa 5,000 new homes, and related social and community facilities. The allocation of the site in the emerging Local Plan follows the identification of land at north-west Bicester as a potential eco-town in the supplement to PPS1 (July 2009): 'Eco-Towns' a supplement to PPS1 Delivering Sustainable Development'. The PPS1 supplement includes requirements relating to sustainability, affordable housing, low and zero carbon technologies and public transport.
- 1.5.2 The emerging Local Plan identifies a broad area to the north west of Bicester within which the site falls. A Masterplan has been submitted to the Council in response to the requirements of the supplement to PPS1 in March 2014 with additional/ amended information provided in May 2014. It is understood that the Council is minded to adopt the Masterplan, following consultation and review (and amendment as appropriate) as non-statutory policy.
- 1.5.3 The North West Bicester Masterplan area comprises some 406 ha and sets out the strategy for the development of the site.
- 1.5.4 A2Dominion Developments Ltd (the Applicant) has submitted a series of separate applications that collectively comprise most of the Masterplan area. These include:
- Application 1 (North of Railway) (Ref 14/01384/OUT)– Outline application comprising 155 ha of land, to provide for circa 2,600 residential dwellings, land for new primary schools, associated open space, recreation and play space, social and community facilities and employment land, access and infrastructure works. This application has received a resolution to grant;
 - Application 2 (South of Railway) (Ref 14/01641/OUT)– Outline application comprising 51 ha of land, to provide for circa 900 residential dwellings, land for a new secondary school, new primary schools, associated open space, recreation and play space, social and community facilities and employment land, access and infrastructure works; and
 - A4095 NW Strategic Link Road (Ref 14/01968/F)– Detailed application comprising some 20 ha of land for the provision of new highway and crossings below the existing railway.
- 1.5.5 An EIA has been undertaken for each application, and three separate ESs have been prepared.

2 The Development

2.1 Development Context

- 2.1.1 The town of Bicester lies approximately 24km to the north east of Oxford and 28km to the southeast of Banbury. The M40 runs approximately 2km to the south west, with Junction 9 providing access to the town via the A41.
- 2.1.2 Bicester is served by two railway stations; Bicester North and Bicester Town. Chiltern Railways operate services from Bicester North between Birmingham Snow Hill and London Marylebone. Branch line services to Oxford (via Islip) operate from Bicester Town. This lies to the south of the town and uses the old Varsity Line track between Oxford and Cambridge.
- 2.1.3 The site lies approximately 1.5km north west of Bicester Town, within the parish of Caversfield, just to the west of the B4100 Banbury Road; and is contained within the Exemplar Phase site area that received planning permission (Ref 10/01780/HYBRID) in July 2012. Figure 1-1 illustrates the Exemplar Local Centre site boundary, located within the 'Exemplar Phase' and wider Masterplan area, in addition Figure 2-2 presents a comparison of the previously consented layout from the 2010 ES, and the proposed layout being put forward for detailed planning permission.
- 2.1.4 The site is located within first phase of a wider development; part of the 'Exemplar Phase' currently under construction; and all of the site is currently occupied as a construction compound, materials lay down and handling area in accordance with the approved Construction Environmental Management Plan (CEMP) relative to the existing planning permission (Ref 10/01780/HYBRID).

2.2 Development Description and Parameters

- 2.2.1 This section provides a description of the Exemplar Local Centre and its parameters; as well as a comparison of the parameter in relation to the existing permission for the local centre area of the 'Exemplar Phase' (Ref 10/01780/HYBRID).

Description of Development

- 2.2.2 The Exemplar Local Centre proposals cover a total site area of approximately 6.4 ha; and include: "*Development of a new local centre comprising a 503 sqm convenience store (Use Class A1), 444 sqm of retail units (flexible Use Class A1/A3/A5), 664 sqm pub (Use Class A4), 523 sqm community hall (Use Class D1), 869 sqm nursery (Use Class D1), 614sqm of commercial units (flexible Use Class A2/ B1/ D1) with associated access, servicing, landscaping and parking*".
- 2.2.3 The planning application for the Exemplar Local Centre will be submitted in detail with all development to be accordance with the Application Plans.
- 2.2.4 The Exemplar Local Centre shall accord with the principles and layout set out in Figures 1-1 and 2-1.

Red Line Area

- 2.2.5 The red line boundary for the revised Development that is the subject of the ECR is shown on Figures 1-1 and 2-1 and is contained within the area identified as the local centre in the permitted 'Exemplar Phase' (Ref 10/01780/HYBRID).
- 2.2.6 The red line area excludes the Eco-Business Office which also forms part of the local centre. However, the plans and drawings presented as part of this application include this area for illustrative purposes to demonstrate how this office space fits seamlessly with this application. We understand that Cherwell District Council is submitting a separate planning application for the Eco-Business Centre.

Existing and Proposed Ground Levels

- 2.2.7 The existing ground levels across the Exemplar Local Centre area range from 88.50m to 85.50m above ordnance datum (AOD), falling westwards towards a tributary of the River Bure located some 30m further to the west outside of the Exemplar Local Centre red line area.
- 2.2.8 As part of the permitted 'Exemplar Phase' (Ref 10/01780/HYBRID) construction has already commenced which has some slight adjustment to the existing ground level. Construction on-site has included the main 'spine' road through the middle of the Exemplar Local Centre; the Energy Centre and terminal foul water pumping station located immediately adjacent to the eastern boundary of the red line area and residential properties immediately to the north of the red line area. These have effectively set the construction platform level for the Exemplar Local Centre and provide back of footway levels; ranging from 88.55m to 86.96m AOD falling westwards.

Land Use

- 2.2.9 Table 2-1 presents the land use of the Exemplar Local Centre'; compared to the permitted uses.

Table 2-1 Comparison of Permitted and Proposed Land Use

Permitted Local Centre Uses as per 10/01780/HYBRID			Proposed Exemplar Local Centre Uses		
Use	GEA m2	Use Class	Use	GEA m2	Use Class
Nursery	350	D1	Nursery	869	D1
Community	350	D1 / D2	Community	523	D1 / D2
Retail - Convenience Store	595	A1	Retail - Convenience Store	503	A1
Retail unit			Retail unit	83	A1 / A3 / A5
Retail unit			Retail unit	81	A1 / A3 / A5
Retail unit			Retail unit	82	A1 / A3 / A5
Retail unit			Retail unit	106	A1 / A3 / A5
Retail unit			Retail unit	92	A1 / A3 / A5
Retail Unit sub total	175	A1 / A3 / A5	Retail Unit sub total	444	

Permitted Local Centre Uses as per 10/01780/HYBRID		
Use	GEA m2	Use Class
Pub	190	A4
Pub Restaurant	0	A3
Office unit		
Office unit		
Office unit		
Office unit		
Office sub total	1100	
TOTAL	2760	

Proposed Exemplar Local Centre Uses		
Use	GEA m2	Use Class
Pub	401	A4
Pub Restaurant	263	A3
Office unit	74	B1
Office unit	151	A2 / B1 / D1
Office unit	157	A2 / B1 / D1
Office unit	233	A2 / B1 / D1
Office sub total	614	
TOTAL	3617	

Form of Development

- 2.2.10 The surrounding area consists of single to triple storey residential buildings up to 10m in height.
- 2.2.11 The proposed buildings reach no more than 13.6m above ground level at any particular point. The height of the Exemplar Local Centre is governed by the Energy Centre, which is located on the south eastern corner of the site (specifically outside the boundaries of this application). Buildings within the immediate proximity of the Energy Centre are to be lower than the height of the flues (set at 17m above ground level) to allow for continued effective dispersion of exhaust gases from the proposed gas Combined Heat and Power (CHP) engine and back up gas boilers that will be installed within the Energy Centre that will in turn provide space heating and hot water to the site.
- 2.2.12 The materials will be true to the surrounding area. The stone on the base of the façade will be the same as those on the surrounding residential buildings which are currently being constructed.
- 2.2.13 The majority of the building will be clad in a buff version of brick which is being used in the new development. This buff colour has also been used in other commercial developments in the greater Bicester area.
- 2.2.14 The proposed layout and parameters of the Exemplar Local Centre site are set out on Figure 2-1.

Landscape and Biodiversity

- 2.2.15 The site is a commercial site and as a result the majority of the site comprises hard surfaces.
- 2.2.16 Soft landscaping is added where possible including on the northern and southern site borders, in the pub garden and the nursery. Sedum roof covering will be used on the roofs and bat bricks / boxes, Swift boxes / features and invertebrate hotels will be incorporated to increase biodiversity.
- 2.2.17 The main street has trees planted only on the northern side as they will benefit from the most sunlight.

Site Access

- 2.2.18 The main 'spine' road of the 'Exemplar Phase' passes through the middle of the Exemplar Local Centre; providing access to the site.
- 2.2.19 Street lighting along the spine road has already been consented as part of the 'Exemplar Phase' permission (Ref 10/01780/HYBRID). Further lighting will be located within the rear car park and service yard areas; and will where appropriate and possible incorporate full cut-off luminaires together with use of timed and low energy systems.

Parking

- 2.2.1 Parking for this non-residential Development is predominately by rear parking courts, although there are a few car parking spaces alongside the spine road. A total of 83 car parking spaces will be provided (37 public and 46 private allocated to the Exemplar Local Centre occupiers).
- 2.2.2 In addition, a total of 120 cycle stands will be provided to promote more sustainable local trips.

Surface Water Drainage

- 2.2.3 Surface water drainage would be managed using a Sustainable Drainage System (SuDS). This would involve a combination of green roof, permeable paving and infiltration; and pass through roof water attenuated via oversized below ground pipes with controlled discharge. Details are presented in the accompanying Drainage Strategy (Appendix 6.1).

Services

- 2.2.4 There are no adopted statutory utilities crossing the site. However, new services are being installed as part of the construction of the Exemplar site. These are located in the spine footways and road ways; and include standard utilities (including foul and potable water, electricity and communication fibre) plus a district heat network connected to the Energy Centre located immediately adjacent to the western boundary of the site.

Phasing of Development

- 2.2.5 The phasing of the Exemplar Local Centre is likely to begin with the construction of the Community space and Convenience Retail Store. The remaining uses will come forward as demand requirements increase. The build out is expected to be from 2016 to 2018.

Summary of Design Changes

- 2.2.6 The layout and mix of uses in the Exemplar Local Centre has been developed from the outline application to accommodate the most recent advice for the commercial brief and mix of uses. The revised Exemplar Local Centre is presented on Figure 2-2 alongside the Exemplar Local Centre that was

permitted in 2012. The following paragraphs describe those changes in more detail.

- 2.2.7 In the outline application the convenience retail was provided in a larger size unit with two smaller retail units on the same side of the street. The current proposed retail has a convenience retail of a reduced size with five smaller units. The smaller units are located on both sides of the high street to create a more vibrant street scene.
- 2.2.8 The south side frontage was previously split in three parts with two vehicular accesses one for parking and one for deliveries. The current proposed layout has one vehicular access on south side which combines deliveries and staff parking. The public parking is provided in a larger courtyard area on the north side with a few on street spaces. This combination of changes of size of units and layout has enabled the community hall to be relocated from previous location north side above the nursery to proposed south side above the convenience retail, providing an efficient layout and potential flexibility for adjacent first floor spaces on south side to be associated with the either community use or commercial.
- 2.2.9 Other opportunities in the revised layout to improve the mix are: the nursery has an increased size to meet anticipated demand with part of the ground floor with a garden on the north side also expanded onto first floor above the retail. The pub has been expanded to facilitate its use as cafe restaurant. A larger ground floor footprint with rear garden is provided as well as direct access to the service yard. There is a potential first floor function room which is also accessible from the community hall. The business uses on the first floor have been reduced in size and will concentrate on services for community use. This will complement the wider assumed uses within the Eco-Business Centre. Although not part of this application, the Eco-Business Centre has been illustrated with the corner plot located on the north side adjacent to the parking court same as in the outline application layout. The Eco Business Centre floor space in the outline application can be provided on three levels, with alternative car parking/ floor space options.
- 2.2.10 These revisions have been contained within the overall height and scale of the local centre in the outline application.
- 2.2.11 The local centre in the original application comprised 61 car parking spaces, including those for the Eco Business Centre. The Exemplar Local Centre now incorporates 83 spaces (also including the Eco Business Centre) due to changes in floorspace, leading to greater requirements in standards as well as the layout.
- 2.2.12 In the original application there were 62 cycle stands and this has been increased to 120 in the current application.
- 2.2.13 The proposals for the street width and character have not altered between the two applications. The road link from the B4100, the southern access junction and the footway/ cycleways alongside the B4100 Banbury Road have now been implemented. Mitigation for the Howes Lane/ Bucknell Road junction has been implemented.

2.2.14 Whilst floorspace quantum has changed, the forecast traffic flows for the proposed Exemplar Local Centre are lower than those related to the previous EIA. This is because the Exemplar Local Centre can now be assessed in the context of being part of the whole NW Bicester Development north of the railway, rather than a standalone development as it was for the original application as set out in Chapter 15 - Transport.

2.3 Construction Strategy

2.3.1 The construction work is anticipated to commence in 2016.

2.3.2 Routes for construction traffic would be in accordance with Heavy Goods Vehicle (HGV) limits in place throughout Bicester. As a result, Development site construction traffic would be likely to use the following routes:

- The B4100 Banbury Road for travel to/from Junction 10 of the M40; and
- The A4095, A4221 and A41 for travel to/from Junction 9 of the M40.

2.3.3 A CEMP would be prepared and implemented throughout the construction phase.

2.3.4 The Exemplar Local Centre has been designed for long-life, adopting future-proofing principles. It is unlikely that the Exemplar Local Centre would be decommissioned within a period that can be forecast, therefore decommissioning is not included as part of this ECR. However, the design of the Exemplar Local Centre has been done in such a way that materials can be reused and recycled during decommissioning.

3 Assessment Methods

3.1 Introduction

3.1.1 This ECR presents the assessment of the environmental effects likely to result as a result from the changed Development parameters. This section sets out the various stages of the ECR and the methods used to assess the various environmental topics.

3.2 Scoping of Environmental Topics

3.2.1 The scope of the ECR has been based upon those environmental disciplines that were assessed as part of the 2010 EIA that accompanied the hybrid planning application. The assessment scopes reflect those that were previously agreed for the 2010 EIA, however as part of the ECR process a review has been undertaken of any updated legislation and guidance to ensure that the assessment methodologies used to inform the ECR are current.

3.3 Consultation

3.3.1 No formal consultation has been undertaken to inform the ECR, however, informal pre-application discussions were held with CDC in February 2015 to outline the proposed changes to the Exemplar Local Centre'.

3.4 Environmental Compliance Report General Methodology

3.4.1 In accordance with relevant guidelines, and based upon the methodology that was utilised in the 2010 ES, the ECR has incorporated the following elements:

- **Updated Baseline:** Baseline environmental conditions, including those that are predicted to exist immediately prior to construction and operation of the Exemplar Local Centre as well as those currently existing, have been identified. The baseline conditions as set out in the 2010 ES have been reviewed and, where deemed to be required these have been updated through the use of existing, more up to date data. The need for additional surveys, studies and modelling has then been determined based upon the available data. If no change in the baseline situation has occurred since the publication of the 2010 ES then this has been reported for those environmental disciplines.
- **Assessment Scenarios:** For all topics, assessments have been made (where deemed to be required based upon the changed parameters) of the impacts without (Do-Minimum) and with (Do-Something) the Exemplar Local Centre'. The Do-Minimum scenario represents a baseline against which the environmental effects of the Exemplar Local Centre can be measured. This takes account of the likely future baseline conditions, allowing for environmental trends and planned future development that has not yet been implemented. Based upon the changed parameters, if

no assessment is deemed to be required then a statement has been provided setting out the justification for this decision.

- **Temporal Scope:** When considering the environmental effects of the Exemplar Local Centre', it is necessary to identify impacts that may occur during its construction or operation. Construction extends from the commencement of site works to the date immediately prior to opening of the Exemplar Local Centre'. Operation extends from immediately after opening of the Exemplar Local Centre for the remainder of its life. It is also recognised that some effects would be of a permanent nature whereas others would be temporary. Where the changed parameters are unlikely to result in any changes to the impacts during construction or operation when compared to those reported in the 2010 ES this has been identified.
- **Assessing Impacts:** Where impacts associated with the changed parameters have been identified for the construction and operation stages of the Exemplar Local Centre these have been considered in terms of their nature, the physical extent of their influence and the magnitude of their effects. In considering the nature and significance of the impacts, the effects were assessed on the basis of whether they would be:
 - Direct or indirect;
 - Temporary, short, medium or long term;
 - Reversible or irreversible;
 - Beneficial or adverse; and
 - Cumulative.

Qualitative and quantitative techniques have been used to assess these impacts, as appropriate. The ECR has also (where deemed appropriate) identified those elements of the Exemplar Local Centre that have been introduced to mitigate potential adverse effects. This has allowed an assessment to be undertaken of the significance of the impacts that remain after mitigation measures have been put in place (the "residual impacts").

- **Determining Significance:** Determining whether or not an impact is significant is an important step in the formal ECR process. In general, the significance of an impact reflects the importance or value of the affected resource or receptor, its sensitivity to change, and the magnitude of the predicted impact. The criteria for determining significance varies from topic to topic but the general principle that has been followed is that higher magnitude impacts on important resources would be regarded as significant. Lower magnitude impacts on less important resources would not generally be regarded as significant. The ECR report will identify (per environmental discipline) whether the changed parameters are likely to result in significant impacts over and above those reported in the 2010 ES.

3.5 Cumulative Impacts

- 3.5.1 Cumulative impacts will result from the incremental impacts of the changed parameters when added to other past, present and reasonably foreseeable

future actions. The impacts from a single development may not be significant on their own but when combined with other impacts and other developments, these effects could become significant.

3.5.2 The cumulative effects reported within the 2010 ES have been reviewed following the changes to the parameters reported in the ECR. The following scenarios have been considered by describing and assessing the following:

- Interaction of impacts from the Exemplar Local Centre with those from other plans or activities, including the various phases of the redevelopment of this site.
- Interaction of different impacts of the Exemplar Local Centre', which affect the same resource or receptor.

3.5.3 Cumulative impacts have been considered in each topic Chapter as necessary, and summarised in Chapter 16.

4 Landscape and Visual

4.1 Introduction

4.1.1 This Chapter considers the landscape and visual implications of the revised Exemplar Local Centre Development parameters. Landscape is defined in the European Landscape Convention (Ref 4-1⁵), as ‘...an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors’. Visual considerations relate specifically to the views of a landscape afforded to people. These separate but related issues form the basis for landscape and visual impact assessment (LVIA).

4.2 Review of Changes

4.2.1 Design changes are set out in Chapter 2.

4.3 Baseline Update

4.3.1 The baseline remains as set out in the November 2010 Exemplar Site ES, with the exception that the Exemplar Site development is now under construction.

4.4 Legislation and Policy Update

4.4.1 A summary of the relevant legislation and policies updates, the requirements of these policies and the proposed Development response has been provided in Table 4-1.

