

Plan:MK Examination

Our ref 12491/03/MS/MT
Date June 2018
On behalf of Berkeley

Matter 5: Strategic Site Allocations and Urban Extensions

Berkeley is the promoter behind the majority of the Land East of the M1 (“Milton Keynes East”, “MKE”) site; proposed allocation SD14. In that context, Berkeley and Milton Keynes Council have prepared a Statement of Common Ground with an appended Development Statement, setting out a shared position and evidence on several matters relating to the site. This will be submitted to the Examination under separate cover.

1.0 Issue 1 - General approach and principles (Policies SD1, SD11, SD12 & SD17)

Q5.1 Are the strategic site allocations as a whole consistent with the strategic objectives for Milton Keynes Borough? Are all the strategic sites technically ‘allocations’ or do some now have planning consent (particularly those carried forward from the Core Strategy and Eaton Leys)? What is the planning status of sites SD6, SD7, SD8, SD9 and SD15?

1.1 This is considered a matter for the Council to comment.

Q5.2 Overall, has the approach to the allocation of the new strategic housing sites in Policies SD13-15 been based on a clear, robust process of site assessment and informed by sustainability appraisal? Are the reasons for selecting the preferred strategic sites and rejecting others clear and sufficient? Would any inaccuracies in the assessment significantly undermine the overall conclusions?

1.2 The approach to identifying the strategic sites in SD13-15 is robust. Any inaccuracies in the assessment would not significantly undermine the overall conclusion; our previous representations highlighted that in respect of SD14 the SA had been cautious in assessing its sustainability, and absent any systemic and fundamental errors in the SA’s approach to other sites, in our view any inaccuracy would not undermine the integrity or alter the overall conclusions on the preferred strategic sites.

Q5.3 Are the generic policy requirements for strategic sites in policies SD1, SD11, SD12 & SD17 justified and effective? Are the various proposed modifications to Policies SD1, SD11, SD12 and SD17 necessary for plan soundness (See PMs 23, 24, 34, 35 & 50 in MK/SUB/004)?

1.3 This is considered a matter for the Council to comment.

Q5.4 Are any of the strategic sites in Flood Zones 2 or 3? Are the allocations consistent with paragraph 100 of the NPPF which states that Local Plans should apply a sequential, riskbased approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change?

- 1.4 MKE contains the River Ouzel and the associated flood zones 2 and 3. The flood risk has been modelled and the flood plain has defined both with and without allowances for climate change. The river corridor and associated flood zones is proposed to be allocated for a linear park / blue green corridor as per Policy NE4 and all built development will be in flood zone 1.

2.0 Issue 2 – Milton Keynes East (MKE) (Policy SD14)

Q5.5 Based on all the evidence, is the Plan positively prepared in respect of MKE and is the identification of this long term strategic site/direction of growth adequately justified? Are the references to MKE as a long term option post 2031 justified?

- 2.1 The Plan is indeed positively prepared in respect of MKE and the identification of the eastward direction of growth and the site itself is amply justified. It is a suitable site and location, is 'developable' (NPPF footnote 12) within the plan period, performs favourably against alternatives within the SA and aligns with the medium-to-long term housing and employment needs and spatial vision for MK, notably as expressed in the 2050 vision.
- 2.2 The Council's stated vision and one of the key priorities, as set out its draft Council Plan 2016 to 2020 (Item 12 Cabinet 5th June 2018), is to grow the population of Milton Keynes to around 500,000 people by 2050. Ongoing work by the Council's MK Futures 2050 Team to understand how this could be achieved indicates that the existing urban area of Milton Keynes would not be large enough to accommodate this population increase through intensification and densification alone. Rather, to achieve this vision, it is accepted by the Council that Milton Keynes City will need to expand in a concentric or radial fashion in all directions subject to any constraints. MKE sits within a relatively unconstrained (see SoCG and Development Statement) and sequentially preferable location compared to the omission sites for outward expansion, as evidenced within the SA/SEA accompanying the Proposed Submission Plan:MK, October 2017 and Housing Land Supply Topic Paper.
- 2.3 The development of MKE within the plan period, is therefore not considered to be contrary or prejudicial to any wider strategic directions of growth that may be pursued on the back of the MK Futures 2050 work or the awaited response from Government to the NIC's recommendations as it forms a logical, relatively unconstrained urban edge location for growth where the Milton Keynes urban edge has been concluded to not be capable of meeting this scale of growth.
- 2.4 However, Berkeley suggest that the policy in relation to MKE is modified as set out in the response previously submitted.

Q5.6 Is the overall size of the allocation and the quantity of development proposed appropriate? Is the proposed extension of the allocation in the proposed modifications (PM44) necessary for plan soundness? What would this modification mean in terms of site capacity and any delivery within the plan period?

- 2.5 The overall size of allocation - and quantity of development it could accommodate - is appropriate. However, to be effective Berkeley consider the Policy needs to identify development amounts (approximately 5,000 homes, approximately 100ha employment) as a constituent part of the allocation. Without doing so, it is not clear for what land use parameters the site is being allocated. An illustrative masterplan sits behind the proposed allocation (MK/TOP/001, pg6), showing how it could appropriately accommodate development of this scale. The Development Statement accompanying our SoCG sets out further information on the site capacity.
- 2.6 In relation to the questions about the proposed modification PM 44, this land is not owned or controlled by Berkeley, but Berkeley has no in-principle objection to the proposed modification and addition of this land.

Q5.7 What is the latest situation on the HIF funding bid in relation to this site? Does this provide a justification for revisiting the development trajectories for this site for both homes and employment? With or without HIF funding is there any certainty that some development could be bought forward at MKE within the plan period?

What is the latest situation on the HIF funding bid in relation to this site?

- 2.7 An application for HIF was made by MKC, supported by Berkeley, in September 2017. The bid has been shortlisted, and MKC has been invited to go through to a co-development stage. It is anticipated that a final business case will be submitted before December 2018 and successful bids will be notified in early 2019 (see INS1a and MKE Development Statement). The bid is mainly focussed on addressing transport capacity issues associated with M1 J14, including delivery of a new M1 crossing to separate local traffic.
- 2.8 The criteria for HIF includes that it must support delivery of up-to-date Local Plans (either implementing the Local Plan or helping to get it in place), and in that context it is anticipated that HIF will be unlocking sites allocated within current or emerging Local Plans. In short, the success of the HIF bid is linked to the MKE site being identified in Plan:MK. If the site is not allocated then the HIF funding will not be provided and Milton Keynes will lose the opportunity to make an early start on the delivery of a sustainable and logical site for expansion of the city to meet the areas aspirational development requirements.
- 2.9 Berkeley is aware of numerous other HIF bids across the country where HIF will support the delivery of physical infrastructure to unlock sites where infrastructure delivery is necessary; for example, the Inspector will be familiar with the North of Nuneaton urban extension; an allocation in the emerging Nuneaton and Bedworth Plan contingent on improvements to the A5 corridor which are subject to a HIF bid by Warwickshire County Council. There are further examples in Cambridgeshire. At Cambridge Northern Fringe East (CNFE) HIF funding is sought to unlock a development through relocating a waste water treatment works.
- 2.10 The MKE HIF application benefits from a pro-active, delivery focussed Council with a proven track record partnered with Berkeley as the delivery partner who are committed to the delivery

of the site. With this unique and very strong public-private partnership Berkeley consider there is a very good prospect of funding being secured, which means that there is a reasonable prospect (NPPF footnote 12) that the site could deliver development within the plan period and therefore justifies the inclusion of MKE as full allocation, subject to normal policy wording on delivery of supporting infrastructure.

Does this provide a justification for revisiting the development trajectories for this site for both homes and employment?

- 2.11 Berkeley is confident the HIF will be successful and are committed to delivering the homes identified for MKE. In relation to the development trajectories, Berkeley is confident that a substantial amount of development can take place on the site before 2031 and therefore there is no need to revisit the trajectory.

With or without HIF funding is there any certainty that some development could be bought forward at MKE within the plan period?

- 2.12 If funding is not secured, in lieu of strategic infrastructure being provided, it would still be possible to deliver some development during the plan period by implementing improvements at M1 J14 and other local road network improvements; with this envisaged to be in the region of 500 homes and a component of employment. Further work is being undertaken to understand the level of development that can be delivered without the HIF funding.

Q5.8 Noting the proposed modification, are there any other reasonable options for consolidating this strategic option that could expand delivery east of Milton Keynes, including in the short to medium term?

- 2.13 This is considered a matter for the Council to comment.

Q5.9 Are the criteria in Policy SD14 justified and effective? Are the infrastructure requirements clearly set out and is it clear what developers are expected to provide to overcome constraints?

- 2.14 Berkeley has suggested modifications to the criteria wording in our representations. Broadly speaking, Berkeley considers the criteria that are set out are justified on the basis that some of the detail on infrastructure will be clearly set through a subsequent Development Framework process which will be accompanied by an Infrastructure Delivery Plan. The criteria listed in SD14 identifies what is fundamentally necessary to deliver the site. However, Berkeley consider the policy could be made effective by explicitly identifying the Development Framework and the issues that it will cover (See Q5.16). Reference in the policy to the Development Framework will assist with clear identification of infrastructure requirements.

Q5.10 How will the site connect, particularly by walking, cycling and public transport, to (a) CMK and Newport Pagnell; (b) other strategic employment areas; and (c) potential Expressway corridor?

- 2.15 Five plans are appended to this Matters Statement (Appendix 1) These are:
- 1 Figure 1 identifies existing bus services in MK, including those accessible to the site in the context of CMK, Newport Pagnell and key employment areas, one of which is a core urban bus route as defined in the MK Bus Strategy (Ref. MK/TRA/006 Map 3 P61);

- 2 Figure 2 identifies how existing services could be enhanced to increase accessibility of the site by bus, including re-routeing of some services, increased frequency of some services and a new, limited stop, bespoke MKE service connecting the site with CMK and Newport Pagnell and interchange points with other bus services serving key employment areas. Land safeguarded for a future Park-and-Ride site has also been identified on the MKE site;
- 3 Figure 3 shows how pedestrians and cyclists accessing the site would be able to connect to the existing wider footway / cycleway network (particularly the Redway network) towards CMK, Newport Pagnell and key employment areas; and
- 4 Figure 4 identifies how the site would already connect to the A421 section of the Expressway through existing bus services via Cranfield. There is also the potential to extend existing bus and Redway routes in the south-east of the town (which the site ultimately connects to) towards the three Expressway route options south of the M1. As set out below the fast rapid transit route could also connect to the A421 section of the Expressway in the future.
- 5 Figure 5 shows the existing highway network for information.

- 2.16 Whilst not shown on these plans there is an aspiration for MKE to be served by a fast mass transit system, sometimes referred to as a “bullet bus”, which would connect Central MK with the P&R site at MKE, Cranfield and potentially onwards to connect to the Expressway and East-West rail as explained further in our response to Q5.11 below.

Q5.11 What is the ‘fast mass-transit system’ and is safeguarding a route for it justified?

- 2.17 In June 2018 MKC responded to a Call for Proposals for Transforming Cities Funding, which included a conceptual plan showing where mass transit routes could be provided. These routes would run at grade, along existing road corridors which would be reconfigured to realise the benefits mass transit can deliver. These at-grade routes would be complemented by a high speed, segregated, limited stop fast mass-transit system which would connect Central Milton Keynes with MKE and Cranfield with the ability for this to potentially extend further east to the Expressway and East-West Rail corridors thereby providing inter-connectivity with the wider Cambridge-MK-Oxford arc. A study is currently in the process of being commissioned by MKC to look at how this system might operate, including an assessment of routes, technologies, etc. with this due to be completed in Q4 2018.
- 2.18 It is considered that the safeguarding of a route through the MKE site for the “fast mass-transit system” is integral to protecting the ability for such a service to be delivered in the future and not compromise the ability for Milton Keynes to fulfil its ambitions of being a world class connected town. A route can be safeguarded through the MKE site without compromising the ability to deliver housing, employment, complementary land uses and the strategic infrastructure.

Q5.12 Are there potential transport implications arising from MKE for communities in Central Bedfordshire and, if so, has this formed part of the Duty to Co-operate dialogue?

- 2.19 As set out within the Plan: MK Duty to Co-operate Statement there is a Memorandum of Understanding between MKC and Central Bedfordshire Council (Ref. MK/SUB/008 Pages 20-25). If MKE comes forward within the plan period, MKC will work closely with Central

Bedfordshire Council (CBC) to closely assess and appropriately mitigate any impacts within Central Bedfordshire (Ref. MK/SU/008 Para 3.17, P23).

- 2.20 Based on the outputs from the Milton Keynes Multi-Modal Model (MKMMM) there are not envisaged to be any significant transport implications arising from MKE for communities in Central Bedfordshire.

Q5.13 Has the MKE location been considered as part of the MKMMM Local Model validation work and the Traffic Forecasting Report?

- 2.21 MKE has been assessed using the MKMMM. The detail of this is not considered within the Local Model Validation Report or Traffic Forecasting Report but is contained within the evidence base document MKMMM Impacts of Plan:MK ((Ref. MK/TRA/004 – Section 6.3 on Pages 88 and 89 and Section 8.2 on Page 147) as well as AECOMs Technical Note 21 (Ref. INS1d).
- 2.22 MKC and HE agree that the impacts of Plan: MK currently identified via the modelling work are not insurmountable and can be managed through a range of transport and highway interventions (Ref. MK/SUB/008, Paras. 3.5 and 3.6, P47).

Q5.14 Are there any implications of growth to the east of MK on air quality in Olney (A509 traffic)? What is air quality monitoring revealing at Olney and would growth at MKE be at odds with measures identified in any relevant Air Quality Action Plan?

- 2.23 Air quality monitoring in Olney show that levels of NO₂ and PM₁₀ have, for the past six years, been consistently below AQMA threshold levels and, whilst not yet formally reported, 2017 levels demonstrate the same. Should monitoring in 2018 and 2019 show similar levels of NO₂ and PM₁₀ then Defra could remove AQMA status from Olney.
- 2.24 Whilst an Air Quality Assessment will be required as part of an Environmental Impact Assessment for any planning application on MKE, based on predicted traffic levels it is not anticipated that MKE will have a material impact on NO₂ and PM₁₀ levels in Olney which would otherwise lead to the AQMA threshold limits being breached. Growth at MKE will therefore not be at odds with measures identified in the 2012 Local Air Quality Management Action Plan for Olney.

Q5.15 What will be the impact on the landscape character, biodiversity or any other special interests? Can any potentially adverse impacts be satisfactorily addressed?

- 2.25 Enclosed are short technical statements on ecology (Appendix 2), landscape (Appendix 3), heritage (Appendix 4), archaeology (Appendix 5), odour (Appendix 6), noise (Appendix 7) and flood risk (Appendix 8). In summary:
- 1 Ecology most of the site comprises habitats of limited nature conservation interest (agriculturally improved grassland and intensively farmed arable land). Where habitats of higher interest are present (floodplain grassland along the River Ouzel) these can be retained and enhanced. Through such habitat retention, creation and enhancement, no reduction in the ecological interest of the site is likely to arise, and in some instances the value of the site could increase for a range of habitats and species.

- 2 Landscape – the areas of landscape within which MKE sits are defined as being of low/medium sensitivity (MK/ENV/001 and MKE/ENV/002). Landscape mitigation and enhancement measures, including landscape buffers, the linear park, setbacks of buildings and retention of public rights of way could seek to balance landscape impacts with landscape benefits. In particular the logistics will be carefully planned as to where within the allocation site they are located, their orientation, height, scale and associated landscape screening to minimise visual effects.
- 3 Heritage - there is one listed building within the site (Grade II listed Moulsoe Buildings Farmhouse on London Road, the Holiday Inn hotel) and several more in the wider vicinity including a grouping in Moulsoe village with the Grade I listed church. The masterplan will sensitively address these elements, providing a setting for the hotel at the centre of the site and addressing inter-visibility between the scheme and any listed buildings in Moulsoe. It is considered that these can be positively addressed through the masterplanning of the site and in some aspects potentially enhance or reveal the significance of the heritage assets, with any remaining harm to their significance being “less than substantial” in magnitude.
- 4 Archaeology – whilst there are no nationally designated archaeological assets on the site or in the vicinity, assessment has indicated there are likely to be some areas of archaeological potential on the site. It is not anticipated that these will be of national significance, and they can be addressed through appropriate archaeological mitigation including desk-based assessments, geophysical surveys, geoarchaeological deposit modelling of the river valley and targeted trial trenching.
- 5 Odour - The Cotton Valley STW to the south of the site and has an odour zone associated with the operation of the works. Anglian Water have undertaken modelling for the works as a whole and the different operations within it with this demonstrating the odour constraint does not encroach onto the site.
- 6 Noise - A preliminary noise assessment has been undertaken. Road traffic noise is a constraint, greatest close to the M1 as well as other major roads through the area. However, internal noise impacts can be mitigated through building design (e.g. glazing, ventilation systems) whilst a range of measures are available to mitigate noise in external areas including set-backs, bunds, noise barriers which can all be implemented without affecting site suitability or the development capacity of the site.
- 7 Flood Risk - A preliminary noise assessment has been undertaken. Road traffic noise is a constraint, greatest close to the M1 as well as other major roads through the area. However, internal noise impacts can be mitigated through building design (e.g. glazing, ventilation systems) whilst a range of measures are available to mitigate noise in external areas including set-backs, bunds, noise barriers which can all be implemented without affecting site suitability or the development capacity of the site.

2.26 All potentially adverse impacts across special interests can be addressed and mitigated appropriately.

Q5.16 Does Policy SD14 provide sufficient content to inform the preparation of a comprehensive development framework as required Policy SD12?

2.27 No. The Development Framework will not be an appropriate vehicle to set policy, so as a minimum Policy SD14 should set out the parameters in terms of for what the site is allocated (e.g. development amounts, development principles). Berkeley has in previous representations

provided suggested policy wording on what the purpose of Development Framework should be and what, in headline terms, it should cover.

3.0 Issue 3 – South East Milton Keynes (SEMK) (Policy SD13)

Q5.17 Based on all the evidence, is the Plan positively prepared in respect of SEMK and is the identification of this strategic site adequately justified?

3.1 This is a matter for the Council.

Q5.18 Is the overall size of the allocation and the quantity of development proposed appropriate? Should additional land be included within the allocation to make it sound, including those areas indicated in the schedule of proposed modifications (PM39 & PM40)?

3.2 This is a matter for the Council.

Q5.19 Is the trajectory for completions at SEMK over the plan period realistic? Does it take account of any necessary comprehensive development framework approach and is there in-built flexibility to resolve any barriers to delivery? Are lead-in times and delivery rates reasonable?

3.3 See related comments under 5.20-5.21.

Q5.20 What degree of certainty can be given to the capacity of the site having regard to the route options for the proposed Expressway and necessary safeguarding and buffer of a possible route? Is it correct that route options B and C for the Expressway would both affect SEMK?

3.4 The inclusion of SEMK in the Plan, and the availability of the land for housing is not disputed; however, as acknowledged by the Council, the delivery of the site, in general and to the full capacity, is fundamentally predicated on the approval of the route of the proposed Oxford to Cambridge Expressway.

3.5 The 'Oxford to Cambridge Expressway Strategic Study Stage 3 Report', which included preferred routes, has only recently been released – the first stage in a long, and potentially protracted process. Figure 5-2 of the report appears to show that both preferred routes B and C would pass directly through SEMK, and at minimum would directly impact the site through safeguarding, and the requirement of a land buffer along the route. Should options B or C be progressed, directly passing through the site, it would have considerable implications for masterplanning and phasing of SEMK, with likely implications resulting in, not just a reduction in the amount of available land for residential use, but delays to its delivery as the road would need to be delivered ahead of housing.

3.6 Notwithstanding, the detailed alignment of the route is still currently under determination, and the latest information appears to indicate that a preferred route for the road is set to be chosen this summer (2018) by Highways England; however, there is likely to be significant governance issues, with many of the authorities affected by the Expressway already disagreeing on the proposed route. Ultimately, absolute certainty on the route, and thus the full capacity of the site, will only be reached subsequent to significant further analysis, and the granting of a Development Consent Order.

Q5.21 Are there other infrastructure interdependencies, how do they relate to the phasing of development, are they made clear in the Plan and have they been adequately taken into account?

- 3.7 Yes. The SA (MK/SUB/005) identifies that SEMK would require the delivery of new road infrastructure (a bridge over the railway), and that initial indications are that a new (relatively small) secondary school would be required (pg. 103). Policy SD13 of MK/SUB/001 states that prior to an application, a *“comprehensive development framework for the site will be prepared in accordance with policies SD1, SD11, SD12 and INF1”*; however, despite the MK/SUB/005 acknowledging some infrastructure requirements, MK/SUB/001 does not identify, or provide policy detail on, infrastructure requirements, including any specific infrastructure improvements or site-specific requirements. Equally, no details on phasing are provided, due to deferment of the site until the alignment of the Expressway has been confirmed.

Q5.23 How will uncertainty about deliverability of the SEMK allocation be addressed and mitigated if necessary? Is there evidence to support SEMK being able to sustainably come forward in two distinct sites, north and south of the railway?

- 3.8 This is considered a matter for the Council to comment.

Q5.24 Are the specific policy requirements in Policy SD13 justified and deliverable? Are the infrastructure requirements clearly set out (particularly education and health) and having regard to the LIP is it clear what developers are expected to provide to overcome constraints? Would the proposed modifications (including PM38) be necessary for soundness?

- 3.9 This is considered a matter for the Council to comment.

Q5.25 Will the separate identities of Bow Brickhill, Wavendon and Woburn Sands and settlement fringe sensitivities in general be adequately protected through the Plan’s policies?

- 3.10 This is considered a matter for the Council to comment.

Q5.26 What will be the impact on the landscape character of the Greensand Ridge, the function of the site as part of the green infrastructure, openness & tranquillity of this part of the Borough, biodiversity and the special interests of Bow Brickhill church and Danesborough Iron Age Fort? Can any potentially adverse impacts be satisfactorily addressed?

- 3.11 This is considered a matter for the Council to comment.

Q5.27 Is the proposed allocation of 7 permanent gypsy/travellers pitches as part of this strategic site soundly based? How will this provision be delivered?

- 3.12 This is considered a matter for the Council to comment.

Q5.28 Does Policy SD13 provide sufficient content to inform the preparation of a comprehensive development framework as required Policy SD12?

3.13 This is considered a matter for the Council to comment.

Q5.29 Taking into account physical and planning constraints, infrastructure and land ownership, is SEMK capable of being delivered in a manner envisaged by Plan:MK? Is the allocation viable?

3.14 This is considered a matter for the Council to comment.

4.0 Issue 4 – Campbell Park and Central Bletchley (Policies SD18 & SD19)

Q5.30 What is the planning status of various sites at Campbell Park? What is already committed and what additional development is allocated through Plan:MK? Is there an agreed masterplan that remains extant? Are the various sites that make up Campbell Park clearly identified? Are there any sites that are potentially undeliverable or would not be justified for inclusion? Conversely, have any sites/areas been omitted? Is there an appropriate plan, showing the various parcels intended for development at Campbell Park?

4.1 This is considered a matter for the Council to comment.

Q5.31 What density of development is assumed at Campbell Park? Has the capacity of the site been under-estimated? Should the density of development at Campbell Park be consistent with the CMKAP yield of 250 dwellings per hectare?

4.2 This is considered a matter for the Council to comment.

Q5.32 What scale of development is anticipated at Campbell Park within the next five years and is this reasonable?

4.3 This is considered a matter for the Council to comment.

Q5.33 What does Policy SD18 add to what is already set out in the general principles for strategic principles and in Policy HN1 (Housing Mix) and the suite of design policies? Is it providing appropriate strategic direction and coordination at this key location?

4.4 This is considered a matter for the Council to comment.

Q5.34 What is the intended outcome of Policy SD19? How would development within Policy SD19 be assigned, if at all, to the housing land supply figures in Table 4.3? Is there evidence to positively identify opportunities for development within the SD19 area?

4.5 This is considered a matter for the Council to comment.

5.0 Issue 5 – Other Strategic Sites (Policies SD9, SD15 & SD19-21) and medium/small housing allocations (Appendix A)

Q5.35 What is the planning status of Newton Leys (Policy SD9)? What does its identification as a ‘special area’ mean? Is there certainty/clarity on the proposed link road within the site? Is this a strategic cross-boundary matter and part of the Duty to Co-operate?

5.1 This is considered a matter for the Council to comment.

Q5.36 What is the planning status of the housing allocation at Eaton Leys (Policy SD15)? Have the proposed modifications in MK/SUB/004 satisfied Historic England’s concerns regarding archaeological assets and consistency with paragraph 141 of the NPPF?

5.2 This is considered a matter for the Council to comment.

Q5.37 Are the sites in Policies SD19, SD20 and SD21 genuinely strategic sites? Are there comparable medium and smaller Plan:MK allocations or allocations carried forward from the SADPD in Appendix A of the Plan which merit a similar approach in terms of site specific issues relating to the nature and scale of development as set out in PPG para 12-010-20140306 - the ‘what, where, when and how questions’?

5.3 This is considered a matter for the Council to comment.

Q5.38 Is Plan:MK justified and effective in scheduling site allocations in an appendix rather than in a policy? Are there potential consultation / transparency issues with the submitted appendix approach?

5.4 This is considered a matter for the Council to comment.

Q5.39 Have the medium and smaller Plan:MK housing allocations been based on a clear, robust process of site assessment and informed by sustainability appraisal? In particular:

i) Has an appropriate methodology been used and has it been applied consistently?

5.5 This is considered a matter for the Council to comment.

ii) Are the reasons for (a) selecting the sites in Policies SD19-20 and at Appendix A as the ‘preferred sites’ and (b) rejecting other potential options for medium/smaller housing sites been set out clearly and sufficiently?

5.6 This is considered a matter for the Council to comment.

iii) Would any inaccuracies in the assessments significantly undermine the overall soundness of the Plan?

