

Technical Briefing Note

Project: North West Bicester, Exemplar Phase, Bicester Eco Town

Technical Briefing Note: Ecological Summary

Date: 15 October 2019

1. Background and Introduction

- 1.1. Aspect Ecology Ltd. was commissioned by A2Dominion Developments Ltd. in February 2019 to undertake an ecological walkover of land at Bicester North, Exemplar Phase, Bicester Eco Town (as shown on the attached Appendix 5582/TN1) to inform an upcoming planning application. Additionally, in September 2019 Aspect Ecology Ltd. was commissioned by Barton Willmore to complete a Biodiversity Impact Calculator to demonstrate quantitative net gain in response to consultation responses. Details of Biodiversity offsetting are set out at Section 5.
- 1.2. The proposals are for a hybrid application with full permission sought for construction of a new local centre community floorspace and 16 residential units (0.39ha) and outline permission sought for local centre retail, community or commercial floorspace (0.28ha).
- 1.3. The site forms part of the Exemplar phase of the Bicester Eco Town and was previously granted full planning permission. An ecological survey of the Exemplar study area, undertaken by a third party consultant, was submitted as part of the environmental statement. In July 2012, the applicant secured planning permission (LPA reference 10/01780/HYBRID) for the Exemplar site for the following:

'Development of Exemplar phase of NW Bicester Eco Town to secure full planning permission for 393 residential units and an energy centre (up to 400 square metres), means of access, car parking, landscape, amenity space and service infrastructure and outline permission for a nursery 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 A4) and a primary school site measuring up to 1.34 hectares with access and layout to be determined.'

- 1.4. With regard to the site which is the subject of this application, in July 2016, full planning permission (LPA reference 15/00760/F) was granted for:

'Development of a new Local Centre comprising a Convenience Store (use class A1), Retail Units (flexible class A1/A3/A5), Pub (use class A4), Community Hall (use class D1), Nursery (use class D1), Commercial Units (flexible use class A2, B1, D1) with associated Access, Servicing, Landscaping and Parking with a total GEA of 3,617 sqm.'

- 1.5. It is understood that a revised scheme for the site has been developed which may fall outside of the approved parameters and that following discussions with the Local Planning Authority a

phased approach to the scheme is proposed. The below sets out the proposed updated development description:

'Full permission is sought for Local Centre Community floorspace (Use Class D1 with ancillary A1/A3), with a total GIA of 552sqm, and 16 residential units (use class C3) with associated access, servicing, landscaping and parking. Outline consent is sought for Local Centre Retail, Community or Commercial Floorspace (flexible Use Class A1/A2/A3/A4/A5/B1/D1).

2. Methodology

- 2.1. Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (15km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. The Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the site.
- 2.2. Information regarding non-statutory designations relevant to the current application site was obtained from information provided in the Environmental Statement¹ for the wider Exemplar study area.
- 2.3. The site was surveyed in February 2019 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.4. The site was surveyed based on standard Phase 1 Habitat Survey methodology, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys if required. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.5. Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

3. Survey Results

Ecological Designations

- 3.1. **Statutory Designation.** No statutory designations are present within or adjacent to the site boundary. The nearest statutory designation is Bure Park Local Nature Reserve (LNR) located approximately 0.6km to the south of the site. The LNR comprises the River Bure, several ponds, mature hedgerows and trees, scrub and meadow habitat. The River Bure and one of its tributaries converges in the centre of the wider Exemplar study area and flows south towards the LNR. However, the River and its tributaries are separated from the application site by existing greenspace and a public footpath. Given the nature and scale of the proposals, it is considered that, subject to the implementation of standard pollution prevention measures, the LNR and other statutory designations within the local area are unlikely to be affected by the proposals.

¹ Hyder Consulting (UK) Limited 2010. Environmental Statement Volume 1: Main Text. Exemplar Phase, NW Bicester Eco Development