Table 4-1 Landscape and Visual Regulatory and Policy Framework

Policy/Legislation	Summary of Requirements	Development Response
National Planning Policy Framework	Landscape to be taken into account in the planning process through protection and enhancement of landscapes.	Development will respect and enhance local landscape character, securing appropriate mitigation where damage to local landscape character cannot be avoided. This will be achieved, in large part, through green infrastructure proposals and through design in response to the local vernacular.
Cherwell District Council Submission: Policy ESD13 - Local Landscape Protection and Enhancement (Ref 4-2 ⁶)	Opportunities will be sought to secure the enhancement of the character and appearance of the landscape, particularly in urban fringe locations, through the restoration, management or enhancement of existing landscapes, features or habitats and where appropriate the creation of new ones, including the planting of woodlands, trees and hedgerows. Development	Development will respect and enhance local landscape character, securing appropriate mitigation where damage to local landscape character cannot be avoided. This will be achieved, in large part, through green infrastructure proposals and through design in response to the local vernacular.

Policy/Legislation	Summary of Requirements	Development Response
	<p>will be expected to respect and enhance local landscape character, securing appropriate mitigation where damage to local landscape character cannot be avoided. Proposals will not be permitted if they would:</p> <p>Cause undue visual intrusion into the open countryside;</p> <p>Cause undue harm to important natural landscape features and topography;</p> <p>Be inconsistent with local character;</p> <p>Harm the setting of settlements, buildings, structures or other landmark features; or</p> <p>Harm the historic value of the landscape.</p> <p>Development proposals should have regard to the information and advice contained in the Council's Countryside Design Summary Supplementary Planning Guidance, and the Oxfordshire Wildlife and Landscape Study (OWLS) and be accompanied by a landscape assessment where appropriate.</p>	

4.5 Assessment Methodology

4.5.1 The assessment process has been carried out based on guidance entitled 'Guidelines for Landscape and Visual Impact Assessment: Third Edition', produced by the Landscape Institute and Institute of Environmental Management and Assessment, in 2013 (Ref 4-3⁷). The assessment criteria are as set out in Chapter 6 of the November 2010 Exemplar Site ES; these criteria were developed in anticipation of the guidelines identified above and align with the same.

4.6 Assessment of Effects Resulting from the Proposed Changes

4.6.1 The location, scale and massing of the proposed Exemplar Local Centre would be comparable with that assessed as part of the 2010 Exemplar Site ES. As a result, the significance of landscape impacts would be as reported in the 2010 Exemplar Site ES.

- 4.6.2 Of the views assessed as part of the 2010 Exemplar Site ES, it is anticipated that the proposed Exemplar Local Centre would only be visible from Viewpoints 1 and 6. From Viewpoint 1, as reported in the 2010 Exemplar Site ES, the proposed Development would be partially obscured by existing hedgerows/trees and proposed planting, with proposed rooflines visible amongst tree canopies. As a result, the significance of visual impacts would be as reported in the 2010 Exemplar Site ES.
- 4.6.3 From Viewpoint 6, the Exemplar Local Centre Development would appear in the distance, largely obscured by intervening hedgerows/trees and would have little bearing on the assessment of impacts when compared with much closer elements of the Exemplar development. As a result the significance of visual impacts for this viewpoint would be as reported in the 2010 Exemplar Site ES.
- 4.6.4 Based on the above analysis, it follows that the overall conclusions, in respect of LVIA, would remain as previously reported for the 2010 Exemplar Site ES and no additional mitigation is required.

4.7 Summary

- 4.7.1 The conclusions in respect of landscape and visual impacts remain as set out in the November 2010 Exemplar Site ES.

5 Ecology and Nature Conservation

5.1 Introduction

- 5.1.1 This Chapter identifies the material changes that have occurred since the 2010 ES was published that affect the likely significant impacts of the Exemplar Local Centre in terms of Ecology and Nature Conservation. The baseline against which the likely significant effects are to be assessed is the current environmental conditions at and surrounding the site which were determined following a site walkover in April 2015. The site comprises an area of land to the north west of Bicester, Oxfordshire, located within an area of land consented for development known as the 'Exemplar Phase'. This impact assessment addresses the construction phase and the completed Development (or operational phase) relating to the Application.
- 5.1.2 The 'Exemplar Phase' is currently under construction and the Exemplar Local Centre site is currently being used as a materials laydown and storage area (an updated baseline is set out in Section 5.3).

5.2 Review of Changes

- 5.2.1 Design changes are set out in Chapter 2.

5.2.2 Baseline Update

- 5.2.3 A site visit undertaken in April 2015, determined the site comprised bare mud covered by cabins, storage areas and access routes. There was a species-rich hedgerow adjacent to the southern boundary to the site. Protective fencing has been installed to protect the hedgerow and an associated three metre-wide buffer of vegetation. In 2010 and 2011 prior to works commencing on the 'Exemplar Phase' the site supported cattle-grazed improved grassland. There are no large trees or shrubs within the red line boundary of the site.
- 5.2.4 The River Bure is located to the west of the site (approximately 30m beyond the site boundary). This shallow shaded tree-lined watercourse supported few wetland plants. Water quality samples were taken prior to 'Exemplar Phase' construction that revealed that water quality was moderate. The desk study and targeted surveys that were undertaken on the site as part of the 'Exemplar Phase' study revealed no confirmatory signs of otter (*Lutra lutra*) or water vole (*Arvicola amphibius*) activity on the Bure. It is considered likely that these species would remain absent for the foreseeable future since no signs of either species has been recorded in close proximity to the site. A large badger (*Meles meles*) sett was recorded on a bank of a tributary and it is likely that prior to establishment of a site compound, badgers would have foraged within the grazed pasture on the site. The 2015 survey confirmed that there were no badger setts within the site and no habitat suitable for foraging badgers. Prior to works commencing on the site, no rare or notable aquatic invertebrates were recorded within the River Bure and no rare or notable terrestrial invertebrates were recorded within the grassland on the site. Based on the current conditions, no rare or uncommon invertebrates would be expected to occur on the site.

- 5.2.5 Surveys have confirmed that there were no waterbodies suitable for use by great crested newts (*Triturus cristatus*) within the site or within the wider Exemplar site. The pond closest to the site that was found to support great crested newts was over 1km away, therefore it's unlikely that great crested newts would be present within the site. Prior to the establishment of a site compound the cattle-grazed pasture was sub-optimal for reptiles and reptiles would not have moved onto the site given the recent ground disturbance.
- 5.2.6 Breeding bird surveys revealed that the hedgerows within the Exemplar Phase, including the hedgerow adjacent to the southern boundary to the site, supported nesting birds; this included species of conservation concern. Some of these species are strictly farmland species that would no longer use the hedgerow given its change in setting. Species of conservation concern that could continue to use the hedgerow adjacent to the site include song thrush (*Turdus philomelos*) and dunnock (*Prunella modularis*). Neither the cattle grazed pasture nor the site as it appeared in 2015 are likely to support ground nesting birds. The hedgerow also provides some shelter and forage for wintering birds.
- 5.2.7 There are no features suitable for use by roosting bats within the site, however, there are confirmed bat roosts to the north of the site. These comprise a roost in a tree on the River Bure (100 m away), a roost in St Laurence Church (430 m away), Caversfield and a roost in a building associated with Home Farm (270 m away). These roosts support either common pipistrelle (*Pipistrellus pipistrellus*) bats (the tree roost and Home Farm) or long-eared bats (*Plecotus* spp.) (St Laurence Church). Bats have been recorded commuting and foraging along the River Bure to the west of the site. Prior to the commencement of works on the Exemplar Site bats would have foraged over the cattle-grazed pasture, but in 2015 the site was not suitable for use by foraging bats.
- 5.2.8 The hedgerow adjacent to the southern boundary to the site was species-rich supporting at least five woody species including Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Field Maple (*Acer campestre*), English Elm (*Ulmus procera*) and Ash (*Fraxinus excelsior*). The ground flora was species-poor supporting common hedgerow ground flora species and species associated with disturbed ground including common grasses, Cleavers (*Galium aparine*), Ivy (*Hedera helix*) and Cow Parsley (*Anthriscus sylvestris*). One valuable hedgerow ground flora species as listed under the Hedgerows Regulations (1997) was recorded namely Lord's-and-Ladies (*Arum maculatum*). Although this hedgerow supported five woody species in a 30 metre section it supported only two of the required four features necessary to identify this hedgerow as 'important' using the Wildlife and Landscape Criteria of the Hedgerows Regulations (1997). The features that it did support were: that it comprised less than 10% gaps; and had connections greater or equal to four. This hedgerow would not be classified as 'important' under the Hedgerows Regulations (1997). No confirmatory signs of brown hairstreak butterflies (*Thecla betulae*) were recorded in the hedgerow in 2011. However, brown hairstreak butterflies were recorded in the hedgerows and scrub on the wider NW Bicester eco-development site and it is possible that with appropriate management these butterflies could use this hedgerow in the future. Targeted surveys coupled with a desk study search revealed that dormice (*Muscardinus avellanarius*) are not present in the NW Bicester eco-development site and as

such it is considered that they would not be present in the hedgerow to the south of the site. No habitat suitable for dormice was recorded within the site.

- 5.2.9 Prior to the commencement of works associated with the 'Exemplar Phase' Development, the grassland habitats within the site were considered to be of limited nature conservation value. Although used by foraging bats and badgers, the site was not sufficiently diverse and/or large to be of value to these species. No other notable or protected species have been recorded within the site previously, or are considered likely to be present within the site in its condition in 2015. Overall, the site as it appeared in 2015 is considered to be of negligible nature conservation value.
- 5.2.10 Hedgerows are a habitat of Principal importance for conserving biodiversity in England (Section 41 NERC Act (2006) Ref 5-1⁸). The hedgerow adjacent to the site had the potential to support species of Principal importance for conserving biodiversity in England (Section 41 NERC Act (2006)) these include song thrush, dunnock, European hedgehog (*Erinaceus europaeus*) and brown hairstreak butterflies. The hedgerow is part of a wider network of hedgerows that together form a resource of District/Borough importance to nature conservation as identified in the 2010 'Exemplar Phase' ES.

Statutory and non-statutory designated sites

- 5.2.11 There have been no changes in the number or locations of the designated sites of nature conservation importance within the zone of influence of the Exemplar Local Centre'.
- 5.2.12 As identified in the previous ES the Exemplar Local Centre would not lead to significant effects on statutory or non-statutory designated sites or CTAs. Alterations in the layout of the Exemplar Local Centre would not affect this assessment.

5.3 Legislation and Policy Update

- 5.3.1 There have been no changes to legislation and policy that have occurred since the 'Exemplar Phase' ES was written in 2010 that would affect the assessment of ecological impacts on this site. Since publication of the Exemplar Phase ES the NPPF has come into effect. The NPPF consolidated the guidance in PPS9 and other Planning Policy that was in place in 2010 into a single document. It promotes sustainable development and identifies that planning policies should improve wildlife and the habitats they live in. This requirement builds on the requirements for eco-towns as set out in PPS1 which was in force in 2010, a key principal of which was that the eco-town should deliver a net gain in biodiversity. This requirement had a significant effect on the Exemplar Local Centre layout and the design of green space in the Exemplar Phase and has influenced the proposals for the Exemplar Local Centre.
- 5.3.2 The North West Bicester Supplementary Planning Document 2014 (Ref 5-2⁹) identifies the need for the Exemplar Local Centre to: minimise the loss of hedgerows; enrich retained hedgerows using semi-natural vegetation in buffer zones; establish the minimum of a 60 m wide corridor to the watercourses; provide dark corridors for wildlife; provide a net gain in biodiversity; consider

opportunities for biodiversity gains within the built environment; and include a biodiversity strategy with planning applications. These requirements were incorporated in the Masterplan for the 'Exemplar Phase'. A Biodiversity Strategy was included as an Appendix to the 'Exemplar Phase ES'. The changes in the layout of the Exemplar Local Centre have been respected by the measures that were included in the Masterplan with respect to buffer zones. The Biodiversity Strategy that is presented in Section 5.7.3, below, has been informed by the Biodiversity Strategy that was produced for the 'Exemplar Phase'.

- 5.3.3 The emerging Cherwell Local Plan 2006 - 2031 Policy ESD 10 'Protection and Enhancement of Biodiversity and the Natural Environment' states that a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources. Biodiversity has been incorporated into the design of the Exemplar Local Centre to deliver a net gain in biodiversity.

5.4 Assessment Methodology

- 5.4.1 No changes that would affect the assessment of ecological impacts on this site have occurred since the 'Exemplar Phase' ES was written.

5.5 Assessment of Effects Resulting from the Proposed Changes

Construction Impacts

- 5.5.1 Development on the site would lead to the loss of part of a field that, prior to works commencing on the 'Exemplar Phase' supported improved cattle-grazed pasture. By 2015 the site was bare mud with no vegetation. This habitat loss would not have a significant effect on the nature conservation resources of the local area.
- 5.5.2 The hedgerow immediately adjacent to the southern boundary has been retained intact within a 3 metre-wide buffer as part of the Masterplan for the 'Exemplar Phase' and this buffer has been respected in the Masterplan for the Exemplar Local Centre Development.
- 5.5.3 The recommendations contained within the Arboricultural Method Statement (document reference 0509-UA001881-UE21R-01-Arb) that was produced for the 'Exemplar Phase' would be adhered to, ensuring that the hedgerow trees and shrubs are protected during site clearance and construction. This will include the installation and maintenance of appropriate protective fencing and taking care to avoid stock piling materials and placing machinery close to the fence. In accordance with this Method Statement, any works within the root protection zone of the hedgerow would be overseen by a qualified arboriculturalist to ensure that the integrity of the hedgerow is maintained.
- 5.5.4 The CEMP that has been prepared for the 'Exemplar Phase' ensures that the retained habitats on the edge of the site, principally the hedgerow and the River Bure are protected during construction from accidental damage, disturbance

and pollution (mainly dust and surface water run-off). The implementation of SuDS during construction would ensure that water quality and quantity is protected in the River Bure, protecting both the watercourse adjacent to the site and habitats downstream.

- 5.5.5 The implementation of the sensitive lighting strategy that was required for the 'Exemplar Phase' would ensure that habitats immediately adjacent to the site (the river corridor and the hedgerow) are not illuminated during construction.

Operational Impacts

- 5.5.6 The proposals for the 'Exemplar Phase' include enhancement of the buffer by seeding with wildflower seed and planting a small number of trees that would be allowed to mature to create additional structural diversity. These proposals would be compatible with the proposals on the Exemplar Local Centre.
- 5.5.7 Once the site is developed, the context of the hedgerow would change, however, the creation of species-rich grassland within the hedgerow buffer would be beneficial to fauna associated with the hedgerow in its new urban setting. The creation of green corridors within the wider Exemplar site Masterplan would ensure the continued use of existing wildlife corridors associated with the River Bure adjacent to the site, and those wildlife corridors associated with the wider hedgerow network including the hedgerow adjacent to the southern boundary, preventing fragmentation/isolation of populations of mobile species. The lighting scheme would follow the principals set for the 'Exemplar Phase'. Consequently, it would be designed to ensure that the hedgerows and riparian corridor are not subject to high levels of artificial light (that is, they are not subject to light levels greater than 1 lux).
- 5.5.8 The Ecology and Landscape Management Plan (ELMP) that has been prepared for the 'Exemplar Phase' ensures that the hedgerow and the newly created habitat within its buffer is managed appropriately to maintain and enhance its value to the wildlife.
- 5.5.9 The Exemplar Local Centre like the rest of the Exemplar phase incorporates SuDS that ensure that water quantity and quality is protected in the adjacent River Bure. This ensures that downstream habitats would also be protected.

5.6 Mitigation Measures

CEMP

- 5.6.1 The CEMP that was prepared for the 'Exemplar Phase' is in place to ensure that measures are implemented to protect the environment and adjacent retained habitats. The CEMP would be updated, as necessary, to adhere to relevant legislation for the protection of the environment, and implement best practice guidelines for works within or near water. Relevant guidance including Pollution Prevention Guidelines prepared by the Environment Agency and literature produced by CIRIA form the basis for pollution control measures. No additional measures are required as a result in the change in the layout of the Exemplar Local Centre.

Clerk of Works

- 5.6.2 The ecological/ environmental clerk of works that is in place for the 'Exemplar Phase' would ensure that the mitigation measures outlined in the CEMP are undertaken and that their success is monitored so that remedial action can be undertaken if required. This would include regular checks to make sure that protective fencing is in place etc.

Biodiversity Strategy

- 5.6.3 The following measures have been incorporated into the Exemplar Local Centre in order to deliver a net gain in biodiversity, as required by planning policy. To ensure no loss to biodiversity, the one habitat of ecological value immediately adjacent to the site (the hedgerow) has been retained with an appropriate buffer zone to maintain and enhance its value to wildlife. In order to compensate for the loss of natural green space and deliver a net gain in biodiversity, habitats and features of value to wildlife have been incorporated into the detailed design of the Exemplar Local Centre. These measures are outlined in the paragraphs below.
- 5.6.4 The majority of roofs within the site would be flat which provides the opportunity to create living roofs. However, the roofs would also be covered by photovoltaic panels and the shade cast by the panels would reduce the growth of plants. It is therefore proposed to establish either complete Sedum (Stonecrop) roofs and install panels on top or create strips of low-growing Sedum plants between the panels. These plants are sufficiently low-growing that they would not interfere with the solar collection, they are sufficiently robust to survive on exposed roofs without the need for maintenance, they provide forage and places of shelter for invertebrates and if placed in strips (in time) they are likely to spread under the panels in areas that are not in permanent shade. The Sedum also provides benefits that are wider than its value to biodiversity. The Sedum reduces the air temperature on the roof which has a beneficial effect on the operation of the solar panels and on the insulation performance of the building. The roofs and gutter would need to be maintained to ensure that tree and shrub seedlings do not take root but this would be required on any flat roof. The solar panels also require maintenance and access to the roof would also be required to allow this, any weeding and/or tree seedling/shrub removal could be undertaken at the same time.
- 5.6.5 Sedum provides a valuable nectar source for invertebrates and therefore it is proposed to provide rooftop beehives or structures known as invertebrate 'hotels' on the roofs. Beehives that support honey bees would require regular maintenance by a bee keeper but structures that are created for solitary bees and other invertebrates would only require annual visits to make sure that their structural integrity is maintained, with repairs as and when necessary. These maintenance visits could be undertaken in parallel with the visits to the solar panels.
- 5.6.6 An invertebrate hotel would be created in the nursery garden wall to provide a linear refuge for various species of invertebrate alongside the river corridor. This hotel would be created using hard materials such as pieces of terracotta pipe, bricks with holes, and other sturdy materials that provided a variety of

sizes of places of shelter for invertebrates that are long-lasting and sufficiently robust to maintain the structural integrity of the wall. Care would be taken in the detailed design of this feature to ensure that any features that could be used by wasps, bees or other species that could cause a nuisance face the river and are placed at height where they would not create a problem for the nursery. A similar feature would be created within the wall that surrounds the pub garden. Once again care would be taken to ensure that the features are located in a manner that would not create a nuisance to the users of the garden.

- 5.6.7 It is proposed to use bat bricks or bat boxes on the walls of the buildings facing the river corridor and hedgerow buffer. These boxes and the flight paths leading to the hedgerow and/or river would not be illuminated by artificial light. The wall of the nursery that faces the river corridor would also contain bird nesting sites suitable for use by swifts. Again, care would be taken to avoid direct illumination of these features and in locating them in areas where they would not create a nuisance to the users of the nursery.

5.7 Residual Effects

- 5.7.1 The loss of a small area of grassland would not have a significant effect on the nature conservation resources of the local area.

- 5.7.2 The hedgerow immediately adjacent to the southern boundary of the site would be retained intact with an appropriate buffer of semi-natural vegetation. Its long-term management and survival have been guaranteed through the implementation of the ELMP that was produced for the Exemplar phase. Although the Exemplar Local Centre largely comprises built development, features of value to wildlife have been incorporated into the design to ensure that a net gain in biodiversity will be achieved. The implementation of a management plan would ensure that the features are maintained and that a net gain in biodiversity is achieved.