5.7 This is considered a matter for the Council to comment.

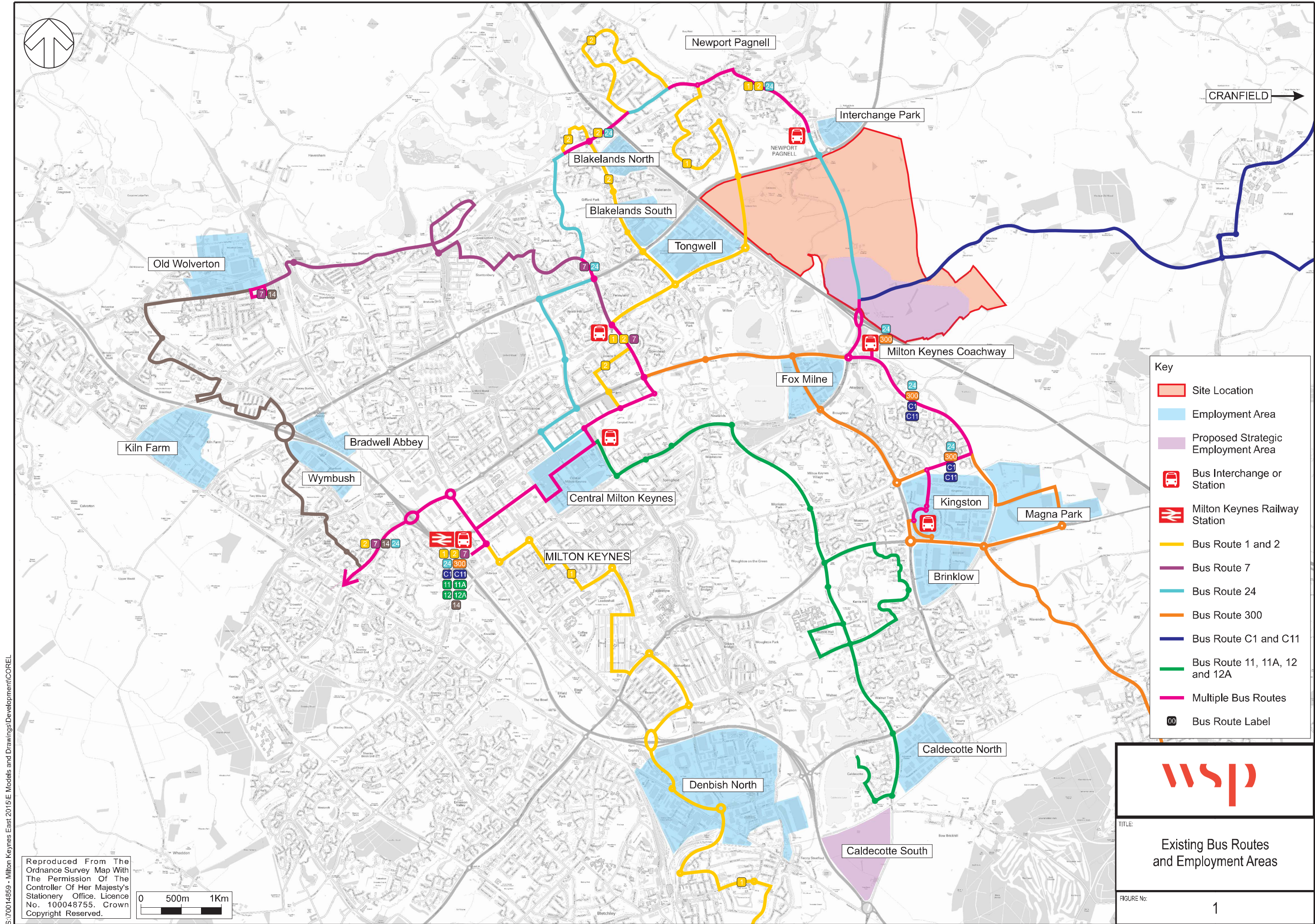
Q5.40 What threshold was applied to site size in determining the allocations? Is it consistent with the PPG (3-010-20140306) which states that plan makers will need to assess a range of different site sizes and should consider all sites capable of delivering five or more dwellings?

5.8

This is considered a matter for the Council to comment.

Appendix 1: Walking, cycling and public transport plans


- Figure 1: Existing Bus Routes and Employment Areas
- Figure 2: Proposed Bus Routes and Employment Areas
- Figure 3: Pedestrian and Cycle Network
- Figure 4: Potential Expressway Connectivity
- Figure 5: Highway Network Plan



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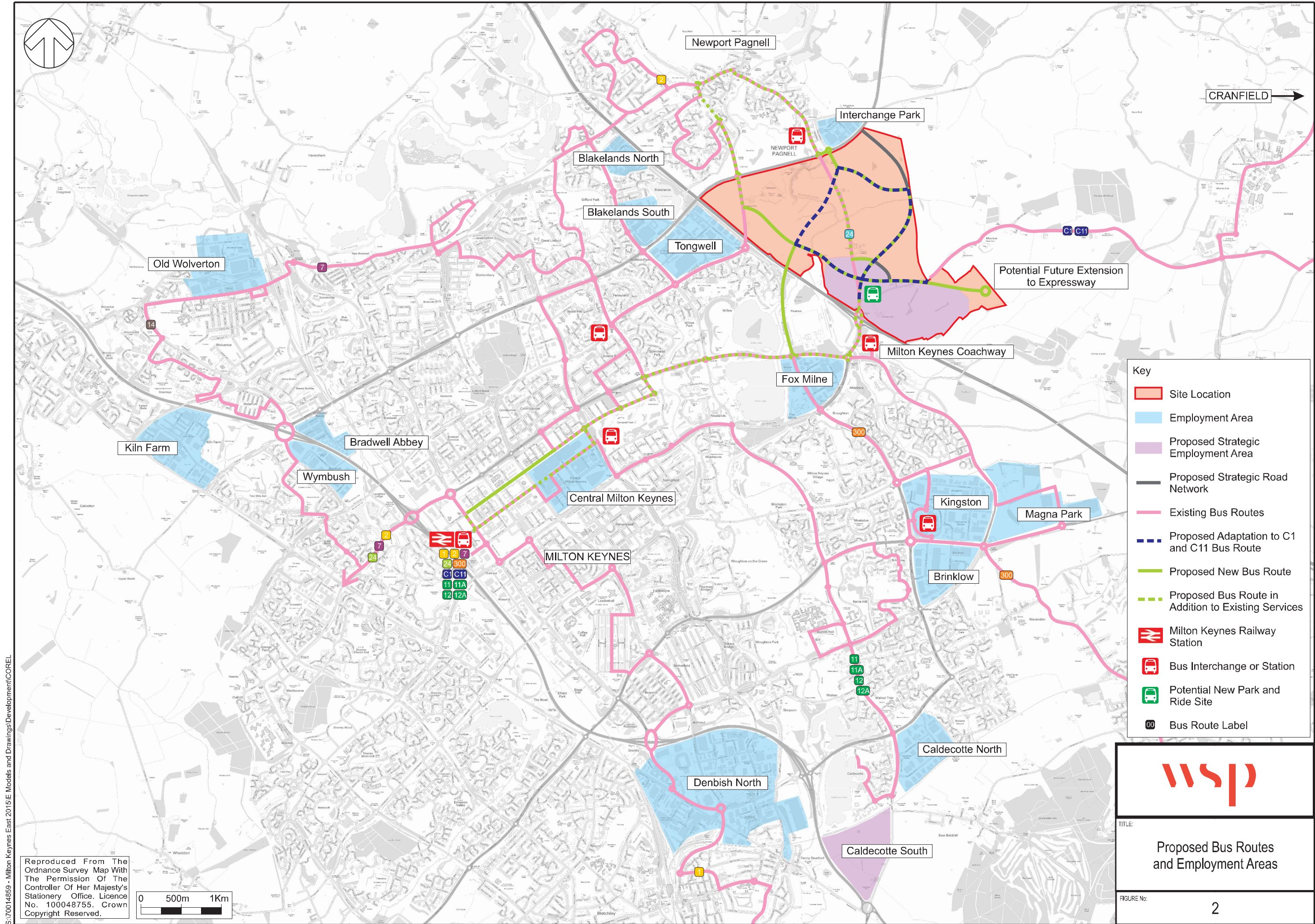


TITLE:

Existing Bus Routes
and Employment Areas

FIGURE No:


1



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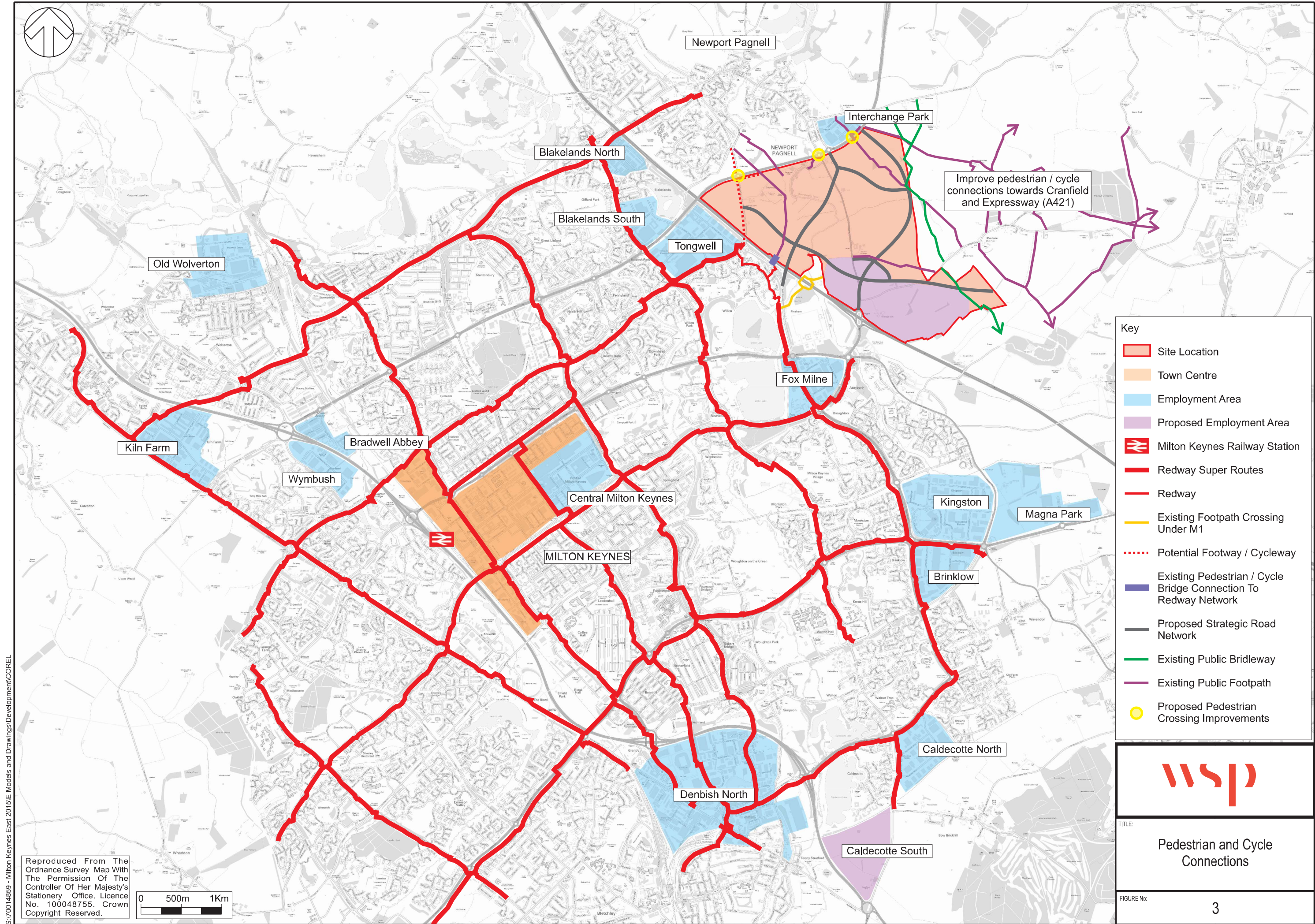


TITLE:

Proposed Bus Routes
and Employment Areas

FIGURE No:

2

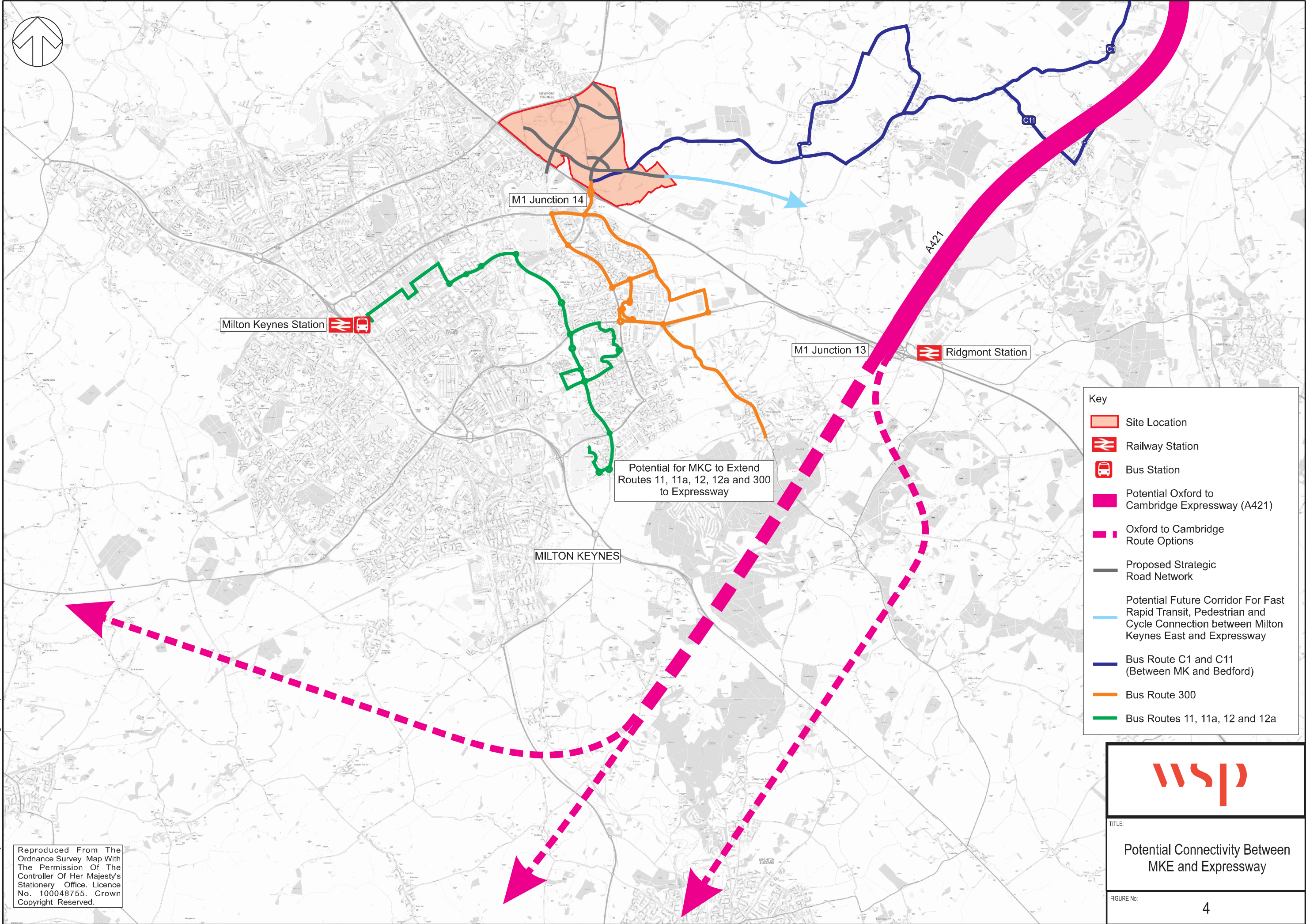


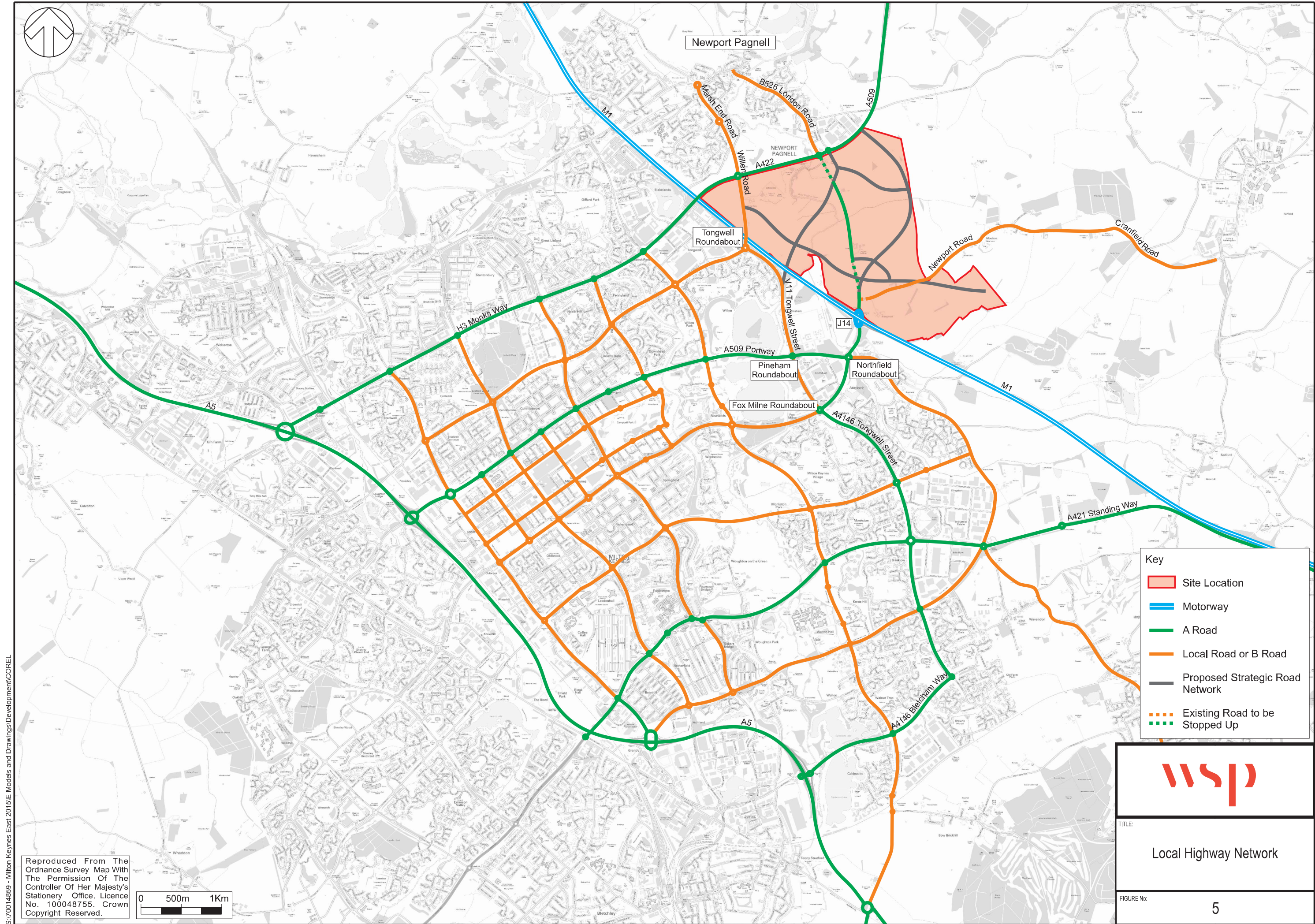
Key

- Site Location
- Town Centre
- Employment Area
- Proposed Employment Area
- Milton Keynes Railway Station
- Redway Super Routes
- Redway
- Existing Footpath Crossing Under M1
- Potential Footway / Cycleway
- Existing Pedestrian / Cycle Bridge Connection To Redway Network
- Proposed Strategic Road Network
- Existing Public Bridleway
- Existing Public Footpath
- Proposed Pedestrian Crossing Improvements

TITLE:
Pedestrian and Cycle Connections

FIGURE No:
3





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Key

- Site Location
- Motorway
- A Road
- Local Road or B Road
- Proposed Strategic Road Network
- Existing Road to be Stopped Up
- Stopped Up

wsp

TITLE:

Local Highway Network

FIGURE No: 5

Appendix 2: Ecology Technical Note

MILTON KEYNES EAST

Client: Berkeley

HDA ref: 2090.52

20th June 2018

Milton Keynes East: Consideration of ecological constraints and opportunities

1 Introduction

- 1.1 This technical note provides an overview of the ecological character of the Milton Keynes East allocation site and considers the potential effects of the emerging development proposals on identified features of ecological interest. Consideration is also given to potential measures that can be delivered by the scheme to maintain and enhance opportunities for wildlife in accordance with planning policy and the 2006 Natural Environment and Rural Communities Act.

2 Baseline conditions

- 2.1 A number of ecological surveys have been carried out by Hankinson Duckett Associates (HDA) to confirm the suitability of the Milton Keynes East site for development. These have included an extended phase 1 habitat survey and ecological desk study, in addition to specialist ecological surveys for bats, dormice, great crested newts, birds, badgers, otters, water voles, reptiles and invertebrates. Although these studies have been focussed on the area of the Milton Keynes East allocation site being promoted by Berkeley, HDA is familiar with the wider proposed allocation to the north west and unless stated otherwise this area is also considered in the assessment below.
- 2.2 The findings of the desk study are provided in Annex 1 to this technical note and a Phase 1 Habitat Survey Plan and detailed target notes are provided as Annex 2. The protected species survey work is currently being updated and findings will be subject of future reports. Although protected species survey work is not usually available at the promotion of allocated sites stage, the findings of this additional work carried out to date have been considered in the assessment and advice provided below.

- 2.3 The desk study has confirmed that no statutory nature conservation designations pertain to the site or adjacent land. The closest statutory designated area (e.g. SPA, SAC, SSSI) is located over 10km from the site, and the site is not located in any Natural England Impact Risk Zones¹.
- 2.4 Three non-statutory nature conservation designations pertain to the site, all of which relate to 'Milton Keynes Wildlife Corridors' (MKWCs) associated with the M1 motorway and the River Ouzel which flows northward through the western area of the site. The extent of each MKWC is shown in Annex 1. MKWCs represent linear pathways of habitats that encourage movement of plants and animals between other important habitats and are treated in the same way as Local Wildlife Sites (LWSs) in Milton Keynes.
- 2.5 The wider site is dominated by arable farmland and agriculturally improved grassland fields of very limited nature conservation interest in their own right. Habitats of higher interest are generally restricted to field margins such as hedgerows, drains and small areas of secondary woodland² which is typical of the surrounding area, and most notably there are several semi-improved neutral meadow grassland fields located in the floodplain on the western bank of the River Ouzel.
- 2.6 The findings of the specialist protected species surveys carried out across the proposed allocation land to date indicate that:
- Great crested newts, otters and dormice are likely to be absent.
 - Very low numbers of common and widespread reptile species have been recorded, including Grass Snake, Common Lizard and Slow-worm. Records are sparsely distributed across the area in association with hedges, ditches, treelines and woodland edge habitats.
 - Four possible low-status, non-breeding bat roosts have been identified from the site³. These include:

¹ IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) which in the absence of avoidance or mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed.

² No woodland included on Natural England's Inventory of Ancient Woodland is present within or adjacent to the proposed allocation.

³ Phase 2 Bat emergence survey effort has focussed on the land being promoted by Berkeley only.

- A low-status, non-breeding Common Pipistrelle roost (single bat) has been identified from a tree within a woodland copse in the northern area of the site;
- A low-status, non-breeding Common Pipistrelle roost (≥ 2 bats) has been identified from Hermitage Farm, south of Newport Road;
- An anecdotal record of a 'bat roost' has been provided for Caldecote Farm House in the north west of the site; and
- A low-status roost for an individual/ low number (likely one) of an unidentified species of bat in a tree on the south western site boundary.

Only low levels of bat foraging and commuting activity have been recorded. Activity is generally focussed on linear habitats such as hedgerows, treelines, woodland edges and watercourses and species present include Soprano Pipistrelle, Common Pipistrelle, Noctule, Brown Long-eared and *Myotis* sp.

- Only two active Badger setts have been recorded across the proposed allocation site, both of which are likely to be low status non-breeding setts⁴.
- The bird assemblage recorded at the site is typical of farmland habitats. Although Barn Owl and Kingfisher has been recorded foraging, no specially protected birds (i.e. protected against disturbance when breeding) are considered to be nesting at the site.
- Water Vole has been recorded from the River Ouzel and two closely associated drainage ditches.
- The terrestrial and aquatic invertebrate assemblages are both of limited interest.

3 Consideration of the scheme

3.1 As indicated on the emerging Concept Masterplan (JTP DWG. 01312_SK_003), the allocation of the Milton Keynes East site for development would provide opportunity to strengthen the MKWCs associated with the M1 corridor and the River Ouzel. This would be achieved through replacement of the existing arable and improved grassland fields with habitats of higher nature conservation interest such as woodland, scrub, meadow grassland and new areas of wetland. The semi-improved neutral meadow grassland habitat along the western bank of the River Ouzel would be retained and opportunity created for conversion of the agriculturally improved floodplain grassland to the east of the river in order to increase the current extent of the semi-improved neutral meadow grassland habitat of high nature conservation interest.

⁴ Active setts recorded comprise an outlying sett along Newport Road and a subsidiary sett along the London Road. No main or annex setts were recorded.

- 3.2 In a wider context, as indicated by the emerging proposals (JTP DWG. 01312_SK_003), the landscape scheme for the proposed development would also provide opportunities to extend the network of linear parks and create additional new habitats of high wildlife value including woodland, scrub and meadow grassland within areas of open space in addition to creation of wetland in association with the development's surface water drainage strategy. These will complement retained habitats within the site and the wider area. Where it is unavoidable that existing hedgerows are lost, mitigation can be provided through planting of new hedgerows and other linear habitats, such as scrub belts, to ensure ecological connectivity and other opportunities for wildlife are maintained. The management of retained and newly created habitats would be secured to ensure value to wildlife is maximised in the long-term.
- 3.3 These habitats would in turn maintain opportunities for protected species recorded using the site, and subject to implementation of standard measures to avoid conflicts with the requirements of individual species (e.g. bridge design to allow safe passage of aquatic mammals beneath, lighting design to avoid impacts on nocturnal wildlife etc.) it is considered that the favourable conservation status of protected species can be maintained at the site. In fact, the proposals provide opportunity to increase the current value of the site for a number of groups including bats, water voles and reptiles.

