13 Summary of Mitigation Measures, Monitoring and Likely Residual Effects

13.1 Introduction

13.1.1 Tables 13.1 - 13.6 provide a summary of the mitigation measures, monitoring requirements and likely residual effects of the Development for the construction phase, completed Development and summary of cumulative effects, as detailed in Chapters 7-11 and Volume II of this ES.

13.1.2 Mitigation measures have been designed into the Development to reduce potentially significant adverse effects where possible. Theis includes a 4.0m barrier between Units 10 and 11. The location of the barrier is shown illustratively within the detailed planning drawings (Appendix 5.1) and implementation of the landscaping scheme and tree retention and planting strategy.

13.1.3 A summary of key secondary and tertiary mitigation measures is provided below for both the construction phase and the completed Development.

Construction

- Construction Environmental Management Plan (CEMP), including the erection of construction hoarding, site lighting control, emissions management plans;
- Routing agreement and adherence to a Construction Traffic Management Plan;
- All retained trees and hedgerows will be protected in accordance with BS 5837:2012;
- Sensitive timing of works for GCN, habitat manipulation, fingertip searches, destructive search of habitat to be removed and ecological supervision of works potentially affecting GCN;
- Badgers: Pre-construction badger survey, sensitive timing of works, careful storage of topsoil and materials, and a method statement to avoid any disturbance to setts (if required following the pre-construction survey);
- Breeding Birds: Removal of vegetation outside of the nesting bird season (March to August inclusive), or the supervision of vegetation removal by a suitably qualified ecologist should works take place within this period; and
- Western European Hedgehog: Supervised removal of suitable habitat to ensure no individual hedgehogs are affected during site clearance.

Completed Development

- Framework Travel Plan;
- Implementation of an Employment, Skills and Training Plan;
- Two 2.5m high Acoustic Barriers; retention of the existing hedgerows and field margins (where possible) at the Site boundaries in line with the biodiversity strategy for the Bicester Eco Town;

- Native woodland and shrub planting at the Site boundaries;
- Provision of wildflower grassland within the swales and area adjacent to the SLR in the eastern section of the Site;
- The planting of 205 native trees.;
- Implementation of a sensitive lighting scheme to minimise light spill onto the adjacent retained vegetation (see Lighting Drawing, Appendix 5.1); and
- Landscape and Ecological Management Plan (LEMP).

Table 13.1: Summary of Construction Phase Effects

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Socio Economics					
Construction Employment	Demolition and construction industry, its employees and supply chain (Low sensitivity)	Regional	Temporary	Implementation of an Employment, Skills and Training Plan	Negligible
Transport					
Severance	Low – Howes Lane, Middleton Stoney Road (East), Vendee Drive	Local	Temporary	Routing Agreement and Construction Traffic Management Plan	Negligible
Driver Delay	Low – Howes Lane, Middleton Stoney Road (East), Vendee Drive	Local	Temporary	None required	Negligible
Pedestrian Delay and Amenity	Low – Howes Lane, Middleton Stoney Road (East), Vendee Drive	Local	Temporary	None required	Negligible
Accidents and Safety	Low – Howes Lane, Middleton Stoney Road (East), Vendee Drive	Local	Temporary	Construction Traffic Management Plan	Negligible
Public Transport	Low	Local	Temporary	None required	Negligible
Noise					

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Construction Noise	High	Local	Temporary	Adherence to the CEMP	Moderate Adverse
Biodiversity					
Designated Sites	Low to High	County to National	Temporary	N/A	Negligible
Habitat - Arable	Very Low	Negligible	Permanent	N/A	Negligible
Habitat – Field Margins	Very Low	Negligible	Permanent	N/A	Negligible
Habitat – Hedgerows	Low	Local	N/A	Adherence to BS5837:2012/ CEMP	Negligible
Habitat – Ditches	Very Low	Negligible	N/A	Adherence to BS5837:2012/ CEMP	Negligible
Habitat – Trees	Low	Local	N/A	Adherence to BS5837:2012/ CEMP	Negligible
Habitat – Ponds (offsite)	Low	Local	N/A	Adherence to CEMP	Negligible
Species - Amphibians	Low	District	N/A	Adherence to CEMP, new habitat planting	Minor Beneficial
Species - Badgers	Very Low	Negligible	N/A	Adherence to CEMP	Negligible
Species - Bats	Low	Local	N/A	Sensitive lighting scheme, new habitat planting	Minor Beneficial
Species – Birds	Low	Local	Permanent	Adherence to CEMP, contribution to offsite compensation, new habitat planting	Minor Beneficial
Species – Invertebrates	Very Low	Negligible	N/A	Adherence to CEMP	Negligible
Species - Reptiles	Low	Local	N/A	Adherence to CEMP	Negligible