- 5.7.3 Maintaining green corridors around the site and creating living roofs within it would reduce heating island effects associated with climate change. The incorporation of SuDS within the design reduces the impact of sudden rainfall events associated with climate change on watercourses and their downstream habitat. Retaining buffers alongside the semi-natural habitats on the edge of and adjacent to the site provides space for habitat adaption and improves the resilience of these habitats.

5.8 Summary

- 5.8.1 The site is within the land affected by the Exemplar phase. In 2010, prior to works commencing on the Exemplar phase, the site supported improved grassland. In 2015 the site was used as a material storage and laydown area and no grassland vegetation remained. The hedgerow that is adjacent to the southern boundary has been retained with a buffer zone and protective fencing installed during the construction. This fencing would be maintained to ensure that the hedgerow remains protected during the construction phase of the Exemplar Local Centre. The habitat enhancement measures for the hedgerow

that form part of the consented scheme for the Exemplar phase would not be affected by the Exemplar Local Centre.

5.8.2 Measures that have been implemented as part of the consented scheme for the Exemplar phase would be implemented as part of the Exemplar Local Centre'. This would ensure that retained habitats adjacent to the site (the River Bure and the hedgerow) and habitats downstream are protected. These measures include:

- A CEMP;
- An ecological/environmental clerk of works;
- Protective fencing;
- A sustainable drainage scheme;
- A sensitive lighting scheme; and
- An ELMP.

5.8.3 A Biodiversity Strategy has been developed to ensure that biodiversity has been incorporated into the design of the Exemplar Local Centre to deliver a net gain in biodiversity. This includes:

- Green- Sedum (stonecrop) roofs;
- Invertebrate hotels incorporated into walls;
- Bat boxes/bat brick incorporated into walls; and
- Swift boxes/features incorporated into the nursery wall.

5.8.4 As identified in the 'Exemplar Phase' ES, the Exemplar Local Centre would have no significant adverse effect on ecological receptors, alterations in the layout of the Exemplar Local Centre have not changed this assessment. In time it is anticipated that the measures incorporated into the design of the Exemplar Local Centre would have a beneficial effect and lead to a net gain in biodiversity as required by planning policy.

6 Flood Risk and Hydrology

6.1 Introduction

6.1.1 This Chapter considers the potential impacts to the water environment as a result of the Exemplar Local Centre. This Chapter also considers how the Masterplan has evolved since 2010 and if the results of the assessment for the wider 2010 Exemplar Phase ES are still valid and applicable to the Exemplar Local Centre.

6.2 Review of Changes

6.2.1 Design changes are set out in Chapter 2. However, since the 2010 ES the following changes have occurred that are specific to the Flood Risk and Hydrology assessments:

- Updates to the hydraulic model to assess the fluvial flood risk to the site from the River Bure in 2013 and 2014;
- Direct rainfall TUFLOW modelling to assess the surface water flood risk to the site in 2014; and
- Mitigation measures relating to the management of waste water and surface water have been confirmed.

6.3 Baseline Update

6.3.1 The study area now relates specifically to the Exemplar Local Centre, however since the 2010 assessment there have been minimal changes to the baseline data. The main changes relate to the assessment of the baseline flood risk to the site.

6.3.2 The 2010 assessment predicted that floodwater is generally confined to the valleys in which the watercourses flow, with ponding occurring at confluences and upstream of constricting structures.

6.3.3 Updates were undertaken to the ISIS hydraulic model in 2011 and 2013 and the results confirmed that floodwater is confined to the valleys in which the watercourses flow and this informed the location of green corridors adjacent to watercourses.

6.3.4 A TUFLOW direct rainfall model was produced in 2013 and 2014 to represent the existing surface water flow paths across the Site. Surface water model results demonstrated that the surface water overland flow routes on the Local Centre Site follow the existing ground slopes towards the existing channel of the River Bure to the west. There are no notable surface water flow routes or ponding at the Site except for the ponding along the river corridor outside the Site.

6.3.5 The results of the updated hydraulic modelling do not affect the results or the conclusion of the previous assessment presented in the 2010 ES.

6.4 Legislation and Policy Update

6.4.1 The following legislation updates have taken place since the submission of the Exemplar Phase ES in 2010:

- National Planning Policy Framework 2012- The NPPF sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is, exceptionally, necessary in such areas, the policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall. NPPF is supported by the PPS25 Practice Guide, which is still used to supplement the NPPF. An FRA for the Commercial Centre site has been carried out in accordance with NPPF.
- Cherwell Local Plan Submission Policy 2014- The emerging Cherwell Local Plan 2006 - 2031 identifies land to the north-west of Bicester as a strategic site for the provision of an eco-development under Policy Bicester 1: North West Bicester Eco-Town. This policy aims to embed the criteria of the PPS1 Supplement in local policy. The Cherwell Local Plan 2006 - 2031 is not yet adopted. Therefore, the NPPF and PPS1 Supplement are the principal planning documents against which the proposals should be considered.

6.4.2 The policies listed above have changed since the 2010 submission but the update does not affect the results of the previous assessment presented in the 2010 ES.

6.5 Assessment Methodology

6.5.1 The 2010 assessment was undertaken in accordance with PPS25: Development and Flood Risk. This assessment is undertaken in accordance with the guidelines set out in NPPF, which has replaced PPS25, however the Practice Guide to PPS25 is used as a supplementary guide to NPPF. The change of legislation does not affect the results of the previous assessment. There have been no further changes in the assessment methodology since the 2010 ES and the update does not affect the results of the previous assessment.

6.6 Assessment of Effects Resulting from the Proposed Changes

Construction Impacts

6.6.1 The construction impacts have not altered since the submission of the 2010 ES and the updated Exemplar Local Centre layout does not affect the results of the previous assessment.

Operational Impacts

- 6.6.2 An updated assessment of the operational impacts has been undertaken in the Flood Risk Assessment and Drainage Strategy (in Appendix 6.1).
- 6.6.3 The operational impacts have not altered since the submission of the 2010 ES and the updated Exemplar Local Centre layout does not affect the results of the previous assessment.

6.7 Mitigation Measures

- 6.7.1 The majority of mitigation measures for the wider Exemplar Phase remain applicable to the Exemplar Local Centre. The changes to mitigation measures since the 2010 ES submission are listed below:
- Waste water modelling of the proposed system has been undertaken and discharge rates have been agreed with Thames Water, this will ensure there is no increase in flood risk downstream in the sewer network as a result of the Exemplar Local Centre'. Since the 2010 submission it has been confirmed that the Exemplar Local Centre development can be connected to the Thames Water sewer system.
 - Since the submission of the 2010 ES, the drainage strategy has been progressed and updated. The proposed strategy to manage surface water runoff is still in line with the ES submission, in that peak flows discharged to the watercourse from rainfall events up to and including the 1 in 100 year (+30% climate change allowance) will be limited to match the existing mean annual greenfield runoff rate as agreed with the Environment Agency.
 - It has been confirmed that the control of surface water runoff (to meet the agreed discharge rates) from building roofs and hardstanding will be via the use of on-plot attenuation blankets under the car parking areas, to allow attenuation and infiltration to ground.
 - The roof construction of the proposed buildings will incorporate a sedum covering to provide a green roof. This will act as a further source control measure, slowing run-off and providing additional treatment, along with enhancements to aesthetics and biodiversity.
 - To maximise access and public realm space, runoff from the road and footpaths in the Exemplar Local Centre will be collected via a positive drainage network. The required attenuation and flow control (to meet the agreed discharge rate) will be provided by linking this drainage network into the proposed drainage network serving the adjacent residential development. As per the 2010 ES, the final outfall from this system to the watercourse remains via an enhanced swale, to allow water quality to be enhanced.

6.8 Residual Effects

- 6.8.1 Following mitigation the residual effects will remain neutral and the update does not affect the results of the previous assessment.

6.9 Summary

6.9.1 Since the 2010 ES submission for the wider Exemplar Phase, changes have taken place to legislation and to the baseline data used to assess existing flood risk to the Exemplar Local Centre .

6.9.2 Additionally, the drainage strategy has been further developed alongside detailed planning of the Exemplar Local Centre, and in line with the detailed design of the surrounding residential development.

6.9.3 However, the updates have not resulted in significant changes and the conclusions remain that the Exemplar Local Centre':

- continues to contribute to a water management strategy across the wider Exemplar Phase with a Large Beneficial effect in terms of water recreation;
- continues to have a Slight Beneficial effect in terms of dilution and water quality;
- continues to have a Neutral effect in terms of conveyance and flood risk; and
- continues to have a Neutral effect with regards to groundwater.

7 Air Quality

7.1 Introduction

- 7.1.1 This Chapter reviews the proposed changes to the Exemplar Local Centre on the Exemplar Site and evaluates whether there are any resultant material effects on air quality over and above those reported in the 2010 ES.
- 7.1.2 The local centre was originally assessed within the 2010 ES concerning the North West Bicester Eco Development proposals for the Exemplar Phase. The air quality Chapter described the impacts associated with the Exemplar Site. It concluded that construction phase dust emissions were predicted to be slight adverse and unverified operational traffic emissions were negligible.
- 7.1.3 An addendum to the ES was published in 2011 which concluded that operational traffic impacts should be re-categorised to neutral/negligible following the verification of the original raw modelled output. The model inputs did not differ from the 2010 ES. The detailed Exemplar Site and outline commercial applications were consented shortly afterwards.
- 7.1.4 The Energy Centre design was finalised during 2013 and therefore the impact of the Energy Centre on receptors in the vicinity of the exemplar commercial centre required reassessment to account for design changes made since the publication of the 2010 ES. The reassessment was carried out by Vital Energi Utilities Ltd. It was concluded that with a stack height of 17m there were no significant effects anticipated as a result of the operation of the Energy Centre.

7.2 Review of Changes

- 7.2.1 Design changes are set out in Chapter 2. However, since the 2010 ES the following changes have occurred that are specific to the air quality assessments:
- 7.2.2 **Amendments to car parking provision:** The car parking allocation and associated land use has been increased slightly. The Transport Assessment (Ref: 5100-UA005241-UE31R-001) notes that the forecasts associated with the proposed Exemplar Local Centre are lower than those related to the previous ES. Therefore there are no material effects as compared to what was previously consented.
- 7.2.3 **Amendments to arrangement and footprint of commercial centre buildings:** The arrangement and layout of buildings in the Exemplar Local Centre adjacent to the Energy Centre are slightly different from what was originally consented, and further assessed in the 2013 Energy Centre assessment; therefore dispersion of Energy Centre emissions will differ slightly owing to changes in building downwash behaviour. The proposed building heights reach no more than 13.6 m above ground level at any particular point, which is the same maximum height which was previously assessed in the 2013 assessment. Proposed buildings within the immediate proximity of the Energy Centre are lower than the height of the flues (set at 17m above ground level) to

allow for continued effective dispersion of exhaust gases from the proposed gas CHP engine and back up gas boilers.

7.2.4 Emissions output from the Energy Centre will not change from what was previously assessed, therefore concentrations at adjacent residential receptors will not change significantly and any further assessment of the effect of the Energy Centre can be scoped out of further assessment.

7.2.5 **Amendment of red-line boundary:** The red line boundary for the revised Development that is subject of the ECR is shown on Figures 1-1 and 2-1 and is contained within the area identified as the local centre in the permitted 'Exemplar Phase'. The figures show that the proposed red line boundary is slightly smaller than that previously assessed and would not affect the conclusions of the construction dust assessment contained within the 2010 ES. The assessment originally predicted the effects of construction within 1km of the site. Recently updated Institute of Air Quality Management (IAQM) (2014) (Ref 7-1¹⁰) guidance on the assessment of construction dust recommends the assessment of construction dust within 350m of the red-line boundary. Therefore the construction dust study area in the 2010 ES extends beyond that which would be assessed as part of the 2014 IAQM guidance. Additionally all dust and air quality impacts during construction would be controlled through compliance with the CEMP for the Exemplar Site.

7.3 Baseline Update

7.3.1 Air quality monitoring data was obtained from CDC 2014 progress report to ascertain the change in baseline air quality concentrations since the original ES was submitted. Table 7-1 compares 2010 and 2013 annual mean NO₂ concentrations at non-automatic sites in Bicester.

Table 7-1 Cherwell District Council NO₂ Diffusion Tube monitoring in Bicester; 2010 & 2013

Site	X	Y	Type*	Annual Mean NO ₂ 2010 (µg/m ³)	Annual Mean NO ₂ 2013 (µg/m ³)	% Change
Villiers Road	457619	222535	UB	26.8	19.8	-26.1
Kings End West	458071	222450	K	36.5	29.1	-20.3
Kings End South	458006	222404	R	51.3	48.5	-5.5
Kings End North	457943	222304	R	46.2	35.8	-22.5
Field St	458214	222836	K	46.2	38.6	-16.5
North St	458274	222935	K	44.1	42.7	-3.2
Queens Ave/Kings End	458028	222471	K	46	41	-10.9
Market Square	458589	222340	K	37.2	37.1	-0.3
Tamarisk Gardens	458404	224332	UB	22.3	17.4	-22

*K - Kerbside R – Roadside UB - Urban Background

7.3.2 The table shows that the majority of the monitoring sites in Bicester show a reduction >10%; with the two background sites showing a reduction of more

than 20%. The Tamarisk Gardens site is the closest site to the commercial centre and shows a 22% reduction in annual mean NO₂ concentration between 2010 and 2013. 2010 was acknowledged to result in higher concentrations of NO₂ than would have been expected, the monitoring however illustrates that the base year concentrations used in the previous assessments were higher than would be used if the assessment were carried out now. The original baseline assessment and subsequent modelling is therefore considered to be robust.

7.3.3 CDC do not undertake any monitoring of PM10 concentrations.

7.4 Legislation and Policy Update

7.4.1 A summary of the relevant legislation and policies updates, the requirements of these policies and the proposed Development response has been provided in Table 4-12.

Table 7-2 Air Quality Regulatory and Policy Framework

Policy/Legislation	Summary of Requirements	Development Response
National Planning Policy Framework	<p>The NPPF sets out the Government's core policies and principles with respect to land use planning, including air quality. Includes the following:</p> <p>"The planning system should contribute to and enhance the natural and local environment by: [...]</p> <p>Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability"</p> <p>"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan."</p>	The assessment considers the potential air quality impacts as a result of the Development

7.5 Assessment Methodology

- 7.5.1 The original methodologies used in the planning application are considered robust.

7.6 Assessment of Effects Resulting from the Proposed Changes

Construction Impacts

- 7.6.1 Construction activities during preparation of the proposed site have the potential to generate dust and exhaust emissions from site plant and vehicles, and NO₂ from traffic during both construction and operation of the site. However, all dust and air quality impacts during construction would be controlled through compliance with the CEMP which is currently being implemented on site for the wider Exemplar Phase development. This considered, it is unlikely for there to be any significant construction effects on air quality as a result of the proposed Exemplar Local Centre, either in its own right or in addition to or different from those already considered and reported in the 2010 ES.

Operational Impacts

- 7.6.2 The air quality impacts of the Exemplar Phase and Exemplar Local Centre were examined extensively in the 2010 ES and 2013 Energy Centre assessment. The models showed that the major source of air pollutants would be traffic and the Energy Centre associated with the Exemplar Local Centre'. As suggested in the Transport Assessment, the forecasts associated with the proposed Exemplar Local Centre are lower than those related to the previous ES. Therefore there will be no materially different effects to those assessed in the original 2010 ES and associated addendum.
- 7.6.3 The proposed arrangement of buildings at the Exemplar Local Centre will not significantly affect the dispersion of the Energy Centre emissions or concentrations as reported at adjacent receptors in the 2013 Energy Centre assessment. The proposed changes to the building form and mass are not considered to be significant, and the maximum building height is maintained at or below that previously consented as part of the Exemplar Phase permission and would not impact on the conclusions reached previously that the impacts of the site on air quality are negligible.

7.7 Mitigation Measures

- 7.7.1 No further mitigation measures are deemed to be required beyond those identified in the 2010 ES.

7.8 Residual Effects

- 7.8.1 The residual effects are as reported in the 2010 ES, 2011 addendum and 2013 Energy Centre and are summarised below:

- Construction Phase dust emissions: slight adverse
- Operational Traffic emissions: neutral to negligible
- Energy Centre emissions: negligible

7.9 Summary

7.9.1 The proposed Exemplar Local Centre will not result in any materially different air quality effects to those reported in the 2010 ES, 2011 addendum to the ES and the 2013 Energy Centre assessment.

8 Noise and Vibration

8.1 Introduction

8.1.1 This Chapter provides supplementary information to the Exemplar Phase ES (Ref 0505-UA001881-UP31R-01) noise and vibration assessment that was submitted in 2010 with the associated planning application. Supplementary information considers changes to the existing parameter plans for the non-residential uses located within the 'Exemplar Phase'. The local centre was originally assessed within the 2010 ES concerning the North West Bicester Eco Development proposals for the Exemplar Phase.

8.1.2 These changes have also been considered in relation to changes to relevant noise policy and guidance since 2010.

8.2 Review of Changes

8.2.1 Design changes are set out in Chapter 2. However, since the 2010 ES the following changes have occurred that are specific to the noise assessment:

8.2.1 **Amendments to car parking provision:** The car parking allocation and associated land use has been increased slightly. The Transport Assessment (Ref: 5100-UA005241-UE31R-001) notes that the forecasts associated with the proposed Exemplar Local Centre are lower than those related to the previous ES. Therefore there are no material effects when compared to what was previously consented. In addition, the EIA for the Land North of the Railway, undertaken more recently in 2014 and consented subject to S106 and conditions, included the higher traffic generation in the committed developments.

8.2.2 **Amendments to arrangement and footprint of commercial centre buildings:** The arrangement and layout of buildings in the Exemplar Local Centre are slightly different from what was originally consented. This would not however affect the conclusions of the original noise assessment contained within the 2010 ES.

8.2.3 **Amendment of red-line boundary:** The red line boundary for the revised Development that is subject of the ECR is shown on Figures 1-1 and 2-1 and is contained within the area identified as the local centre in the permitted 'Exemplar Phase'. The figures show that the proposed red line boundary is slightly smaller than that previously assessed and would not affect the conclusions of the construction noise assessment contained within the 2010 ES.

8.3 Baseline Update

8.3.1 The baseline surveys carried out in 2010 were agreed with Rob Lowther, the Environmental Health Officer (EHO) for CDC. The baseline survey locations were selected at roadside locations to consider existing noise impacts on the site, particularly from road traffic. The baseline survey data served to indicate

whether the Development site was suitable for proposed development, particularly for the provision of the more sensitive components such as residential dwellings.

8.3.2 Traffic data for the Exemplar Phase was used in the 2010 ES to indicate future noise levels with the Exemplar Local Centre in place and would be more relevant than current measured baseline noise levels as future noise levels with development traffic represent a worst case scenario.