4 Conclusion

- 4.1 The majority of the site currently comprises habitats of limited nature conservation interest and beyond the normal requirements to ensure compliance with nature conservation legislation and maintenance of key habitats and species there are no overriding nature conservation constraints that would otherwise preclude its development. Through the habitat retention, creation and enhancement described above, no reduction in the ecological interest of the site is likely to arise, and in some instances the value of the site could increase for a range of habitats and associated species.

MILTON KEYNES EAST

DESK STUDY

Prepared for: Berkeley Strategic

by

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1 INTRODUCTION

- 1.1 The following report summarises the findings of a desk study for land being promoted for development by Berkeley Strategic located to the east of Milton Keynes, Buckinghamshire, hereinafter referred to as 'the site'. The site boundary and full desk study findings are provided in Appendix A.

2 METHODOLOGY

- 2.1 Existing ecological and nature conservation data relevant to the site was collated from various sources including the 'Multi Agency Geographic Information for the Countryside' (MAGIC) online database (<http://magic.defra.gov.uk>) and Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC). All relevant protected species records were obtained for an area of approximately 2km around the site and a check for statutory designated areas within up to 10km of the site was carried out using the MAGIC database. The findings of the desk study are summarised below and the full results are given in *Appendix A*.

3 RESULTS

3.1 Designated Sites

- 3.1.1 No statutory designated sites (including SACs¹, SPAs² or SSSIs³) are located within up to 10km of the site. The extent of designated areas in the vicinity of the site are illustrated on the plans in *Appendix A*.
- 3.1.2 Impact Risk Zones (IRZs) are used by Natural England to identify development activities in the vicinity of SSSIs, SPAs and SACs which in the absence of avoidance or mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. No IRZs relate to the site, and as such Natural England would not be expected to be consulted on development proposals for residential development at the site in this regard.
- 3.1.3 Three non-statutory nature conservation designations pertain to the site, all of which relate to 'Milton Keynes Wildlife Corridors' (MKWCs) associated with the M1 motorway and the River Ouzel which flows northward through the western area of the site. The extent of each MKWC is shown in *Appendix A*. MKWCs represent linear pathways of habitats that encourage movement of plants and animals between other important habitats and are treated in the same way as Local Wildlife Sites (LWSs) in Milton Keynes.

¹ SAC - Special Areas of Conservation

² SPA – Special Protection Areas

³ SSSI – Sites of Special Scientific Interest

- 3.1.4 BMERC provided details of two Local Wildlife Sites (LWS) within 2km of the site. These include:
- Willen Lake LWS, located approximately 400m to the south of the site, which supports UK BAP Priority Habitats including lowland meadow and open water with associated habitats of swamp, tall-herb fen and flowing water. The site is also noted for its bird populations and the presence of the endangered Grass-poly (*Lythrum hyssopifolia*); and
 - Tongwell Lake, located approximately 850m to the south-west of the site, which comprises a lake habitat with fringing aquatic vegetation, woodland and amenity grassland and is noted for its wintering birds.
- 3.1.5 BMERC provided details of thirteen Biological Notification Sites (BNS) within the desk study area, none of which pertain to the site. The closest of these is the Grand Union Canal, Downhead Park BNS located approximately 1.4km to the south-west of the site.
- 3.1.6 Six areas of woodland included on Natural England's Inventory of Ancient Woodland are located within 2km of the site. The closest is an area of ancient replanted woodland at Lower Wood, located approximately 1.2km to the east of the site at its closest point.
- 3.2 Biodiversity Action Plan (BAP) and 2006 NERC Act Habitats and Species of Principal Importance**
- 3.2.1 The UK Biodiversity Action Plan (BRIG, 2011) lists habitats and species which have undergone significant declines in recent years and for which conservation is a priority in order to preserve biodiversity in the UK. The BAPs provide a list of actions to be implemented to halt or reverse these declines.
- 3.2.2 These habitats and species are identified as Habitats and Species of Principal Importance for the conservation of biological diversity in England in Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Together with the 2012 National Planning Policy Framework (NPPF) and underpinning guidance (ODPM 2005), Section 40 of the 2006 NERC Act requires that these species are a material consideration in the planning process.
- 3.2.3 The MAGIC online database identifies three areas of the site as being Lowland Deciduous Woodland BAP Priority Habitat. These areas comprise a 1.4ha area within the northern end of the site and two areas immediately adjacent to each other covering a 1ha area, when combined, within the south-eastern area of the site. It should be noted that identification of

Lowland Deciduous Woodland BAP Priority Habitat from the inventory generally relate to an indication of woodland presence rather than woodland quality.

3.2.4 The Buckinghamshire and Milton Keynes Biodiversity Action Plan (2010-2020) uses the Biodiversity Opportunity Area (BOA) approach to deliver BAP habitat targets. BOAs identify the areas of the county with the best opportunities for habitat creation and restoration and the main aim within BOAs is to restore biodiversity at a landscape-scale. Habitats targeted for creation and restoration within the Buckinghamshire & Milton Keynes Biodiversity Action Plan include:

- Lowland wood pastures and parkland
- Traditional orchards
- Hedgerows
- Ponds
- Lowland heathland
- Lowland dry acid grassland
- Lowland meadows
- Lowland calcareous grassland
- Purple moorgrass and rush pastures
- Lowland fens
- Reedbed
- Coastal and floodplain grazing marsh
- Native woodland
- Watercourses

3.2.5 The majority of the site is located within the Ouse Valley local BOA, with the southern part of the site located within the Milton Keynes City Local BOA.

3.2.6 The Ouse Valley local BOA comprises unwooded agricultural land, supporting 4 local wildlife sites and a number of BAP habitats including watercourses, lowland meadow, lakes, ponds, reedbed and hedgerows. Targets for the BAP habitats within the Ouse Valley local BOA include:

- Management and restoration of rivers & streams;
- Restoration and creation of lowland meadow;
- Management, restoration and creation of eutrophic standing water;
- Management, restoration and creation of ponds;
- Management, restoration and creation of hedgerows;

- Creation of fen; and
- Management and creation of Reedbed.

3.2.7 The Milton Keynes City Local is mostly comprised of an urban settlement with wooded and unwooded agricultural land, supporting 2 local wildlife sites and BAP habitats including woodland, traditional orchards, ponds, watercourses and urban habitats. Targets for the BAP habitats within the Milton Keynes City local BOA include:

- Restoration and creation of lowland meadow;
- Management and creation of woodland;
- Management and restoration of eutrophic standing waters;
- Management, restoration and creation of ponds
- Management, restoration and creation of traditional orchards;
- Management and restoration rivers and streams; and
- Management, restoration and creation of reedbeds.

3.3 Protected species

3.3.1 Data provided by BMERC indicates that there are currently records of Badger occurring within the site. In addition, BMERC provided records of protected and notable species occurring in the vicinity of the site including bats, Badger, birds, Otter, Water Vole, Great Crested Newt, reptiles, invertebrates, and plants.

Bats

3.3.2 BMERC provided 53 records of bats for the desk study area including records of Daubenton's, Natterer's, Noctule, Common Pipistrelle, Soprano Pipistrelle and Brown Long-eared bats together with unidentified species of *Pipistrellus* and *Plecotus*. Two records pertain to a location immediately adjacent to the northern site boundary and relate to Natterer's bats, dating from 1992.

3.3.3 All UK bat species are protected as 'European Protected Species' (EPSs) under the 2017 Conservation of Habitats and Species Regulations, which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to EPSs, the 2017 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS;
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or

nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong;

- Damage or destroy a breeding site or resting place of such an animal;
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

3.3.4 In addition, all UK bats are protected under the 1981 Wildlife and Countryside Act (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection;
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

3.3.5 If works are planned that are likely to constitute an offence under the current legislation, then works should be carried out under an appropriate Natural England licence.

3.3.6 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are also listed as Species of Principal Importance identified under Section 41 of the 2006 NERC Act. Section 40 of the Act requires planning authority to regard these species as a material consideration in the planning process.

Badgers

3.3.7 BMERC provided 21 records of Badger for the desk study area. Three of these records pertain to locations within the site including;

- A record in the central area of the site dating from 2014;
- A record in the southern area of the site dating from 2012; and
- A record in the north of the site dating from 2004.

3.3.8 A further record identified a Badger record approximately 30m from the site boundary, near Newport Stables, dating from 2013.

3.3.9 Badgers and their setts are protected under the 1992 Protection of Badgers Act. Unless permitted under a licence issued by Natural England, this makes it an offence to:

- Kill, injure or capture a Badger;
- Damage, destroy or obstruct access to a Badger sett; and

- Disturb Badgers while they are occupying a sett.

Birds

3.3.10 BMERC provided 1061 bird records for the desk study area. All nesting birds are afforded a basic level of protection under the 1981 Wildlife and Countryside Act. Species included on Schedule 1 of the Act are afforded additional protection against disturbance when breeding. Table 1 below details the notable bird species recorded within desk study area:

Table 1: Notable bird species recorded within desk study area

Common Name	Scientific Name	Annex I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Arctic Tern	<i>Sterna paradisaea</i>				
Avocet	<i>Recurvirostra avosetta</i>				
Barn Owl	<i>Tyto alba</i>				
Barnacle Goose	<i>Branta leucopsis</i>				
Bar-tailed Godwit	<i>Limosa lapponica</i>				
Bewick's Swan	<i>Cygnus columbianus</i> ssp. <i>bewickii</i>				
Bittern	<i>Botaurus stellaris</i>				
Black Redstart	<i>Phoenicurus ochruros</i>				
Black Tern	<i>Chlidonias niger</i>				
Black-headed Gull	<i>Chroicocephalus ridibundus</i>				
Black-necked Grebe	<i>Podiceps nigricollis</i>				
Black-tailed Godwit	<i>Limosa limosa</i>				
Brambling	<i>Fringilla montifringilla</i>				
Brent Goose	<i>Branta bernicla</i>				
Bullfinch	<i>Pyrrhula pyrrhula</i>				
Caspian Gull	<i>Larus cachinnans</i>				
Cetti's Warbler	<i>Cettia cetti</i>				
Common Gull	<i>Larus canus</i>				
Common Scoter	<i>Melanitta nigra</i>				
Common Tern	<i>Sterna hirundo</i>				
Corn Bunting	<i>Emberiza calandra</i>				
Cuckoo	<i>Cuculus canorus</i>				
Curlew (Eurasian)	<i>Numenius arquata</i>				
Dartford Warbler	<i>Sylvia undata</i>				
Dunlin	<i>Calidris alpina</i>				
Dunnock	<i>Prunella modularis</i>				
Fieldfare	<i>Turdus pilaris</i>				

Common Name	Scientific Name	Annex I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Gadwall	<i>Anas strepera</i>				
Gannet	<i>Morus bassanus</i>				
Garganey	<i>Anas querquedula</i>				
Glaucous Gull	<i>Larus hyperboreus</i>				
Goldeneye	<i>Bucephala clangula</i>				
Grasshopper Warbler	<i>Locustella naevia</i>				
Great B.b. Gull	<i>Larus marinus</i>				
Green Sandpiper	<i>Tringa ochropus</i>				
Greenshank	<i>Tringa nebularia</i>				
Grey Partridge	<i>Perdix perdix</i>				
Grey Plover	<i>Pluvialis squatarola</i>				
Grey Wagtail	<i>Motacilla cinerea</i>				
Greylag Goose	<i>Anser anser</i>				
Hen Harrier	<i>Circus cyaneus</i>				
Herring Gull	<i>Larus argentatus</i>				
Hobby	<i>Falco subbuteo</i>				
House Martin	<i>Delichon urbicum</i>				
House Sparrow	<i>Passer domesticus</i>				
Iceland Gull	<i>Larus glaucoides</i>				
Kestrel	<i>Falco tinnunculus</i>				
Kingfisher	<i>Alcedo atthis</i>				
Kittiwake	<i>Rissa tridactyla</i>				
Knot	<i>Calidris canutus</i>				
Lapwing	<i>Vanellus vanellus</i>				
Lesser B.b. Gull	<i>Larus fuscus</i>				
Lesser Redpoll	<i>Carduelis cabaret</i>				
Lesser Sp. Woodpecker	<i>Dendrocopos minor</i>				
Linnet	<i>Carduelis cannabina</i>				
Little Gull	<i>Larus minutus</i>				
Little Ringed Plover	<i>Charadrius dubius</i>				
Little Tern	<i>Sternula albifrons</i>				
Mallard	<i>Anas platyrhynchos</i>				
Marsh Harrier	<i>Circus aeruginosus</i>				
Marsh Tit	<i>Poecile palustris</i>				
Meadow Pipit	<i>Anthus pratensis</i>				
Mealy (Common) Redpoll	<i>Carduelis flammea</i>				
Mediterranean Gull	<i>Larus melanocephalus</i>				
Merlin	<i>Falco columbarius</i>				
Mistle Thrush	<i>Turdus viscivorus</i>				
Mute Swan	<i>Cygnus olor</i>				

Common Name	Scientific Name	Annex I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Nightingale	<i>Luscinia megarhynchos</i>				
Osprey	<i>Pandion haliaetus</i>				
Oystercatcher	<i>Haematopus ostralegus</i>				
Peregrine Falcon	<i>Falco peregrinus</i>				
Pied Flycatcher	<i>Ficedula hypoleuca</i>				
Pink-footed Goose	<i>Anser brachyrhynchus</i>				
Pintail	<i>Anas acuta</i>				
Pochard	<i>Aythya ferina</i>				
Red Kite	<i>Milvus milvus</i>				
Red-necked Grebe	<i>Podiceps grisegena</i>				
Red-necked Phalarope	<i>Phalaropus lobatus</i>				
Redshank	<i>Tringa totanus</i>				
Redstart	<i>Phoenicurus phoenicurus</i>				
Redwing	<i>Turdus iliacus</i>				
Reed Bunting	<i>Emberiza schoeniclus</i>				
Ring Ouzel	<i>Turdus torquatus</i>				
Ringed Plover	<i>Charadrius hiaticula</i>				
Ruff	<i>Calidris pugnax</i>				
Sanderling	<i>Calidris alba</i>				
Sandpiper (Common)	<i>Actitis hypoleucos</i>				
Scaup	<i>Aythya marila</i>				
Shag	<i>Phalacrocorax aristotelis</i>				
Shelduck	<i>Tadorna tadorna</i>				
Short-eared Owl	<i>Asio flammeus</i>				
Shoveler	<i>Anas clypeata</i>				
Skylark	<i>Alauda arvensis</i>				
Slavonian Grebe	<i>Podiceps auritus</i>				
Smew	<i>Mergellus albellus</i>				
Snipe	<i>Gallinago gallinago</i>				
Song Thrush	<i>Turdus philomelos</i>				
Spoonbill	<i>Platalea leucorodia</i>				
Spotted Flycatcher	<i>Muscicapa striata</i>				
Spotted Redshank	<i>Tringa erythropus</i>				
Starling	<i>Sturnus vulgaris</i>				
Stock Dove	<i>Columba oenas</i>				
Swift	<i>Apus apus</i>				
Tawny Owl	<i>Strix aluco</i>				
Teal	<i>Anas crecca</i>				

Common Name	Scientific Name	Annex I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Temminck's Stint	<i>Calidris temminckii</i>				
Tree Pipit	<i>Anthus trivialis</i>				
Tree Sparrow	<i>Passer montanus</i>				
Turnstone	<i>Arenaria interpres</i>				
Turtle Dove	<i>Streptopelia turtur</i>				
Velvet Scoter	<i>Melanitta fusca</i>				
Whimbrel	<i>Numenius phaeopus</i>				
Whinchat	<i>Saxicola rubetra</i>				
White-fronted Goose	<i>Anser albifrons</i>				
Whooper Swan	<i>Cygnus cygnus</i>				
Wigeon	<i>Anas penelope</i>				
Willow Tit	<i>Poecile montanus/montana</i>				
Willow Warbler	<i>Phylloscopus trochilus</i>				
Wood Sandpiper	<i>Tringa glareola</i>				
Woodcock	<i>Scolopax rusticola</i>				
Wryneck	<i>Jynx torquilla</i>				
Yellow Wagtail	<i>Motacilla flava</i>				
Yellowhammer	<i>Emberiza citrinella</i>				
Yellow-legged Gull	<i>Larus michahellis</i>				

Notes:

1 Species listed in Annex I of Council Directive 79/409/EEC on the conservation of wild birds;

2 Species specially protected under Schedule 1 of the 1981 Wildlife and Countryside Act;

3 Species included in the UK Biodiversity Action Plan and of Principal Importance under the 2006 NERC Act;

4 Species included in the Birds of Conservation Concern Red and Amber lists (RSPB, 2015)

3.3.11 A full list of the bird records received for the search area is provided in *Appendix A*.

Reptiles

3.3.12 BMERC provided 7 records of Grass Snake for the desk study area. The closest record to the site relates to an area of woodland approximately 70m to the south-west of the site.

3.3.13 All native reptiles are protected against killing and injuring under the Wildlife and Countryside Act 1981 and are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act. Due to their rarity, Sand Lizards and Smooth Snakes have additional protection.

Great Crested Newt

3.3.14 BMERC provided 136 records of Great Crested Newt for the desk study area. Three records pertain to areas of land owned by the Parks Trust, located immediately south of the site

boundary. The closest record dates from 2016 and is located approximately 40m from the site boundary.

3.3.15 The Great Crested Newt is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act and is a European Protected Species (EPS) through the EC Habitats Directive 1992 as implemented by the 2017 Conservation of Habitats and Species Regulations (see *Section 3.3.3* and *Section 3.3.4*). It is also a Species of Principal Importance identified under Section 41 of the 2006 NERC Act.

3.3.16 *Otter*
BMERC provided 5 records of Otter for the desk study area, the closest of which pertains to the River Ouzel at a location approximately 80m to the south of the site, dating from 2009.

3.3.17 The Otter is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (see *Section 3.3.4*) and is a European Protected Species through the 1992 EC Habitats Directive as implemented by the Conservation of Habitats and Species Regulations 2017 (see *Section 3.3.3*). It is also a BAP species for the UK and Berkshire and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.3.18 *Water Vole*
BMERC provided a single record of Water Vole for the desk study area, pertaining to a location approximately 2.5km to the west of the site, dating from 1997.

3.3.19 The Water Vole is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended). Unless permitted under a licence issued by Natural England this makes it an offence to:

- Intentionally or recklessly kill, injure or take Water Voles;
- Possess or control live or dead specimens or anything derived from a Water Vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection; or
- Intentionally or recklessly disturb Water Voles while they are using such a place.

3.3.20 Water Vole is also a priority species on the UKBAP and listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

Invertebrates

3.3.21 BMERC provided 355 records of protected and notable invertebrate species for the desk study area, none of which pertain to the site. These include:

- Two species protected under Schedule 5 of the 1981 Wildlife and Countryside Act (as amended) against commercial exploitation, namely Black Hairstreak and White-letter Hairstreak. White-letter Hairstreak is also listed as Species of Principal Importance under Section 41 of the 2006 NERC Act;
- Fifty-seven species listed as Species of Principal Importance under Section 41 of the 2006 NERC Act;
- Three species currently listed as 'Extinct'⁴ including Small Ranunculus, *Stictopleurus punctatonervosus* and *Loxostege sticticalis*;
- Four species listed as 'Endangered'⁵ including *Acinia corniculata*, *Campiglossa malaris*, Black Hairstreak and White-letter Hairstreak;
- One species listed as 'Vulnerable'⁶, namely the Four-spotted moth; and
- Three species listed as 'Near Threatened'⁷ including Wall, Small Heath and *Nebrioporus depressus*.

Plants

3.3.22 KMBRC provided 66 records of protected and notable plants for the desk study area. These include:

- Bluebell and Grass-poly which are protected against commercial exploitation only under Schedule 8 of the 1981 Wildlife and Countryside Act (as amended);
- Three species listed as Species of Principal Importance under Section 41 of the 2006 NERC Act namely Grass-poly, Tubular Water- dropwort and Corn Buttercup;
- Corn Buttercup which is listed as 'Critically Endangered'⁸;
- Four species listed as 'Vulnerable' namely Corn Marigold, Mousetail, Tubular Water-dropwort and Strawberry Clover; and
- Nine species listed as 'Near Threatened' in Great Britain including Galingale, Dwarf Spurge, Corn Marigold, Round-fruited Rush, Field Scabious, Field Pepperwort, Grass-

⁴ **Extinct** (IUCN Red List, 2012): A taxon is Extinct when there is no reasonable doubt that the last individual has died in Great Britain.

⁵ **Endangered** (IUCN Red List, 2012): A taxon is Endangered when it is considered to be facing a very high risk of extinction in the wild in Great Britain.

⁶ **Vulnerable** (IUCN Red List, 2012): A taxon is Vulnerable when it is considered to be facing a high risk of extinction in the wild in Great Britain.

⁷ **Near Threatened** (IUCN Red List, 2012): A taxon is Near Threatened when it does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future in Great Britain.

⁸ **Critically Endangered** (IUCN Red List, 2012): A taxon is Critically Endangered when it is considered to be facing an extremely high risk of extinction in the wild in Great Britain.

poly, Flat-stalked Pondweed and Field Woundwort, with a further nine species listed as 'Near Threatened' in England only.

Other Species

3.3.23 Other records of notable species within 2km of the site provided by BMERC include records of Hedgehog and Common Toad. Hedgehog and Common Toad are Species of Principal Importance identified under Section 41 of the 2006 NERC Act.

3.3.24 No records of other protected or notable species, such as Hazel Dormouse were provided for the desk study area.

3.4 Planning Policy

3.4.1 Relevant saved policies from the Milton Keynes Local Plan 2001-2011, adopted December 2005, relating to nature conservation include:

POLICY NE1: Nature Conservation Sites

- (i) Development will not be permitted if it is likely to harm the nature conservation value of an international site (RAMSAR sites, SACs and SPAs)*
- (ii) Proposals for development likely to affect a National Nature Reserve or Site of Special Scientific Interest will be only be permitted if they can be subject to conditions that will prevent damaging impacts on biodiversity interests, or if other material considerations are sufficient to override nature conservation interests.*
- (iii) Development which would be likely to harm the biodiversity or geological conservation value of a site of county-wide (RIGS, MK Wildlife sites) or local importance (Local Nature Reserves, Wildlife Corridors, local wildlife sites) will only be permitted if the importance of the development outweighs the local value of the site.*

POLICY NE2: Protected Species

Planning permission will be refused for development if it would be likely to adversely affect animal or plant species, or their habitat, specifically protected by law.

Where necessary, planning conditions will be attached to permissions to require the developer to take steps to secure the protection of the species or habitat affected by development.

POLICY NE3: Biodiversity and Geological Enhancement

All new development exceeding 5 dwellings (in the case of residential development) or incorporating gross floorspace in excess of 1000 sq m (in the case of other development) will be required to incorporate proposals to enhance biodiversity and geological features which are appropriate to, and where possible compensate for, impacts on the immediate area and the site characteristics.

Measures may include use of native species in landscaping schemes, or the improvement or creation of wildlife habitats or features of geological interest.

Priority will be given to woodland planting and other habitats and species identified by local Biodiversity Action Plan.

Where enhancement is not possible on the site, appropriate enhancements will be sought on other land.

4 REFERENCES

Buckinghamshire and Milton Keynes Biodiversity Partnership (2018). *Buckinghamshire and Milton Keynes Biodiversity Action Plan (2010-2020)*. Available from: <http://www.buckinghamshirepartnership.gov.uk/biodiversity/biodiversity-action-plan/> [Accessed June 2018].

MAGIC (2018) *Interactive Map*. Available from: <http://magic.defra.gov.uk/MagicMap.aspx> [Accessed June 2018].

Milton Keynes Council (2005) Milton Keynes Local Plan 2001-2011. Available from: <https://www.milton-keynes.gov.uk/planning-and-building/planning-policy/adopted-local-plan-pdf> [Accessed June 2018].