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Climate Change					
Whole life GHG emissions	Not applicable	Global	Permanent	Adherence to the CEMP BREEAM Very Good rating, capable of 'Excellent' Transport Plan and mode share targets Energy efficient design and use of renewables resulting in less than zero GHG emissions from energy use	Significant adverse
Landscape and Visual Assessment					
Please see paragraph 6.13 of Volume II of this ES – the predicted overall effect of the construction phase of the Development is likely to be major adverse in terms of both landscape character and visual amenity.					

Table 13.2: Summary of Completed Development Effects

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Socio Economics					
Employment accommodated within the completed Development	Access to local employment (Medium sensitivity)	Local, District, County, Regional, National	Long-term	Implementation of an Employment, Skills and Training Plan	Moderate beneficial (significant) (local scale), minor beneficial (district), negligible at all other scales
Additional Local Spending Effects	Local economy (High sensitivity)	Local, District, County, Regional, National	Long-term	Not applicable	Minor beneficial (local scale), negligible at all other scales
Transport					
Severance	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Delivery of part of NW Bicester Infrastructure	Negligible
Driver Delay	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Travel Plan	Negligible
Pedestrian Delay and Amenity	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Footway/cycle links and crossing facilities	Minor Beneficial
Accidents and Safety	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Footway/cycle links and crossing facilities	Negligible
Public Transport	Low	Local	Permanent	None required	Negligible
Noise					

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Building Services Plant Noise	High	Local	Permanent	Appropriate Conditions	Negligible Adverse
Noise Intrusion (On-site Operational Noise) – Existing Receptors	High	Local	Permanent	n/a	Negligible Adverse
Noise Intrusion (On-site Operational Noise) – Proposed Receptors	High	Local	Permanent	Two 2.5m High Acoustic Barriers	Negligible Adverse
Road Traffic Noise	High	Local	Permanent	n/a	Negligible Adverse
Biodiversity					
Species - Bats	Low	Local	Permanent	Implementation of a sensitive lighting scheme	Negligible
Climate Change					
Whole life GHG emissions	Not applicable	Global	Permanent	Adherence to the CEMP BREEAM Very Good rating, capable of 'Excellent' Transport Plan and mode share targets Energy efficient design and use of renewables resulting in less than zero GHG emissions from energy use	Significant adverse

Table 13.3: Summary of Completed Development Effects – Landscape

Receptor	Landscape sensitivity	Magnitude of Change	Landscape Effect and Nature	Residual Effect	Cumulative Effects
Topography	Medium-low	Low	Minor moderate adverse	Minor moderate adverse	Moderate adverse (all sites)
Significant vegetation	Medium	Negligible	Negligible	Minor moderate beneficial	Minor moderate beneficial (all sites)
Settlement	Low	Low	Minor adverse	Minor adverse	Moderate adverse
Land use	Low	Low	Minor adverse	Minor adverse	Moderate adverse
LCA 1. Estate parkland	Medium low	Negligible	Negligible	Negligible	No cumulative effects
LCA 2. Bicester suburban residential	Medium low	Low	Minor moderate adverse	Minor moderate adverse	Moderate adverse (sites 3, 4 and 10)
LCA 3. Chesterton village	Medium	Negligible	Negligible	Negligible	No cumulative effects
LCA 4. Agricultural land	Medium	High within the Site, medium elsewhere	Moderate major within the Site, moderate elsewhere	Moderate major within the Site, minor moderate elsewhere	Moderate major adverse (sites 2, 3, 4 and 10)
LCA 5. Employment Site	Low	Low	Minor adverse	Minor adverse	Minor moderate adverse (sites 2, 4, 10)
LCA 6.	Medium low	Negligible	Negligible	Negligible	No cumulative effects