8.4 Legislation Update

8.4.1 Table 8-1 sets out the noise and vibration policies and guidance that have changed since 2010.

Table 8-1 Noise and Vibration Regulatory and Policy Framework

Policy/Legislation	Summary of Requirements	Development Response
National Planning Policy Framework	The NPPF sets out core planning principles which "should underpin both plan-making and decision-taking. NPPF recognises that Noise pollution impacts negatively on people's quality of life. The Framework makes clear that planners must seek to avoid noise pollution as a result of new developments, and to protect tranquil areas prized for their peace and quiet.	NPPF provides an overarching policy framework that has been embraced in assessing noise impacts.
BS5228:1 2009 +A1 2014 Code of practice for noise and vibration control on construction and open sites. – Part 1: Noise	BS 5228-1 gives recommendations for basic methods of noise control relating to construction and open sites where work activities/operations generate significant noise levels, including industry-specific guidance.	Provisions in BS 5228 have been used in assessing construction noise and vibration impacts and in recommending mitigation measures.
BS5228:2 2009 +A1 2014 Code of practice for noise and vibration control on construction and open sites.- Part 2: Vibration	BS 5228-2 gives recommendations for basic methods of vibration control relating to construction and open sites where work activities/operations generate significant vibration levels, including industry-specific guidance.	Provisions in BS 5228 have been considered in discussing construction vibration impacts and in recommending mitigation measures.
BS8223: 2014: Sound insulation and noise reduction for buildings –. Code of practice	BS8223 gives recommendations for the control of noise in and around buildings, and suggests appropriate criteria and limits for different situations. These	Where appropriate predicted noise levels have been used to indicate suitable indoor noise levels for various buildings on site and noise mitigation measures have been recommended

Policy/Legislation	Summary of Requirements	Development Response
	criteria and limits are primarily intended to guide the design of new or refurbished buildings undergoing a change of use.	accordingly.
BS4142: 2014 Methods for rating industrial and commercial sound	BS4142:2014 provides a method that can be used to assess the potential impact of noise from commercial or industrial noise sources affecting residential properties. BS4142 assessments are commonly requested by Local Planning Authorities and used to determine the acceptability of proposed developments and to assess the need for additional noise mitigation in the design of the developments.	Recommendations made regarding design noise limits for commercial plant.
Design Manual for Roads and Bridges (DMRB) Volume 11, Part 7, Section 3 – Noise and Vibration (HD 213/11)	The 2011 Advice Note provides guidance on the appropriate level of assessment to be used when assessing the noise and vibration impacts arising from all road projects, including new construction, improvements and maintenance. Guidance is set for considering change in noise in the short term and long term.	Principles in DMRB have been used to assess road traffic noise impacts associated with the development.

8.5 Assessment Methodology

Suitability of Site for Proposed Development

- 8.5.1 The ECR noise and vibration assessment considers the suitability of the site for residential development in line with the NPPF and the Noise Policy Statement for England (Ref 8-1¹¹). As indicated previously the traffic data considers the total development rather than considering the Exemplar Local Centre component in isolation.
- 8.5.2 Policy Planning Guidance 24: Planning and Noise (PPG 24) (Ref 8-2¹²) has been replaced by the National Policy Planning Framework (NPPF) 2012, but the NPPF does not however set absolute limits for development as were set out in PPG 24. Reference has therefore been made to relevant policies and guidance, including BS82332: 2014 ‘Guidance on Sound Insulation and Noise Reduction for Buildings’ (Ref 8-3¹³) and the WHO Community Noise Guidelines (1999) (Ref 8-4¹⁴).

8.5.3 Under the NPPF planning policies and decisions should aim to:

- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- Recognise that development would often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

8.5.4 To avoid and mitigate adverse noise effects on health arising from and impacting on new development, the NPPF makes reference to the Noise Policy Statement for England (NPSE). The NPSE was published in March 2010 and covers all forms of noise other than occupational noise. For the purposes of this report “Neighbourhood Noise” is most relevant as NPSE defines at paragraph 2.5:

“neighbourhood noise” which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.

8.5.5 The explanatory note to the NPSE introduces three concepts relating to the adverse impacts of noise. The following three statements have been reproduced from the explanatory note:

- *“NOEL – No Observed Effect Level: This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.”*
- *“LOAEL – Lowest Observed Adverse Effect Level: This is the level above which adverse effects on health and quality of life can be detected”*
- *“SOAEL – Significant Observed Adverse Effect Level: This is the level above which significant adverse effects on health and quality of life occur.”*

8.5.6 The NPSE acknowledges that the values for NOEL, LOAEL and SOAEL are likely to vary depending on the noise source and environment and at present there are no defined numerical values to allow flexibility within the policy until further evidence and guidance is presented. For this reason the criteria set out in the WHO Noise Guidelines (1999) and BS8233 have been considered in assessing the suitability of the site for the Development.

8.5.7 Formerly a code of practice, the recent 2014 revision of BS8233: 2014 has recently been issued as a guidance document. The standard is mainly concerned with building design from an acoustic standpoint. It does however contain information relevant to environmental noise more specifically by stating guidance for desirable internal noise levels for dwellings and other buildings.

The criteria for suitable internal noise levels are based on WHO Community Noise Guidelines (1999).

8.5.8 An assessment has been carried out in accordance with the NPPF and NPSE to establish the suitability of the site for the Development. As discussed in Section 9.3.1, the NPSE acknowledges that the values for NOEL, LOAEL and SOAEL are likely to vary depending on the noise source and environment and at present there are no defined numerical values to allow flexibility within the policy until further evidence and guidance is presented.

Ambient Noise Levels

8.5.9 Considering the guidance in the WHO Community Noise Guidelines, BS4142 and the recommended internal noise levels for bedrooms in BS8233, the following criteria (Table 8-2) are considered appropriate for determining the suitability of the site for residential Development.

Table 8-2 Ambient noise levels for dwellings

Effect Level	Assessment	Noise Level Criteria	Justification
NOAEL	Residential	Internal Noise Levels less than: 30 dB LAeq, 8hr 45 dB LAmax Living Rooms (Daytime) – 30 dB LAeq, 16 hr External amenity space – 50 dB LAeq, 16hr	No Action Required within BS8233/ WHO
	Change in Noise Level	Increase in noise level less than 1 dB	Magnitude of change negligible (DMRB)
LOAEL	Residential	Internal Noise Levels achieve: 30 dB LAeq, 8hr 45 dB LAmax Living Rooms (Daytime) – 30 dB LAeq, 16 hr External amenity space – 50 dB LAeq, 16hr	None within BS8233/ WHO
	Change in Noise Level	Increase in noise level between 1 - 3 dB	Magnitude of change negligible (DMRB)
SOAEL	Residential	Internal Noise Levels exceed: 35 dB LAeq, 8hr 45 dB LAmax Living Rooms (Daytime) – 40 dB LAeq, 16 hr External amenity space – 55 dB LAeq, 16hr	Mitigate to achieve: 35 dB LAeq, 8hr 45 dB LAmax Living Rooms (Daytime) – 40 dB LAeq, 16 hr External amenity space – 55 dB LAeq, 16hr

Effect Level	Assessment	Noise Level Criteria	Justification
	Change in Noise Level	Increase in noise level between 3 - 5 dB	Magnitude of change moderate (DMRB)
UOAEI	Residential	Internal noise levels exceed: Bedrooms (night-time) – 51 dB LAeq, 8hr 67 dB(A) LAmax Living rooms (daytime) – 57 dB(A) LAeq, 16 hr	Avoid Values correspond with PPG24 Category D (mixed sources) – planning permission should normally be refused. LAmax levels regularly exceed 82 dB(A) less 15 dB for open window.
	Change in Noise Level	Increase in +5 dB(A)	Magnitude of change is major (DMRB)

Construction Noise

- 8.5.10 BS5228:1 2009 +A1 2014 Code of practice for noise and vibration control on construction and open sites. – Part 1: Noise (Ref 8-5¹⁵) has replaced BS5228-2009. The changes to BS 5228: 2009 have been mostly editorial and the assessment criteria used in the 2010 ES would remain valid.

Operational Traffic Noise

- 8.5.11 The operational impacts would arise from increased road traffic as a result of the proposed development. Operational traffic was assessed using the provisions in the DMRB Volume 11, Part 7, Section 3 – Noise and Vibration (Ref 8-6¹⁶). DMRB was updated in 2011, but the criteria for considering magnitude of noise change in DMRB have remained unchanged and the therefore the criteria considered in the 2010 ES remain valid.

Operational Plant Noise

- 8.5.12 BS4142: 2014 Methods for rating industrial and commercial sound (Ref 8-7¹⁷) replaced BS4142: 1997. BS 4142:2014 is used to determine the impacts of noise from the commercial component of the Development upon residential units. The guidance provided within BS 4142 provides a method whereby the likelihood of complaints due to noise from industrial sources can be assessed.
- 8.5.13 At this stage, as was the case for the 2010 ES, it is not possible to assess noise from operational plant in accordance with the provisions in BS4142: 2014 due to insufficient detail of the fixed plant to be installed on site.

8.6 Assessment of Effects Resulting from the Proposed Changes

Construction Impacts

- 8.6.1 BS 5228: 2009 was updated in 2014, but the updates were largely editorial and included addressing omissions and errors. The changes to BS5228 do not

materially alter the assessment method or the interpretation of the results of the construction noise assessment carried out in 2010.

- 8.6.2 The construction activities will take place within the same redline boundary as previously assessed and the construction method will remain the same, therefore the findings and recommendations set out in the 2010 assessment report remain valid.

Suitability of the Site for Development

- 8.6.3 The changes to Planning Policy, particularly the introduction of the NPPF, do not alter the findings of the 2010 ES. The Noise Exposure Categories in PPG 24 were based on WHO guidelines and similarly the concepts set out in the NPPF and NPSE are based on WHO guidelines. As indicated below, the changes to the Exemplar Local Centre do not result in a change to traffic noise levels detailed in the 2010 ES and therefore the findings of the 2010 ES remain valid.

Operational Plant Noise Impacts

- 8.6.4 The Exemplar Local Centre has the potential for noise impacts from associated fixed plant to be installed. It is likely that plant such as fans, extractors, chiller units and air conditioning units would be installed at the commercial premises.
- 8.6.5 As was the case with the 2010 ES, there is insufficient detail regarding plant to be installed on site to carry out an assessment.

Operational Traffic Noise Impacts

- 8.6.6 As suggested in the Transport Assessment, the forecasts associated with the proposed Exemplar Local Centre are lower than those related to the previous ES. Therefore there will be no materially different effects to noise and vibration levels compared to those presented in the original 2010 ES. The changes to the Exemplar Local Centre will not alter the traffic data for the Exemplar site presented in the Environmental Statement of 2010 and therefore it is considered that there will be no material changes as a result of the revised site layout.

8.7 Mitigation Measures

Construction Noise

- 8.7.1 The mitigation measures proposed in the 2010 ES remain appropriate for management of construction noise impacts. A CEMP would be developed to ensure that construction noise impacts are managed and that appropriate mitigation measures are implemented.

Traffic Noise

- 8.7.2 The Transport Assessment, indicates that the forecasts associated with the proposed Exemplar Local Centre are lower than those related to the previous

ES. Therefore there will not be any need to propose additional mitigation to what was suggested in the 2010 ES.

Plant Noise

- 8.7.3 Plant noise would need to be assessed in accordance with BS4142: 2014 when considering planning conditions that might be set by CDC. There are a number of generic methods that can generally be used to reduce plant noise on site. At this stage however there is insufficient detail to carry out an assessment of plant noise and propose appropriate mitigation.

8.8 Residual Effects

- 8.8.1 Implementation of appropriate mitigation measures as set out in the 2010 ES would ensure that there are no residual noise impacts.

8.9 Summary

- 8.9.1 Although BS5228 was revised in 2014, the construction noise assessment presented in the 2010 ES would remain valid as the changes to BS5228 have been mainly editorial and clarifications.
- 8.9.2 The proposed changes to the Exemplar Local Centre would not present any changes to the traffic noise impacts associated with the 'Exemplar Phase' as presented in the 2010 ES. The noise impacts have been considered in accordance with changes to policy and guidance that have taken place since 2010, including the NPPF and BS8233: 2014. The policy changes have not resulted in any change to the findings reported in the 2010 ES.

9 Cultural Heritage

9.1 Introduction

9.1.1 This Chapter considers the cultural heritage of the revised Development parameters. For the purposes of this assessment cultural heritage encompasses archaeology, built heritage and historic landscape. The Chapter presents information on the likely significant impacts of the Exemplar Local Centre on the cultural heritage resource within the site and a defined study area. With the exception of the legislation/policy update below, the baseline remains as set out in the November 2010 Exemplar Phase ES.

9.2 Review of Changes

9.2.1 Design changes are set out in Chapter 2. Since the approval of the ES in 2010 for the Exemplar Phase, the layout of the proposed Exemplar Local Centre has been altered. This mainly relates to the size of buildings and not to the end use, the red line boundary of the Exemplar Local Centre has remained the same.

9.2.2 Baseline Update

9.2.3 With the exception of the legislation/policy update below, the baseline remains as set out in the November 2010 Exemplar Phase ES (Ref 0505-UA001881-UP31R-01).

9.3 Legislation and Policy Update

9.3.1 A summary of the relevant legislation and policies, the requirements of these policies and the Exemplar Local Centre response has been provided in Table 4-1. These are updated from the November 2010 Exemplar Phase ES.

Table 9-1 Cultural Heritage Regulatory and Policy Framework

Policy/Legislation	Summary of Requirements	Development Response
Planning (Listed Buildings and Conservation Areas) Act 1990	This legislation applies special protection to buildings and areas of special architectural or historical interest. Section 66 of the act states that special regard is given to the desirability of preserving a building or its setting when considering whether to grant planning permission for a development	Consideration has been given to impacts on all listed buildings within the site and the defined study area and the design of buildings within the Exemplar Local Centre', including the use of material has taken the special character of the listed buildings into account.
Ancient Monuments and Archaeological Areas Act 1979	The Ancient Monuments and Archaeological Areas Act 1979 gives statutory protection to any structure, building or work which is considered to be of particular historic or archaeological	No Scheduled Monuments will be impacted by the Exemplar Local Centre therefore scheduled monument consent will not be required

Policy/Legislation	Summary of Requirements	Development Response
	<p>interest and regulates any activities which may affect such areas. Under the Act any work that is carried out on a Scheduled Ancient Monument must first obtain Scheduled Monument consent</p>	
<p>National Planning Policy Framework Section 12 'Conserving and Enhancing the Historic Environment'</p>	<p>The NPPF sets out Government planning policy. Section 12 deals specifically with policy relating to the Historic Environment. Section 12 of the NPPF requires planning applications to determine the significance of any heritage assets which may be affected by a Development, including any contribution made by their setting. If heritage assets are to be lost as a result of a development then their significance should be recorded and understood before this happens.</p>	<p>A range of archaeological assessments have been carried out as part of the EIA in order to ensure that the significance of the heritage resource is understood and a mitigation strategy has been formulated so that all assets that will be impacted will be recorded and understood.</p>
<p>Planning Policy Statement: Eco-towns</p>	<p>This planning policy statement contains a range of targets for Eco-towns. Target ET15 deals with the historic environment and requires planning applications for Eco-towns to demonstrate that the extent, significance and condition of heritage assets is understood and measures to conserve and enhance heritage assets and the settings have been put in place.</p>	<p>A range of archaeological assessments have been carried out as part of the EIA in order to ensure that the significance of the heritage resource is understood and a mitigation strategy has been formulated so that all assets that will be impacted will be recorded and understood. In addition consideration has been given in the design to the setting of listed buildings.</p>
<p>Cherwell Local Plan</p>	<p>The local plan requires developments to ensure that the setting of a listed building and/or a scheduled monument is considered and that the council will promote the conservation, protection and enhancement of the historic environment</p>	<p>A range of archaeological assessments have been carried out as part of the EIA in order to ensure that the significance of the heritage resource is understood and a mitigation strategy has been formulated so that all assets that will be impacted will be recorded and understood. In addition consideration has been given in the design to the setting of listed buildings.</p>

9.4 Assessment of Effects Resulting from the Proposed Changes

- 9.4.1 The location, scale and massing of the Exemplar Local Centre would be comparable with that assessed as part of the 2010 Exemplar Phase ES. As a result, the archaeology, historic buildings and historic landscape and the assessed impacts would be as reported in the 2010 Exemplar Phase ES.
- 9.4.2 The variations to the Exemplar Local Centre will not result in any changes to the assessment undertaken for the 2010 ES.

9.5 Summary

- 9.5.1 The conclusions in respect of cultural heritage remain as set out in the November 2010 Exemplar Phase ES.

10 Contaminated Land

10.1 Introduction

- 10.1.1 This section relates to the proposed development of the Exemplar Local Centre within the Exemplar Phase of the North West Bicester Masterplan Area. It considers aspects relating to the chemical quality of the land and the potential associated risks to identified receptors such as human health and controlled waters that the Exemplar Local Centre may represent.
- 10.1.2 A Geo Environmental appraisal report has been prepared for the proposed development of the Exemplar Local Centre which is included as Appendix 10.1.

10.2 Review of Changes

- 10.2.1 Design changes are set out in Chapter 2. Since the approval of the ES in 2010 for the Exemplar Phase, the layout of the proposed Exemplar Local Centre has been altered. This mainly relates to the size of buildings and not to the end use, the red line boundary of the Exemplar Local Centre has remained the same.

10.3 Baseline Update

- 10.3.1 The baseline conditions for the Exemplar Local Centre area are detailed within the appraisal report in Appendix 10.1. The site is currently being used as a laydown area for the construction that is taking place within the wider Exemplar Phase. Any potential contamination caused whilst the area has been used as a laydown area (e.g. from diesel spills, oil leaks etc.) will be mitigated prior to Development in line with the CEMP.
- 10.3.2 There have been no significant changes to the baseline conditions since the submission of the previous ES in 2010.

10.4 Legislation and Policy Update

- 10.4.1 Since the submission of the ES in 2010, the changes to legislation have included the publication of the NPPF in March 2012 and the North West Bicester Supplementary Planning Document in 2014. However neither of these documents will change the assessment undertaken within the previous ES.

10.5 Assessment Methodology

- 10.5.1 The assessment methodology which is based on the principles of source – pathway – receptor that was previously used remains current.
- 10.5.2 It should be noted that updated soil screening values (e.g. Lead) have recently been published which would change the assessment criteria for soil analysis. However this would not affect the outcome of the assessments that have previously been undertaken for the Exemplar Local Centre site.

10.6 Assessment Resulting from the Proposed Changes

- 10.6.1 No changes to the design and mitigation measures proposed in Chapter 12 of the 2010 ES are required due to the changes to the layout of the buildings within the Exemplar Local Centre. The construction and operation effects remain as reported in the 2010 ES and no further mitigation measures are required.

10.7 Summary

- 10.7.1 It is concluded that the proposed changes to the Exemplar Local Centre will not result in any significant geo-environmental effects when compared to the consented application which was reported in the 2010 ES.

11 Agriculture and Land Use

11.1 Introduction

11.1.1 This section considers the implications of the revised Development parameters on agriculture and land use.

11.2 Review of Changes

11.2.1 Changes to the parameters are outlined in detail in Section 2. The red line boundary for the Exemplar Local Centre remains the same as that consented in 2012, however, the arrangement and footprint of the uses within that boundary have slightly changed (refer to Figure 2-1).

11.3 Baseline Update

11.3.1 The 'Exemplar Phase' is currently under construction and the site is currently being used as a materials laydown and storage area. In April 2015, the site comprised bare mud covered by cabins, storage areas and access routes.

11.4 Legislation and Policy Update

11.4.1 The Planning Policy Statements reported in the 2010 ES have since been revoked and replaced by the NPPF. Table 11-1 provides further details of the NPPF including a summary of its requirements and the Development response.