APPENDIX A
Desk study results



Legend

- Ramsar Sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
xmin = 471100
ymin = 230400
xmax = 507100
ymax = 256200

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Legend

- National Nature Reserves (England)
- Sites of Special Scientific Interest (England)

Projection = OSGB36

xmin = 479500

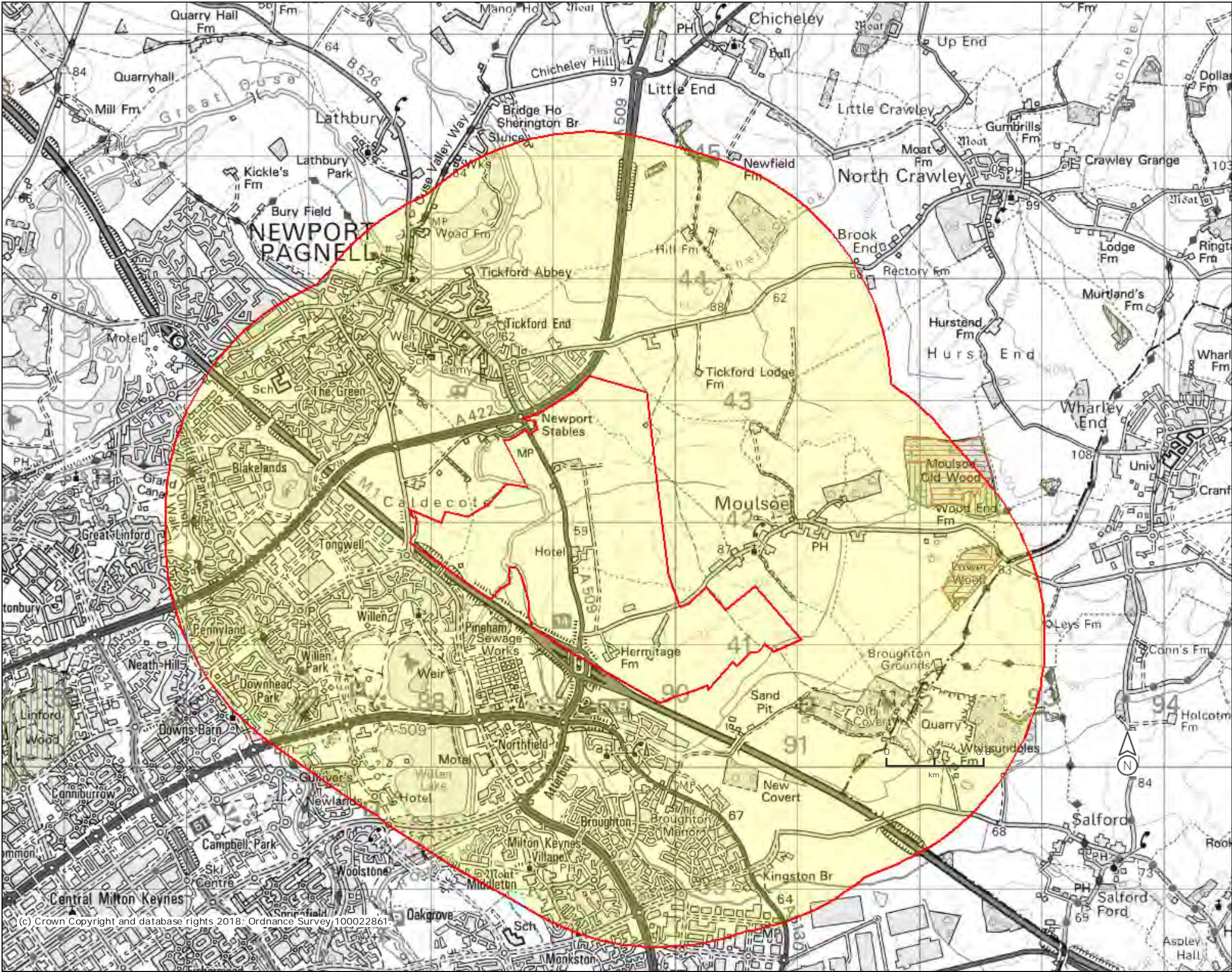
ymin = 235400

xmax = 499600

ymax = 249800

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Legend

Ancient Woodland (England)

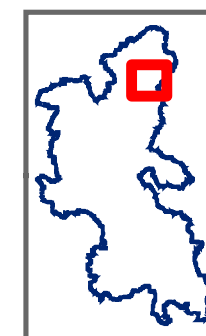
- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 484200
ymin = 238500
xmax = 494800
ymax = 246100

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Local, Non-Statutory Sites within 2km to Newport Pagnell (SP890420)



Legend

- Polygons
- Local_Wildlife_Sites
- Local_Geological_Sites
- Biological_Notification_Sites
- County Boundaries

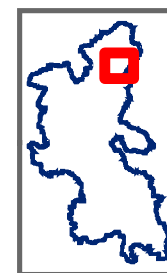
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Date created 19/06/2018 1:42,599



Local, Non-Statutory Sites - MK Wildlife Corridors within 2km to Newport Pagnell (SP890420)



Legend

Polygons

MK_wildlife_corridors

type

Rail Corridors

Road Corridors

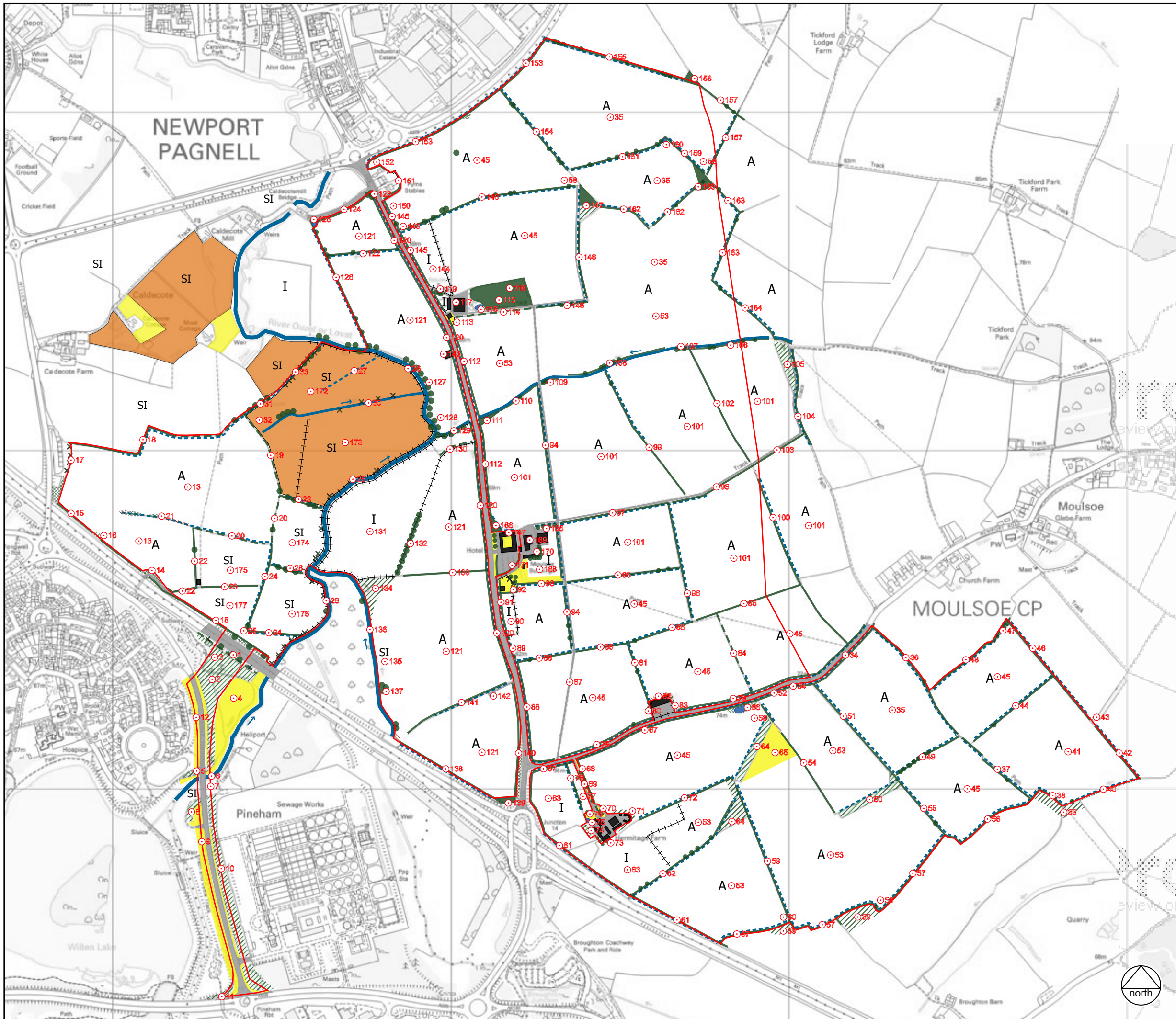
Wet Corridors

Wood Corridors

County Boundaries

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KEY

- Survey boundary
- Semi-natural broadleaved woodland
- Broadleaved plantation woodland
- Mixed plantation woodland
- Scattered trees
- Intact hedgerow
- Defunct hedgerow
- Dense scrub
- Scattered scrub
- Tall ruderals
- SI Semi-improved neutral grassland
- SI Species-poor semi-improved grassland
- I Improved grassland
- Amenity grassland
- A Arable land
- Watercourse and direction of flow
- Dry / seasonally wet ditch
- Standing water
- Fence
- Hardstanding
- Buildings
- Target note

CLIENT:
Berkeley Strategic
PROJECT:
Newport Pagnell Ecology
TITLE:
Phase 1 Habitat Survey Plan
SCALE AT A3:
Not to scale
DATE:
March 2015

2090.52 / 08 REV A

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Landscape Architecture
Masterplanning
Ecology



Target Notes

1. **Verge of M1:** The southern verge of the M1 motorway comprises an outgrown defunct hedgerow with regenerated scattered scrub and trees. Scrub and tree species include Sycamore, Crack Willow, Blackthorn, Hawthorn, Ash and Silver Birch. The hedgerow is dominated by Hawthorn and Elder and is sparse and leggy due to lack of management and shading from adjacent trees and scrub. The ground flora was sparse due to lack of light penetration through the canopy and included Wood Avens, Herb Robert, Garlic Mustard, Ivy, Bramble, Nettle and mosses. There are also occasional patches of tussocky grassland along the roadside.
2. **Mixed plantation woodland:** An area of mixed planted woodland dominated by early-mature Scot's Pine and Silver Birch. The understorey scrub is moderately dense and includes Dogwood, Elder, Ash (saplings), Blackthorn and Dog Rose. The sparse ground flora is dominated by Bramble with wood Avens, Herb Robert, Yorkshire Fog, Cocksfoot and Male Fern. A network of paths around and through the woodland are lined by mown amenity grassland.
3. **Woodland ride:** A woodland ride along which electricity pylons run comprising relatively species-poor damp grassland with abundant tall ruderals and scrub and tree saplings along woodland edges. The dominant grassland species were Cocksfoot and Yorkshire Fog with less frequent Creeping Bent, Meadow Foxtail, Knapweed sp. and Trefoil sp. Frequent ruderal species included Great Willowherb, Nettle, Bramble, Cleavers and Broad-leaved Dock. Himalayan Balsam was also abundant, which is an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Scrub species included dominant Dogwood with Elder, Laurel sp., Wild Cherry, Hawthorn, Cotoneaster sp. and Rowan.
4. **Riverside amenity grassland:** An infrequently mown area of species-poor grassland dominated by Perennial Ryegrass and Rough Meadow-grass. The scrubby margin of the grassland abutting woodland to the west is dominated by Goat Willow, Dogwood and Hawthorn. A small number of young White Willow trees have also been planted, scattered within the grassland.
5. **Tree and shrub planting:** Tree and scrub planting both sides of a road bridge dominated by young and early-mature Field Maple and Alder with a sparse understorey of Hazel. Scot's Pine is also present.
6. **River:** The River Ouzel passes under a wide concrete road bridge beneath Tongwell Street. The banks of the river generally comprise tussocky grasses with frequent Willow trees.
7. **Riverside grassland:** A strip of tall tussocky grassland running along the southern bank of the River Ouzel both sides of the road bridge. The grassland is unmanaged and dominated by perennial grasses including Cocksfoot, Creeping Bent, Fescue sp., Couch Grass, Tufted Hair-grass and Common Reed. Frequent forb species included Creeping Cinquefoil, Cleavers and Common Vetch. Ruderals were abundant and included Creeping Thistle, Teasel, Nettle, Great Willowherb, Hogweed, Mugwort, Ground Elder, Bristly Ox-tongue, Broad-leaved Dock and Himalayan Balsam.
8. **Tree and shrub planting:** Tree and scrub planting to the south of the river comprises young and early-mature Silver Birch, Alder, Wild Cherry and Scot's Pine with a sparse understorey of Cherry Laurel, Field Rose and Osier. The ground layer comprises mostly bare ground.
9. **Grassland verges:** The verges of the Tongwell Street comprises mostly frequently mown species-poor grassland. Species include Creeping Bent, Perennial Ryegrass, Fescue sp., White Champion, Red Clover, Bristly Ox-tongue, Dandelion, Selfheal, Hawkbit sp., Common Ragwort, Creeping Cinquefoil, White Clover, Creeping Buttercup, Ribwort Plantain, Daisy and Yarrow.
10. **Tree and shrub verge planting:** Tree and shrub planting along the eastern side of Tongwell street comprising early-mature trees including Silver Birch, Alder, Wild Cherry, Poplar sp. and Scot's Pine with an understorey of Cherry Laurel, Osier, Guelder Rose, Dog Rose, Hazel and Dogwood.

11. **Tree and shrub planting:** Tree and shrub planting along the north-western side of the roundabout in the south-west of the site comprising early-mature Sycamore, Norway Maple, Alder and Hornbeam with an understorey of Dog Rose, Hazel and Blackthorn.
12. **Grassland verge:** Western verge of Tongwell Street to the north of the river bridge comprising frequently mown amenity grassland lined with dense tree and shrub planting to the west.
13. **Arable field:** A large field in the westernmost area of the site used for intensive monoculture farming. At the time of the survey the field was fallow with a sparse covering of common and widespread herbs and arable weeds including dominant Annual meadow-grass and Black-grass with occasional Barley, Wild Oat, Common Field Speedwell and Field Pansy. There were no grassland field margins just a greater abundance of ruderals along hedgerow bases including Cleavers, Creeping Thistle, Knot-grass, Field Bindweed, Bristly Ox-tongue, Hogweed, Forget-me-not, Nettle, Bramble, Hemlock, Scarlet Pimpernel, Burdock sp., Hoary Willowherb, Sow Thistle sp. and Dove's-foot Crane's-bill.
14. **Trees and scrub:** Small area of planted trees and scrub including early-mature Sycamore and a Hawthorn understorey.
15. **M1 verge hedgerow:** Hedgerows running along the site boundary adjacent to the M1 motorway in the west of the site are intact and dominated by Hawthorn occasional Elder and abundant Bramble. At the eastern end of there are three White Willow trees beyond the site boundary where there is dense scrub. The hedgerow has been laid in the past but is generally quite sparse and leggy at the base despite this. The hedgerow measures approximately 3m high and 1-2m wide.
16. **Dense scrub:** A small patch of dense scrub protruding from the boundary of the field comprising Blackthorn, English Elm, Elder and Wild Cherry with abundant Bramble, Nettle and Creeping Thistle at the ground layer.
17. **Scattered boundary scrub and ruderals:** Perhaps once a hedgerow, this section of field boundary now comprising occasional Elder and dead Ivy covered Elm trees with abundant Nettle, Bramble and Creeping Thistle.
18. **Outgrown hedgerow:** A mostly intact outgrown hedgerow forming the northern boundary of the westernmost arable field within the site. The hedgerow is generally heavily dominated by Hawthorn and in some places by Blackthorn, with occasional Elder, English Elm, Field Maple, Goat Willow and Crab Apple. The ground flora is sparse and often dominated by Nettle and Bramble. The hedgerow measures approximately 3m high and 2-3m wide. Along much of its length is a dry ditch with a channel measuring up to 1.5m and 2-3m wide at the eastern end.
19. **Defunct hedgerow:** A defunct hedgerow with substantial gaps dominated by Elder with occasional Hawthorn and English Elm. Some gaps are now filled by Bramble.
20. **Mostly defunct hedgerow:** Mostly defunct hedgerows along the boundaries of the western arable field with English Elm, Field Maple, Crab Apple, Elder, Hazel and two mature Crack Willow trees along the northern section of hedgerow. Substantial gaps in the hedgerows often support Bramble. The western section of hedgerow was accompanied by a dry ditch with a channel of approximately 1m deep and 1m wide.
21. **Ditch and scrub:** A length of dry ditch running through the westernmost arable field supporting dense stands of scrub and ruderal vegetation. To the western end are stands of scrub comprising Hawthorn and Goat Willow and other stretches of the ditch are overgrown with ruderal vegetation dominated by Bramble at the time of survey.
22. **Mostly intact hedgerow:** An outgrown hedgerow with few large gaps dominated by Hawthorn with Ash, English Elm, Crack Willow, Elder and abundant Bramble.

23. **Intact hedgerow:** Infrequently managed hedgerow dominated by Hawthorn with occasional Blackthorn and Elder with abundant Bramble. The hedgerow measured approximately 3-4m tall and up to 2m wide.
24. **Intact hedgerows with ditch:** Infrequently managed hedgerows dominated by Hawthorn and Blackthorn with occasional Elder, Field Maple and Bramble, and a mature Ash tree. The hedgerows measured approximately 3-4m in height and up to 3m wide. Seasonally wet ditches with channels measuring 3-4m wide and up to 1m deep run beneath the hedgerow and support very occasional Pond Sedge.
25. **Damp ground depression:** A depression alongside the corner of a hedgerow which is filled with water during/ following particularly wet weather but was dry at the time of survey.
26. **River corridor:** The banks of the River Ouzel adjacent to the site are generally dominated by rough grass and ruderal vegetation with occasional scrub and trees. Species identified during the survey included Cocksfoot, False Oat-grass, Nettle, Teasel, Bramble, Great Willowherb, Hogweed, Broad-leaved Dock and Creeping Thistle. Scrub and tree species included Crack Willow and Hawthorn. Common Reed was also locally abundant.
27. **Ditch:** Shallow seasonally wet ditch running through a field of semi-improved grassland bordered by tussocky grasses.
28. **Mostly-intact hedgerow:** A relatively short section of outgrown hedgerow and dry ditch with mature Crack Willow trees. The hedgerow is dominated by Hawthorn with frequent Blackthorn and rarely Guelder Rose and Crab Apple. The ditch channel measures approximately 2m wide and 0.5m deep.
29. **Mostly-intact hedgerow:** A relatively short section of outgrown hedgerow and dry ditch with mature Crack Willow trees. The hedgerow measures up to 5m high and 4m wide and is dominated by Blackthorn with frequent Hawthorn, Elder and English Elm. The ditch channel measures approximately 2m wide and 0.5m deep.
30. **Seasonally wet drain:** A seasonally wet ditch with a channel measuring up to 2-3m wide and 0.5-1m deep supporting dense marginal vegetation dominated by Reed Canary Grass with occasional Common Reed. The banks of the ditch support rough grasses with occasional small Crack Willow trees and Goat Willow. The western end is much shallower with grasses and tall ruderals, and four mature Pedunculate Oak trees exist along the northern bank.
31. **Defunct hedgerow with mature trees:** A defunct outgrown hedgerow with mature trees and a dry ditch beneath. The hedgerow includes Hawthorn, Field Maple, Elder and Blackthorn with Crack Willow and Field Maple trees. The dry ditch has a channel measuring approximately 2m wide and up to 1.5m deep and supports dense ruderal vegetation where there is less shading.
32. **Dense ruderals:** The westernmost margin of a grassland field is dominated by ruderal vegetation, in particular Nettle.
33. **Seasonal wet drain:** A seasonally wet ditch supporting dense marginal vegetation including dominant Reed Canary Grass and occasional Common Reed, Great Willowherb and Meadowsweet. The banks of the ditch support rough grasses with occasional scrub and trees including Hawthorn, Ash and Crack Willow.
34. **Intact road verge hedgerow:** Infrequently managed intact boundary hedgerow dominated by Hawthorn and Blackthorn with Dog Rose and Bramble, and measuring approximately 2.5m high and 2.5m wide. A narrow semi-improved grassland field margin runs along the southern side of hedgerow and a shallow dry ditch with a channel measuring approximately 1m wide and 0.5m deep runs along the northern side along Newport Road.

35. **Arable field:** Intensively farmed arable land used primarily for cereal production. Early fallow at time of survey with a sparse covering of grasses and arable weeds.

The field margins, comprising species-poor improved and semi-improved grassland, are generally minimal but up to 2m along some boundaries and up to 6m where footpaths and tracks occur alongside hedgerows. Typical margin species include Cocksfoot, Perennial Ryegrass, False Oat-grass, Hogweed, Dove's-foot Crane's-bill, White Clover, Creeping Buttercup, Ribwort Plantain, Field Bindweed, Broad-leaved Dock, Bristly Ox-tongue, Broad-leaved Willowherb and Bramble. Sapling scrub is also abundant along some boundaries. Tracks and footpath margins are often subject to periodical mowing.

36. **Hedgerow with ditch:** Intact native hedgerow dominated by Blackthorn and Hawthorn with frequent English Elm, occasional Field Maple and Dog Rose, and an early-mature Ash tree. The hedgerow measured approximately 2.5m high and up to 3m wide and had been recently flail cut at the time of survey. A dry ditch runs along the base of the hedgerow with a channel measuring approximately 1m deep and 1m wide, and supports Great Willowherb in places.
37. **Hedgerow with ditch:** Intact native hedgerow dominated by Blackthorn and Hawthorn with occasional Elder. The hedgerow measured approximately 2.5m high and 1-2m wide and had been recently flail cut at the time of survey. A dry ditch runs along the base of the hedgerow with a channel measuring approximately 1m deep and 1m wide, and supports Great Willowherb in places.
38. **Hedgerow with ditch:** Mostly intact native hedgerow dominated by Blackthorn and Hawthorn with frequent English Elm, Elder and Bramble, and small Ash trees. The hedgerow measured approximately 2.5m high and 1-2m wide and was outgrown at the time of survey. Dry ditch as (TN37).
39. **Tree planting:** A small area of tree planting just beyond the site boundary including young Ash, Oak, Rowan, Goat Willow and Alder.
40. **Scrub and ditch:** Field boundary with dry (probably seasonally wet) ditch and regular stands of dense scrub. The ditch channel typically measures 2-3m wide and 1-1.5m deep. Scrub along the southern bank of the ditch includes Hawthorn, Blackthorn, Elder, Goat Willow and Bramble with a small number of early-mature Ash trees.
41. **Arable land:** Intensively farmed arable land used primarily for cereal production. The field had been recently ploughed prior to the survey. Along the western margin of the field is a footpath along a 3m wide mown grassland buffer (see TN35).
42. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Hawthorn with English Elm, Elder and Dog Rose. The hedgerow measured approximately 2m high and 1-2m wide and had been recently flail cut at the time of survey. A dry ditch running along the east side of the hedgerow has a channel measuring approximately 1m deep and 1m wide.
43. **Scrub and trees:** A small stand of dense scrub and small trees including Horse Chestnut, Blackthorn, Hawthorn, Crab Apple, Poplar species and Ash.
44. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn and Hawthorn with English Elm, Elder, Ash and Dog Rose and early-mature Ash trees. The hedgerow measured approximately 2m high and 2m wide and had been recently flail cut at the time of survey. A shallow dry ditch running along the north side of the hedgerow has a channel measuring approximately 0.3m deep and 1m wide.
45. **Arable land:** Intensively farmed arable land used primarily for cereal production. The fields had been recently ploughed prior to the survey. The grassland field margin are generally very narrow (see TN35).
46. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn and Hawthorn with English Elm, Elder, Ash, Field Maple and Crab Apple and early-mature Ash trees. The hedgerow measured

approximately 2m high and 2m wide. A shallow dry ditch running along the east side of the hedgerow has a channel measuring approximately 0.3m deep and 1m wide.

47. **Scrub and scattered trees:** An area of dense scrub dominated by Bramble with mixed tree planting including Aspen, Pedunculate Oak, Ash, Scot's Pine, Wild Cherry, Blackthorn and domestic Apple.
48. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn with English Elm and Field Maple. The hedgerow measured approximately 2m high and 1-2m wide and had been recently flail cut at the time of survey. A shallow dry ditch running along the southern side of the hedgerow has a channel measuring approximately 0.5m deep and 1-2m wide and is generally choked with Bramble and tall ruderal vegetation.
49. **Hedgerow with trees and ditch:** Intact native hedgerow dominated by Blackthorn with Hawthorn, English Elm, Crab Apple, Dog Rose and Bramble. The hedgerow measured approximately 2m high and 2m wide and had been recently flail cut at the time of survey. Seven mature Ash trees located along the hedgerow have severe decay and support a number of cavities. A shallow dry ditch running along the northern side of the hedgerow has a channel measuring approximately 0.5m deep and 1m wide.
50. **Mixed woodland:** A strip of woodland comprising tree planting and regenerated trees and scrub including Ash, Pedunculate Oak, Norway Maple, Scot's Pine, Alder, Aspen, Wild Cherry and Poplar species. The scrub understorey includes Blackthorn, Bramble and Dogwood. An outgrown Hawthorn and Elm dominated hedgerow and a dry ditch run along the northern edge of the woodland.
51. **Hedgerow and ditch:** Intact native hedgerow dominated by Hawthorn with Blackthorn, English Elm and Dog Rose. The hedgerow had not recently been cut at the time of survey and measured approximately 2-3m high and 2m wide. A shallow dry ditch running along the eastern side of the hedgerow has a channel measuring approximately 0.5m deep and 1m wide.
52. **Rhododendron:** A small Rhododendron plant growing within the field margin. Rhododendron is an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).
53. **Arable land:** Intensively farmed arable land used primarily for cereal production. Early fallow at time of survey with a sparse covering of grasses and arable weeds. Narrow grassland field margins (see TN35) with wider mown grassland tracks.
54. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Blackthorn and English Elm. The hedgerow measured approximately 2m high and 1-2m wide. A dry ditch occurs along the hedgerow at the northern end of the boundary and supports dense Bramble scrub and tall ruderal vegetation including Great Willowherb and Nettle.
55. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn with Hawthorn, English Elm, Crab Apple, and a mature Pedunculate Oak tree. The hedgerow measured approximately 2.5m high and 1-2m wide and had been recently flail cut on just one side at the time of survey. A dry ditch running along the east side of the hedgerow has a channel measuring approximately 1m deep and 1.5m wide and supports Nettle and Great Willowherb in places.
56. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Blackthorn and English Elm with Hawthorn, Goat Willow, Dog Rose and Bramble. The hedgerow was flailed on the field side and outgrown on top measured up to 4m high. A dry ditch running along the boundary has a channel measuring approximately 0.5-1m deep and 1-2m wide.
57. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn with Hawthorn, English Elm, Crab Apple, Elder and Ash. The hedgerow measured approximately 2.5m high and 1-2m wide and had been recently flail cut on just one side at the time of survey. A dry ditch running along the east side of

the hedgerow has a channel measuring approximately 1m deep and 1.5m wide and supports Nettle and Great Willowherb in places.