- 3.2. Three further statutory designated sites are present within 5km of the site boundary, these comprise three Sites of Special Scientific Interest (SSSI's), although all of these are designated for geological reasons. The site lies within the SSSI Impact Risk Zone (IRZ) for one such SSSI, Ardley Cutting and Quarry. However, the identified risks do not apply to the proposed development.
- 3.3. **Non-statutory Designations.** No non-statutory designations are present within or adjacent to the site. The nearest non-statutory designation is a component of Tusmore and Shelswell Parks Conservation Target Area (CTA), identified through the Oxfordshire Biodiversity Action Plan (BAP), situated approximately 1.9km to the north-west of the site boundary. The CTA encompasses the parks and woodlands at Tusmore and Shelswell parks and areas of ancient woodland near Stoke Lyne. The CTA is well separated from the site by existing and ongoing development and arable land. As such, it is considered that this and other non-statutory designations mapped within the local area are unlikely to be affected by the proposals.
- 3.4. **Priority Habitats, Ancient Woodland and Notable Trees.** No priority habitats, ancient woodland or notable / veteran trees are present within or adjacent to the site boundary. All Priority Habitats, ancient woodland and notable trees mapped within the local area are well separated from the site by existing residential development and infrastructure. As such, it is considered that these habitats are unlikely to be affected by the proposals.

Habitats and Ecological Features

- 3.5. The site comprises two parcels of land, with full permission being sought for an area of land comprising Charlotte Avenue and land to the north, and outline permission being sought for the second parcel which lies largely to the south of Charlotte Avenue. A site plan is provided at Appendix 5582/TN2.
- 3.6. **Northern Parcel (Full Application).** The northern parcel of the site is dominated by hardstanding which comprises a mixture of tarmac, hardcore and gravel. The hardcore and gravel support a small assemblage of colonising species including Yorkshire-fog *Holcus lanatus*, Yarrow *Achillea millefolium*, White Clover *Trifolium repens*, Greater Plantain *Plantago major*, Bristly Oxtongue *Picris echioides*, Ribwort Plantain *Plantago lanceolata*, Spear Thistle *Cirsium vulgare*, Willowherb *Epilobium* sp., Broad-leaved Dock *Rumex obtusifolius*, Cleavers *Galium aparine*, Fescue *Festuca* sp., Common field-speedwell *Veronica persica*, Cut-leaved Crane's-bill *Geranium dissectum* and Groundsel *Senecio vulgaris*. The tarmac areas were in relatively good condition with no cracks supporting colonising vegetation.
- 3.7. A number of man-made spoil piles are present in the west of the northern parcel. The spoil piles supported a small assemblage of species similar to that recorded within the surrounding hardstanding, dominated by Cut-leaved Crane's-bill, White Clover and Common Field-speedwell.
- 3.8. In the north-west of the northern parcel, several small areas of rough grassland dominated by Fescue sp., with occasional False-Oat Grass *Arrhenatherum elatius*, Cocks-foot *Dactylis glomerata*, Common Nettle *Urtica dioica*, Dock *Rumex* sp., Dandelion *Taraxacum officinale* agg. and Scentless Mayweed *Tripleurospermum inodorum* are present. A recently planted Cherry *Prunus avium* sapling is also present in the centre of this area. A tarmac road forming Charlotte Avenue separates the northern parcel from the southern parcel.
- 3.9. **Southern Parcel (Outline Application).** The southern parcel of the site was in-use as a site compound at the time of survey. The parcel is dominated by hardstanding which comprises a mixture of tarmac and hardcore. The hardstanding was in poor condition at the time of survey,

with a number of cracks supporting tall ruderal species including Meadow Grass *Poa* sp., Willowherb sp., Dandelion, Bristly Oxtongue, Dock sp., White Clover, Prickly Sow-thistle *Sonchus asper*, Greater Burdock *Arctium lappa*, Spear Thistle *Cirsium vulgare* and Fescue sp..

- 3.10. An area of tall ruderal vegetation and a man-made spoil heap is present in the west of the southern parcel. These areas support a similar assemblage of species recorded within the adjacent hardstanding, with occasional Dove's-foot Crane's-bill *Geranium molle*, Broad-leaved Dock, Common field-speedwell, Common Nettle, Red Dead-nettle *Lamium purpureum*, Vetch *Astragalus* sp., Butterfly Bush *Buddleja davidii*, Cow Parsley *Anthriscus sylvestris*, Teasel *Dipsacus fullonum*, Ribwort Plantain and Cock's-foot also recorded.
- 3.11. An area of dense scrub is present at the southern site boundary which extends off-site to the south. The vegetation is approximately 6m in height and was unmanaged at the time of survey. The scrub is dominated by English Elm *Ulmus minor* and Bramble *Rubus fruticosus* agg. with occasional Ash *Fraxinus excelsior* and Elder *Sambucus nigra*.
- 3.12. **Conclusion.** The two parcels within the site are dominated by hardstanding with occasional areas of rough grassland and tall ruderal vegetation. No protected or notable plant species were recorded to be present within the site during the walkover survey. The species recorded are common and widespread species that frequently colonise bare or disturbed ground. As such, the botanical species and habitats present within the site are not considered to constitute an important ecological feature and are considered to be of negligible ecological value.
- 3.13. The area of scrub to the south of the southern parcel is considered to be of value at no more than a site level such that it does not constitute an important ecological feature. Nevertheless the scrub is dominated by native species and likely forms an important green corridor for fauna in the local area.