Table 11-1 Agriculture and Land Use Regulatory and Policy Framework

Policy/Legislation	Summary of Requirements	Development Response
National Planning Policy Framework (2012)	<p>The NPPF sets out the Government's planning policies for England and how these are expected to be applied. The NPPF provides a framework within which local and neighbourhood plans can be produced. Planning law requires that applications for planning permission must be determined in accordance with the development plan. The NPPF must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration on planning decisions.</p> <p>Section 11 of the NPPF deals with conserving and enhancing the natural environment. This includes a requirement that the <i>'local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use</i></p>	<p>An assessment has been made of the agricultural land grade and the potential impacts on this resource – this is reported in the 2010 ES.</p>

Policy/Legislation	Summary of Requirements	Development Response
	<p><i>areas of poorer quality land in preference to that of a higher quality.'</i></p> <p>The local planning authority should also 'put in place policies to ensure ... (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources) ...'</p> <p>The NPPF also has, as one of its core planning principles, the promotion of "mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production)". The sustainable re-use of soil materials would support this objective.</p>	

11.5 Assessment Resulting from the Proposed Changes

11.5.1 No changes to the assessment and mitigation measures proposed in 2010 ES are required due to the changes to the layout of the buildings within the Exemplar Local Centre. The construction and operation effects from the 2010 ES are also considered appropriate with no significant effects on the agriculture and land use resource likely to occur.

11.6 Summary

11.6.1 The change in the parameters for the Exemplar Local Centre, the change in land use on the site and the change in policy would not result in any significant effects on the agriculture and land use resource over and above those recorded in the 2010 ES as the land within the red line boundary would still result in land being removed from agricultural use.

12 Human Health

12.1 Introduction

12.1.1 This section considers the implications of the revised Development parameters on human health.

12.2 Review of Changes

12.2.1 Design changes are set out in Chapter 2..

12.3 Baseline Update

12.3.1 Since the ES was prepared in 2010 there have been a number of changes to the baseline statistics. The following paragraphs present revised statistics where there has been an update. Where there has been no update to the health baseline provided in the 2010 ES this information has not been repeated.

Health Status

Life Expectancy at Birth

12.3.2 Life expectancy at birth is an estimate of the number of years a new born baby would be expected to live, if they were to experience, throughout their lifetime, an area's age specific mortality rates. Figures 12-1 and 12-2 present an update to the 2010 ES of the trends for life expectancy at birth for males and females for districts across Oxfordshire compared to the England average. Both graphs indicate a positive upward trend for life expectancy that is above the England average as per the 2010 ES.

Figure 12-1 Life Expectancy at Birth for Females (Source: Joint Strategic Needs Assessment 2013 (Ref 12-1¹⁸))

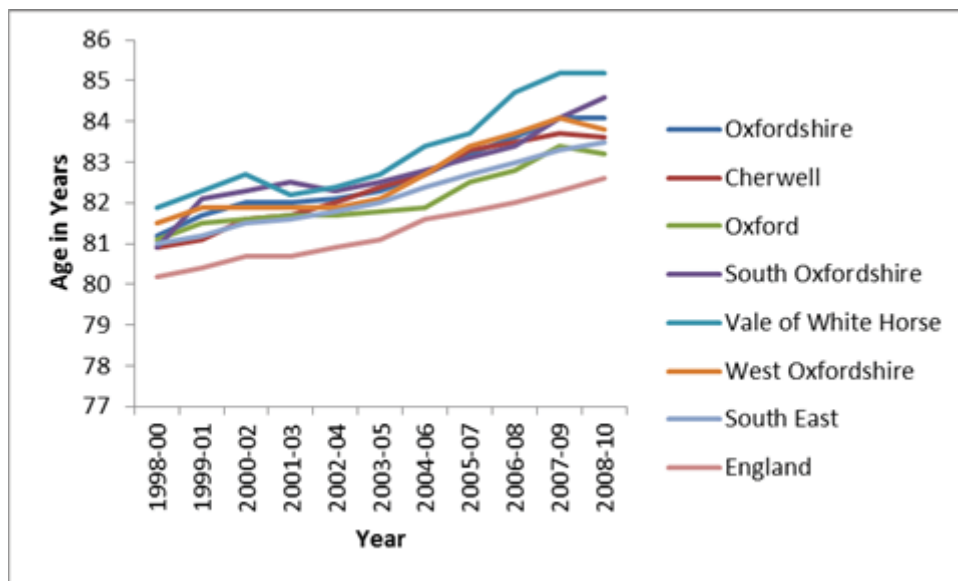
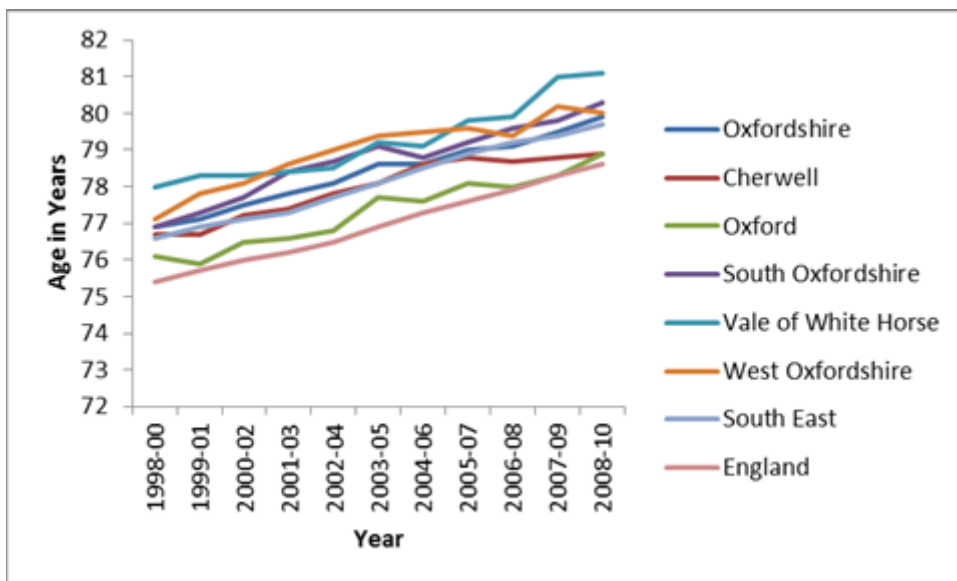


Figure 12-2 Life Expectancy at Birth for Males (Source: Joint Strategic Needs Assessment 2013 (Ref 12-2¹⁹))



12.3.3 Table 12-1 supplements both Figures 12-1 and 12-2 with the latest life expectancy at birth statistics for the period January 2007 to December 2009 and January 2008 to December 2010 which again indicates positive results for Cherwell.

Table 12-1 Life Expectancy at Birth 2007 - 2010 (Source: Neighbourhood Statistics) (Ref 12-3²⁰)

Area	Life Expectancy At Birth (Females)		Life Expectancy at Birth (Males)	
	2007 - 2009	2008 - 2010	2007 - 2009	2008 - 2010
Cherwell District	83.7	83.6	78.8	78.9
South East	83.3	83.5	79.4	79.7
England	82.3	82.6	78.3	78.6

12.3.4 Whilst the results indicate that life expectancy is good across Cherwell District as a whole, there are disparities within the district. The Cherwell District Health Profile (2013) states that life expectancy is 10.7 years lower for men and 5.0 years lower for women in the most deprived areas of Cherwell than in the least deprived areas (Ref 12-4²¹).

General Health Status

12.3.5 Table 12-2 presents data about the percentage of the population in each ward reporting their health status as good. The data was obtained during the last census (2011); it provides further context for the assessment. It is evident that self-reported health status is above the England average in all wards with the exception of Bicester Town. In addition, the population was asked whether they had a long-term limiting illness, health problem or disability which restricted their daily activities or the work they are able to do. Table 12-2 demonstrates that health status is again better than the England and South East average for all wards, although there are disparities between the wards.

Table 12-2 Standard of Reported Health (Source: Neighbourhood Statistics) (Ref 12-5²²)

Ward	Percentage of population that considered themselves to be in good health and very good health (2011)	Percentage of Population with a Long-Term Health Problems or Disability ⁱ (2011)
Caversfield	86.4	12.6
Ambrosden and Chesterton	91	8.7
Bicester East	86	13.29
Bicester North	90.7	8.2
Bicester West	84.3	14.5
Bicester South	92.5	6.2
Bicester Town	79.3	19.3
Launton	85	15.9
Fringford	87.8	12
Cherwell Average	85	14.1
South East Average	83.6	15.7
England Average	81.4	17.6

12.3.6 Incapacity benefit is paid to people who have been medically certified as physically or mentally unable to work. Table 12-3 presents data regarding benefits claimants in Cherwell District compared to averages for the South East and Great Britain (2014). The data demonstrates that total claimants within Cherwell District are below the South East and Great Britain averages and this trend is reflected in the more detailed breakdown by statistical group.

Table 12-3 Key Benefits Claimants (Working Age Group) (Ref Official Labour Market Statistics –NOMIS 2014) (Ref 12-6²³)

	Cherwell (%)	South East (%)	Great Britain (%)
Total Claimants	7.7	9.2	12.7
By Statistical Group			
Job Seekers	0.6	1.3	2.2
Employment and Support Allowance and Incapacity Benefits	4	4.5	6.3
Lone Parents	0.8	0.9	1.2
Carers	0.9	1.1	1.4
Others on income related benefits	0.2	0.2	0.3

ⁱ Includes the subcategories 'day-to-day activities limited a lot' and 'day-to-day activities limited a little'.

	Cherwell (%)	South East (%)	Great Britain (%)
Disabled	0.9	1.0	1.2
Bereaved	0.2	0.2	0.2

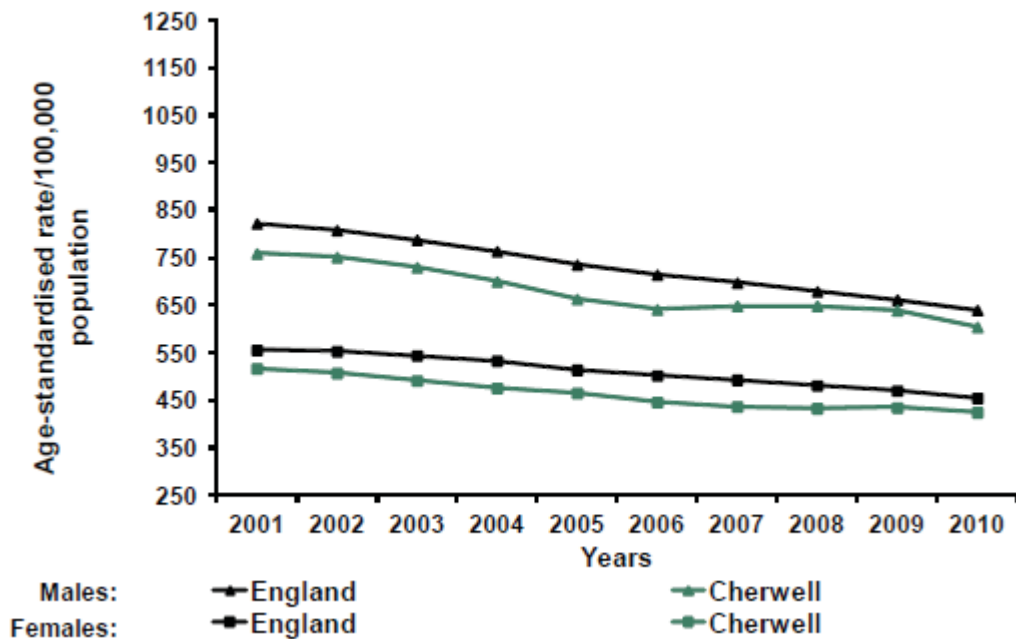
Mortality

12.3.7 Figure 12-3 demonstrates that since 2001 there has been a steady decrease in the age-standardised rate of all age, all cause mortality for both males and females within Cherwell District, with the rate also being lower than the rate for England.

12.3.8 The age standardised mortality rate for an area is the number of deaths, expressed per 100,000, that would occur in that area if it had the same age structure as the standard population and the local age-specific rates of the area applied. The rate is usually expressed per 100,000. Data sourced from Oxfordshire County Council demonstrates that there is a wide range in the age-standardised mortality rates for all ages for the wards within the study area.

Figure 12-3 Mortality Rates for Males and Females (Health Profile for Cherwell, 2013) (Ref 12-7²⁴)

All age, all cause mortality



12.3.9 The mortality rates from coronary heart disease and stroke for each area are presented in Table 12-4. The mortality rate from heart disease in Cherwell is lower than regional and national levels; however, the rate is higher when compared to South Oxford and West Oxfordshire. The mortality rate from stroke is the second lowest of all Oxfordshire districts and lower than national rates.

Table 12-4 Mortality Rates from Coronary Disease and Stroke (Source: Joint Strategic Needs Assessment 2013 (Ref 12-8²⁵))

Area	Mortality rate from coronary heart disease (2010)	Mortality rate from stroke (2010)
Oxfordshire	55.5	32.5
Oxford	67.3	30.0
South Oxford	46.4	36.3
Vale of White Horse	58.4	31.9
West Oxfordshire	54.1	34
Cherwell	55.6	31.0
South East	63.1	37.6
England	74.2	40.9

Physical Activity and Lifestyle Habits

Physical Activity

- 12.3.10 Table 12-5 presents data showing levels of physical activity within Cherwell District (the percentage of the adult population participating in at least 30 minutes of sport and active recreation of at least moderate intensity at one session per week). The data demonstrates that activity levels in Cherwell are below the England average for the year 2012/2013 and are lower than in some other parts of Oxfordshire. Ward specific data is not available for this indicator.

Table 12-5 Physical Activity Levels (Source: Active People Survey 7 June 2013, Ref 12-9²⁶)

Area	2010/11 (Percentage)	2011/12 (Percentage)	2012/13 (Percentage)
Cherwell	36.7	37.3	33.7
South Oxfordshire	36.0	46.8	38.4
Vale of White Horse	41.2	36.9	36.4
West Oxfordshire	37.3	41.5	37.2
Oxfordshire	36.9	40.2	36.5
South East	35.7	37.4	36.2
England	34.8	36.0	35.2

People Diagnosed with Diabetes

- 12.3.11 Between 2011 and 2012, 5.1% of people in Cherwell on GP registers were recorded as being diagnosed with diabetes, which is below the England average of 5.8% but has increased over time from 3.1% in 2005/2006 (Ref 12-10²⁷).

Obesity

- 12.3.12 In 2010/12, 7.2% of children of school ages 4-5 within Cherwell District were considered to be obese, which is above the Oxfordshire County Council

average of 7.0% and below the England average of 9.5% (Ref 12-11²⁸). This has decreased since 2008/2009, when the figure was 7.9%.

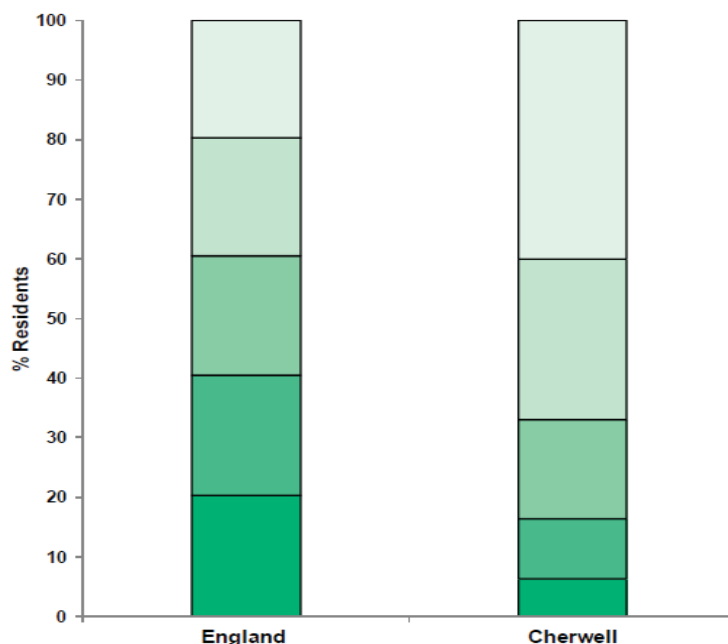
12.3.13 Between 2011 and 2012, 24.0% of adults in Cherwell District were classed as obese, in comparison to 24.2% of England's population. This has gradually fallen since 2006 and 2008, when the figure was 26.2% (Ref 12-12²⁹).

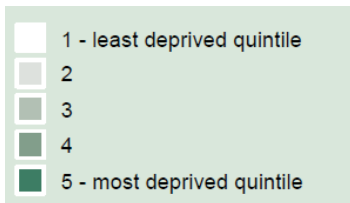
12.3.14 The 2013 Director of Public Health Annual Report for Oxfordshire states that with regards to obesity in adults the region is generally healthier than the national average. However, the fact remains that around 1 in 4 adults in this County (and rising) are obese. By 2020 obesity could lead to an additional 6,900 cases of diabetes in Oxfordshire alone. Increasing levels of activity and promoting opportunities for the pursuit of healthier lifestyles could help to reduce this issue in the long-term.

Deprivation

12.3.15 The Index of Multiple Deprivation (IMD) 2010 (Ref 12-13³⁰) is a measure of multiple deprivation experienced by individuals living in a particular area. The IMD 2010 combines seven dimensions covering income, employment, health and disability, education, skills and training, barriers to housing and services, living environment and crime and weights them to create a combined IMD score. Figure 12-4 taken from the Cherwell District Health Profile 2013 presents the proportion of residents within England, the region and Cherwell District living in neighbourhoods belonging to each of the five national deprivation quintiles. The quintiles were derived by ranking all the Lower Super Output Areas (LSOA) in England in order of their deprivation scores and dividing them into five equal groupings. The graph demonstrates that around 5% of the population of Cherwell District lives in an LSOA in the 20% most deprived in England. Almost 40% of the population live in an LSOA in the least deprived quintile.