Receptor	Landscape sensitivity	Magnitude of Change	Landscape Effect and Nature	Residual Effect	Cumulative Effects
Emerging suburban residential					

Table 13:4: Summary of Completed Development Effects – Visual

View	Visual Sensitivity	Magnitude of Change	Visual Effect and Nature	Residual Effect	Cumulative Effect
1	Medium low	Negligible	Negligible	Negligible	No cumulative effects
2	Medium	Negligible	Negligible	Negligible	No cumulative effects
3	Medium	Negligible	Negligible	Negligible	No cumulative effects
4	Medium	Negligible	Negligible	Negligible	No cumulative effects
5	Medium	Negligible	Negligible	Negligible	No cumulative effects
6	Medium	Medium		Moderate adverse	No cumulative effects
7	Medium low	Negligible	Negligible	Negligible	No cumulative effects
8	High medium	High	Major adverse	Moderate major adverse	No cumulative effects
9	High medium	Medium	Moderate major adverse	Moderate major adverse	No cumulative effects

Table 13.5: Summary of Cumulative Effects – Construction

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Socio Economics					
Construction Employment	Demolition and construction industry, its employees and supply chain (Low sensitivity)	Regional	Temporary	Implementation of Employment, Skills and Training Plans	Negligible
Noise					
Construction Noise	High	Local	Temporary	Adherence to the CEMP	Moderate Adverse
Biodiversity					
Loss of Breeding/Wintering Bird Habitat (arable land)	Low	Local	Permanent	Contribution to offsite mitigation	Negligible
Climate Change					
As stated within Table 13.1.					

Table 13.6: Summary of Cumulative Effects – Completed Development

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Socio Economics					
End-use Employment	Access to local employment (Medium sensitivity)	Local, District, County, Regional, National	Long-term	Implementation of Employment, Skills and Training Plans	Major beneficial (significant) (local and district scales), moderate beneficial (significant)

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
					(county), and negligible at all other scales
Local Spending Effects	Local economy (High sensitivity)	Local, District, County, Regional, National	Long-term	Not applicable	Major beneficial (significant) (local and district scales), negligible at all other scales
Transport					
Severance	Low – SLR, Middleton Stoney Road (East) Vendee Drive	Local	Permanent	Delivery of part of NW Bicester Infrastructure	Negligible
Driver Delay	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Travel Plan Delivery of part of NWB ` Transport Services	Negligible
Pedestrian Delay and Amenity	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Part of extensive footway/ cycleway network	Minor Beneficial
Accidents and Safety	Low – SLR, Middleton Stoney Road (East), Vendee Drive	Local	Permanent	Part of extensive footway/cycleway network and highway infrastructure as part of NWB	Negligible
Noise					
Noise Intrusion (On-site Operational Noise) – Existing Receptors	High	Local	Permanent	n/a	Negligible Adverse

Effect	Receptor (Sensitivity)	Geographic Scale	Temporal Scale	Mitigation and Monitoring	Likely Residual Effect
Noise Intrusion (On-site Operational Noise) – Proposed Receptors	High	Local	Permanent	Two 2.5m High Acoustic Barriers	Negligible Adverse
Road Traffic Noise	High	Local	Permanent	n/a	Negligible Adverse
Climate Change					
As stated with Table 13.2.					
Landscape and Visual Assessment					
As detailed in Tables 13.3 and 13.4.					

13.2 Monitoring

Construction

13.2.1 Outside standard good practice site monitoring requirements during construction works (which will be included within the CEMP/CTMP), no further environmental monitoring requirements have been identified.

13.2.2 The CEMP/CTMP would be prepared once a Principal Contractor has been appointed and would include monitoring prescriptions during the construction phase for dust, noise and vibration. Details of monitoring techniques, duration and extent would need be agreed with CDC once the Principal Contractor is appointed and the final construction method is confirmed.

Completed Development

13.2.3 As required by the North West Bicester Eco Town SPD, a detailed Landscape and Ecological Management Plan (LEMP), including a comprehensive ecological monitoring programme will be produced and will be secured via a planning condition. This ensure that retained and newly established habitats on the Site will be appropriately managed to provide high quality habitat and opportunities for wildlife in the long term.

13.2.4 Ongoing monitoring of worker travel will also be carried out through the Travel Plan that will be maintained as a ‘live’ document.