Fauna

- 3.14. **Bats.** No buildings or trees able to support roosting bats are present within the site. As such, the site is considered to be of negligible ecological value to roosting bats and roosting bats do not constitute an important ecological feature.
- 3.15. The site is dominated by hardstanding with occasional areas of rough grassland and tall ruderal vegetation which is considered sub-optimal habitat for foraging and commuting bats. The scrub to the south of the site which provides suitable foraging and commuting habitat to bats. It is understood that this area of vegetation is to be retained under the proposals and, subject to the implementation of standard tree / vegetation protection measures, it is anticipated that the vegetation will be fully safeguarded under the proposals. Provision should be made to implement a sensitive lighting scheme within the site to avoid unnecessary light spill onto the retained scrub. Following the implementation of these measures, it is anticipated that foraging and commuting bats will be unaffected by the proposals.
- 3.16. **Badger.** Badger *Meles meles* are known to be present along the banks of the River Bure having been recorded during survey work undertaken for the wider hybrid application. The site itself comprises habitat which is considered sub-optimal for Badger and no evidence of Badger occupation (e.g. a sett) or activity (e.g. latrines, push-throughs etc.) was recorded during the walkover survey. The site is well separated from the River Bure and its tributaries by areas of grassland and existing / ongoing development. As such, Badger are considered unlikely to make use of the site.

- 3.17. **Other Mammals.** The site does not support habitat suitable for Water Vole *Arvicola amphibius* or Otter *Lutra lutra*. As such, these species are likely absent from the site and are not considered further in the context of the current proposals.
- 3.18. Evidence of domestic cat in the form of footprints and droppings was recorded to be present in the northern portion of the site. In addition, the scrub to the south of the site provides suitable habitat for the Priority Species Hedgehog *Erinaceus europaeus*. As such, it is recommended that general mammal safeguards are implemented during the construction phase in the event a mammal may enter the site.
- 3.19. **Amphibians.** The results of the previous survey work undertaken for the wider hybrid development concluded that Great Crested Newt *Triturus cristatus* are likely absent from the Exemplar development area, although a breeding population was recorded to be present within ponds in the local area.
- 3.20. No ponds are present within or adjacent to the site boundary. Three ponds were identified within 250m of the site boundary. Of these ponds, two appear to have been recently created as part of the wider hybrid development. The newly created ponds were recorded to be devoid of aquatic or emergence vegetation and surrounded by bare earth and newly sown grassland at the time of survey, which reduces their suitability for Great Crested Newt. The third pond comprises a small waterbody associated with an ephemeral watercourse located approximately 0.2km to the west of the site boundary. The small waterbody associated with the watercourse was recorded to be present during the survey work undertaken to inform the wider hybrid application, however, this waterbody was recorded to be dry in early May and as such, was deemed unsuitable for breeding Great Crested Newt.
- 3.21. The site itself is dominated by hardstanding and is isolated from other areas of suitable terrestrial habitat by existing and ongoing development and infrastructure. Given the sub-optimal terrestrial habitat present within the site, it is considered that Great Crested Newt are likely absent from the site.
- 3.22. **Reptiles.** Low populations of Common Lizard *Zootoca vivipara* and Grass Snake *Natrix natrix* were recorded to be present within the wider hybrid application study area during previous survey work. The site itself is dominated by hardstanding which is considered sub-optimal habitat for reptiles. In addition, the site is isolated from areas of suitable reptile habitat by existing and ongoing development and infrastructure. Given the sub-optimal habitat present within the site and its isolated nature, it is considered likely that reptiles are likely absent from the site.
- 3.23. **Birds.** The site itself does not contain favourable bird nesting habitat. However, a number of bird boxes were recorded to be present on the off-site commercial building to the east of the southern parcel of the site and the scrub to the south of the site provides suitable habitat for nesting birds. It is understood that the scrub will be fully retained under the current proposals and it is recommended that consideration is given to the existing bird boxes on the adjacent building to ensure they are not obstructed by the proposed units. Subject to the implementation of these recommendations, it is anticipated that the proposed development will not have a detrimental impact on nesting birds.
- 3.24. **Invertebrates.** No evidence of notable or protected invertebrates was recorded during the walkover survey. The site comprises hardstanding with occasional areas of rough grassland and tall ruderal vegetation surrounded by existing and ongoing residential and commercial development. As such, the site is likely to support a small assemblage of common and widespread invertebrate species which are not considered to be an important ecological feature.