58. **Grassland field corners:** Small areas in corners and irregularly edges of field left to form tussocky grassland. Being relatively recently established on areas of former arable land these areas comprise species-poor improved/ semi-improved grassland. Typical species composition includes dominant Perennial Ryegrass and False Oat-grass with abundant ruderal vegetation including Creeping Thistle Hogweed, Bristly Ox-tongue and Nettle.
59. **Hedgerow and ditch:** Intact native hedgerow dominated by Blackthorn with Hawthorn with a dry ditch running along the eastern side (as TN55).
60. **Fallow field corner:** Corner of arable field left to go fallow comprising grasses and ruderal vegetation. Species included dominant Bristly Ox-tongue with Nettle, Fescue species, Creeping Bent, Cocksfoot, False Oat-grass. Appeared to have been mown at the time of survey, displaying a short uniform sward.
61. **M1 boundary:** Site boundary bordering the M1 motorway to the south of the site comprising post and rail fence with intact hedgerow and dry ditches. The hedgerows are dominated by Hawthorn with occasional Elder.
62. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Blackthorn and Hawthorn with English Elm, Dog Rose, Ash, Elder and a number of early mature Ash trees. The hedgerow measured approximately 2.5m high and 1-2m wide and had not been flail cut at the time of survey. A dry ditch running along the hedgerow base has a channel measuring approximately 1-1.5m deep and 2m wide.
63. **Earth bund and grazed grassland:** A tall earth bund of around two years of age surrounds the western and southern sides of Hermitage Farm and supports recently established grassland grazed by horses and cattle. The grassland generally had a short sward and species recorded included Perennial Ryegrass, Cocksfoot, False Oat-grass, Soft Brome, Timothy, Brome species, Meadow Foxtail, White Clover and Bristly Ox-tongue.
64. **Woodland planting:** Small areas of woodland comprising a mix of tree planting and regenerated trees and scrub including White Poplar, Ash, Pedunculate Oak, Norway Maple and Crab Apple. The scrub understorey includes Hawthorn, Blackthorn, Elder, Hazel and Bramble. The north-eastern strip of woodland also supports planted Scot's Pine. Very little ground flora is present, which is likely due to heavy shading.
65. **Amenity grassland:** An area of species-poor grassland (probably fairly recently) established in the corner of an arable field. The grassland is regularly managed by mowing and some has a very shortly mown sward for use as a runway for model aircraft. Species recorded within the sward include Perennial Ryegrass, Cocksfoot, Yorkshire Fog, Fescue species, False Oat-grass, Hawkbit species, White Clover, Creeping Thistle, Dandelion, Hogweed, Common Vetch and Greater Plantain.
66. **Pond:** A fairly large pond adjacent to Newport Road measuring approximately 30x20m surrounded by dense scrub and occasional trees. Little aquatic or marginal vegetation was recorded although there was small amounts of Greater Reedmace, Pond Sedge species and Water Lily. Great Willowherb and Nettle dominated less shaded areas of the margins. To the east of the pond is a small area of young to early-mature trees dominated by Ash and Wild Cherry, and dense Blackthorn scrub dominated the western banks. Crack Willow is trees and scrub are also present along the banks of the pond. Hedgerow borders the pond to the north (see TN67).
67. **Hedgerow and ditch:** Mostly intact native hedgerow along Newport Road, dominated by Hawthorn with English Elm, Ash, Crab Apple and Bramble. The hedgerow measured approximately 2m high and 1.5m wide. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and 1m wide.

68. **Hedgerow:** Intact native hedgerow dominated by Hawthorn with English Elm, Ash, Crab Apple and Bramble. The hedgerow measured approximately 2m high and 1.5m wide.
69. **Driveway:** The driveway to Hermitage Farm located just outside the site boundary comprises a concrete road and a verge along the eastern edge with amenity grass and scattered trees. The grassland is regularly mown and includes Perennial Ryegrass, Fescues species, Annual Meadow-grass, Cocksfoot, White Clover, Dandelion, Dove's-foot Crane's-bill and Hogweed. Tree species included Horse Chestnut, Goat Willow, Red Oak, Wild Cherry, Red Oak and Weeping Willow.
70. **Lawn and trees:** A small area of amenity grassland (see TN69) with small trees including domestic Apple, Plum, Cypress species, Norway Spruce and a small Pedunculate Oak tree.
71. **Broadleaved tree planting:** A small area of planted semi-mature trees around the eastern edge of the Hermitage Farm buildings. Species included Wild Cherry, Pedunculate Oak, Silver Birch, Rowan, Ash, Whitebeam, Evergreen Oak and Norway Maple. English Elm was also present in the understory and the ground layer supported Bramble and Nettle.
72. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Blackthorn with Hawthorn, English Elm and Ash. The hedgerow measured approximately 2.5m high and 1.5m wide and was flailed on the northern side only the time of survey. A dry ditch running along the northern side of the hedgerow has a channel measuring up to 1m deep and 1.5m wide.
73. **Tree line:** Line of Pedunculate Oak and Norway Maple trees running along the boundary of Hermitage farmyard bordering the grassland field/ bund to the south-west.
74. **Mixed tree planting:** A small area of planted semi-mature trees including Pedunculate Oak, Wild Cherry, Scot's Pine, Cypress species, Field Maple and Horse Chestnut.
75. **Pond:** A small natural pond located in the corner of a garden bordering the site. No marginal or aquatic vegetation was recorded but Duck Weed was abundant. Pollarded Ash and Crack Willow and Hawthorn was also present on the banks of the pond.
76. **Garden:** Garden of Hermitage Farmhouse comprising amenity grassland with shrub and flower beds on the margins. The southern and eastern boundaries of the garden comprise Cypress, Common Box and Holly hedging. A mature Ash a Norway Maple tree exist on the northern margin.
77. **Paddock:** A small field comprising improved grassland regularly grazed by horses. Two mature domestic Apple trees and Wild Cherry tree grow within the grassland.
78. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Hawthorn with Blackthorn, English Elm and Elder. A small number of early-mature trees including Ash, Wild Cherry and Horse Chestnut also occur within the hedgerow. The hedgerow measured approximately 2m high and 1m wide and was recently flail cut at the time of survey. A large gap in the hedgerow to the north has been filled with recently planted Hawthorn. A dry ditch running along the western side of the hedgerow has a channel measuring up to 0.5m deep and 1m wide.
79. **Hedgerow and ditch:** Mostly intact native hedgerow along Newport Road dominated by Hawthorn with English Elm, Blackthorn, Ash, Elder, Crab Apple and Bramble. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and 1m wide.
80. **Scattered scrub:** A fenceline with scattered scrub forms the boundary with a commercial unit located off Newport Road. The scrub comprises mostly Elder and Hawthorn with abundant of Ivy.
81. **Hedgerow and ditch:** Mostly intact native hedgerow dominated by Hawthorn and Blackthorn with English Elm and Crab Apple. The hedgerow measured approximately 2m high and 1.5m wide. A dry ditch running along the hedgerow base has a channel measuring around 1m deep and 1m wide.

82. **Ruderals and waste:** A wide section of field margin bordering a commercial unit located off Newport Road comprising Nettles with rubble and other waste buildings materials.
83. **Tree and scrub planting:** A small strip of planted early-mature trees and shrubs including Wild Cherry, Field Maple and Rowan. Elder had also colonised and the ground layer comprised Nettle and Bramble.
84. **Defunct hedgerow:** A field boundary hedgerow which is now very defunct with large gaps and comprises Hawthorn with occasional Elder.
85. **Intact hedgerow:** An intact native hedgerow dominated by Hawthorn and Blackthorn with English Elm, Ash and Elder. The hedgerow measured approximately 2.5m high and 2.5m wide and had been recently flail cut at the time of survey.
86. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn and Blackthorn with English Elm, Ash and Elder. The hedgerow measured approximately 2.5m high and 2.5m wide and had been recently flail cut at the time of survey. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and around 1m wide.
87. **Tracks and verges:** A network of gravel tracks running through the eastern area of the site with narrow rough grassland verges.
88. **Hedgerow and ditch:** An intact native hedgerow along London Road dominated by Hawthorn with English Elm, Blackthorn, Ash, Elder, Crab Apple and Bramble. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and 1m wide.
89. **Recently planted hedgerow:** A section of recently planted Hawthorn and Blackthorn hedgerow along London Road.
90. **Improved grassland:** An area of land comprising relatively recently established grassland along the western margin of an arable field. The species recorded within the sward included False Oat-grass, Cocksfoot, Greater Bird's-foot Trefoil, Hogweed, Yarrow, Dandelion, Broadleaved Dock, Knapweed species, Common Mouse-ear, Ox-eye Daisy, Red Clover, White Clover and Creeping Thistle. The area in the north-west of the field is fenced and mown for amenity use.
91. **Defunct hedgerow:** A slightly gappy section of hedgerow running along the boundary of the site adjacent to London Road. Species include Elm, Hawthorn and Blackthorn.
92. **Garden boundary hedgerow:** Hedgerows forming the southern and eastern boundaries of the garden of Moulsoe Farmhouse including Blackthorn and Yew with Clematis species and a young Birch tree.
93. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm and Blackthorn. The hedgerow measured approximately 2.5m high and 2m wide and had been recently flail cut at the time of survey. A dry ditch running along the hedgerow base has a channel measuring up to 1m deep and 1.5m wide.
94. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn, Blackthorn and English Elm with Ash, Crab Apple and Elder. The hedgerow measured approximately 2.5m high and 2m wide and had been recently flail cut at the time of survey. A dry ditch running along the hedgerow base has a channel measuring up to 1.5m deep and 2m wide which supports Great Willowherb, Nettle and Bramble. Two mature Ash trees located along the hedgerow have severe decay and a number of cavities.
95. **Hedgerow and ditch:** An intact native hedgerow dominated by English Elm with Hawthorn, Blackthorn, Ash, Field Maple and Dog Rose. The hedgerow measured approximately 2.5m high and 1.5m wide. A dry ditch running along the hedgerow base has a channel measuring up to 1m deep and 1.5m wide.

96. **Hedgerow and ditch:** A mostly intact native hedgerow dominated by Hawthorn with abundant English Elm and blackthorn. The hedgerow measured approximately 2.5m high and 1.5m wide. A dry ditch running along the hedgerow base has a channel typically measuring up to 1m deep and 1m wide but it has a steep bank of up to 2m high to field margin to the east. The ditch had recently been dredged and had bare earth banks.
97. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with abundant English Elm and blackthorn, and occasional Oak including small Oak trees. The hedgerow measured approximately 2.5m high and 1.5m wide. A dry ditch running along the hedgerow base has a channel measuring around 1m deep and 1m wide with a grassy base.
98. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn and English Elm with Blackthorn and Norway Maple. A dry ditch with a channel measuring around 1m deep and 1m wide runs along the western end of the hedgerow.
99. **Hedgerow and ditch:** A mostly intact native hedgerow including Hawthorn, Blackthorn, Dog Rose, Ash, English Elm, Elder and Bramble. The hedgerow measured approximately 2m high and 1.5m wide and had been recently flail cut at the time of survey. A dry ditch running along the northern end of the hedgerow base has a channel measuring around 1m deep and 1m wide.
100. **Hedgerow and ditch:** A mostly intact native hedgerow measuring approximately 2.5m high and 2m wide and had been recently flail cut at the time of survey. A shallow dry ditch running along the hedgerow base has a channel measuring around 0.5m deep and 1m wide. The northern end of the boundary comprised just Bramble scrub.
101. **Arable land:** Intensively farmed arable land used primarily for cereal production. These fields had cereal stubble present and appeared to have been planted with a cover crop with minimum tillage. The field margins were generally narrow (see TN35) but along the stream corridor (TN107) were much wider and comprised rough grassland (see TN58).
102. **Intact hedgerow:** An intact native hedgerow dominated by Hawthorn and Blackthorn with English Elm and Elder. The hedgerow measured approximately 3m high and 2m wide and had not been recently managed at the time of survey.
103. **Intact hedgerow:** An intact native hedgerow dominated by Hawthorn and Blackthorn with Wild Cherry. The hedgerow measured approximately 2.5m high and 1.5m wide. Small Oak trees exist nearer the eastern end of the hedgerow.
104. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with abundant English Elm and Blackthorn. The hedgerow measured approximately 2m high and 1.5m wide and had been recently flail cut at the time of survey. A dry ditch running along the hedgerow base has a channel typically measuring up to 1-1.5m deep and 1m wide and had recently been dredged.
105. **Mixed woodland:** A small area of planted woodland with a sparse scrub understorey including Pedunculate Oak, Norway Maple, Scot's Pine, Small-leaved Lime and Wild Cherry. The scrub understorey included Common Box, Dog Rose and Bramble.
106. **Intact hedgerow:** An intact native hedgerow running along a brook corridor dominated by Hawthorn and Blackthorn with Ash and English Elm, including mature Ash trees. The hedgerow had been flail cut on the sides only and measured approximately 3-5m high and 2m wide.
107. **Brook corridor:** A small brook flowing westwards into the River Ouzel in the central area of the site. The brook channel measures around 1.5-2m deep and 3-4m wide. At the time of survey the brook was mostly dry with localised pooling around 10cm deep, but the flow of water is often strong during times of wetter weather. The bankside vegetation, which had been recently cut, included grasses and ruderal vegetation including Great Willowherb. Fool's Watercress was present within the channel in places.

- 108. Intact hedgerow:** An intact native hedgerow running along a brook corridor dominated by Hawthorn with Blackthorn, Crab Apple, Crack Willow and mature Ash trees. The hedgerow had been recently flail cut at the time of survey and measured approximately 2.5m high and 1.5m wide.
- 109. Defunct hedgerow/ scrub:** A short section of scrub resembling a defunct hedgerow located along the southern side of a brook corridor which included dense Blackthorn, Elder, Hawthorn, English Elm and Bramble.
- 110. Intact hedgerow:** A mostly intact native hedgerow running along a brook corridor dominated by Hawthorn with Blackthorn with abundant English Elm. The hedgerow had been recently flail cut on the sides and measured around 3-4m high and 1-2m wide.
- 111. Woodland/ scrub:** A small area of regenerated English Elm and Elder with a small number of mature Pedunculate Oak and Ash and (probably planted) early-mature Whitebeam and Sycamore. The ground flora comprised a sparse covering of Common Nettle.
- 112. Hedgerow and ditch:** An intact native hedgerow along London Road dominated by Hawthorn with English Elm, Blackthorn, Ash, Elder, Crab Apple and Bramble. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and 1m wide.
- 113. Farmhouse and garden:** Semi-detached farmhouses along London Road with gardens comprising amenity grassland with a small number of Apple trees and shrubs and flowers on the margins.
- 114. Scrub/ tree line:** A line of outgrown scrub and young trees resembling a defunct hedgerow which exists along a 2-3m high earth embankment sloping downward from the arable field in the south to a gravel track to the north. The dominant species were Hawthorn, Blackthorn, English Elm and Elder with occasional Crab Apple, Field Maple, Pedunculate Oak and Horse Chestnut. A small number of mature Ash trees occur at the eastern end of the boundary and dense stands of Bramble dominate the western end.
- 115. Mixed woodland:** A larger area of woodland comprising a mix of mature and early-mature regenerated trees, and a range of planted trees. Occasional mature Pedunculate Oak trees occur predominantly around the northern and eastern edges of the woodland. Other species include Rowan, Poplar species, White Willow, Beech, Wild Cherry, Norway Maple, Scot's Pine, *Prunus* sp., Lilac Tree, Box Maple, Elder and Goat Willow. Large areas of the woodland have seasonal standing water (TN116). Damper areas in the south-western areas of the woodland support a higher density of Willow species.
- 116. Wet areas within woodland:** Areas of the woodland support seasonal standing water often during the winter and early spring. Areas in the north-eastern area of the woodland support dense stands of Pond Sedge and towards the south-west of the woodland damper areas are dominated by White Willow and Goat Willow.
- 117. Farmyard:** A complex of brick, timber and corrugated metal buildings surrounded by concrete hardstanding and gravel. Frequently there are piles of building materials, rubble, logs and farm machinery. Ruderal vegetation was abundant and included Nettle, Bristly Ox-tongue, White Dead-nettle, Bramble, Poppy species, Burdock species, Cocksfoot and False Oat-grass.
- 118. Pond:** A pond located at the south-eastern edge of a farmyard (TN117) measuring approximately 15x8m and surrounded by dense Pond Sedge. No other aquatic or marginal vegetation was recorded other than Duckweed. Nettle, Great Willowherb and Woody Nightshade was also found on the pond banks. The water appears to be heavily polluted due to runoff from the farm, and waste materials such as old tyres were recorded within the water.
- 119. Improved grassland:** A small area of grazed improved grassland located between London Road and a farmyard to the east. Along a short section of track to the north is a group of early-mature trees

including Scot's Pine, Ash and Apple. On the margins of the area are occasional tall ruderal and scattered scrub including English Elm, Blackthorn and Bramble.

- 120. Hedgerow and ditch:** A mostly intact native hedgerow along the eastern side of London Road dominated by Hawthorn with Blackthorn, English Elm, Ash and Elder. The hedgerow had not been recently managed and measured approximately 2m high and 2m wide at the time of survey. A shallow dry ditch runs along the eastern side of the hedgerow with a channel measuring approximately 0.5m deep and 1m wide.
- 121. Arable land:** Intensively farmed arable land used primarily for cereal production. These fields had cereal stubble present and appeared to have been planted with a cover crop with minimum tillage. The field margins were generally narrow (2-3m) and supported common and widespread arable weed species including Nettle, Hogweed, Cleavers, Horsetail species, Bristly Ox-tongue, Mugwort, Spear Thistle, Creeping Thistle, Cocksfoot, False Oat-grass, White Campion, White Dead-nettle, Green Alkanet, Wall Rocket and Forget-me-not.
- 122. Hedgerow and ditch:** A mostly intact native hedgerow dominated by Hawthorn with Blackthorn, English Elm, Ash, Elder and a mature Oak tree. The hedgerow had not been recently managed and measured approximately 2m high and 2m wide at the time of survey. A dry ditch runs along the eastern side of the hedgerow with a channel measuring approximately 1m deep and 1-2m wide supporting dense Nettle, Great Willowherb and Bramble.
- 123. Field corner:** Corner of an arable field supporting a small number of mature Pedunculate Oak trees and young Scot's Pine with a sparse understory dominated by Elder with Hazel, and a ground layer of Bramble and Ivy.
- 124. Hedgerow and road:** An intact hedgerow forming the boundary of the site including Hawthorn, Blackthorn, Elder, Alder Buckthorn and Crab Apple. Scrub and trees located beyond the boundary adjacent to a single lane road includes abundant young Ash trees.
- 125. Field corner:** Corner of an arable field supporting a small number of mature Pedunculate Oak and Crack Willow trees with Hawthorn and Blackthorn in the understory. Beneath is a seasonal pond which was dry at the time of survey and supports no aquatic or marginal vegetation.
- 126. Hedgerow and ditch:** A mostly intact native hedgerow dominated by Blackthorn with Hawthorn, Elder and Ash, Oak and Aspen trees. The hedgerow had not been recently managed and measured approximately 2m high and 2m wide at the time of survey. A dry ditch runs along the western side of the hedgerow with a channel measuring approximately 1m deep and 1m wide. Gaps in the hedgerow support dense Bramble with Cleavers.
- 127. River corridor:** A wide margin along the River Ouzel corridor which borders arable fields to the east comprises mature trees, occasional scrub and a wide rough grassland field margin. Tree species include Crack Willow, Ash, White Willow and hybrid Black Poplar. The less shaded banks of the river support rough grassland and ruderals including Cocksfoot, Timothy, Creeping Bent, Perennial Ryegrass, False Oat-grass, Wild Oat and Common Reed. Other abundant species include Nettle, Teasel, Hogweed, Cleavers, Spear Thistle, Himalayan Balsam, Broad-leaved Dock and Bramble.
- 128. Tussocky grassland:** A small area of uncultivated ground comprising tussocky grass including Timothy, Cocksfoot and Italian Ryegrass.
- 129. Brook corridor:** Brook corridor lined with mature Ash and Crack Willow trees. Rough grass and Bramble grows along the banks of the brook.
- 130. Defunct hedgerow:** A short section of defunct native hedgerow dominated by Hawthorn with abundant English Elm and Elder. Substantial gaps in the hedgerow are filled with Bramble.

131. **Improved grassland:** A large riverside field comprising improved grassland established on former arable land. The sward is regularly grazed by cattle and so is short. It is dominated by Perennial Ryegrass with occasional Cocksfoot and White Clover.
132. **Tree line and defunct hedgerow:** A field boundary comprising a line of mature hybrid Poplar trees with a defunct outgrown hedgerow beneath including Hawthorn, Blackthorn, English Elm, Elder and Bramble.
133. **Intact hedgerow:** A mostly intact native hedgerow running along a brook corridor dominated by Hawthorn with Blackthorn with abundant English Elm, Elder and Bramble. The hedgerow had not been recently cut and no ditch was associated with the boundary.
134. **Planted Poplar trees:** A small wet area in the corner of an arable field adjacent to the Broughton Brook supporting planted hybrid Poplar trees with a Nettle ground layer.
135. **Rough grassland margin:** A wide margin along the site boundary adjacent to Broughton Brook comprising rough species-poor grassland. The grassland is dominated by tussocky Cocksfoot with occasional Broad-leaved Dock, Hogweed and Nettle.
136. **Stream corridor:** A tributary to the River Ouzel, known as Broughton Brook, with a 4-5m wide channel and a strong northerly flow. The eastern bank within the site had been recently cut and comprises grasses and abundant Nettle. The channel itself supports abundant Reed Canary Grass and Common Club Rush. The western bank comprises rough grass and scrub.
137. **Crack Willows:** A small group of early-mature Crack Willow trees along the bank of Broughton Brook.
138. **M1 boundary:** Intact hedgerow and fenceline running along the site boundary adjacent to the M1 motorway. The hedgerow is dominated by Hawthorn with occasional Elder, English Elm and abundant Bramble. The hedgerow measures approximately 3m high and 2m wide. A seasonally wet ditch runs to the south of the hedgerow and supports Common Reed and Pond Sedge to the western end of boundary and Crack Willow and Goat Willow trees along the bank.
139. **Trees and scrub:** A small area of regenerated woodland in the corner of an arable field. The area is dominated by early-mature Elm (possibly Smooth-leaved Elm). The understory comprises suckered Elm and occasional Ash and Wild Cherry.
140. **Hedgerow/ scrub:** An outgrown native hedgerow running with adjacent mature scrub dominated by Hawthorn with occasional Blackthorn, English Elm, Elder, Wild Cherry, Pedunculate Oak and an early-mature Ash tree. The hedgerow had not been recently cut and no ditch was associated with the boundary. A ditch running along the boundary has a channel measuring approximately 1m deep and 1m wide.
141. **Hedgerow and ditch:** A mostly defunct native hedgerow dominated by Hawthorn with Blackthorn, English Elm, Elder, Field Maple and Crab Apple. A dry ditch runs along the hedgerow with a channel measuring approximately 0.5m deep and 1m wide, becoming shallower at the western end.
142. **Sub-station:** A utilities sub-station comprising hardstanding, with a track leading from London Road to the east, and dense scrub on the margins dominated by Bramble.
143. **Agricultural sheds:** A complex of barns constructed of timber and corrugated metal used for storage and as a shelter for cattle. The surrounding field margins comprise bare earth, rough grass and tall ruderals.
144. **Grassland paddock:** A small field comprising improved species-poor grassland which is regularly grazed by horses and has a short sward. The grassland may have been relatively recently established

over former arable land. The dominant species included Perennial Ryegrass, Creeping Buttercup, White Clover and Dandelion.

145. **Hedgerow and ditch:** An intact native hedgerow along London Road dominated by Hawthorn with English Elm, Blackthorn, Ash, Elder, Crab Apple and Bramble. A shallow dry ditch running along the hedgerow base has a channel measuring up to 0.5m deep and 1m wide.
146. **Hedgerows and ditches:** Two intact native hedgerows along a gravel track dominated by Hawthorn with English Elm, Blackthorn, Ash, Elder and Bramble. The hedgerows measured approximately 2.5m high and 1.5m wide and had been flail cut on just one side at the time of survey. Shallow dry ditches running along the hedgerow bases had channel measuring up to 0.5m deep and 1m wide.
147. **Woodland:** Small area of woodland dominated by fairly mature native trees in the north and early-mature specimens in the south which have likely been planted more recently. Tree species included Pedunculate Oak, Ash, Norway Maple, Poplar species, Aspen and Small-leaved Lime, and the understorey also included Blackthorn and Crab Apple. Very little ground flora is present, which is likely due to heavy shading.
148. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm, Ash, and Crab Apple, including a small number of mature Ash trees. The hedgerow had recently been flail cut to approximately 2m high and 2m wide at the time of survey. A dry ditch runs along the western side of the hedgerow with a channel measuring approximately 1m deep and 1m wide and is choked with grasses and tall ruderal vegetation.
149. **Field corner:** Corner of an arable field supporting early-mature Ash and Scot's Pine.
150. **Improved grassland:** A wide strip of mown improved species-poor grassland along the western margin of an arable field. The grassland may have been relatively recently established over former arable land.
151. **Hedge and fencelines:** A section of the site boundary which borders a complex of residential properties comprises wooden post and rail fencing and lines of 8-12m tall Cypress trees.
152. **Field corner:** A mostly unmanaged area of land in the corner of an arable field comprising improved grassland with stands of dense tall ruderal vegetation. A section had been mown for amenity use by neighbouring residential properties. Other sections had been used for the dumping of garden waste and storing trailers.
153. **Hedgerow and ditch:** Site boundary bordering the A509 to the north comprising a fenceline and hedgerow with a dry ditch and scrub to the north. The hedgerow is intact, heavily dominated by Hawthorn and had been flail cut to approximately 2.5m high and 1.5m wide. The shallow dry ditch running along the hedgerow base to the north had a channel measuring up to 0.5m deep and 1m wide and is heavily overgrown with scrub, in particular Bramble. Scrub and tree planting along the verge of the A509 includes Hawthorn, Wild Cherry and Crack Willow.
154. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm, Ash, Blackthorn and Crab Apple, including a small number of mature Ash trees. The hedgerow had recently been flail cut to approximately 2m high and 2m wide at the time of survey. A dry ditch runs along the eastern side of the hedgerow with a channel measuring approximately 1m deep and 1m wide and supports frequent Great Willowherb.
155. **Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm, Ash, Blackthorn, Crab Apple and Dog Rose. A dry ditch runs along the southern side of the hedgerow with a channel measuring approximately 1m deep and 1m wide. A number of mature Oak and Ash trees occur along the southern bank of the ditch.