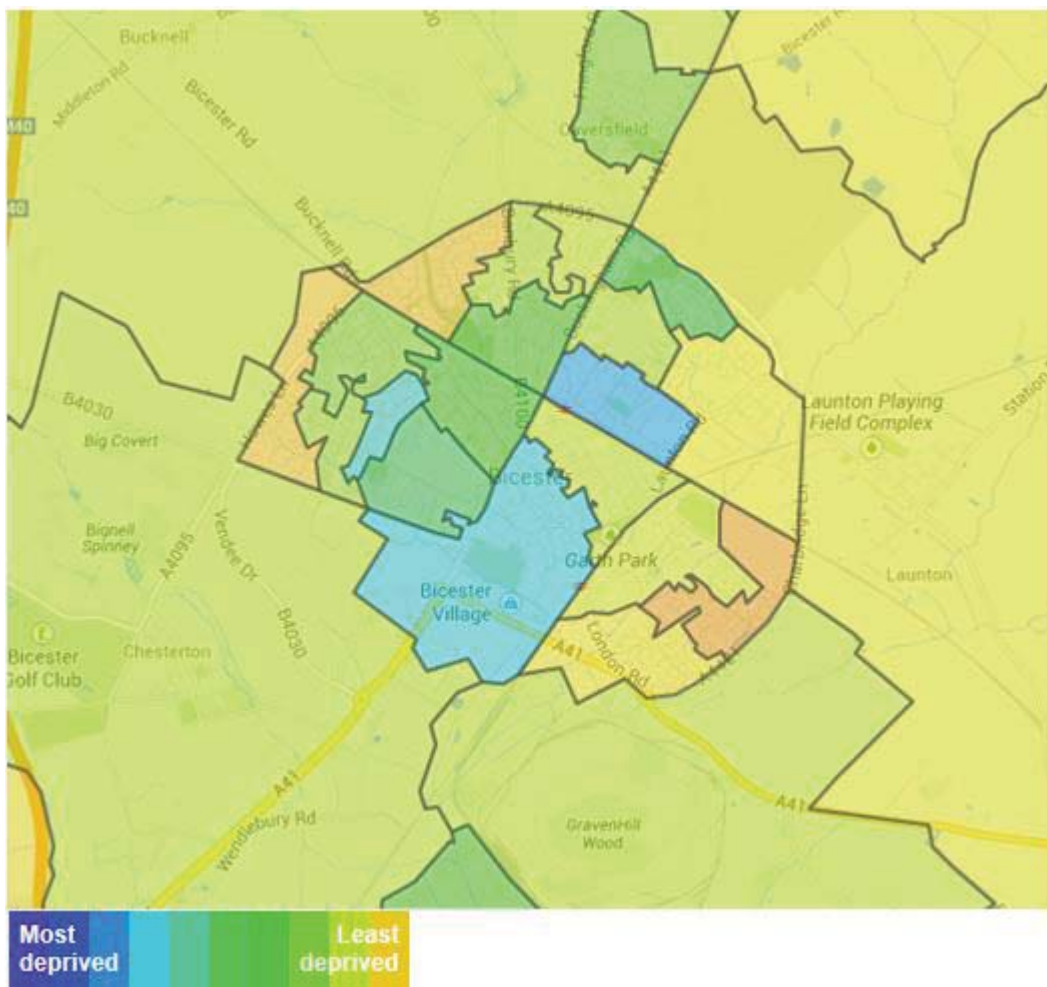
Figure 12-4 IMD Results for Cherwell (Source: Cherwell District Health Profile 2013 (Ref 12-14³¹))





12.3.16 The IMD includes the Health Deprivation and Disability Domain. A review of the results for each LSOA within the wards in the study area demonstrates that there are no significant health deprivation issues within these wards i.e. none of the LSOAs lie within the top 20% most deprived nationally. Figure 12-5 presents the IMD Data for the Health Deprivation and Disability Domain within LSOAs in Bicester.

Figure 12-5 IMD Results for Bicester and surrounding LSOAs (Source: <http://opendatacommunities.org/deprivation/map>) (Ref 12-15³²)



12.3.17 Cherwell District ranks 26,319 for the IMD Health Deprivation and Disability Domain (32,482 indicates the least deprived and 1 the most deprived).

12.4 Legislation and Policy Update

12.4.1 Regulatory and Policy Framework reported in the 2010 ES has been subject to change over the past five years. Table 12-6 provides the updated Policy and Regulatory and Policy Framework for the Exemplar Local Centre’.

Table 12-6 Human Health Regulatory and Policy Framework

Policy/Legislation	Requirements	Development Response
UK Government Sustainable Development Strategy	The strategy identifies the five main priorities for delivering sustainable development: living within environmental limits; ensuring a strong healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly. All of these factors are inherent to securing good levels of health and well-being for the UK population.	The design of the Exemplar Local Centre includes provision for accessibility, walking and cycling, thereby seeking to provide the infrastructure necessary to support the community and the pursuit of healthy lifestyles.
National Planning Policy Framework: Planning Policy 6. Delivering a wide choice of high quality homes Planning Policy 7. Requiring Good Design	The planning policies highlight that quality design is important as it contributes to the creation of sustainable communities. New housing developments should have layouts that meet the needs of residents, are visually attractive and make the most sustainable and efficient use of the land. The need for an appropriate mix of housing is also highlighted, as well as the provision of appropriate services and infrastructure.	Quality of design is a fundamental component of the Exemplar Local Centre’.
NPPF Planning Policy 4 Promoting sustainable transport	The planning policy states that the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. The siting of facilities needed on a day to day basis (shops, health centres, schools etc.) to ensure easy access by modes other than the private car is also highlighted. Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion.	The siting of the Exemplar Local Centre within an accessible location within the wider Exemplar Phase enables future residents to utilise more active modes of travel, as well as accessing facilities needed on a day to day basis. Accessibility has been considered in the design of Exemplar Local Centre’.
Eco-Bicester – One Shared Vision, December, 2010 (Ref 13-3)	The Vision highlights that NW Bicester will be designed to support healthy and sustainable environments and provide opportunities for residents to make healthy choices easily.	Providing opportunities to pursue healthy lifestyles has been an integral component of the Exemplar Local Centre design.

12.5 Assessment of Effects Resulting from the Proposed Changes

- 12.5.1 No changes to the assessment and mitigation measures proposed in 2010 ES are required due to the changes to the layout of the buildings within the Local Centre. Construction and operation effects are also considered appropriate with no significant health effects likely to occur.

12.6 Summary

- 12.6.1 The change in the parameters for the Exemplar Local Centre and the change in policy would not result in any significant effects on human health over and above those recorded in the 2010 ES as the land within the red line boundary would still result in the development of a commercial centre.

13 Socio-Economics and Community

13.1 Introduction

13.1.1 This section provides a summary of the changes to the original application as they apply to socio-economic and community aspects. The section comprises a review of the changes, update to baseline and legislative information, and an assessment of effects resulting from those changes, together with mitigation measures.

13.2 Review of Changes

13.2.1 Design changes are set out in Chapter 2. The Exemplar Phase application was for 393 homes and a variety of business and social uses. The principal changes associated with socio-economics and community in relation to this new application for the Exemplar Local Centre relate to a change in the quantum of mixes in the Exemplar Local Centre from that originally approved as part of the hybrid application. The proposed land use with the Exemplar Local Centre is set out in Table 2-1, Chapter 2.

13.2.2 Due to the change in the quantum of different uses in the Exemplar Local Centre from that originally approved, job provision assumptions will necessarily now be different.

13.3 Baseline Update

13.3.1 An ES was prepared that accompanied the 2010 planning application, a further three planning applications have been made in 2014 in relation to the significant areas of the North West Bicester Eco Town project, which have been accompanied by ESs making use of more up to date information, including data from the 2011 Census. Baseline information of relevance to this new application relates to the economy, with updated information provided below accordingly.

13.3.2 An Economic Baseline was prepared to inform the development of the wider Masterplan area of NW Bicester (SQW Consultants 2013); key findings from this baseline that are of particular relevance to the proposal are summarised here. The study area used for the Economic Baseline Report is as follows:

- The five wards that form the settlement of Bicester (Bicester North, West, East, South and Bicester Town) are referred to as Bicester Town; and
- The five wards making up Bicester Town, together with the three wards that surround it (Caversfield, Launton, and Amrosden and Chesterton) form the Bicester Wider Area.

Employment

- 13.3.3 Table 13-2 sets out economic activity rates, showing that 88.2% of residents are economically active, which is higher than for the Bicester Wider Area, Cherwell District, Oxfordshire and for England as a whole.

Table 13-2 Economic Activity Rates

	Number of working age residents economically active	Percentage of total population economically active	Percentage of the working age population economically active
Bicester (Town)	18,225	59.1%	88.2%
Bicester (Wider Area)	23,841	57.7%	85.8%
Cherwell District	78,160	55.1%	85.2%
Oxfordshire	350,119	53.6%	81.8%
England	27,183,134	51.3%	79.2%

Source: SQW Analysis of 2011 Census Data

- 13.3.4 Characteristics of the employment base are shown in Table 13-3. For both Bicester Town and the Bicester Wider Area. The greatest proportion of residents are found within the 'Professional Occupations' and 'Associate Professional and Technical Occupations' categories, although figures in the former category are lower than found at District, County and country wide level. Conversely, 10.3% of Bicester Town residents work in the 'Sales and Customer Service Occupations' category, which is higher than the proportion found at other scales.

Table 13-3 Employment Characteristics

	Managers, directors and senior officials	Professional occupations	Associate professional & technical occupations	Administrative & secretarial occupations	Skilled trades occupations	Caring, leisure & other service	Sales & customer service	Process plant & machine	Elementary occupations
Bicester (Town)	11.1%	15.5%	13.8%	12.5%	11.2%	7.8%	10.3%	7.2%	10.7%
Bicester (Wider Area)	12.0%	15.5%	15.6%	12.1%	11.2%	7.6%	9.4%	6.6%	10.0%
Cherwell	11.6%	16.7%	13.1%	11.3%	11.8%	8.4%	8.8%	7.8%	10.6%
Oxfordshire	12.0%	22.7%	13.6%	10.3%	10.7%	8.3%	6.9%	5.7%	9.7%
South-East	12.3%	18.7%	13.8%	11.5%	11.1%	9.3%	7.9%	5.7%	9.7%

	Managers, directors and senior officials	Professional occupations	Associate professional & technical occupations	Administrative & secretarial occupations	Skilled trades occupations	Caring, leisure & other service occupations	Sales & customer service occupations	Process plant & machine operatives	Elementary occupations
England	10.9%	17.5%	12.8%	11.5%	11.4%	9.3%	8.4%	7.2%	11.1%

Source: SQW Analysis of 2011 Census Data

13.3.5 Key findings identified by SQW as part of the economic baseline in relation to employment by sector are that:

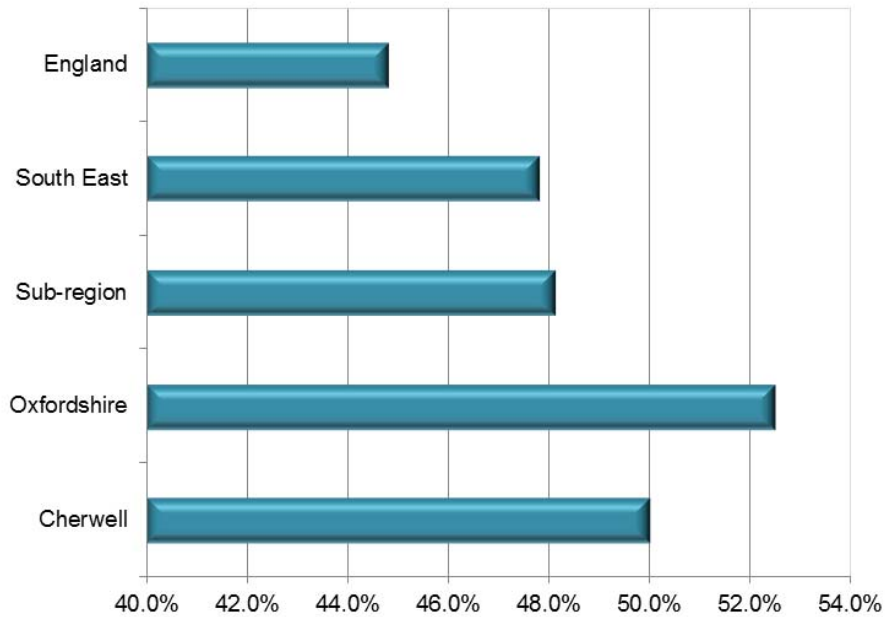
- Over-represented sectors in Bicester include manufacturing (11.82% of total employees), public administration and defence (10.71%) and wholesale and retail trade (22.47%); and
- Of those sectors identified as potential growth sectors, logistics currently represents 13% of total employment in Bicester Town (compared to 7% for Cherwell District, 5% for Oxfordshire and 6% for England as a whole).

Business Start-Up Activity

13.3.6 Since 2008, business start-ups and closures have been shown through published statistics relating to business births, deaths and survival rates (previously statistics relating to VAT registrations and de-registrations was used). In relation to business start-up activity, SQW data shows that Cherwell District has 681.9 active enterprises per 10,000 working population and 64.9 enterprise births per 10,000 working age population, which is comparable to the region (South-East) and County proportions.

13.3.7 Figure 13-1 shows business survival rates for enterprises ‘born’ in 2006 – the figure shows that whilst the survival rate is lower for Cherwell than for Oxfordshire as a whole, the District still performs better than at wider region and country levels. The sub-region referred to in the figure is based on commuter flows and is explained in more detail within the Economic Strategy for NW Bicester.

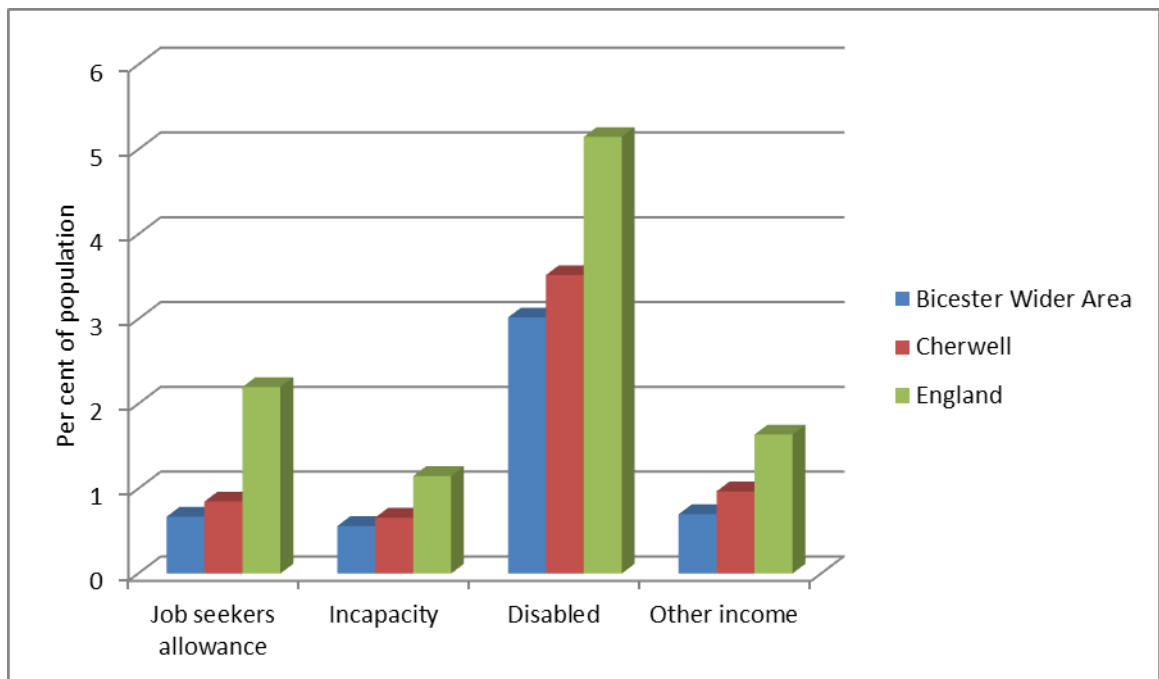
Figure 13-1 Five Year Business Survival Rates – Enterprises Born in 2006



Unemployment and Benefits

- 13.3.8 The proportion of the working age population which is unemployed in Bicester Town is 2.41% (average rate across the five Town wards), compared to 4.4% for Cherwell District, 5.6% for Oxfordshire as a whole, 6.2% for the South East and 7.7% for the national average (2013 Annual Population Estimate).
- 13.3.9 Figure 13-2 portrays the breakdown in types of benefit claims. Both the proportion of Job Seeker Allowance claimants, Employment Support Allowance claimants and incapacity Claimants are lower for the Bicester Wider Area than the average for Cherwell District and significantly lower than for England.

Figure 13-2 Benefit Claimants expressed as a proportion of the working age (16-64) within the Bicester Area, Cherwell District and Great Britain



Source: Claimant Count, May 2013, www.nomisweb.co.uk

13.4 Legislation and Policy Update

13.4.1 Changes to legislation that are of relevance to this section include the NPPF published in March 2012. Sections of the NPPF that are of particular relevance include:

- Building a strong, competitive economy, whereby “*the Government is committed to securing economic growth in order to create jobs and prosperity*”; and
- Promoting healthy communities, whereby consideration is given to the planning of social, recreational and cultural facilities and services. Planning policies and decisions should “*guard against the loss of valued facilities and services, particularly where this would reduce a community’s ability to meet its day to day needs*”.

13.4.2 In relation to the calculation of job densities, since the time of the original application there have been changes to relevant guidance, including updated HCA (Homes and Communities Agency)/OffPAT (the Office of Project and Programme Advice and Training) guidance for job densities in general, and also recent government guidance on jobs in nurseries in particular, based on staff/children ratios.

13.4.3 The methodology used has also, in part, been informed by the (former) English Partnerships guidance; a fourth edition of the ‘Additionally Guide’ was issued in January 2014 by the HCA. The guide explains how to assess the additional impact of local economic growth and housing interventions and has been updated to include new information, research and guidance.

13.5 Assessment Methodology

- 13.5.1 The methodology has used a combination of quantitative assessment where established formulae are available (for example, in the assessment of employment impacts, where guidance from HCA and OffPAT is provided and professional judgement where a qualitative assessment of impacts has been required). This approach is similar to that used for the assessment of socio-economic impacts relating to mixed-use development projects elsewhere in the UK.
- 13.5.2 An updated baseline has been provided to provide a description of the current economic and social context for the area. The level of activity that would have happened anyway, without the Exemplar Local Centre', has been estimated making use of for example, economic growth forecasts taking into account existing employment land and proposals.

13.6 Assessment of Effects Resulting from the Proposed Changes

Construction Impacts

- 13.6.1 Based upon the revised baseline and the revised Development proposals it is considered that there will be no predicted changes to construction impacts from those set out in the original application.

Operational Impacts

- 13.6.2 During the operation of the Exemplar Local Centre socio-economic effects will result from the proposed changes relating to job provision. The job provision assumptions contained in the original application have been revisited in light of the change in the quantum of different uses in the Exemplar Local Centre. Table 13-4 below provides a revised detailed breakdown of the on-site job calculations for the Exemplar Local Centre. For those elements that were included in the Exemplar Site, but which are not forming part of the revised planning application, for example the eco-business centre, the jobs created by these uses are assumed to remain the same.
- 13.6.3 In total, the Exemplar Local Centre is expected to generate 323 on-site jobs (this is marginally higher than the 320 on-site jobs included in the original Exemplar assessment) and is considered to be a positive and significant impact. The total includes:
- Approximately 37 jobs in offices;
 - Approximately 42 jobs in local retail provision based in the Exemplar Local Centre;
 - Approximately 29 jobs in the eco-pub and associated restaurant facility; and
 - A further 28 jobs in a nursery and community facility.

13.6.4 The number of off-site jobs is predicted to remain the same as for the original application (60 jobs).

Table 13-4 Revised assumptions

Use & Use Class	GEA	GIA	NIA	Job density	Jobs
Other Office provision (B1)	614	465	442	12	37
Retail (A1)	947	787	748	18	42
Eco-pub & restaurant (A4)	664	543	516	18	29
Nursery (D1) – 90 places	869	611	n/a	24	25
Multi-faith / community centre (D1)	523	367	n/a	122	3
Eco-business centre incl visitor centre					116
Primary school					10
Energy Centre building					5
Green caretaker					1
Landscaping and on-site servicing					5
Homeworking					50
TOTAL on site jobs					323
<i>Construction jobs</i>					<i>50</i>
<i>Off-site jobs</i>					<i>60</i>
TOTAL for the Exemplar					433

Source: Revised floorspace for Exemplar Local Centre.

Notes on sources of jobs numbers and employment densities:

- i) Job estimates for office provision, retail, and eco pub and restaurant are based on the latest national job density guidelines (per sqm NIA) contained in HCA/OffPAT Employment Densities Guide 2010.
- ii) Nursery job estimates are based on government guidelines for the number of children per sqm and staff to child ratios. Staff to child ratios vary according to the age mix of children, but a sample of staff and children numbers from daynurseries.co.uk give a figure of 1 staff per 3.6 staff members. We have therefore used the same ratio to calculate likely job numbers for the Exemplar nursery, which we are advised will accommodate 90 children. This leads to a job density of 24sqm NIA.
- iii) Job estimates for the multi-faith/community centre are based on knowledge of similar uses elsewhere.
- iv) Jobs created by uses not included in the revised planning application are assumed to remain the same.