4. **Mitigation and Enhancement**

- 4.1. Based on the habitats, ecological features and associated fauna identified within / adjacent to the site, it is proposed that the following mitigation measures are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013). A number of ecological enhancements, which are further detailed within the Environmental Impact Assessment Screening report (2019), are also provided below.

Mitigation

- 4.2. **Scrub and Tree Protection.** The scrub to the south of the site, to be retained under the current proposals, shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees / scrub.
- 4.3. **Pollution Prevention Measures.** In order to safeguard the off-site watercourse to the west of the site against any potential run-off or pollution events during construction, the following safeguards will be implemented:
- Storage areas for chemicals, fuels, etc. will be sited well away from the watercourse (minimum 10m), and stored on an impervious base within an oil-tight bund with no drainage outlet. Spill kits with sand, earth or commercial products approved for the stored materials shall be kept close to storage areas for use in case of spillages;
 - Where possible, and with prior agreement of the sewage undertaker, silty water should be disposed of to the foul sewer or via another suitable form of disposal, e.g. tanker off-site;
 - Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. will be carried out in a contained area as far from the watercourse as practicable (minimum 10m), to avoid contamination; and
 - Refuelling of plant will take place in a designated area, on an impermeable surface, away from the watercourse (minimum 10m).
- 4.4. Post-development, the drainage system for the development will ensure the watercourse is not subject to adverse changes in surface water run-off or quality.
- 4.5. **Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the scrub and nearby watercourse, will be minimised in accordance with good practice guidance² to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:

² Stone, E.L. (2013) 'Bats and lighting: Overview of current evidence and mitigation guidance.' ILP (2011) 'Guidance notes for the reduction of obtrusive light' Institution of Lighting Professionals, GN01:2011; and Bat Conservation Trust (2014) 'Artificial Lighting and Wildlife – Interim Guidance: Recommendations to help minimise the impact of artificial lighting'.

- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats. Light exclusion zones or ‘dark corridors’ may be used to provide interconnected areas free of artificial illumination to allow bats to move around the site;
- **Variable Lighting Regimes** – VLRs can be employed, which involve switching off/dimming lights for periods during the night, for example when human activity is generally low (e.g. 12.30 – 5.30am). The use of VLRs may be particularly beneficial during the active bat season (April to October). Motion sensors can also be used to limit the time lighting is operational;
- **Light barriers** – new planting (e.g. hedgerows and trees) or fences, walls and buildings can be strategically positioned to reduce light spill;
- **Spacing and height of lighting units** – increasing spacing between lighting units will minimise the area illuminated and allow bats to fly in the dark refuges between lights. Reducing the height of lighting will also help decrease the volume of illuminated space and give bats a chance to fly over lighting units (providing the light does not spill above the vertical plane). Low level lighting options should be considered for any parking areas and pedestrian / cycle routes, e.g. bollard lighting, handrail lighting or LED footpath lighting;
- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination. The type of light should also be considered, for example lights with high ultraviolet content (e.g. metal halide or mercury lights) should be avoided or fitted with UV filters; and
- **Directionality** – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow.

4.6. **General Mammal Safeguards.** In order to safeguard mammals should they enter the site during construction works, the following measures will be implemented:

- Any trenches or deep pits within the site that are to be left open overnight will be provided with a means of escape should a mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes (>150mm outside diameter) should be blanked off at the end of each working day so as to prevent mammals gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no mammals have become trapped overnight. Should a mammal such as a Badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped mammal be encountered a suitably qualified ecologist will be contacted immediately for further advice;
- The storage of topsoil or other ‘soft’ building materials in the site will be given careful consideration. Mammals such as Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections with consideration given to temporarily fencing any such mounds to exclude mammals;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming mammals;

- Fires will only be lit in secure compounds away from areas of mammal activity and not allowed to remain lit during the night; and
- Unsecured food and litter will not be left within the working area overnight.