- 156. Field corner:** A small area of woodland within the corner of an arable field just beyond the site boundary. The area supports a couple of mature Oak trees and an abundance of smaller trees and scrub including Field Maple, English Elm, Hawthorn, Ash, Horse Chestnut and Lime species, some of which are likely to have been planted.
- 157. Intact hedgerows:** Two mostly intact native hedgerows dominated by Hawthorn with English Elm, Blackthorn and Oak. The hedgerows measured approximately 2.5m high and 1m wide and had been flail cut on just one side at the time of survey.
- 158. Woodland and derelict building:** A small area between arable fields dominated by early-mature Ash and Norway Maple trees with a ground layer of Bramble and Nettle. The foundations and one wall remain of a former brick farm building in the centre of the area.
- 159. Hedgerow and ditch:** A mostly intact native hedgerow dominated by Hawthorn, Blackthorn and English Elm measuring approximately 2.5m high and 1.5m wide. A dry ditch runs along the eastern side of the hedgerow with a channel measuring approximately 1m deep and 1m wide.
- 160. Pond:** A seasonally wet pond located in the corner of an arable field and surrounded by hedgerow and dense scrub and Ash trees. The pond measures approximately 10x6m and forms part of the ditch network, being fed from a drainage pipe to the east. The pond was mostly dry at the time of survey and supports no aquatic or marginal vegetation other than Reedmace. Surrounding scrub includes Hawthorn, Blackthorn and Bramble.
- 161. Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn, Blackthorn and English Elm, with a number of mature Ash trees. The hedgerow had recently been flail cut on the southern side only. A shallow dry ditch runs along the base of the hedgerow with a channel measuring approximately 0.5m deep and 1m wide.
- 162. Hedgerow and ditch:** An intact native hedgerow heavily dominated by Hawthorn with Ash and a mature Oak trees. The hedgerow had recently been flail cut to approximately 2m high and 1.5m wide at the time of survey. A shallow dry ditch runs along the base of the hedgerow with a channel measuring approximately 0.5m deep and 1m wide.
- 163. Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm, Blackthorn and Ash. The hedgerow had recently been flail cut at the time of survey. A very shallow dry ditch runs along the base of the hedgerow with a channel measuring up to 0.3m deep and 1m wide.
- 164. Hedgerow and ditch:** An intact native hedgerow dominated by Hawthorn with English Elm, Blackthorn and Ash. A shallow dry ditch runs along the base of the hedgerow with a channel measuring approximately 0.5m deep and 1m wide.
- 165. Treeline and ditch:** A line of planted early mature trees included Pedunculate Oak, Norway Maple and Wild Cherry, and a dry ditch with a channel measuring approximately 2m wide and 1m deep supporting abundant Great Willowherb and Bramble.
- 166. Field corner:** A small area in the corner of an arable field supporting mature Oak trees and early-mature Norway Maple with a sparse understory of English Elm and Elder. The ground flora at the time of survey included Bramble, Nettle and Ivy.
- 167. Ditch:** Site boundary bordering hotel ground to the south comprising a dry ditch with a channel measuring approximately 1.5m deep and 2m wide. The southern bank comprised a brick wall and the northern bank was earth with recently cut ruderal vegetation dominated by Bramble, Nettle and Ivy.
- 168. Improved/ amenity grassland:** An area of species-poor grassland used as a campsite and for grazing horses. The grassland is intensively managed through mowing or grazing and has a short sward. The sward is dominated by Perennial Ryegrass with Cocksfoot, Yorkshire Fog, White Clover, Dandelion,

Common Chickweed, Red Clover, Creeping Thistle and Forget-me-not. More frequent ruderals occur on the margins of the area including Broad-leaved Dock, Nettle, Mugwort, Bristly Ox-tongue, Green Alkanet and Teasel.

169. **Farmyard:** A complex of large sheds and warehouse style buildings surrounded by areas of hardstanding.
170. **Treeline:** A line of early-mature Cypress, Oak, Norway Maple and Field Maple of approximately 15m in height.
171. **Treeline:** A line of early-mature Cypress trees around 15m in height, forming the boundary between the site and hotel grounds to the west.
172. **Semi-improved grassland:** The northernmost field comprising relatively species-rich semi-improved grassland to the west of the River Ouzel. Its species composition is broadly characteristic of NVC classification MG4 (Meadow Foxtail - Great Burnet grassland).
173. **Semi-improved grassland:** As TN172 but with a shorter sward at the time of survey with a greater abundance of ruderal vegetation. The western area of the field shows evidence of ridge and furrow.
174. **Semi-improved grassland:** Similar to TN127 but subject to heavy cattle grazing and with a shorter sward. The species composition is subsequently less diverse with a higher dominance of grasses, in particular Perennial Ryegrass, and as such is considered species-poor. The western side of the field shows evidence of ridge and furrow.
175. **Semi-improved grassland:** Species-poor semi-improved grassland subject to heavy cattle grazing with a short sward. The sward is heavily dominated by grasses, in particular Perennial Ryegrass, and has a very low occurrence of forb species.
176. **Semi-improved grassland:** Species-poor grassland similar to TN175 but with ridge and furrow topography and lesser dominance of Perennial Ryegrass. The sward in lower lying areas has a higher abundance of forb species and is broadly characteristic of NVC classification MG6 (Perennial Ryegrass - Crested Dog's-tail grassland).
177. **Semi-improved grassland:** Species-poor grassland similar to TN176 with faint signs of ridge and furrow. The lower areas to the south-east have a slightly higher abundance of forbs and Crested Dog's-tail.

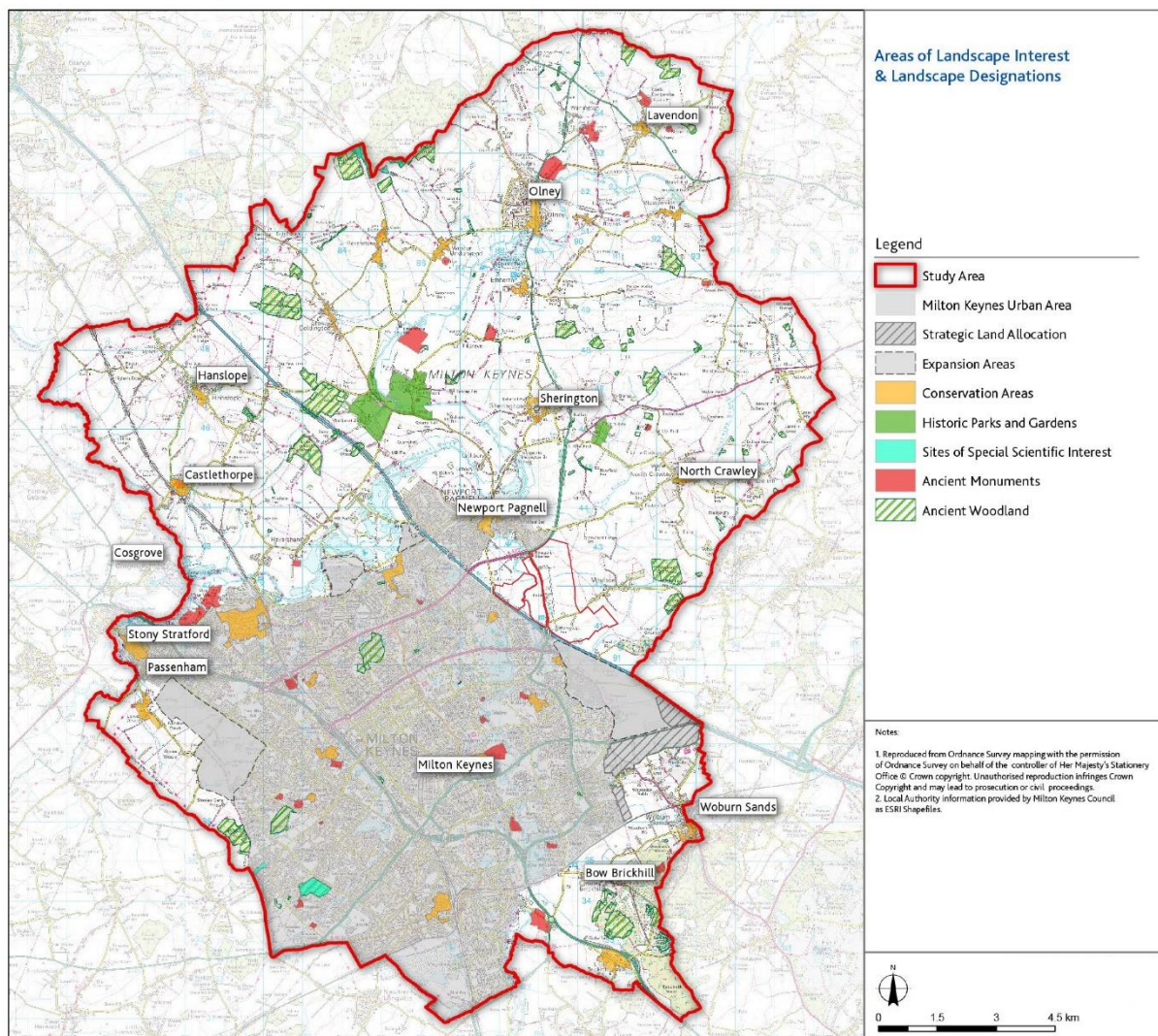
Appendix 3: Landscape Technical Note

D2065 Milton Keynes East: Landscape Statement

This Landscape Statement provides information on the landscape context and potential impact of development of land east of M1, Milton Keynes East (MKE). It further considers the initial landscape strategy forming part of the Concept Masterplan for MKE, prepared by Berkeley, and potential mitigation measures to minimise and/or mitigate the impacts of development.

1.0 Existing Site landscape features and landscape context

Figure 1.0 below shows the Site context and landscape-related designations. The Site is surrounded and crossed by major and local roads that provide local connectivity as well as strategic links. These are the M1 to the south and A422 / A509 to the north. The A509 London Road crosses the Site, connecting to Junction 14 of the M1. Newport Road runs north-east from London Road toward Moulsoe village. Willen Road runs north-south to the west of the Site.



[Figure 1.0]

The Site is predominantly farmed land, divided into fields of irregular shape and size, with boundaries mostly well defined by dense hedgerow / tree lines. The River Ouzel meanders from north to south, crossing the Site. Riparian vegetation includes woodland to the north and plantation trees to the south enclosing an outdoor informal racing track. The more wooded areas lie outside of the Site boundary.

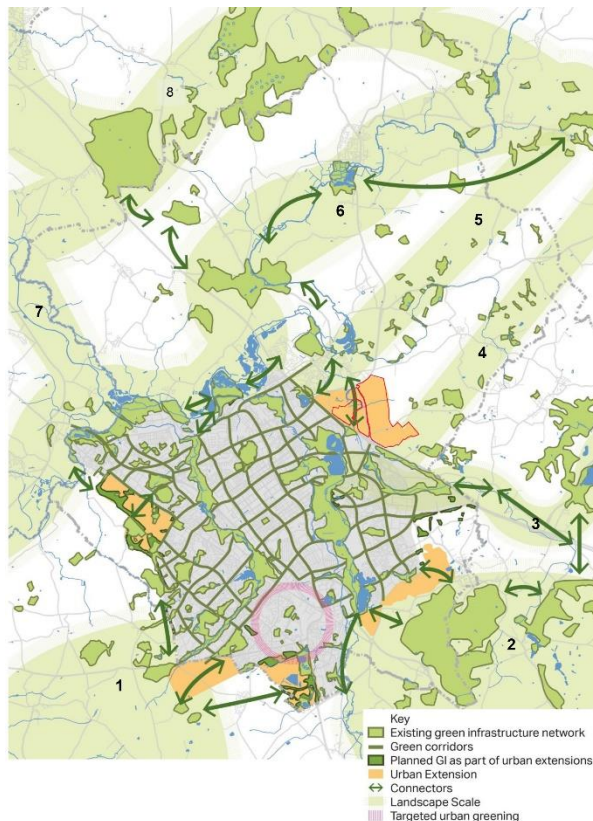
The valley of the River Ouzel lies below 60m Above Ordnance Datum (AOD). West of this, the land appears broadly flat, although in reality it is very gently undulating and rises to the west. The eastern valley side to the Ouzel rises rapidly toward two ridgelines, oriented north-south and east-west and joining to the east. A tributary running east towards the Ouzel separates these areas of high ground, which rise to over 80-85m AOD including at the edge of the Site. A further minor valley running south from the tributary also separates the area of high ground on which Moulsoe village sits, from the north-south ridge immediately east of the Site.

There are several dwellings and associated out-buildings within 0.5km to the north-west of the Site, and a traveller's site by Willen Road to the east. There are businesses and dwellings around Pym's Stables to the north and further employment buildings on Newport Road to the south. Moulsoe Buildings Farmhouse on the east side of London Road is a Grade II listed building which has been converted to a Holiday Inn Hotel. Vegetation around most of these buildings provides partial enclosure and visual screening.

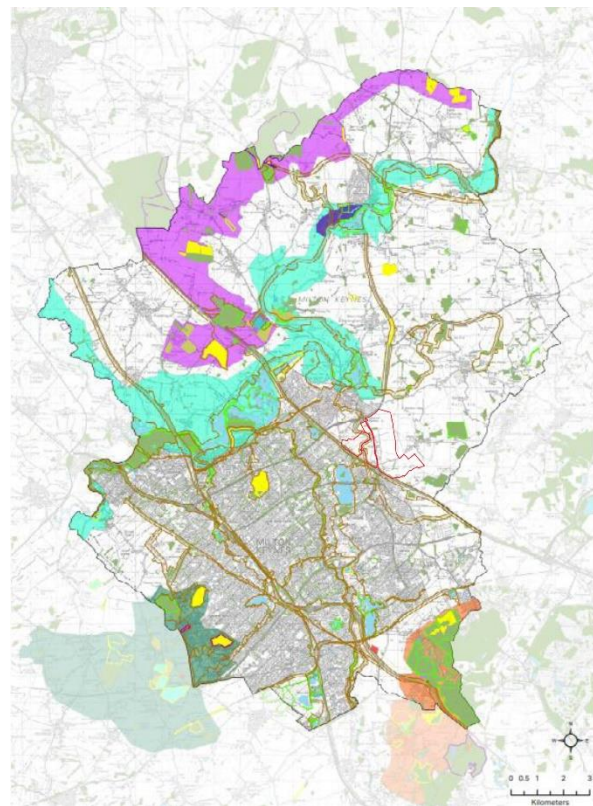
Further afield, existing built areas to the north-west and south-east include extensive areas of employment / commercial uses, including large scale sheds. The Site, and to a greater extent the land to the north and east of it, are predominantly of a rural character, with scattered settlement.

The Site is not subject to any landscape designations. Within the Council's Green Infrastructure Strategy (2018) the Site is mapped (fig 2.0 below) as an 'Urban Extension' with the river Ouzel acting as a green infrastructure 'connector', a wildlife corridor and a biodiversity opportunity area (fig 3.0 below).

[Figure 2.0]



[Figure 3.0]



Land designated as an Area of Attractive Landscape (AAL) through Milton Keynes Adopted Local Plan (2005) Saved Policy S11, is separated from the Site by an existing large-scale employment development and residential areas to the north. The Forest of Marston Vale designated as a Community Forest is subject to Policies CS16 and DM14 of the Central Bedfordshire Core Strategy (November 2009) is located just over 1km east of the Site at its nearest point but is largely separated from it by landform and vegetation.

Open and planted spaces south of the M1 are subject to Local Plan Saved Policy S12 Linear and District Parks and include Willen Lake recreational resource. Built areas north of the Lake fall within a Conservation Area, as does a further small built area to the east, located south of the M1 / Site.

Public Footpaths cross the eastern and western parts of the Site connecting with a network of public rights of way to the east and north. Existing connections southwards are limited, albeit the eastern footpath on the Site passes under the M1 linking to the Linear Park.

There is limited woodland in close proximity to the Site. However, the combination of mature field boundary hedgerows / trees, dense vegetation along the motorway and trunk roads, as well as other riparian vegetation and small woodland blocks and copses, contribute to the sense of a verdant landscape. Woodland increases to the east within Marston Vale Forest and to the north-west within the AAL designated area.

2.0 Existing Visibility of the Site

The generally high level of vegetation within and around the Site combined with the relatively low-lying landform and enclosing ridgelines, limits the availability of views within and across the area. Nevertheless, breaks in the vegetation or elevated sections of roads and bridges, allow some long and open views across the fields within and immediately surrounding the Site. Partial views of the Site are also available from the buildings and public rights of way, within and in close proximity to it.

From further afield, there are some views across parts of the Site from the high ground on which Moulsoe village lies (under 1km to the east) with limited glimpses, or the potential to perceive the location of the Site in views, from high ground around 2.5km to the north-east; from a short section of the A5130 around 1.5km to the south-east; and from a high point within Campbell Park around 3km to the south-west.

3.0 Baseline Landscape Character

The Council commissioned an updated landscape character assessment (June 2016) as part of the evidence base used by Milton Keynes to inform the preparation of the new local plan 'Plan:MK' and associated Development Plan Documents.

The Site is divided into three character areas:

- Landscape Character Area 2d Ouzel North Urban River Valley;
- Landscape Character Area LCA 3a North Crawley Clay Plateau Farmland with tributaries; and
- Landscape Character Area LCA 4a Broughton to Tickford Clay Lowland Farmland.

3.1 Landscape Character Area 2d Ouzel North Urban River Valley

3.1.1 Character – a low lying area dominated by major roads, including the M1, the A422 dual carriageway and the A509. Part of the area is currently in use as a sand and gravel extraction Site. Distinctive features include the deserted medieval village and moated Site at Caldecote Farm (to the north of the character area).

3.1.2 Condition – the condition of the landscape is 'moderate'.

3.1.3 Landscape Management – in general the management guidelines for the River Valley area are to manage and enhance the flood meadows and riverside pastures, and to promote recreational opportunities and visual enclosure. In relation to LCA 2d the guidelines seek to;

- 'Promote the continued management and enhancement of the River Ouzel corridor and access from the adjacent urban areas'.
- 'Promote the development of the Ouzel Valley Linear Park, extending the Ouzel Valley Park northwards between Willen and Newport Pagnell.'

3.1.4 Development Considerations - to prevent built development in the floodplain and where mineral extraction is essential support the creation of wet woodland for restoration in appropriate locations, to provide a mosaic of habitats

3.2 Landscape Character Area LCA 3a North Crawley Clay Plateau Farmland with tributaries.

3.2.1 Character – this is a large undulating plateau bisected by small water courses which create enclosed valleys. Most of the LCA consists of large scale arable fields creating a remote empty feeling. Ridges offer panoramic views west over Milton Keynes. The village church at Moulsoe is a prominent landmark on the plateau.

3.2.2 Condition - The condition of the landscape is 'moderate' because of localised land cover change and ongoing development on the western edge of Milton Keynes which has reduced the extent of the rural setting of Milton Keynes. Tree cover tends to be over mature. Semi natural habitats are considered well linked although there is little obvious management. Tranquillity is disrupted by the urban edge.

3.2.3 Management – in general the management guidelines seek to promote recreational opportunities, manage and protect existing woodland and promote their extension, protect and restore existing hedges and promote new hedges. Additionally, that views to the local landmark of Moulsoe Church should be retained.

3.2.4 Development Considerations - Generally restrict built development in the area retaining the primary use for agriculture and informal recreational to protect and enhance the historic setting and structure of villages and hamlets including views to the villages and the retained open spaces within them, particularly where there is pressure from the expansion area development of Milton Keynes. Where built development or restoration of buildings is considered appropriate, indigenous materials should be used to maintain and enhance the character of both existing villages and individual farms and properties. Prevent development that could detract from local landmarks including village churches such as Moulsoe.

3.3 Landscape Character Area LCA 4a Broughton to Tickford Clay Lowland Farmland

3.3.1 Character - The Broughton to Tickford Clay Lowland Farmland LCA 4a lies to the east of Milton Keynes north of the M1 and forms the lower slopes of the Clay Plateau Farmland with Tributaries LCT 3a to the east. This narrow LCA contains large arable fields and small isolated woodland copses. The M1 corridor runs along its southern boundary beyond which is the on-going development within the Eastern Expansion Area of Milton Keynes. The LCA has extensive views to the clay plateau to the east. Settlement is limited to isolated farms.

3.3.2 Condition – The condition of the landscape is 'moderate' due to the influence of the M1 to the south, and a field pattern that has fragmented as a result of amalgamation. Woodland and tree cover is sparse and age structure is generally restricted to mature or young trees. There are few semi-natural habitats in the area.

3.3.3 Land management - in general the management guidelines seek to promote recreational opportunities, promote enhancements for wildlife through habitat improvements, promote the creation of new woodland and the restoration of hedgerows. In detail to develop a strategy to screen the M1 through offsite woodland planting and management of the onsite highway planting.

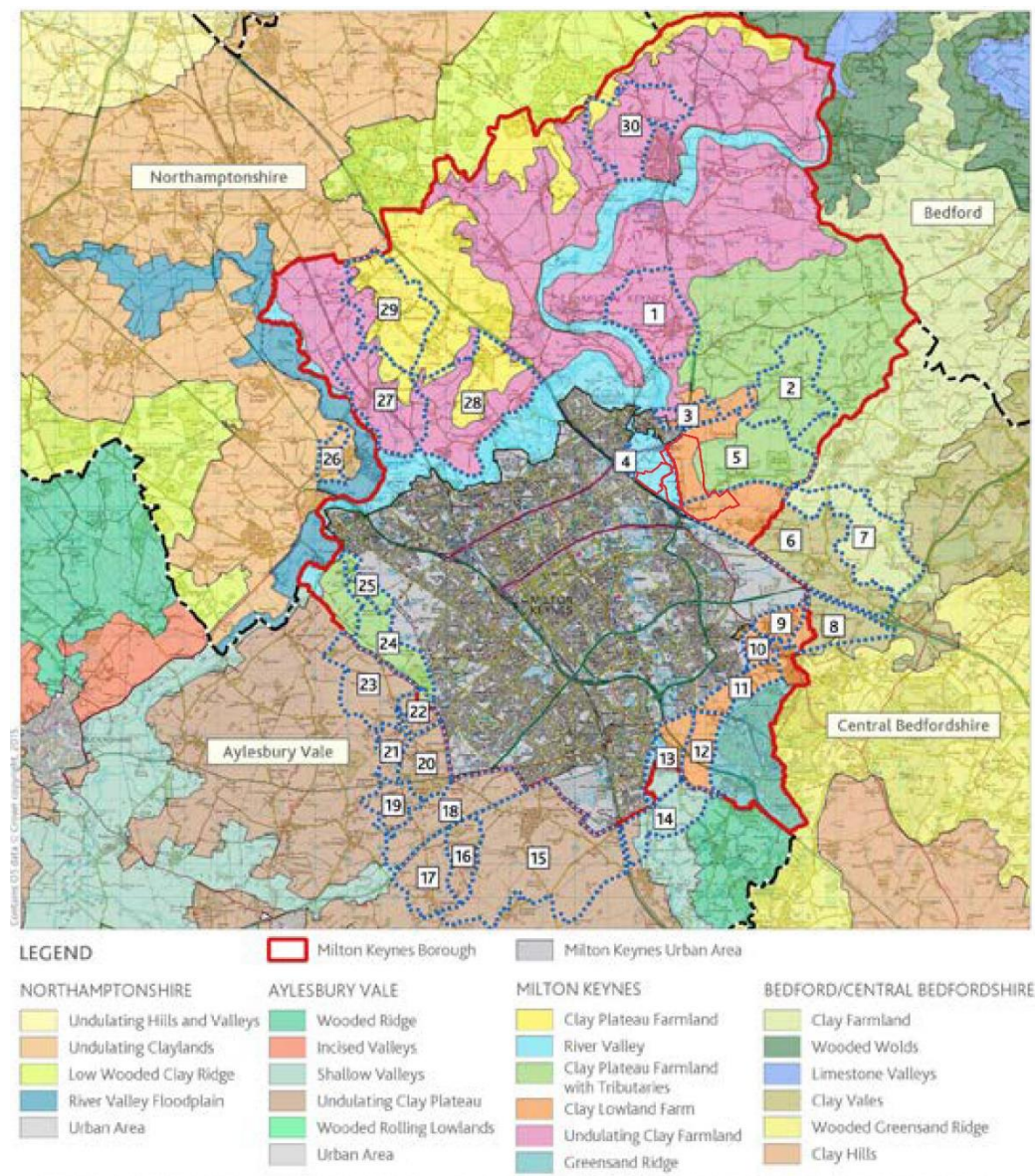
4.0 Baseline Sensitivity and Capacity

As with the LCA the Council commissioned a Landscape Sensitivity Study to Residential Development in the Borough of Milton Keynes and Adjoining Areas, Gillespies October 2016, as part of the evidence base used by Milton Keynes to inform the preparation of the new local plan 'Plan:MK' and associated Development Plan Documents.

It is important to note that the assessment was based upon the premise of a particular landscape sensitivity to residential development at a density of 35dph and at scale of 2.5 storeys. The implication is that the sensitivity for larger structures (such as class B8 warehouses) may be elevated (see section 5.5 para 2 of this report). The Site is covered by two areas in this study (as shown below):

- the western edge of 'Land Area 5 Moulsoe Plateau';
- the north western edge of 'Land Area 6 Salford Claylands'.

[Figure 4.0]



4.1 Land Area 5 Moulsoe Plateau

This area is categorised as having a Medium Sensitivity:

‘There are likely to be opportunities to accommodate residential development without a significant adverse change to the landscape character. The more open landscape on the lower slopes of the Ouzel Valley, in proximity to the A509 London Road and North Crawley Road are less sensitive to residential development.

Maintain the character of the village of Moulsoe. Conserve the pattern of woodlands including Moulsoe Old wood and the existing landscape framework.

4.2 Land Area 6 Salford Claylands

This area is categorised as having a Low Sensitivity:

Residential development could be accommodated without affecting key characteristics and/or values in this landscape. The landscape area adjoins the M1 between junction 13 and 14 and the ongoing development south of the motorway has an urbanising impact on the area.