13.7 Mitigation Measures

- 13.7.1 No additional mitigation measures are proposed in addition to those set out in the original application.

13.8 Residual Effects

- 13.8.1 The revised proposal will generate a significant number of jobs within the wider Bicester area, both directly through employment-related land uses and the potential to offer home working and indirectly through population derived local service jobs. It is also reasonable to suggest that the proposal will generate a significant amount of new investment not just within the Bicester Wider Area but also further afield in Cherwell District, Oxfordshire and the wider sub-region. As such the employment related impacts of the Exemplar Local Centre are considered to be positive and significant.
- 13.8.2 The Exemplar Local Centre has the potential to generate employment for those registered unemployed and potentially the long-term unemployed through the generation of a range of skill demands. The extent to which the Exemplar Local Centre will positively impact on unemployment levels will depend on the connectivity between emerging businesses and the unemployed cohort.
- 13.8.3 The job creation elements of the proposal and the potential to link those who are unemployed (and in particular the long-term unemployed) with permanent employment opportunities means the impacts are considered to be positive and significant.

13.9 Summary

- 13.9.1 In summary, the proposed changes relate primarily to the quantum of uses in the Exemplar Local Centre and associated job provision requirements. This section has provided revised job creation estimates for the various uses and concludes that the residual impacts of the proposed Development remain positive and significant as per the conclusions of the 2010 ES.

14 Waste

14.1 Introduction

14.1.1 This section provides supplementary information to the 2010 ES waste assessment that was submitted in 2010. Supplementary information is provided to consider changes to the existing parameter plans for the Exemplar Local Centre located within the 'Exemplar Phase'. An updated cumulative waste impacts section is also provided and is based on the revised development.

14.1.2 The assessment considers the total construction, demolition and excavation (CD&E) and operational waste data from the commercial component of the Exemplar Local Centre only. These changes have been considered in relation to changes to relevant waste policy and guidance since 2010.

14.1.3 The following two documents will be submitted as part of the planning application and will be referred to in this section:

Preliminary Site Waste Management Plan (SWMP)

14.1.4 The Preliminary SWMP (Appendix 14.1) is used to plan, implement, monitor and review waste minimisation and management on construction sites.

14.1.5 On 1st December 2013, the SWMP 2008 were repealed. However, the implementation of a SWMP remains industry best practice and a requirement of the (PPS) 10: Planning for Sustainable Waste Management (Ref 14-1)³³. Whilst it is recognised that PPS: Eco-Towns – A supplement to PPS1 (Ref 14-2)³⁴ has now been cancelled, the development is proceeding to adhere to the requirements of the supplement to further embed best practice and to ensure consistency with the application submitted to gain the previously granted planning permission 10/01780/HYBRID.

14.1.6 The Preliminary SWMP is used to record how waste is reduced, re-used, recycled and disposed of on a construction-site. This effectively means:

- Recording decisions taken to prevent waste through concept and design;
- Forecast waste produced on-site;
- Plan how to reduce, re-use and then recover the forecasted waste;
- Implement and monitor the planned activity; and
- Review the SWMP and record lessons learnt.

14.1.7 The Preliminary SWMP is a live document that will evolve into a SWMP following the grant of the planning consent. This will be updated regularly during the course of the construction of the Exemplar Local Centre'.

Sustainable Waste and Resources Plan (SWRP)

14.1.8 Under ET 19.1 of PPS: Eco-Towns supplement to PPS1, Eco-town planning applications should include a SWRP (Appendix 14.2). This should cover both domestic and non-domestic waste, which:

- Set targets for residual waste levels, recycling levels and landfill diversion, all of which should be substantially more ambitious than the 2007 national Waste Strategy targets for 2020; it should be demonstrated how these targets would be achieved, monitored and maintained. The Waste Strategy 2007 proposes national targets for waste for 2020 as follows:
 - Residual waste reduction per person (amount left after re-use, recycling and composting) – from 370kg in 2005 to 225 in 2020.
 - Household re-use, recycling and composting – from 27% in 2005 to 50% in 2020.
 - Residual waste recovery (recycling, composting and energy recovery) from 28% in 2005 to 75% in 2020.
- Establishes how the Exemplar Local Centre would be designed so as to facilitate the achievement of these targets, including the provision of waste storage arrangements which allow for the separate collection of each of the seven priority waste materials as identified in the Waste Strategy for England 2007 (Ref 14-3)³⁵.
- Provides evidence that consideration has been given to the use of locally generated waste as a fuel source for CHP generation for the eco-town.

14.1.9 Sets out how developers would ensure that no CD&E waste is sent to landfill, except for those types of waste where landfill is the least environmentally damaging option.

14.2 Review of Changes

14.2.1 Design changes are set out in Chapter 2. Floor areas data from the different building uses collected in 2010 were reviewed to ascertain whether there were any changes in the number and/or type of building uses and/or floor areas. Legislation and policy have also been reviewed with respect to changes that would affect the assessment of impacts for the current development proposal.

Table 14-1 Building uses and floor areas

2015 Application		2010 Application	
Building use	Gross Internal Area (m ²)	Building use	Gross Internal Areas (m ²)
Nursery	628	Eco-Pub	350
Community	350	Multi faith centre - Community Centre	455
Retail - Convenience Store	418	Convenience Store	510
Retail - Other	369	Hairdresser	77
Pub	343	Visitor Centre / Tea-room	220
Pub restaurant	200	Nursery	240
Office Sub-total	408	Office	250

2015 Application		2010 Application	
Building use	Gross Internal Area (m ²)	Building use	Gross Internal Areas (m ²)
TOTAL	2,716		2,102

14.3 Baseline Update

14.3.1 The baseline methodology carried out in 2010 was agreed with the EHO for CDC and the waste baseline conditions were established through desktop research, including the interrogation of key databases such as the Waste Survey of Arisings Use of Alternatives to Primary Aggregates in England (Ref 14-4)³⁶. The waste baseline conditions served to indicate whether the study area had enough waste infrastructure capacity to deal with the waste arisings from the Exemplar Local Centre’.

14.3.2 Data since 2005 has been reclassified into categories used under the Pollution Prevention and Control (“PPC”) permitting of landfills and because of the ban on the co-disposal of waste in landfills in July 2004 and therefore the waste baseline conditions have been established through the interrogation of the Waste management for England 2013 Statistics (Ref 14-5)³⁷ and the Environmental Agency EPR (Ref 14-6)³⁸ database:

- a The Waste management for England 2013 Statistics have been used to present the baseline total waste (including CD&E waste) and the total waste split by waste stream.
- b The EA EPR database has been used to present the total CD&E waste infrastructure capacity (landfill and waste management facilities) within the study area.

14.3.3 The most recent data from Office for National Statistics (2013) shows that the total waste arisings (including municipal, commercial and CD&E waste) in Berkshire, Buckinghamshire and Oxfordshire are estimated to be around 3,751,000 tonnes per year. Of this total, 55% is non-hazardous waste with some stable non-reactive hazardous wastes being sent to a dedicated cellⁱⁱ within a suitable landfill. Some 20% of the waste arisings are non-hazardous waste and the remaining 25% of waste arisings are inert waste.

Operational Waste

14.3.4 Currently a chargeable weekly collection system for the business in Cherwell is provided as set out in Table 14-2

ⁱⁱ This is the area in a landfill that has been constructed and approved for disposal of waste. The cells range in size depending upon total tonnes of waste received each day at the landfill.

Table 14-2 Waste collections for business

Waste stream	Waste type	Collection arrangements
Co-mingled dry recyclables	Paper, inc. shredded paper, cardboard, plastic bottles, drinks cartons, tins & cans, plastic pots, tubs & trays and tin foil & aerosols	Blue recycling sacks Waste not accepted: glass, food, animal bedding and polystyrene
Residual waste	anything cannot be recycled or composted	Orange recycling sacks

14.4 Legislation and Policy Update

14.4.1 This impact assessment has been undertaken in accordance with current international and national legislation, and national, regional and local plans and policies relating to nature conservation in the context of the Exemplar Local Centre'. Table 14-3 below sets out the waste policies and guidance that have changed since 2010.

Table 14-3 Waste Regulatory and Policy Framework update

Policy/Legislation	Summary of Requirements	Development Response
Waste (England and Wales) Regulations 2011 SI 988 and 2012 amendment SI 1889 (transposes the Revised Waste Framework Directive) (Ref 14-7) ³⁹	<p>The Waste (England and Wales) Regulations 2011 came into force on 29th March 2011.</p> <p>These Regulations update some aspects of waste controls. The need for waste permits and authorisations for certain activities therefore does not change.</p> <p>In summary, the regulations implement the WFD and;</p> <ul style="list-style-type: none"> ▪ require businesses to confirm that they have applied the waste management hierarchy when transferring waste and to include a declaration on their waste transfer note or consignment note ▪ require a new permit waste hierarchy permit condition and where appropriate a condition relating to mixing of hazardous waste ▪ introduce a two-tier system for waste carrier and broker registration, which includes those who carry their own waste, and introduces a new concept of a waste dealer ▪ products whilst include a small number of radioactive waste materials <p>These regulations replace:</p> <ul style="list-style-type: none"> ▪ The Environmental Protection (Duty of Care) Regulations, as amended ▪ The Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations, as amended, and 	<p>A Preliminary SWMP covering CD&E waste has been produced.</p> <p>This has been carried out in accordance with the Waste (England and Wales) Regulations 2011 SI 988.</p>

Policy/Legislation	Summary of Requirements	Development Response
	<ul style="list-style-type: none"> ▪ amends Hazardous Waste (England and Wales) Regulations 2005 (Schedule 2) <p>DEFRA proceeded with the proposed amendments to the 2011 Regulations and, from April 2014, will allow alternative documentation to be used to record the written description of waste.</p>	
Review of Waste Policy in England 2011 (Ref 14-8) ⁴⁰	<p>This Review recognises the need to take an integrated approach to waste prevention, re-use and recycling.</p> <p>The Review contains actions and commitments, which set a clear direction towards a zero-waste economy. The Review presents the key principles in waste management policy: the waste hierarchy, what will be done to increase the diversion of waste away from landfill and producer and consumer responsibility.</p>	The assessment has been carried out against the context of the Review, applying the waste hierarchy with a focus on resource efficiency.
Waste Strategy for England 2011 (Ref 14-9) ⁴¹	<p>This strategy builds on the Waste Strategy 2000 and 2007. The report contains actions and commitments which set a clear direction towards a zero-waste economy. The WSE 2011 presents the key principles in waste management policy: the waste hierarchy, the diversion of waste away from landfill, producer and consumer responsibility, the proximity principle and the concept of Best Practicable Environmental Option ("BPEO").</p>	<p>The assessment has been carried out against the context of the WSE 2011 and assumes that as a minimum, the targets in this Strategy will be met.</p> <p>The assessment also applies the waste hierarchy with a focus on resource efficiency.</p>
Defra's Waste Management Plan for England (Ref 14-10) ⁴²	<p>The Plan is a requirement of Article 28 of the Waste Framework Directive. It comprises a compilation of existing waste management information and policies. In particular, it reflects the conclusions of the Government Review of Waste Policy in 2011. The Plan confirms the UK's commitment to meet its target under the Waste Framework Directive to recover at least 70% of construction and demolition waste by weight, excluding hazardous waste and inert material falling within Code 17 05 04 in Schedule 1 to the List of Wastes (England) Regulations 2005.</p>	The assessment has been carried out against all current relevant information and policies. As the plan is a compilation of existing information and policies the assessment addresses the requirements of the Waste Management Plan for England.
National Planning Policy Framework	<p>The National Planning Policy Framework sets out the government's planning policies for England.</p> <p>The Framework is an important part of the government's reforms to make the planning system less complex and easier to understand. It vastly reduced the number of policy pages about planning.</p> <p>The Framework does not contain specific</p>	No specific waste policies are included within the NPPF. As such the Scheme makes no direct response to the NPPF in terms of waste.

Policy/Legislation	Summary of Requirements	Development Response
	waste policies, as it was intended that national waste planning policy would be published as part of the National Waste Management Plan for England. The National Waste Management Plan for England has subsequently been produced and is introduced above.	
Department for Communities and Local Government, National Policy for Waste (Ref 14-11) ⁴³	<p>This document sets out detailed waste planning policies, specifically providing guidance on the processes to be considered to ensure adequate provision of waste management facilities. All local planning authorities should have regard to its policies when discharging their responsibilities to the extent that they are appropriate to waste management. The document gives guidance to what waste planning authorities should consider when preparing their Local Plans including guidance on:</p> <ul style="list-style-type: none"> a) Using a proportionate evidence base b) Identifying need for waste management facilities c) Identifying suitable sites and areas d) Determining planning applications e) Monitoring and reporting 	Through providing annual waste forecasts, the Scheme is supporting the local planning authorities in planning and making adequate provision for wastes likely to arise within their jurisdictions.

14.5 Assessment Methodology

14.5.1 No changes that would affect the assessment of waste on this site have occurred since the 'Exemplar Phase' ES was written.

Construction Impacts

14.5.2 The potential waste types that could arise during the excavation and construction phases are summarised in Table 14-4 **Error! Reference source not found.**

Table 14-4 Potential waste sources during site construction

Construction phase	Potential wastes produced	Classification of waste
Excavation	Made ground, sand, gravel, clay, soil and sub-soils and landfill materials such as ash, glass, brick and pottery.	Inert; and /or Non hazardous. Potentially hazardous if it contains sufficiently high levels of heavy metals.
Construction and demolition	Construction materials, such as concrete, bricks, ceramics, plastics, metals, plasterboard,	Inert; and / or, Non hazardous; and / or,

Construction phase	Potential wastes produced	Classification of waste
	timber, insulation, packaging, cement and plaster etc. Made ground, soil and sub-soils.	Hazardous. Non hazardous, and hazardous if it contains sufficiently high levels of heavy metals.

Excavation waste

- 14.5.3 At the time of writing, the foundation and building designs had not been carried out and so it was not possible to accurately estimate the volume of waste arising from the excavations. The geology identified at the Site indicates that shallow spread foundations may be suitable for all anticipated low-load structures; therefore, the generation of spoil is expected to be minimal.
- 14.5.4 It is anticipated that, even if the volumes of excavated materials increase, any spoil generated would be re-used on-site for landscaping or other purposes, therefore it is expected that only minimal volumes of material may require disposal off-site.

Construction waste

- 14.5.5 The amount of waste produced during the construction phase would be affected by the types and methods of construction. At the time of writing, the types and methods of construction had not been decided and so it was not possible to accurately estimate the volume of waste arising from the construction.
- 14.5.6 Using waste benchmarking data from the Buildings Research Establishment (BRE SMARTwaste, July 2013) the amount of construction waste arisings from the Exemplar Local Centre have been forecast.
- 14.5.7 The amount of construction waste forecast to be produced during the construction phase is around 491 tonnes. The amount of waste produced will depend on how the site is managed and the correct implementation of the SWMP. However, it is comparable to the 483 tonnes that were estimated in the 2010 ES. A breakdown of the waste materials likely to arise from the construction phase is shown in Table 14-5.

Table 14-5 Key construction materials waste streams

Waste material	Forecasted waste arisings (tonnes)
bituminous mixtures other than those mentioned in 17 03 01	29.766
bricks	38.64
mixed municipal waste	3.696
concrete	116.713
"discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35"	0.325
textiles	0.00

Waste material	Forecasted waste arisings (tonnes)
Furniture and bulky items	0.648
gypsum-based construction materials other than those mentioned in 17 08 01	4.62
other construction and demolition wastes containing dangerous substances	19.17
mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	143.964
insulation materials other than those mentioned in 17 06 01 and 17 06 03	2.2
aqueous liquid wastes	11.88
mixed metals	22.302
mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	68.032
mixed packaging	6.111
baled plastic	2.806
tiles and ceramics	1.947
wood	18.19
TOTAL	491.5

Operational Impacts

- 14.5.8 At this stage, it is estimated that the Exemplar Local Centre could potentially generate around 1,260 tonnes of waste per annum (around 24 tonnes per week) versus the 1,420 tonnes of waste per annum (around 27 tonnes per week) estimated as part of the 2010 Exemplar Phase ES. The quantities of waste arisings from building uses are likely to be similar to that shown in Table 14-6 below.

Table 14-6 Estimated annual waste arisings from CI uses

Building use	Equation for waste arising	Development size (m2)	Forecast residual waste arisings (tonnes/year)
Nursery	kg/waste per pupil per year	628	18.84
Community	litres per m ² per week	350	491.40
Retail - Convenience Store	litres per m ² of sale area per week	418	57.56
Retail - Other	litres per m ² per week	369	46.75
Pub	litres per m ² per week	343	422.25
Pub restaurant	litres per m ² per week	200	200.07
Office Sub-total	litres per employees per week	408	22.70
TOTAL			1,259.58

- 14.5.9 The calculation and composition of waste generation is only indicative and should be further refined at a later design stage when the specific elements

have been confirmed. This would enable the expected number and type of waste containers, the storage requirements and their collection frequencies to be defined.

14.6 Mitigation Measures

- 14.6.1 No changes to the mitigation measures proposed in the Waste Chapter of the 2010 ES are required due to the changes to the layout of the buildings within the Exemplar Local Centre.

14.7 Residual Effects

- 14.7.1 The volumes/tonnes of CD&E waste arisings from the Exemplar Local Centre would be slightly higher than the ones assessed as part of the 2010 Exemplar Phase ES. However, the minimal increase in waste volume generated will not change the significance of CD&E waste impacts reported in the 2010 Exemplar Phase ES.
- 14.7.2 The operational waste arisings from the Exemplar Local Centre would be comparable with that assessed as part of the 2010 Exemplar Phase ES. As a result, the significance of operational waste impacts would be as reported in the 2010 Exemplar Phase ES.
- 14.7.3 Based on the above analysis, it follows that the overall conclusions, in respect of waste impact assessment, would remain as previously reported for the 2010 Exemplar Phase ES.

14.8 Summary

- 14.8.1 The conclusions in respect of waste remain as set out in the 2010 Exemplar Phase ES.

15 Transport

15.1 Introduction

15.1.1 The traffic generation for the proposed Exemplar Local Centre has been compared to the consented development, which was the subject of the previous EIA. The analysis is set out in the Transport Assessment which is a separate document for submission with the planning application (Ref: 5100-UA005241-UE31R-001).

15.2 Review of Changes

15.2.1 The Exemplar Local Centre in the original application comprised 61 car parking spaces, including those for the Eco Business Centre. The Development now incorporates 83 spaces (also including the Eco Business Centre) due to changes in floorspace, leading to greater requirements in standards as well as the layout.

15.2.2 In the original application there were 62 cycle stands and this has been increased to 120 in the current application.

15.2.3 The proposals for the street width and character have not altered between the two applications. The road link from the B4100, the southern access junction and the footway/ cycleways alongside the B4100 Banbury Road have now been implemented. Mitigation for the Howes Lane/ Bucknell Road junction has been implemented.

15.2.4 Whilst floorspace quantum has changed, the forecast traffic flows for the proposed Exemplar Local Centre are lower than those related to the previous EIA. This is because the Exemplar Local Centre can now be assessed in the context of being part of the whole North West Bicester Development north of the railway, rather than a standalone development as it was for the original application.