Enhancement

- 4.7. **New Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Oak *Quercus robur*, Birch *Betula pendula* and Field Maple *Acer campestre*, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn *Prunus spinosa*, Hawthorn *Crataegus monogyna*, Crab Apple *Malus sylvestris*, Hazel *Corylus avellana* and Elder. Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.
- 4.8. **Bat Boxes.** A number of bat boxes will be incorporated within the proposed development. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. Where architectural design allows, a number of integrated bat boxes / bricks should be incorporated into a proportion of the new build. The precise number and locations of boxes / bricks should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.
- 4.9. **Bird Boxes.** A number of bird nesting boxes are to be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. Where architectural design allows, a number of integrated bird boxes (e.g. Swift *Apus apus* boxes) should be incorporated into a proportion of the new build. The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.
- 4.10. **Invertebrate Hotels.** A number of invertebrate hotels will be incorporated into the proposed development, creating opportunities for invertebrate species such as solitary bees. The precise number and locations of the invertebrate hotels will be determined by a competent ecologist post-planning once the relevant final development design details have been approved.
- 4.11. **Green / Sedum Roof.** As set out above, it is considered that the site is unlikely to be of value in terms of invertebrates, in its current condition. However, there are opportunities for creation of new foraging and nesting habitat as part of the proposals through provision of green / sedum roofs, which could deliver an increase in the diversity and quality of habitats present for invertebrates and other fauna.

5. Biodiversity Net Gains

- 5.1. The NPPF describes the Government's national policies on 'conserving and enhancing the natural environment' in Chapter 15. NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005. NPPF takes forward the Government's strategic objective to halt overall biodiversity loss, as set out at Paragraph 170, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'

5.2. There is currently no compulsory requirement set out in national policy to deliver biodiversity net gains, with paragraph 174(b) of the NPPF stating that plans should: “*identify and pursue opportunities for securing measurable net gains for biodiversity*”. Notwithstanding this, DEFRA has recently carried out a public consultation on the national delivery of biodiversity net gains which it was confirmed will become mandatory in the Spring Statement, and accordingly this planning application takes this into account by demonstrating the proposals can deliver net gains. Further, it has been requested by the Bicester delivery team and case officer during the consultation exercise undertaken that the hybrid application is accompanied by a biodiversity net gain calculation.

5.3. The masterplanning exercise has therefore taken into consideration good practice principles for development with respect to biodiversity net gains, which are set out in a recent guidance document³. Currently, where local authorities are requesting demonstration of a biodiversity net gain, this is focussed on the completion of a Biodiversity Impact Calculator (BIC), which quantifies habitat losses and gains. However, the guidance notes that achieving net gains is more than simply outweighing losses with gains, as there are other qualitative gains which are achievable and should be investigated beyond the confines of a BIC. This is discussed further below in relation to the site.

5.4. *Quantitative*

5.5. Thames Valley Environmental Records Centre (TVERC) Biodiversity Impact Assessment Calculator (BIAC) has been used to quantify habitat losses and gains within the site. Given the sites hybrid application status, two BIAC's have been completed, one for the full planning application (to the north) and one for the outline application (to the south) so as to determine if the illustrative landscape plan and parameter plan respectively can facilitate a quantitative net gain for habitats in both phases. It is anticipated an additional BIAC will be required at the detailed stage of the southern phase 2 parcel.

5.6. The completed BIA calculators are set out in Appendix 5582/TN3 and show that:

- Full application (northern parcel): the retained and created habitats can deliver a neutral score of zero. There are no linear habitats to be assessed;
- Outline application (southern parcel): the retained and created habitat currently shown under the parameter plans deliver a neutral score of zero. There are no linear habitats to be assessed.

5.7. Both the outline and the full proposals will result in no net loss in biodiversity. However, in quantifiable terms a net gain is not currently achievable. Despite the loss of habitats of negligible ecological value only, there is limited scope, given the small size and nature of the proposals, for significant areas of habitat enhancement or creation. There remains some scope to improve upon the score within the outline application score when landscape plans become available at the detailed application stage through the incorporation of new planting.

³ CIEEM, IEMA, CIRIA (2019) Biodiversity Net Gain. Good Practice Principles for Development – A Practical Guide

Qualitative – Tangible

- 5.8. Outside of the constraints of the BIAC, which only takes into account habitat losses and gains, a number of tangible biodiversity gains can be realised within the site, including the following:
- Introduction of more diverse habitat types, for example by planting a diverse range of native tree and shrub species and introducing wildflower grassland within the specified garden area; and
 - Installation of a number of faunal enhancements targeted to specific species, these could include integrated roost units for birds and bats within new buildings and invertebrate hotels within the garden area.