The flat topography and relatively poor landscape structure offer little enclosure. Integrate new development with a strong landscape structure to shield long distance views from. The higher ground on the Brickhill escarpment and the plateau to the north. Reinforce existing hedgerows to provide a strong landscape pattern. Conserve and reintroduce woodlands.

5.0 Other Evidence Base Information

5.1 Open Space Strategy

This document published in 2007 sought to aid/guide the delivery of high quality accessible open space throughout the Borough during the planned 20-year life of the Strategy. The document’s purpose in broad terms was to:

- Maximise the quality, performance and benefits of existing open spaces for the communities they serve.
- Create and develop a framework for ensuring high quality, sustainable, and appropriately resourced open spaces are an integral element of the Milton Keynes growth agenda.
- Ensure local accountability at all levels for the development and management of open space with an active community involvement.

The Strategy listed 28 Actions to achieve its targets. Actions pertinent to this Site include:

- Action 6 Promote a Healthier Community
- Action 8 Seek Community Input into Open Space Proposals
- Action 16 Connect Open Spaces
- Action 17 Promote Tourism and Heritage on Open Spaces
- Action 18 Improve Open Space through the Development Process
- Action 23 Tree, Woodland and Hedgerow Management Policy
- Action 24 Create Specific Management Plans

5.2 Open Space Assessment (March 2018)

This strategy sought to ensure that the Plan:MK provided an adequate amount of Open Space for current and future needs through the provision of an up to date evidence base and then inform policies so that any qualitative and quantitative deficiencies could be addressed.

In its definition of typologies, the following open space typologies were described (their characteristics/ minimum size and catchment areas):

- District Parks
- Local Parks
- Pocket Parks
- Amenity Open Space
- Local Play Area
- Neighbourhood Play Area
- Playing Fields and Outdoor Sports
- Allotments and Growing Community Growing Areas
- Sports Facilities
- Linear Parks
- Green Access Links
- Areas of Wildlife Interest
- Transport Corridors
- Paddocks
- Civic Spaces

Of note is that Linear Parks are described as:

Key structural components of MK, following the water bodies across the city, they have an important green infrastructure role: mitigating flood events, preserving archaeology, as pedestrian and cycle corridors, for wildlife and recreation. The feel of the corridors change across the city; more formal in urban area and more agricultural to the periphery. They are often multi-functional to include for example playing fields, play areas, paddocks and allotments.

5.3 A Physical Activity Framework (March 2015)

The purpose of this report was to provide clear guidance to relevant stakeholders in the aim of achieving increased physical activity levels across the Borough.

One of the three underpinning priorities was the provision of an 'Active Environment'. The associated recommendations were to:

1. *"Promote the use of Open Space and green spaces to encourage opportunities for active recreation*
2. *Maximise the potential of existing uses, by creating safe and attractive parks, leisure facilities and community venues*
3. *Identify and promote the role of transport (i.e. pedestrian, cyclists, and other modes) and infrastructure (i.e. footpaths and redways) to increase opportunities for active travel.*
4. *To influence planning for the built environment to facilitate informal and impulse activity."*

5.4 Sport and Active Communities Strategy – Playing Pitch Strategy (March 2015)

This report focused on the needs and issues relating to grass pitch provision in Milton Keynes – both the improvement of the existing and the provision of new facilities. Overall it is reported that *'football and cricket have more than sufficient capacity overall to cater for both the planned growth up to 2026, and future increases in participation'*. Newport Pagnell is seen as an anomaly. The latter additionally

has a proposal for additional 3G pitches. The targets for the sport of Rugby are to improve existing facilities rather than the provision of new pitches.

In relation to new development and in relation to 'Criteria for Investment' the report states that:

'where new sites are proposed in relation to new development, these should be provided for sport rather than general open space.'

'other than in the major extensions to MK., target developer's contributions towards site improvement within a 10-minute walk.'

The report subsequently informs planning standards both Quantitatively - a rate of provision of facility per 1000, Qualitatively and in terms of Accessibility – based on catchment area for each facility type.

5.5 Sustainability Appraisal (SA) (Nov 2017)

The SA is a mechanism for assessing the likely effects of an emerging plan and reasonable alternatives, with a view to achieving sustainable development. This report supports the emerging Plan:MK.

- At its figure 3.3 part of Site, the environs of the River Ouzel, is drawn as a Linear Park;
- The Site is listed as Ref 15 East of M1, (3000+) units;
- On figure 6.8 the Site is shown as a housing or mixed-use Site option;
- The Site is 'screened in'; and
- At table 6.3 and conclusions following examination are listed in table 6.4.

In relation to Landscape it is noted at para 10.12.1 that none of the proposed site extensions in question are highly constrained in landscape terms. In relation to East of the M1 it is stated that *'the general view is that the landscape in this area is a relatively non-sensitive'*. [Ref to section 4.0 of this report].

The report then provides commentary on relevant policies – creating positive character (Policy D2), Designing High Quality Spaces (Policy D1), Open Countryside Policy DS5 and Conserving and Enhancing Landscape Character (Policy NE5). In relation to the latter development proposals should demonstrate the wealth of aspects which contribute to landscape character and will be *'conserved and where possible enhance through sensitive design, landscape mitigation and enhancement features.'*

5.6 Green Infrastructure Strategy (March 2018)

This document published in 2016 recognises the Green and Blue infrastructure of the Borough and that: *'like any infrastructure, our green and blue infrastructure requires ongoing management and investment to ensure that benefits continue to be maximised.'*

The document narrates historic Green Space Planning in the Borough, describes the current GI network (its open spaces and designations) and then how GI is to be planned for in the Borough.

In its Figure 2 and where the River Ouzel runs through the Site it is designated as a Wildlife Corridor and the river is drawn as a Priority Habitat.

In its Figure 5 the Site is drawn as an urban extension and the River Ouzel 'valley' is drawn as a 'Connector.'

6.0 Summary of potential landscape and visual effects

The baseline studies undertaken to date identify the landscape and visual receptors that need to be considered as part of the masterplanning process for the MKE development. Landscape receptors include the existing green field nature of the site; vegetation (trees and hedgerows); landscape features (notably the River Ouzel); and the key contributory elements of landscape character. The landscape setting to heritage assets is also to be considered. Visual receptors potentially include users of several surrounding roads, users of public footpaths and public parks, residents of dwellings close to and east of the Site, and workers in nearby employment areas.

The development would be designed to relate to the landscape and visual constraints and opportunities identified for the Site and local area. It would also respond to the landform of the Site and topography of the wider landscape in order to limit the potential landscape and visual effects.

As with development on any greenfield site the proposals are likely to cause a degree of adverse impact, when assessed in accordance with the methodology of Guidance for Landscape and Visual Impact Assessment (GLVIA), Third Edition (2013). However, a range of landscape mitigation measures would be delivered as part of the proposed development that respond in appropriate manner to any adverse effects identified, seeking to avoid, reduce, minimise and mitigate for these effects, but also, wherever possible, delivering the objectives set out in the landscape character assessment (namely the inclusion of extensions to linear parks for informal recreation and the creations of new woodland blocks and copses). The measures would be considered in combination with other proposals relating to the siting, layout, height and design of the buildings and access arrangements in order to ensure the scheme can be effectively assimilated into the landscape and future townscape setting.

Overall, the measures would seek to ensure there is a balance between landscape impact and landscape benefit overall, whilst making a positive contribution to visual amenity through a high level of new planting, alongside a wide range of other development benefits. The intended measures are described in more detail below.

7.0 Landscape Mitigation Proposals and Landscape Benefits

7.1 Landscape Mitigation

In response to the character and visibility of the Site, surrounding land uses, landscape features and designations, the principal measures integrated into the illustrative proposals to moderate the anticipated landscape and visual effects are as follows:

- Location of larger class B8 warehouse units to south, on land that is less sensitive and along M1 highway corridor – a route where this form of development is characteristic. Class B8 units to be set down into their landscape context and integrated through the planting of woodland blocks and wooded margins.
- A strategic landscape buffer to the eastern edge of the development area. This would respond to existing topography by creating a series of undulating landforms that increase the height of the existing ridgelines. Significant new woodland blocks in this area could reflect the characteristic pattern of scattered blocks of woodland and linear vegetation along field boundaries, in turn responding to the published landscape character assessment guidelines. The landscape buffer would create a zone of transition from built area to countryside and contribute to the screening of the development whilst also strengthening the landscape framework and landscape setting to this side of the City (delivering one of the guideline aspirations set out in the landscape study). It would also soften potential views towards the proposed development (and Milton Keynes) from outlying rural areas to the east and north-east, whilst maintaining separate character and identity to Moulsoe village.

- Protection of the River Ouzel and its flood plain by setting most development well back from the meandering watercourse and maintaining a wide swathe of open land alongside it. In this way, the existing field pattern would be retained, and opportunity could be taken for additional planting, including wet woodland, that could enrich the habitat value of the area, create a net biodiversity gain, and provide opportunities for extending the existing linear parks in accordance with the typology described in the MK evidence base and related to the river corridor.
- Protection of the tributary which runs east of the Ouzel would allow for integration of a wide green corridor incorporating additional waterbodies as part of a sustainable drainage strategy.
- A wide, planted landscape buffer at the northern edge of the proposed development by the A509 to set the proposed development into a robust landscape framework.
- Further setbacks of buildings from the M1 to the south, and from the A509 London Road and Newport Road, allowing for the creation of planted green corridors, providing screening of both the development and the M1 corridor. Additional green corridors created alongside access roads within the built area by providing wide planted margins to the highway.
- Retention of the existing public rights of way in situ wherever possible and subject to security measures and secure by design, and integration with a network of new permissive paths through the areas of proposed green infrastructure.
- Wherever possible, existing hedgerows and trees and field margin vegetation would be retained and supplemented with new planting to improve the landscape framework.
- The provision of the well-connected green corridors, both on the axis of the River Ouzel and on an east west axis will ensure that the features above are accommodated.

7.2 Landscape Benefits

Through considered design the development proposals have the potential to provide the following benefits:

- 7.2.1 Open Space - The development allows a significant addition to the high quality and accessible network of open spaces for the City, promoting healthier communities, connecting existing open space, spaces for tourism, retention and provision of trees, woodland and hedgerows and the potential to provide high quality landscape maintenance and management in perpetuity.

The development has the ability to deliver many forms of open spaces, indeed the majority of the typologies listed in the Open Space Strategy from Local Park to Civic Spaces.

- 7.2.2 Active recreation - The proposed open space strategy to be further developed with local community input will be able to promote and encourage increased physical activity. The spaces can include sports pitches, a variety of play spaces, trim trails and a number of circular walks and cycle rides and positive connection into a wider network. The community hub and school have the potential to provide indoor leisure facilities with potential for shared community use.
- 7.2.3 Playing pitches - The development shows that several pitches can be provided to meet growing needs. The pitches, their provision, location and specification can be refined at the pre-planning stage in consultation with the Council and Sport England.
- 7.2.4 Sustainable development - The development can deliver a considerable number of new homes in a well-connected location on land that is 'relatively non – sensitive' in landscape terms. MKE has the potential to contribute to landscape character and, through sensitive and collaborative

masterplanning, provide landscape mitigation and enhancement features as listed in section 7.1 above.

- 7.2.5 Green and Blue Infrastructure - Similarly the development is able to maximise the benefits of the key elements of Blue and Green Infrastructure, the River Ouzel and enhance this landscape feature's role as a 'Connector' and Wildlife Corridor. The MKE development has the potential to provide a net biodiversity gain across the site, creating and enhancing ecological habitats as an integral part of the masterplan and landscape strategy.

8.0 Summary and Conclusion

In summary, whilst there will be an inevitable impact on the existing landscape, inherent with any major development of greenfield land, the initial landscape strategy, together with mitigation proposals forming part of the concept masterplan for MKE, are consistent with the objectives of both the published and recent landscape character assessment for the local area, whilst also providing high quality open spaces and corridors through the development that would form an extension to the wider Milton Keynes green infrastructure network, delivering a number of key policy aspirations of the Council.

In addition, the retention of vegetation and significant proposed areas of new planting would play an important role in the visual softening and screening of the development from nearby and outlying areas, whilst also having the potential to contribute to an overall improvement in the visual appearance of this part of the settlement by strengthening the landscape framework and setting to this side of the city.

The proposed Development Framework and subsequent planning application for the MKE site will provide the opportunity for the landscape strategy and mitigation measures to be further developed, tested and refined. It is considered that landscape considerations do not represent a constraint to the allocation of the site in Plan:MK.

References:

- Gillespie LLP, (June 2016), Milton Keynes Landscape Character Assessment
- Gillespie LLP, (October 2016), Landscape Sensitivity Study to Residential Development in the Borough of Milton Keynes and Adjoining Areas
- Milton Keynes Council, (March 2015), A Physical Activity Framework for Milton Keynes
- Milton Keynes Council, (March 2015), Sports and Active Community Strategy – Playing Pitch Strategy
- Milton Keynes Council, (March 2018), Open Spaces Assessment
- Aecom, (March 2018), Milton Keynes Green Infrastructure Strategy
- Aecom, (Nov 2017), Sustainability Appraisal (SA) of Plan:MK



Appendix 4: Heritage Technical Note

Built Heritage Baseline Appraisal and Advice

Milton Keynes East (MKE)

June 2018

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Executive Summary

1. This Built Heritage Baseline Appraisal and Advice report identifies that the proposed development of the MKE Site by our Client could have the potential to affect the significance of a number of built designated heritage assets (or groups) indirectly through change to their settings. These heritage assets include:
 - Moulsoe Buildings Farmhouse, London Road (Listed Building GII)
 - Group within village area of Moulsoe (Listed Buildings GI & GII)
 - Tickford Park north of Moulsoe (Listed Building GII)
 - Tickford Park Farmhouse further north of Moulsoe (Listed Building GII)
2. The concept masterplan prepared by JTP for that part of the Site within the Client's control indicates that the listed building Moulsoe Buildings Farmhouse and its curtilage would remain in use as a hotel. Although no longer in farm use and also well screened, the proposed new uses and built development would be introduced across the Site would change the existing character of the wider setting of this listed building. In this way proposed development also has the potential to affect indirectly the significance of the listed buildings and group within the historic settlement at Moulsoe and also Tickford Park, albeit to a much more limited degree in relation to the wider countryside setting and some longer distance views.
3. At this stage the concept masterplan demonstrates that regard has been had for the past and existing condition of the setting of the listed buildings through its distribution of uses, layout and design; principally through the proposed integration of existing and also newly introduced green elements. Further opportunities exist for the concept masterplan to be further refined; first through the preparation of a Development Framework SPD to be led by the Council and also during the planning process. This would again further minimise and or mitigate the effects of development on the experience of the significance of the heritage assets within their settings.
4. However, the change in landscape character and the urbanising effects of proposed development within the Site, which are indeed inherent to any strategic allocation of this type, could be considered by the local planning authority to result in a degree of residual harm to the significance of the listed building(s). On the basis of the current baseline situation and emerging scheme, it is our view that such potential heritage harm could only reasonably be quantified as "less than substantial" in national policy terms.
5. The emerging Plan:MK allocates the Site as an strategic urban extension comprising comprehensive new residential and employment development intended to meet the long-term needs of Milton Keynes. It is our view that it would be reasonable for the local planning authority to determine that the substantial "public benefits" that could be delivered by this development would outweigh any limited, or less than substantial, harm to the significance of the listed building(s) as part of the overall planning balance at application (and in light of the statutory duties of the Act). On this basis we consider

that these built heritage considerations are not a constraint to the principle of the proposed development at MKE, including its allocation with the Plan:MK.

1. Introduction

Purpose of this Report

- 1.1 This Built Heritage Baseline Appraisal and Advice report has been prepared by Turley's specialist built heritage team on behalf of Berkeley (the "Client") to provide a summary of the findings of research and site analysis with regard to built heritage asset planning matters; as they relate to the proposed plan allocation and future development of Land at Milton Keynes East (MKE) (the "Site"). Our Client controls the majority of the land within the Site area of MKE.
- 1.2 The findings of this report are founded on earlier work undertaken by Turley Heritage in the preparation of an Initial Heritage Appraisal report for the Client, which was intended to inform emerging proposals for development at Site with regard to heritage asset effects. This earlier report was issued in February 2012.
- 1.3 Further work has now been commissioned and undertaken by our team to critically review the findings of earlier analysis and advice. Importantly this new appraisal has been undertaken in light of the relevant statutory duties of the Planning (Listed Building and Conservation Areas) Act 1990 ("the Act"). And also in light of the now prevailing National Planning Policy Framework (NPPF) 2012¹, supporting National Planning Policy Guidance (NPPG) from 2014, and national best practice and advice from Historic England and others. As well as relevant up to date regional / local planning policy and guidance.
- 1.4 This report has also been prepared in light of the preparation of a new local plan (Plan:MK) by Milton Keynes Council for this authority area. The draft Proposed Submission version of the Plan:MK has been submitted to the Planning Inspectorate for an independent examination into its soundness; to be held this summer 2018. Draft Policy SD14 of this emerging plan relates to the Site, which is allocated for a comprehensive new residential and employment development to meet the long-term needs of Milton Keynes. This report is intended to be read as part of the baseline information and representations made to the examination in public of the Plan:MK on behalf of our Client; in relation to the future delivery of development at this Site and built heritage asset matters.

Structure of this Report

- 1.5 **Section 2** of this report sets out the initial findings of our survey work at this stage. Firstly, a short description of the past evolution of the Site and surrounding area is provided to provide context for later analysis of built heritage asset significance and potential sensitivities.
- 1.6 Within this section the existing built heritage assets within the Site and its wider area are identified; in particular those which may have the potential to be affected by the future development of the Site. The sole designated heritage asset and listed building

¹ DCLG, National Planning Policy Framework (NPPF) 2012 - Paragraph 128

within the boundary of the Site is identified, including a copy of the List Entry published by Historic England at **Appendix 1**.

- 1.7 The built heritage asset baseline for our assessment of likely development effects is then further developed; with a summary of the significance (and any contribution of setting to that significance) of the heritage assets most likely to be affected (either directly or indirectly) by the envisioned future development of the Site.
- 1.8 **Appendix 2** sets out in detail the statutory duties of the Act, national policy in the NPPF and as supported by NPPG, as well as regional / local planning policy and guidance for development within the historic environment; as this relates to the Site and emerging development.
- 1.9 Finally, **Section 3** uses our initial baseline analysis to set out a review of the key built heritage asset considerations; opportunities and constraints, for the future development of the Site. In particular this provides a discussion of the potential effects of proposed future development at the Site, and its delivery, on the experience of the significance (and setting) of built heritage assets. This is considered in light of the prevailing legislative and national and local planning policy / guidance requirements.
- 1.10 Our review of potential built heritage asset effects is directly informed by the JTP concept masterplan for the envisioned future use and development of this Site, and it is understood would also be submitted to the Planning Inspectorate as representations as part of the upcoming examination in public for the Plan:MK.

2. Built Heritage Assets and Significance

Site and Surrounding Area

- 2.1 Figure 2.1 below is a red line boundary of the Site at Milton Keynes East (MKE) as set out in Plan:MK. Our Client controls the majority of the site area.

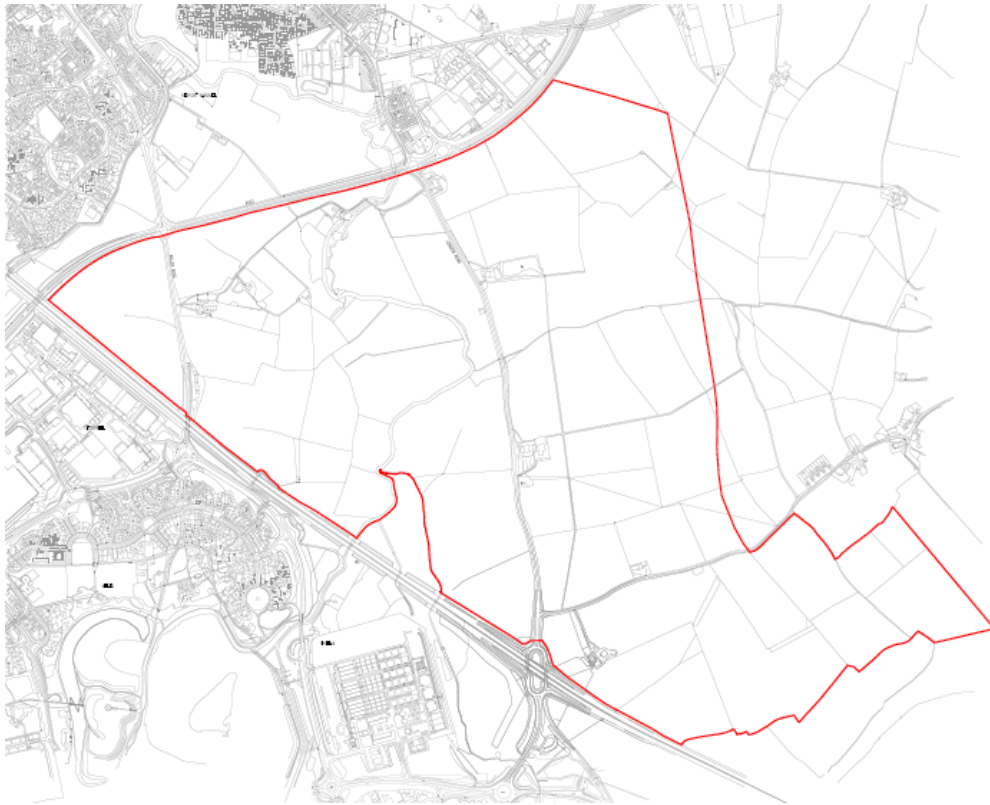


Figure 2.1: Site Plan and Boundary (red line)

- 2.2 The Site at Milton Keynes East (MKE) is located immediately to the east of the urban area of Milton Keynes, and also to the south of the town settlement of Newport Pagnell. The Site is to the east of the M1 motorway and to the south of the A422 dual carriageway. Two primary roads cross the Site north to south; Willen Road within the eastern part and London Road (A509) further to the west. The nearest settlement to the west of the Site boundary is the village of Moulsoe on the Newport / Cranfield Road. There are a modest number of dispersed farmsteads and residential sites within the Site boundary, also including a hotel (Holiday Inn MKE) on London Road.
- 2.3 The Site largely comprises land in mixed agricultural use, and a landscape characterised by a complex pattern of varying sized and shape open fields and field boundaries. This landscape character continues and extends to the west beyond the Site boundary and towards the next larger settlement of Wharley End / Cranfield outside this authority area. A key feature is the meandering form of the River Ouzel that flows south to north through the eastern part of the Site (east of London Road). This is defined in the current Local Plan as part of the Ouse Valley Linear Park. Topographically this is the lowest lying part of the Site and part of the floodplain. The historic market town of

Newport Pagnell grew up along this river and key crossing further north from the Site. Other historic settlement and use along this part of the river includes Caldecote Mill and the recorded deserted Mediaeval village and moated site at Caldecote Farm (within the Site boundary). To the east, the triangular shaped area between Willen Road and the M1 / A422 is currently in use for sand and gravel extraction.



Figure 2.2: Aerial Photograph of the Site and Surrounding Area

- 2.4 The land rises gently up to the west from this river valley, with the landscape in this area and beyond the Site boundary characterised by a large undulating plateau bisected by smaller watercourses. The highest point occurs at Wharley End much further west and close to the Bedfordshire boundary. This is generally an area of farmland over clay with larger arable fields and some small isolated woodland copses. There is limited built settlement within this part of the Site and extending out west across this landscape. Relatively isolated villages in this wider area (both west beyond the Site area) include Moulsoe and North Crawley (further north and west again). The village church at Moulsoe is a prominent landmark within the local landscape on the plateau.
- 2.5 Study of historic mapping demonstrates how the form and character of the landscape of the Site and its wider surrounding area has changed during the 19th and in particularly the 20th centuries. The extract of the 1896 OS map at **Figure 2.3** below records the still extant line of London Road north to south, as well as secondary routes from Newport south to Willen and also from the London Road west to Cranfield via Moulsoe village. As found today, the modern highways of the M1 and A422 now dominate and have substantially changed the infrastructure of this area. The line and form of the River Ouzel remains a key feature, although now bisected by these newer routes and also expanded built settlement.



Figure 2.3: Extract of Ordnance (OS) Survey Map (Bedford) dated 1896

- 2.6 At the north the shape and form of the historic market town of Newport Pagnell remains legible in part, in particular in its relationship to the river and floodplain. Perhaps the most significant, even dramatic, change to the landscape of this area is the establishment and subsequent development / expansion of Milton Keynes as a designated New Town from 1967. Milton Keynes absorbed a number of villages and smaller settlements (including Milton Keynes itself- south of Broughton) and has expanded across former countryside to become a city; the eastern urban edge of which now touches the boundary of the Site.

Built Heritage Assets

- 2.7 The NPPF 2012 defines a heritage asset as:

“A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest.”²

- 2.8 Designated heritage assets are those which possess a level of heritage interest that justifies designation and are then subject to particular procedures in planning decisions that involve them. These assets include conservation areas, registered parks and gardens and listed buildings. The NPPF also identifies that heritage assets include both designated heritage assets and assets identified by the local planning authority (principally including local listing).

² DCLG, National Planning Policy Framework (NPPF) 2012 - Annex 2: Glossary

- 2.9 Our desktop analysis (and also earlier site visit findings) has initially established the location, extent, prominence and historical / present day relationship of heritage assets with their settings and shared wider context. Built designated heritage assets within the Site and a defined surrounding area have been identified using the Historic England National Heritage List for England, Milton Keynes Historic Environment Record (HER) and other local authority web resources.
- 2.10 Milton Keynes Council does not currently have an adopted local lists or equivalent register for this part of the authority area (i.e. non-designated heritage assets).

Scoping Designated Heritage Assets

Listed Buildings

- 2.11 It is identified that there is one designated listed building of special architectural or historic interest within the Site boundary. This is named as **Moulsoe Buildings Farmhouse** on London Road and was first designated on 16 February 1984 at grade II. The Historic England List Entry for this heritage asset is included in full and for reference at **Appendix 1**. The property is now in use as part of the Holiday Inn MKE hotel. We identify that the proposed development of the Site has the potential to affect the significance of this heritage asset both directly through possible change of use and physical alteration, and also indirectly through change to its setting and existing views. The understanding and appreciation of the former use and heritage significance of this listed building as a farmhouse is derived in some part from the setting of the wider surroundings of the Site.