15.3 Assessment of Effects Resulting from the Proposed Changes

15.3.1 On the basis of this analysis, no requirement for a revised assessment of the impact of traffic during the construction and operation of the Exemplar Local Centre has been identified.

15.3.2 The existing consent for Development on the site included for a higher level of traffic generation than now forecast. As such a worst-case scenario has been assessed. The consented traffic impact has already been assessed and accommodated in the constructed road network and junctions and mitigation. In addition, the EIA for the Land North of the Railway, undertaken more recently in 2014 and consented subject to S106 and conditions, included the higher traffic generation in the committed developments.

15.4 Summary

- 15.4.1 It is concluded that the proposed changes to the Exemplar Local Centre will not result in any significant environmental effects resulting from traffic and transport when compared to the consented application which was reported in the 2010 ES.

16 Interrelationships and Cumulative Impacts

16.1 Introduction

16.1.1 An assessment of cumulative effects was undertaken as part of the 2010 ES which considered the combined environmental effects from several developments in the area which individually might be insignificant but, when considered together, could result in significant cumulative environmental effects.

16.1.2 This Chapter addresses the following impacts:

- The revised Exemplar Local Centre with other local developments; and
- In-combination effects of the revised Exemplar Local Centre on specific receptors.

16.2 Baseline Update

16.2.1 As per the assessment methodology set out in the 2010 ES a review of local planning guidance and major planning applications (since the publication of the 2010 ES) was undertaken to identify other developments in the vicinity of the Exemplar Local Centre where there is the potential for cumulative impacts.

16.2.2 Table 16-1 provides an update of nearby permitted and constructed development proposals that were outlined in the 2010 ES, as well as any additional; applications that have come forward since its publication.

Table 16-1 Updated List of Cumulative Schemes

Project/ Development / Planned Scheme	Description	Current Status
South West Bicester (06/00967/OUT)	Development of residential accommodation consisting of 1585 units, 3.91ha employment space, hotel, health village, secondary school and community hall. This development is around 2.3 km from the Exemplar Phase.	Under Construction
Bicester Business Park (07/01106/OUT)	Development of 6ha employment space (B1). This development is around 2.8 km from the Exemplar Phase.	Planning Permission granted
Town Centre redevelopment (04/02797/OUT)	Redevelopment comprising Food 0.74ha; Non-food retail space 0.64ha; Cinema 0.22ha; library and new civic building. This development is around 2.3 km from the Exemplar Phase.	Construction completed
Gavray Drive (04/02797/OUT; Appeal 09/00584/F)	Development of 500 residential units, a Primary school; Open Space; and Local Wildlife Site. This development is around 2.3 km from the Exemplar Phase.	Planning permission overturned. Decision dependant on revised Environmental Statement to be

Project/ Development / Planned Scheme	Description	Current Status
		submitted.
Heyford Park	Construction of employment space comprising 1.6ha B1, 1.8ha B2 and 8.6ha B8. This development is around 6 km from the Exemplar Phase.	Planning permission granted
14/01478/REM	Construction of a road with associated infrastructure within the Heyford Park development.	Application received Sep 2014 Planning permission granted
East West Rail and Project Evergreen 3	Rail improvements scheme, which includes works along the railway corridor. Level crossing on Charbridge Lane and London Road will be included in the works. This development is around 2.6 km from the Exemplar Phase.	Under Construction, Completion expected 2019
South West Bicester Link Road	Including new roundabouts at north and south ends of link, realignment of A4095, two signalised junctions on A41 (incorporating Bicester Business and South West Bicester development) and removal of slips at Chesterton. This development is around 2.4 km from the Exemplar Phase.	Construction complete. Operational.
Lidl (10/00385/F)	Erection of discount foodstore (Class A1) including 75 no. car parking spaces, servicing area and landscaping This development is around 2.1 km from the Exemplar Phase.	Construction complete Operational
B1 Skimmingdish Lane 10/00324/OUT (05/01563/OUT; Reserved Matters 09/01659/REM)	Development for B1 office development with associated parking, turning and landscaping areas. This development is around 2.1 km from the Exemplar Phase.	Application Withdrawn
Land NE of Junction Launton Road, Skimmingdish Lane 13/00372/OUT (13/01378/REM; Reserved Matters)	Construction of 61 bedded care home (use Class C2) together with ancillary accommodation including cafe, hair salon and shop and associated development including car parking and servicing arrangements	Planning permission granted
Caversfield, Fringford Road (13/01056/OUT)	200 dwellings	Application Refused Planning appeal dismissed
North West Bicester Application 1 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	Planning permission granted

Project/ Development / Planned Scheme	Description	Current Status
	application (reference 10/01780/HYBRID). Such development to include provision of strategic landscape, provision of new vehicular, cycle and pedestrian access routes, infrastructure, ancillary engineering and other operations	
North West Bicester Application 2 (South of Railway) Land Adj To Bicester Road And South West Of Avonbury Business Park Howes Lane Bicester (14/01641/OUT)	To provide up to 900 residential dwellings (Class C3), 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 This development is approximately 2km from the Exemplar Phase.	Application received Sept 2014 – under consideration
Application 3 - A4095 North West Strategic Link Road	Principle site infrastructure for North West Bicester Masterplan, comprising re-alignment of Howes Lane, new crossings below the railway line and a new primary sub-station.	Application submitted
RAF Bicester (new houses in Caversfield) 11/00151/F	197 dwellings from new build and conversion	Under construction
Bicester 2 - Graven Hill	227.5ha predominantly brownfield site to the south of Bicester proposed for mixed use development of 1,900 dwellings, significant employment land providing for high quality job opportunities, associated services, facilities and other infrastructure including the potential for the incorporation of a rail freight interchange.	Planning permission granted subject to S106
South West Bicester Phase 2	Anticipated to accommodate 720 homes with associated services, facilities and other infrastructure within a 28.5ha site.	Planning permission granted
Bure Place Town Centre Redevelopment Phase 2	Anticipated to comprise the redevelopment at Bure Place to provide a new supermarket, cinema, restaurants, shops, car parking and bus interchange.	CDC considering now that Phase 1 is open.
Former RAF Bicester	Development would support heritage tourism uses, leisure, recreation, employment and community uses associated with the development of a museum to RAF Bomber Command. The development of hotel and conference facilities would also be supported as part of a wider package of employment uses.	Plans being drawn up.
Bicester Gateway	Knowledge economy employment development to the south of the existing retail area (Wyevale Garden Centre), adjacent to the A41 on a 18ha site.	Identified in the Proposed Cherwell Local Plan (2011-2031)
North East Bicester	15ha Business Park development for employment use.	Identified in the

Project/ Development / Planned Scheme	Description	Current Status
Business Park		Proposed Cherwell Local Plan (2011-2031)
South East Bicester	A mixed use 155ha site for employment and residential development to the east of the ring road to the south east of Bicester. (1,500 houses/ 40ha employment land)	Identified in the Proposed Cherwell Local Plan (2011-2031)
Himley Village 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 and C1), social and community facilities (Class D1), land to accommodate one energy centre and land to 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)	Application received December 2014, pending consideration.
Bicester Business Park	This site to the south west of Bicester, bounded by the A41 to the north and west, is proposed for employment generating development in the form of a high quality B1a office. The 29.5 ha site will create up to 6,000 jobs	Identified in the Proposed Cherwell Local Plan (2011-2031)
Strengthening Bicester Town Centre	Shopping, leisure and other main town centre uses will be supported within Bicester town centre. Residential development uses will be supported in appropriate locations in Bicester town centre except where it will lead to a loss of sites for retail or other 'Main Town Centre Uses'.	Identified in the Proposed Cherwell Local Plan (2011-2031)
Parcel 4200 Adjoining And North East Of A4095 And Adjoining And South West Of Howes Lane Bicester 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	Application received – pending consideration.
Land Between Middle And Little Wretchwick Farms Wretchwick Way Bicester 13/00055/SO	Development of land to provide up to 800 new dwellings and 22.5 h employment land for B1, B2 and B3 uses with associated highway improvements, public open space, landscaping and infrastructure	Screening Opinion requesting EIA

16.3 Assessment Methodology

- 16.3.1 There has been no change to the assessment methodologies that were presented within the 2010 ES for the assessment of in-combination and cumulative effects.

16.4 Assessment of Effects Resulting from the Proposed Changes

In-Combination Effects

- 16.4.1 Given the nature of the proposed changes to the Exemplar Local Centre it is not considered that any significant impacts will occur when considered against the findings of the 2010 ES which concluded that *“Combined or impact interactions are likely to occur during the construction phase. Each environmental chapter has identified mitigation measures to reduce impacts. Following implementation of these mitigation measures, the interaction impacts are considered to be mostly negligible”*.

Cumulative Impacts

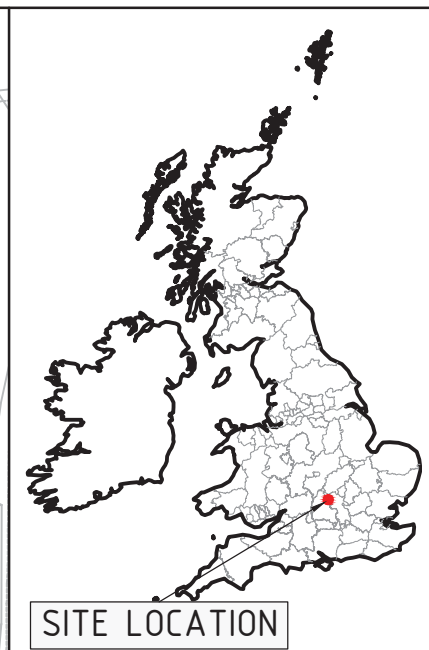
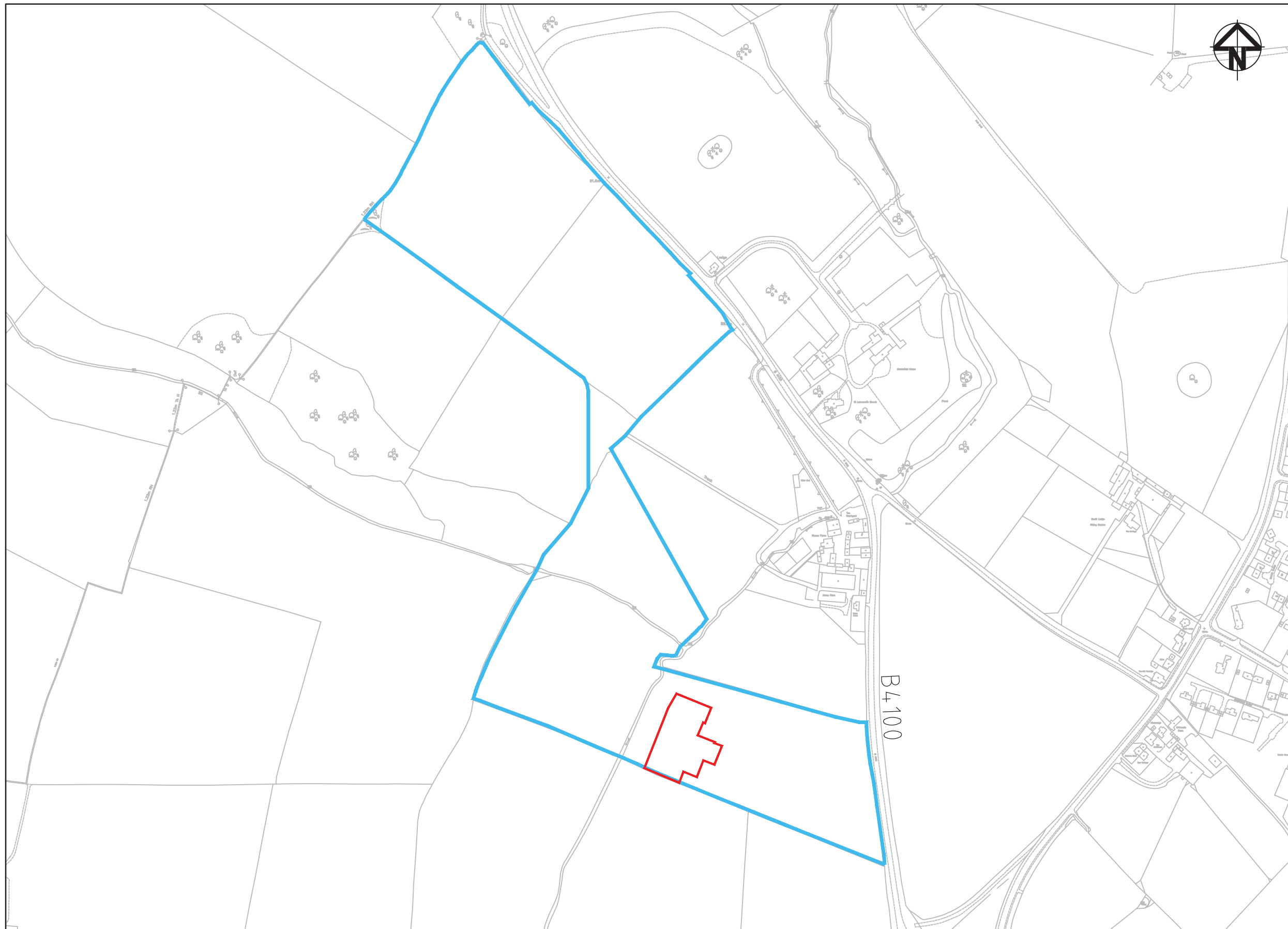
- 16.4.2 It is considered that the proposed changes to the Exemplar Local Centre will not result in any significant environmental effects over and above those identified in the 2010 ES. The proposed change of land usage and alterations to floor space will not materially affect the findings of the cumulative assessment undertaken to date.

16.5 Summary

- 16.5.1 It is not considered that the proposed changes to the Exemplar Local Centre will result in any significant environmental effects when the changes to the land uses are considered against the proposals assessed in the 2010 ES.

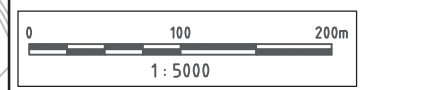
17 Summary

- 17.1.1 This ECR has provide an overview of the potential environmental effects of the revised Exemplar Local Centre (which forms part of the wider Exemplar Phase) for each relevant environmental topic considered in the 2010 Exemplar Phase ES.
- 17.1.2 This ECR demonstrates that the amendments to the Exemplar Local Centre as proposed are unlikely to give rise to significant or materially different environmental effects to those reported previously and are deemed acceptable by virtue of the original planning consent.



SITE LOCATION

- KEY**
- EXEMPLAR SITE BOUNDARY
 - EXEMPLAR LOCAL CENTRE



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Issue	Description	Date
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Client



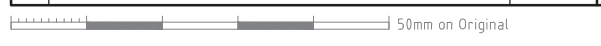
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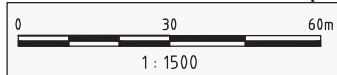
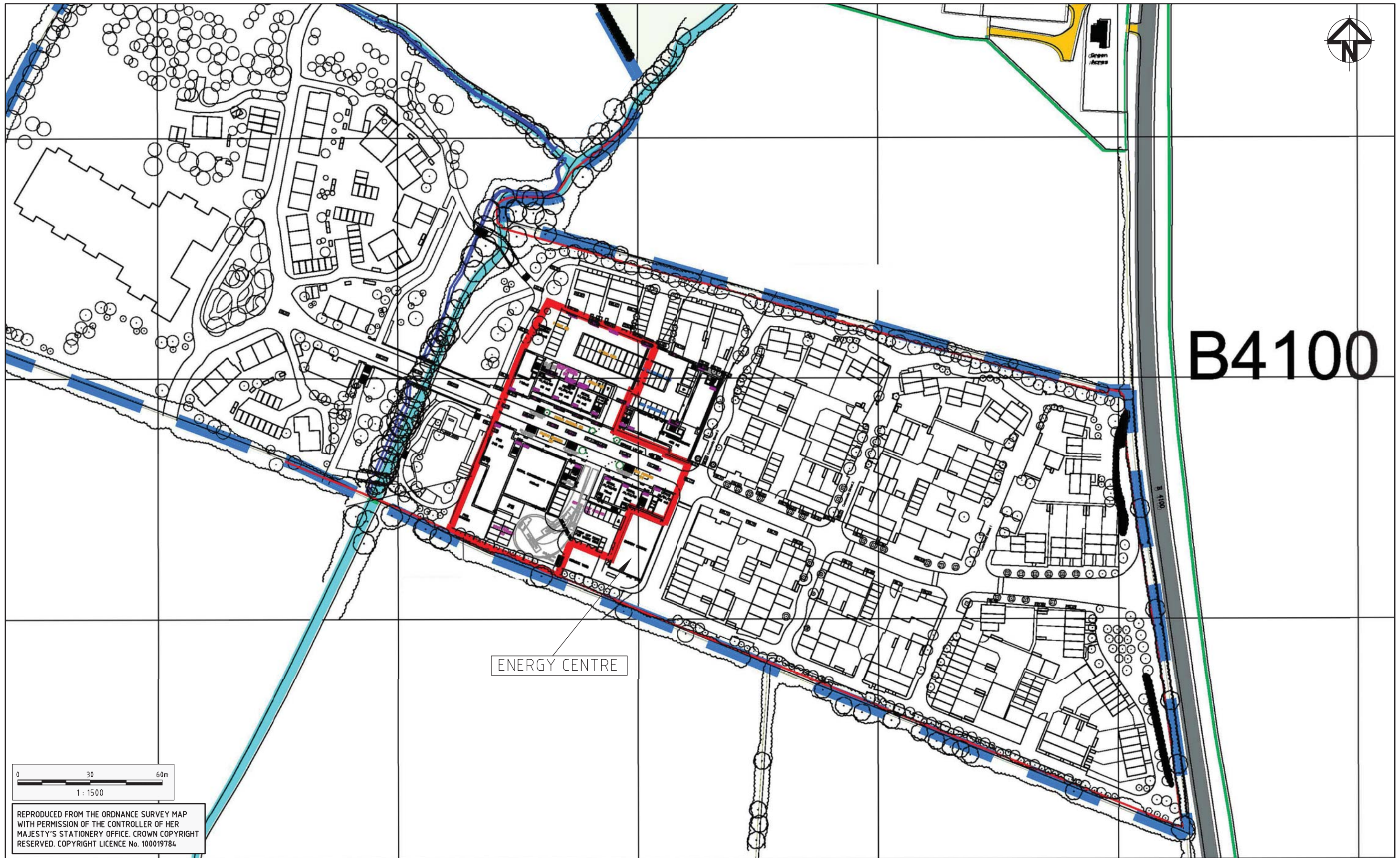
Project	EXEMPLAR LOCAL CENTRE
Title	SITE BOUNDARY



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Original Size	A3	Author	J.NORMAN
Height Datum		Checker	K.BURROWS
Grid	GRID	Approver	P.HARKER
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Project

EXEMPLAR LOCAL CENTRE

Title

SITE LAYOUT



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REVISED EXEMPLAR LOCAL CENTRE

EXEMPLAR LOCAL CENTRE GRANTED PLANNING IN 2012



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KEY
 EXEMPLAR LOCAL CENTRE



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Approver	P.HARKER		
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Original Size	A3	Title	
Height Datum	GRID	REVISED LAYOUT AND PERMITTED LAYOUT FOR THE EXEMPLAR LOCAL CENTRE	
File Name	2-2-UA005241-UE31D-01-LAY.DWG		

Project		
EXEMPLAR LOCAL CENTRE		
Title		
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