Qualitative – Non-Tangible

- 5.9. Ecosystems, and the biodiversity they contain, provide benefits for people. These are called ecosystems services and broadly comprise:
- Provisioning services e.g. food and water;
 - Regulating services e.g. soil formation, climate control, flood regulation and pollination;
 - Supporting services e.g. nutrient cycles and oxygen production; and
 - Cultural services e.g. recreation, education, intrinsic and aesthetic value.
- 5.10. The proposals would contribute regulating, supporting and cultural services.

Summary

- 5.11. In summary, due to the nature of the proposals and the small size of the site, the proposals demonstrate a neutral quantitative score in terms of habitat losses and gains. However, the site can deliver a number of tangible and non-tangible net gains, such that overall a net gain in biodiversity is achievable.

6. Conclusions

- 6.1. The site is dominated by hardstanding with occasional areas of rough grassland and tall ruderal vegetation. No protected or notable botanical species were recorded to be present and the habitats present within the site do not constitute important ecological features.
- 6.2. The site itself is considered sub-optimal habitat for protected or notable faunal species and as such, these are considered likely absent from the site. The scrub to the south of the site provides potentially suitable habitat for foraging and commuting bats, Hedgehog and nesting birds. However, it is understood the area of scrub is to be fully retained and protected under the proposed development.
- 6.3. No net loss was confirmed for both the outline and full application under the TVERC BIAC and although a quantifiable net gain could not be demonstrated it is considered a qualitative net gain can be achieved through incorporation of new native species planting and faunal enhancements.
- 6.4. In conclusion, the opportunity exists under the proposed development to minimise impacts and subject to the implementation of appropriate precautionary mitigation measures, it is considered

unlikely that any future proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of biodiversity benefits as part of the proposals.

Appendix 5582/TN1:

Site Location

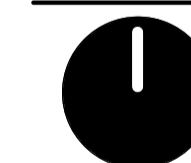
Site Boundary:
Please note the site boundary position identified on this drawing remains subject to confirmation from Land Registry / verification with the land owner's title deed. ADP take no responsibility for the reliability/accuracy of this survey information



— SITE BOUNDARY
— OWNERSHIP BOUNDARY

REVISION	DATE	DESCRIPTION	ARCHITECT	PARTNER
S1 P 1	14.02.19	FOR INFORMATION	ADP	
S1 P 2	15.02.19	Blue line ownership boundary included	ADP	
S1 P 3	19.02.19	Blue Line Ownership Boundary amended	ADP	
S1 P 4	07.03.19	Updates to red line boundary	ADP	
S1 P 5	07.03.19	Draft Planning	ADP	
S1 P 6	28.05.19	Draft Planning	ADP	

CHECK ALL DIMENSIONS AND VERIFY ON SITE. REPORT ANY ERRORS OR OMISSIONS



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JOB TITLE:
Elmsbrook Local Centre
North West Bicester
for A2Dominion

DRAWING TITLE:
LOCATION PLAN

SCALE: As indicated	DRAWING SHEET SIZE: A1
JOB CODE: ELC2	DRAWING NUMBER: ADP-00-XX-DR A-0800
REVISION: S1 P 6	

1 Location Plan
1 : 1250















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Appendix 5582/TN2:

Habitats, Ecological Features and Photographs



Key:

-  Site Boundary
-  Full Application
-  Outline Application
-  Hard Core
-  Tarmac
-  Gravel
-  Rough Grassland
-  Tall Ruderal Vegetation
-  Spoil Pile
-  Tree
-  Dense Scrub
-  Photograph Location



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North West Bicester, Exemplar Phase, Bicester Eco Town
 Habitats, Ecological Features and Photographs

5582/TN2

A REV.

October 2019 DATE



Appendix 5582/TN3:

Biodiversity Impact Assessment Calculators

Full Application Site: Calculations

Berks & Oxon Biodiversity Impact Assessment			
Address		North West Bicester, Exemplar Phase, Bicester Eco Town (northern full parcel)	
Phase 1 habitat	Existing Score	Proposed Score	Difference
Woodland and Scrub	0	0	0
Broadleaved woodland - semi-natural	0	0	0
Broadleaved woodland - plantation	0	0	0
Mixed woodland - semi-natural	0	0	0
Mixed woodland - plantation	0	0	0
Scrub - dense/continuous	0	0	0
Scrub - scattered	0	0	0
Parkland/scattered trees - broadleaved	0	0	0
Parkland/scattered trees - coniferous	0	0	0
Parkland/scattered trees - mixed	0	0	0
Coniferous woodland - semi-natural	0	0	0
Coniferous woodland - plantation	0	0	0
Recently felled woodland	0	0	0
Recently felled woodland - broadleaved	0	0	0
Recently felled woodland - coniferous	0	0	0
Recently felled woodland - mixed	0	0	0
Recently planted woodland	0	0	0
Orchard	0	0	0
Grassland and Marsh	0.034	0	0
Acid grassland - unimproved	0	0	0
Acid grassland - semi-improved	0	0	0
Neutral grassland - unimproved	0	0	0
Neutral grassland - semi-improved	0	0	0
Calcareous grassland - unimproved	0	0	0
Calcareous grassland - semi-improved	0	0	0
Improved grassland	0.034	0	0
Marsh/marshy grassland	0	0	0
Poor semi-improved grassland	0	0	0
Tall Herb and Fern	0	0	0
Bracken - continuous	0	0	0
Bracken - scattered	0	0	0
Other tall herb and fern - ruderal	0	0	0
Other tall herb and fern - non ruderal	0	0	0
Heathland	0	0	0
Dry dwarf shrub heath - acid	0	0	0
Dry dwarf shrub heath - basic	0	0	0
Wet dwarf shrub heath	0	0	0
Lichen/bryophyte heath	0	0	0
Dry heath/acid grassland	0	0	0
Wet heath/acid grassland	0	0	0

Phase 1 habitat	Loss / Gain
Woodland and Scrub	0.00
Grassland and Marsh	0.01
Tall Herb and Fern	0.00
Heathland	0.00
Mire	0.00
Swamp, Marginal and Inundation	0.00
Open Water	0.00
Rock Exposure and Waste	-0.05
Hedgerows	0.00
Miscellaneous	0.06
Total biodiversity units	0

Mire	0	0	0
Fen - valley mire	0	0	0
Fen - basin mire	0	0	0
Fen - flood plain mire	0	0	0
Swamp, Marginal and Inundation	0	0	0
Swamp	0	0	0
Marginal and inundation - marginal vegetation	0	0	0
Marginal and inundation - inundation vegetation	0	0	0
Open Water	0	0	0
Standing water - eutrophic	0	0	0
Standing water - mesotrophic	0	0	0
Standing water - oligotrophic	0	0	0
Standing water - dystrophic	0	0	0
Standing water - marl	0	0	0
Standing water - brackish	0	0	0
Running water - eutrophic	0	0	0
Running water - mesotrophic	0	0	0
Running water - oligotrophic	0	0	0
Running water - dystrophic	0	0	0
Running water - marl	0	0	0
Running water - brackish	0	0	0
Rock Exposure and Waste	0.0468	0	0
Quarry	0	0	0
Mine	0	0	0
Refuse-tip	0	0	0
Spoil	0.0468	0	0
Hedgerows	0	0	0
Species rich hedgerow	0.00	0.00	0.00
Species rich hedgerow (with bank or ditch)	0.00	0.00	0.00
Species poor hedgerow	0.00	0.00	0.00
Species poor hedgerow (with bank or ditch)	0.00	0.00	0.00
Line of trees	0.00	0.00	0.00
Line of trees (with bank or ditch)	0.00	0.00	0.00
Miscellaneous	0	0	0
Bare ground	0	0	0
Built Environment: Buildings/harstanding	0	0	0
Built Environment: Gardens (lawn and planting)	0	0	0
Buildings and Harstanding	0	0	0
Gardens	0	0	0
Allotments	0	0	0
Caravan site	0	0	0
Buildings	0	0	0
Cultivated/disturbed land - arable	0	0	0
Cultivated/disturbed land - amenity grassland	0	0	0
Cultivated/disturbed land - ephemeral/short perennial	0	0	0
Introduced shrub	0	0	0
Other habitat	0	0	0
Dry ditch	0	0	0
Boundary removed	0	0	0
Earth bank	0	0	0
Fence	0	0	0
Wall	0	0	0
Artificial sea wall	0	0	0
Reedbed	0	0	0
Cemetery	0	0	0
Green roof	0	0	0
Green wall	0	0	0
Total Area	0.3863	0.3863	0

Outline Application Site: Calculations

Berks & Oxon Biodiversity Impact Assessment			
Address		North West Bicester, Exemplar Phase, Bicester Eco Town (southern outline parcel)	
Phase 1 habitat	Existing Score	Proposed Score	Difference
Woodland and Scrub	0.1016	0	0
Broadleaved woodland - semi-natural	0	0	0
Broadleaved woodland - plantation	0	0	0
Mixed woodland - semi-natural	0	0	0
Mixed woodland - plantation	0	0	0
Scrub - dense/continuous	0.1016	0.1008	-0.0008
Scrub - scattered	0	0	0
Parkland/scattered trees - broadleaved	0	0	0
Parkland/scattered trees - coniferous	0	0	0
Parkland/scattered trees - mixed	0	0	0
Coniferous woodland - semi-natural	0	0	0
Coniferous woodland - plantation	0	0	0
Recently felled woodland	0	0	0
Recently felled woodland - broadleaved	0	0	0
Recently felled woodland - coniferous	0	0	0
Recently felled woodland - mixed	0	0	0
Recently planted woodland	0	0	0
Orchard	0	0	0
Grassland and Marsh	0	0	0
Acid grassland - unimproved	0	0	0
Acid grassland - semi-improved	0	0	0
Neutral grassland - unimproved	0	0	0
Neutral grassland - semi-improved	0	0	0
Calcareous grassland - unimproved	0	0	0
Calcareous grassland - semi-improved	0	0	0
Improved grassland	0	0	0
Marsh/marshy grassland	0	0	0
Poor semi-improved grassland	0	0	0
Tall Herb and Fern	0.222	0	-0.222
Bracken - continuous	0	0	0
Bracken - scattered	0	0	0
Other tall herb and fern - ruderal	0.222	0	-0.222
Other tall herb and fern - non ruderal	0	0	0
Heathland	0	0	0
Dry dwarf shrub heath - acid	0	0	0
Dry dwarf shrub heath - basic	0	0	0
Wet dwarf shrub heath	0	0	0
Lichen/bryophyte heath	0	0	0
Dry heath/acid grassland	0	0	0
Wet heath/acid grassland	0	0	0

Phase 1 habitat	Loss / Gain
Woodland and Scrub	0.00
Grassland and Marsh	0.00
Tall Herb and Fern	-0.22
Heathland	0.00
Mire	0.00
Swamp, Marginal and Inundation	0.00
Open Water	0.00
Rock Exposure and Waste	-0.02
Hedgerows	0.00
Miscellaneous	0.00
Total biodiversity units	0

Mire	0	0	0
Fen - valley mire	0	0	0
Fen - basin mire	0	0	0
Fen - flood plain mire	0	0	0
Swamp, Marginal and Inundation	0	0	0
Swamp	0	0	0
Marginal and inundation - marginal vegetation	0	0	0
Marginal and inundation - inundation vegetation	0	0	0
Open Water	0	0	0
Standing water - eutrophic	0	0	0
Standing water - mesotrophic	0	0	0
Standing water - oligotrophic	0	0	0
Standing water - dystrophic	0	0	0
Standing water - marl	0	0	0
Standing water - brackish	0	0	0
Running water - eutrophic	0	0	0
Running water - mesotrophic	0	0	0
Running water - oligotrophic	0	0	0
Running water - dystrophic	0	0	0
Running water - marl	0	0	0
Running water - brackish	0	0	0
Rock Exposure and Waste	0.0136	0	0
Quarry	0	0	0
Mine	0	0	0
Refuse-tip	0	0	0
Spoil	0.0136	0	0
Hedgerows	0	0	0
Species rich hedgerow	0.00	0.00	0.00
Species rich hedgerow (with bank or ditch)	0.00	0.00	0.00
Species poor hedgerow	0.00	0.00	0.00
Species poor hedgerow (with bank or ditch)	0.00	0.00	0.00
Line of trees	0.00	0.00	0.00
Line of trees (with bank or ditch)	0.00	0.00	0.00
Miscellaneous	0	0	0
Bare ground	0	0	0
Built Environment: Buildings/harstanding	0	0	0
Built Environment: Gardens (lawn and planting)	0	0	0
Buildings and Harstanding	0	0	0
Gardens	0	0	0
Allotments	0	0	0
Caravan site	0	0	0
Buildings	0	0	0
Cultivated/disturbed land - arable	0	0	0
Cultivated/disturbed land - amenity grassland	0	0	0
Cultivated/disturbed land - ephemeral/short perennial	0	0	0
Introduced shrub	0	0	0
Other habitat	0	0	0
Dry ditch	0	0	0
Boundary removed	0	0	0
Earth bank	0	0	0
Fence	0	0	0
Wall	0	0	0
Artificial sea wall	0	0	0
Reedbed	0	0	0
Cemetery	0	0	0
Green roof	0	0	0
Green wall	0	0	0
Total Area	0.2801	0.2801	0

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