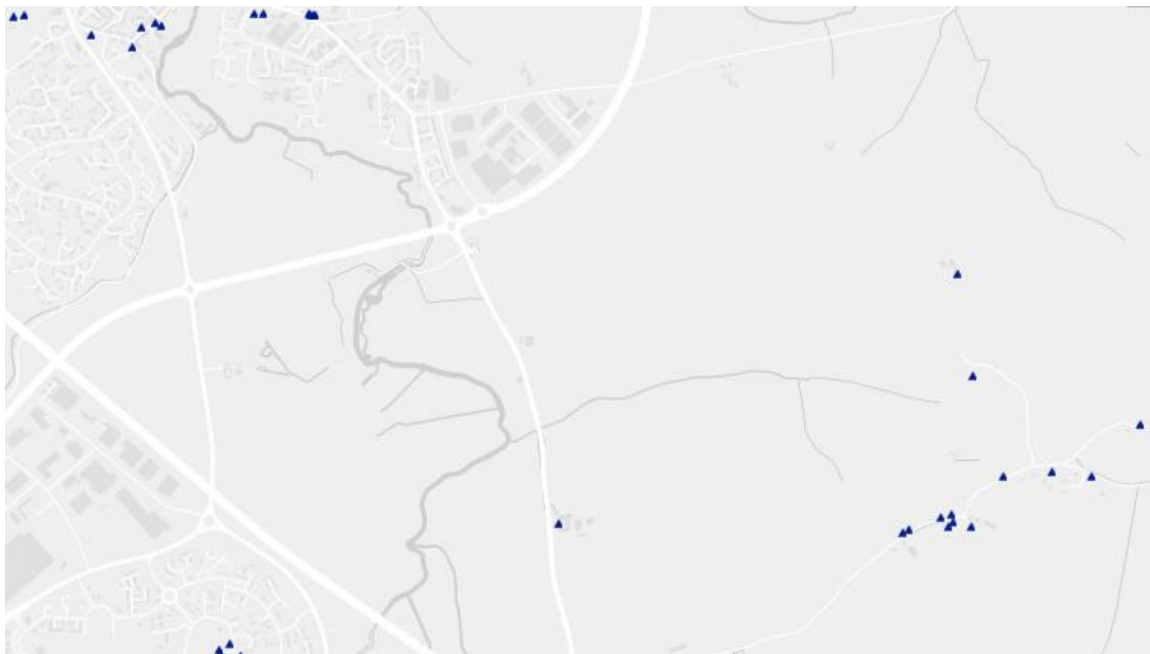


Figure 2.4: Extract of HE's National Heritage List for England (listed building - blue triangle) for Site

- 2.12 There are a number of other listed buildings and building groups within the wider surrounding area of the Site. There is potential for the understanding and appreciation of the significance of these other heritage assets to be affected by the proposed

development of the Site through change to part of their settings and also shared views to and from. Figure 2.4 above is an extract from Historic England's National Heritage List for England mapping tool, which indicates the distribution of listed buildings (blue triangle) within the wider area of the Site. **Table 2.1** below then further identifies these listed buildings or building groups and provides commentary on the likelihood of development as currently envisioned affecting their significance and setting in our view. Listed buildings or building groups in bold indicate where there may be potential for development effects on heritage significance and setting.

Table 2.1: Listed Buildings within the Surrounding Area of the Site

Name / Location	Grade	Commentary on Potential Effects
Groups within urban area of Newport Pagnell / Tickford End	Various	<p>Significance unlikely to be affected due to the setting that contributes to this significance being confined to the urban area of this historic settlement (including conservation area) and river / area of floodplain between these two centres.</p> <p>The strong line of the modern A422 (and industrial area at Interchange Park) to the south severely restricts visual and experiential connections between the Site and the historic cores of this settlement.</p>
Group at Willen neighbourhood area	Various	<p>Significance unlikely to be affected due to the setting that contributes to this significance being tightly confined to a small shared layout now within the heart of an enclosing modern suburb (including conservation area).</p> <p>The development of modern housing and landscape now surrounding this group, as well as the strong line of the modern M1 to the west, severely restricts visual and experiential connections between the Site and this small group.</p>
Group at Broughton neighbourhood area	Various	<p>Significance unlikely to be affected due to the setting that contributes to this significance being tightly confined to a small shared layout now within an enclosing modern suburb (including conservation area).</p> <p>The development of modern housing, landscape and highway network now surrounding this group, as well as the strong line of the modern M1 further to the north west, severely restricts any visual and experiential connections between the Site and this small group.</p>

Name / Location	Grade	Commentary on Potential Effects
Group within village area of Moulsoe	Various	<p>The wider countryside and largely open green landscape surrounding this historic village settlement contributes positively to the understanding and appreciation of the significance of the listed buildings at its core. This relates to the remaining legibility of the past use and relative isolation of the village as an agricultural settlement within this wider landscape. The village occupies an elevated position within the countryside, and the listed Parish Church is a local landmark in views.</p> <p>As found today, the Site forms part of the shared countryside and wider landscape setting of the village and its group of historic buildings. Proposed new use and built development within the Site would change the character of this area and so has the potential to affect the experience of the significance of this listed building group within its setting. In particular the effect on shared views to, from and within the wider landscape context of the village and the Site.</p>
Tickford Park north of Moulsoe	II	<p>The historic Tickford Park House at the heart of its once private estate has been lost (demolished 1977), and it is unclear as to the nature and extent of built fabric remains on site. However, the wider countryside and largely open green landscape surrounding contributes positively to the understanding and appreciation of the significance of the identified listed building and site; once as part of a country estate in a working rural setting and context.</p> <p>As found today, the site of the listed building is relatively hidden within the mature vegetation of this part of the former park. However, the Site forms part of the shared countryside and its wider historic landscape setting. Proposed development within the Site has the potential to affect the significance of this listed building indirectly, although the effect on shared views would likely be very limited.</p>
Tickford Park Farmhouse further north of Moulsoe	II	<p>The wider countryside and largely open green landscape surrounding this listed farmhouse (stead) contributes positively to the understanding and appreciation of its</p>

Name / Location	Grade	Commentary on Potential Effects
		<p>significance. This relates to the legibility of the historic use and relative isolation (and also possible ownership) of the listed building as a farm centre within this landscape and a wider working agricultural estate (including field pattern).</p> <p>As found today, the Site forms part of the shared countryside and wider landscape setting of the listed farmhouse. Proposed development within the Site would change the character of this area and so has the potential to affect the experience of the significance of this listed building within its setting. In particular the effect on shared views to, from and within the wider landscape context of the farmstead and the Site.</p>
Hill Farmhouse further west of Tickford End and east of North Crawley	II	<p>The wider countryside and largely open green landscape surrounding this listed farmhouse contributes positively to its significance. This again relates to the legibility of the historic use and relative isolation of the listed building as a farm centre within this landscape and a wider agricultural estate.</p> <p>Although the Site forms part of this extended countryside area and the wider setting of the farmhouse; distance, topography including the small valley of the Chicheley Brook, and the cumulative screening effects of intervening infrastructure / built development and mature vegetation, all severely limits any historical, functional, visual and or experiential connections between this and the listed building. Significance is therefore unlikely to be affected.</p>

Conservation Areas

- 2.13 There are a number of conservation areas within the wider surrounding area of the Site. These include Newport Pagnell Conservation Area to the north of the Site beyond the A422, and the smaller Willen and Broughton Conservation Areas within the urban area of Milton Keynes to the south west beyond the line of the M1.
- 2.14 We identify that the potential effect of proposed development on Site on the significance of these conservation areas and designated heritage assets would be closely comparable to that effect on the experience of the significance of the listed buildings and building groups at each of their cores. Refer to **Table 2.1** above.

Accordingly it is our assessment that the significance and setting of conservation areas is unlikely to be affected by development as currently envisioned on Site.

Built Heritage Significance

Defining Significance and Setting

2.15 The NPPF 2012 defines the significance of a heritage asset as:

“The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.”³

2.16 The setting of a heritage asset is defined by the NPPF to comprise:

“The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.”⁴

2.17 Historic England has published guidance⁵ in respect of the setting of heritage assets and related views, providing detail on understanding these and also any associated assessment of the indirect impact of any changes on heritage significance. This presents a series of attributes of a setting which can be used to help assess its contribution to the significance of a heritage asset. These can comprise the asset’s physical surroundings; the experience of the asset; and the asset’s associative attributes.

Listed Buildings

2.18 Listed buildings are defined as designated heritage assets that hold special architectural or historic interest. The principles of selection for listed buildings are published by the Department of Culture Media and Sport⁶ and supported by Historic England’s Listing Selection Guides for each building type⁷.

Assessment

Summary of Significance and Setting

2.19 The following summary assessment of the heritage significance (including any contribution of setting) of each of the most likely affected designated heritage assets provides a sufficient level of description at this stage to understand the potential effects of the still emerging proposed use and development for the Site. It is also recognised that historical, functional and or visual inter-relationships exist between these heritage assets. Initial assessment has been undertaken based on review of existing published information and desktop archival research (and earlier site visit).

³ DCLG, NPPF 2012 – Annex 2: Glossary

⁴ DCLG, NPPF 2012 – Annex 2: Glossary

⁵ Historic England, Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets, 2017 (2nd Ed.)

⁶ DCMS, Circular: Principles of Selection for Listing Buildings, 2010

⁷ Historic England, Listing Selection Guides: (suite of documents for each Building Type), 2011 and updated

Moulsoe Buildings Farmhouse, London Road (grade II)

- 2.20 This is a listed building of special architectural or historic interest at grade II, which is located within the Site boundary. The property is now in use as part of a larger complex of buildings as the Holiday Inn MKE hotel, but was originally built as a farmstead named on historical maps as Moulsoe Buildings.
- 2.21 The significance of this listed building derives from its relatively intact example of a substantial 18th or early 19th century architecturally polite (even urban like) brick built farmhouse at the heart of a steading. The building formally addresses London Road to the east. This building is also of interest in providing historical evidence of its former use within a prosperous farm estate.
- 2.22 As found today, this later converted hotel has been substantially extended to the rear with more modern built form; creating a courtyard like layout that still reflects the historic form of the farmstead. The List Entry specifically describes that there are:

“Curved walls each side of front elevation masking out buildings, which are not of special interest.”



Figure 2.5: Aerial Photograph of Moulsoe Buildings Farmhouse (now Holiday Inn MKE)

- 2.23 Modern highway works and a large car park to the south now characterise the immediate setting of the listed building and complex. There are also modern working farm buildings to the west of the hotel, albeit screened from this use. As found today, relatively densely planted site boundaries serve to both isolate and screen the building from more extensive views within the surrounding landscape. Planting along the

London Road also serves to screen more open views of the historic core of the listed building from this key route to a degree.

- 2.24 The Site as its surrounds the hotel, forms part of the local and wider setting of this listed building. Further historical research would confirm the nature of any past relationship and the extent of land owned and or functionally related to the listed building. This would enable more detailed analysis of those elements of setting that or could contribute to the understanding and appreciation of heritage significance. Such elements could include related buildings as well as landscape features. More broadly, the understanding and appreciation of the former use and significance of this listed building as a farmhouse is derived in some part by its relatively isolated position within a wider countryside setting, including possible historic connection to Moulsoe village to the east within the wider countryside context, but visually existing planted screening limits the appreciation of this as found today.
- 2.25 As described, the historic character of the setting of this listed building has changed significantly over time. The locational relationship with London Road is important historically, however modern upgrading of this highway and increased traffic has introduced a more urban experience. Also, fundamentally the change of use of the building for hotel purposes has served to break any direct functional link with the surrounding areas of farmed land, which is further undermined in experience by the existing extensive landscape screening of the building visually from this wider area.
- 2.26 More widely, the former layout and character of the extended historic landscape has changed substantially in the 20th century with the intervention of major transport infrastructure (nearby M1), shifting agricultural practices and functions (including the amalgamation of fields and loss of boundaries), as well as the appreciable encroachment of the urban area of Milton Keynes (and Newport Pagnell) from the west. This is now part of the experience of the setting of the listed building.

Group: Moulsoe Village (grade I and II)

- 2.27 This group of listed buildings forms the core or spine of the historic village at Moulsoe. This dispersed and mixed group of vernacular and polite houses, which are focused around the local landmark Parish Church (St Mary). The church is listed at grade I (for exceptional interest) and all other buildings in this group at grade II.
- 2.28 These are inter-related buildings, which although varied in age, form and character, are of architectural interest and have group value. They also each provide physical evidence of the phased historical development of this former agricultural settlement from the Medieval period until the 19th century⁸.
- 2.29 Although this village settlement was enlarged in the 20th century, the buildings still retain the legibility of historical functional and visual links with the surrounding largely agricultural landscape that continues to form their wider settings. The village occupies an elevated position within the wider countryside and its relative isolation and form is a distinctive feature within this area. The church tower is also a prominent feature in local views. These aspects / characteristics of the setting of the listed building group contribute positively to heritage significance. The Site forms a part of this wider

⁸ History of the County of Buckingham: Volume 4, ed. William Page (London, 1927)

countryside setting to the west of this historic settlement and there is likely to be inter-visibility and other experiential effects across the landscape between the two. The modern proximity of major transport infrastructure (nearby M1) and urban edge of Milton Keynes to the west is also now part of the wider experience of the setting of the village.



Figure 2.6: Aerial Photograph of Moulsoe Village within its wider Countryside Setting (Tickford Park site to the north)

Tickford Park and Tickford Park Farmhouse, Moulsoe (both grade II)

- 2.30 To the north of Moulsoe village was the historic Tickford Park House estate, with 16th century origins. The listed building designation here records the site of the main house, which was largely demolished in 1977⁹, and it is unclear as to the nature and extent of built fabric that remains. As found today, the site of the listed building is relatively hidden within the mature vegetation of this part of the former park.
- 2.31 Further north, Tickford Park Farmhouse dates from at least the 18th century and forms the focal element of a larger agricultural complex and steading of buildings of varying ages and forms. The farmhouse is a multiphase building, which physically illustrates the development of local vernacular and also later and more polite architectural styles for this type. The historic and continuing use of the site is also reinforced by the working agricultural landscape that surrounding it.
- 2.32 Overall, the wider countryside and largely open green landscape surrounding these listed buildings contributes positively to the understanding and appreciation of their heritage significance. Again, this relates to the existing legibility of the historic uses and relative isolation (and also possible past ownership) of these buildings as either a farm or once part of a domestic estate experienced within the wider landscape. The Site

⁹ <http://www.parksandgardens.org/>

forms a part of that extensive historic landscape to the west. There is likely to be inter-visibility between the Site as proposed for development and Tickford Park Farmhouse within this context. However, the effect on any shared views with the site of Tickford Park itself would likely be very limited as a result of past demolition and the screening effects of existing planting.

3. Review of Potential Built Heritage Effects

Introduction

- 3.1 The key built heritage asset considerations; opportunities and constraints, relevant to the envisioned future residential and employment development of the Site at Milton Keynes East (MKE) and how this could be delivered as allocated, are reviewed in this section. This discussion and advice has been considered in light of our assessment of the significance and any contribution of setting of the identified heritage assets within the study area of the Site, and also prevailing legislative and national and local planning policy / guidance (as set out in earlier **Sections 2** and **Appendices 1 & 2**).
- 3.2 Our understanding of the envisioned future use and development masterplan of the Site is set out in the concept masterplan prepared by JTP for the Client. This emerging scheme is referenced within this section accordingly. The findings of our report are intended to be read in conjunction with this other documents as part of the baseline information and representations made to the examination in public of the Plan:MK on behalf of client.

Built Heritage Considerations

Heritage Assets

- 3.3 In summary, it has been identified in this report that the proposed development on Site could have the potential to affect the significance (and setting) of the following built (designated) heritage assets or groups:

Name / Location	Heritage Asset Type	Potential Effect
Moulsoe Buildings Farmhouse, London Road	Listed Building (grade II)	Direct through use or alteration, and or indirect through change to setting and shared views
Group within village area of Moulsoe	Listed Buildings (grade I and II, GV)	Indirect through change to setting and shared views
Tickford Park north of Moulsoe	Listed Building (grade II)	Indirect through change to setting and shared views
Tickford Park Farmhouse further north of Moulsoe	Listed Building (grade II)	Indirect through change to setting and shared views

- 3.4 Note that no non-designated heritage assets have been identified by the local planning authority within the Site at this stage; either as part of the plan making process or

other engagement with officers. It is noted that Milton Keynes Council does not currently maintain a local list for this area. On initial review the Historic Environment Record (HER) for this authority area identifies a number of finds, sites and or features within the Site as a whole.

- 3.5 National policy and guidance advises that the wider historic environment and local character / distinctiveness should be a consideration that effects the achievement of good design and place making. Although not designated or otherwise identified as heritage assets (as defined by the NPPF) by the local planning authority or other stakeholders, there could be potential for heritage assets to be newly identified within the Site and or its surrounding area. This would become a material planning consideration (as set out in paragraph 135 of the NPPF for non-designated heritage assets in particular).
- 3.6 As a starting point, it is a national planning policy requirement (and best practice set out by Historic England) that the significance (and also any contribution of setting) of a heritage asset affected by proposed development / work at application is described in a proportionate manner as part of any such full submission material. This would also include a description of the likely effects of change on heritage significance. This is set out in paragraph 128 of the NPPF.

Potential Effects of Development

Legislative and Policy Requirements

- 3.7 It is a statutory duty under current legislation (the Act) that “considerable weight and importance” is given to the desirability of preserving the special interest of a listed building and its setting as part of the determination of any relevant application for development or works. It is also recognised that the listed building designation for the purposes of planning control includes not only the “principal” listed building but could also include buildings or elements attached to that building or that are located within its curtilage (as defined).
- 3.8 Accordingly national planning policy also sets out in the NPPF (and as supported by NPPG) the importance of the objective to conserve all heritage assets in a manner appropriate to their significance. Paragraph 131 promotes: the desirability of sustaining and enhancing the significance of all heritage assets and putting them into viable uses consistent with their conservation; the positive contribution that conservation of heritage assets can make to sustainable communities including their economic viability; and, the desirability of new development making a positive contribution to local character and distinctiveness.
- 3.9 Paragraph 132 relates to designated heritage assets in particular (which would include listed buildings) and emphasises that great weight should be given such a heritage asset’s “conservation”, which is defined as the process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance. In conjunction, paragraph 137 encourages new development within the setting of designated heritage assets to enhance or better reveal their significance. Where those elements of the setting that make a positive contribution to or better reveal the significance of a heritage asset is preserved this should be treated favourably.

- 3.10 The NPPF and NPPG provides guidance with regard to determining if harm is caused to the significance of a designated heritage asset, the scale of such harm, and also how this should be addressed within the planning process and decision making. Paragraph 132 clearly sets out that any harm or loss requires clear and convincing justification. It is noted that “substantial harm” to or loss of a grade II listed building should be exceptional.
- 3.11 Paragraph 133 further established that in cases where proposed development would lead to substantial harm to or total loss of significance of a designated heritage asset local planning authorities should refuse consent in these circumstances unless it can be demonstrated it necessary to deliver substantial public benefits that outweigh such harm, or alternatively a series of high tests could be satisfied. Paragraph 134 applies to development that could lead to “less than substantial harm” to the significance of a designated heritage asset. In these circumstances the harm should be weighed against the wider public benefits of the proposal, including securing its optimum viable use (albeit in the clear light of the overarching statutory duties of the Act).
- 3.12 Best practice¹⁰ for the application of heritage legislation and policy also advises applicants to provide justification by demonstrating that efforts have been made to avoid, minimise and or mitigate harm to heritage significance as part of the design and development process. This could be through testing of alternative approaches to new uses, layout and built form in relation to the listed buildings on Site or their settings.
- 3.13 Local planning policy and guidance for Milton Keynes authority area accords with these higher legislative and national policy requirements in relation to development affecting heritage assets.

Concept Masterplan (MKE)

- 3.14 The concept masterplan indicates that the listed building Moulsoe Buildings Farmhouse within the Site would not be promoted for redevelopment by our Client, but would remain in use as a hotel. The associated buildings to the principal listed building in this use and car parking area, as well as the existing farm buildings to the east, would also be retained as is. It is unlikely therefore that the future development of the Site as currently envisioned would have any direct effects on the significance of the listed building designation (or on its immediate setting within the existing defined curtilage).
- 3.15 New uses and built development proposed would, however, change the existing character of the surrounding area and wider setting of this listed building. This is an indirect effect. Past change of use and redevelopment at what was a farmhouse but is now a hotel, the extensive visual screening effects of the established planted boundaries of this site, as well as wider changes to the wider landscape and more modern urban interventions, have overall reduced the relative sensitivity of the significance of this listed building to further change within its setting.
- 3.16 In addition, the concept masterplan recognises the past and existing condition of the setting of the listed building through the proposed integration of green elements / open space and landscaping / planting within the surroundings of this site as part of

¹⁰ Principally Historic England’s Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision Taking in the Historic Environment (2015)

the new use and layout. This includes the identification of a Green Link passing immediately to the south of the hotel, between the River Ouzel Green Corridor to the west and a new District Park to the east; along the line of the established right of way leading to Moulsoe village. This would further minimise and or mitigate the effects of proposed built development on its setting.

- 3.17 Overall the urbanising effects of proposed new and intensification of residential and commercial uses, built development and transport infrastructure, which are inherent to any strategic allocation of this type, would result in a reduction of the existing openness, greenery and relative tranquillity of the surrounding landscape. This could be considered by the local planning authority to equate to a degree of harm to heritage significance.
- 3.18 Proposed development on Site has the potential to have an indirect effect on the significance of the listed building and groups of listed buildings within the nearby historic settlement at Moulsoe and also Tickford Park, albeit to a much more limited degree relative to Moulsoe Buildings Farmhouse. Importantly, distance is maintained between the built development of new residential and commercial uses within the Site and the village. The concept masterplan has also deliberately included a green edge to the east; to be used in part as playing fields, and parkland, which would create a green buffer and softer transition between new urban extension and the wider countryside. Existing landscape features such as field boundaries are shown to be integrated at this edge with these new uses and layout, alongside new strategic planting. This approach would minimise and or mitigate to a high degree the effect of proposed development on the experience of the significance of the historic village within its wider setting.
- 3.19 However, again the wider urbanising effects of proposed development; as likely appreciated in some longer distance views, would be a change to the existing landscape character that could be considered by the local planning authority to have some harmful effect in relation to the significance of this group of heritage assets at Moulsoe.
- 3.20 Best practice as set out in national guidance encourages applicants to demonstrate how efforts have been made to avoid, minimise and or mitigate heritage harm through the design process, and also where possible to maximise enhancement or heritage benefits. This would be part of the clear and convincing justification required at application stage for such an approach to development by the NPPF (paragraph 132), and also to be considered as part of the overall planning balance during determination.
- 3.21 Accordingly we identify that opportunities exist for the concept masterplan to be further refined through the design process, including the preparation of a Development Framework SPD to be led by the Council and also during the planning process in negotiation with the local planning authority and other stakeholders, to further minimise and or mitigate adverse effects arising from proposed development on Site in heritage terms. Further integrating characteristic features of the historic landscape within the Site, such as established lanes and pathways, field patterns and planted boundaries, watercourses, woodland areas etc.; reconsidering the disposition and scale of built development within the vicinity of, or where readily appreciable in views to and from, the listed buildings; and, reinforcing and or introducing appropriate

strategic planting to filter or screen views between the listed buildings and new built form / transport infrastructure, would be examples of such positive actions. These will be explored as the masterplan is developed further through the Development Framework and through to planning application.

3.22 In tandem, potential opportunities exist to identify heritage (and public) benefits that could actually enhance or better reveal the significance of heritage assets as part of the emerging scheme, or as a result of its implementation on approval. This again would feed into the overall planning balance. National advice on the setting of heritage assets and views¹¹ sets out that this may be achieved by (particularly in relation to development in the vicinity of the listed building Moulsoe Buildings Farmhouse):

- *removing or re-modelling an intrusive building or feature;*
- *replacement of a detrimental feature by a new and more harmonious one;*
- *restoring or revealing a lost historic feature or view;*
- *introducing a wholly new feature that adds to the public appreciation of the asset;*
- *introducing new views (including glimpses or better framed views) that add to the public experience of the asset; or*
- *improving public access to, or interpretation of, the asset including its setting.*

3.23 Taking this into account, it is our view that (as advised by NPPG) in light of the relative significance and sensitivity to change of the identified listed buildings, and also the positive design principles of the emerging concept masterplan for the Site, that any alleged harm to the significance of these designated heritage assets as a result of the proposed development would only reasonably be quantified as “less than substantial” in magnitude in NPPF terms. Although overarching legislation asks the decision maker to give considerable weight and importance to the duty to “preserve” the special interest and setting of listed buildings (i.e. to avoid harm), it is generally accepted that there will be cases where heritage harm could be outweighed by material considerations powerful enough to do so. Paragraph 134 of the NPPF sets out that, where proposed development would lead to less than substantial harm to the significance of a designated heritage asset or assets, this harm should be weighed against the wider public benefits of the scheme.

3.24 The emerging Plan:MK allocates the Site at MKE as an strategic urban extension and comprehensive new residential and employment development; intended to meet the long-term needs of Milton Keynes (Draft Policy SD14). It is clearly established therefore that delivering the development of this Site could bring with it substantial “public benefits” (as defined by NPPG). As set out in the Development Statement prepared by our Client, these benefits include, but are not limited to, the following:

¹¹ Historic England’s Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets
2nd Edition (2017)

- Delivering new affordable and market homes, representing the next phase of strategic growth for Milton Keynes, supporting its central role within the Cambridge-Milton Keynes-Oxford Arc;
- New employment space, supporting the local and wider economy, in a highly accessible location;
- New transport infrastructure, including a new M1 crossing, Park and Ride, and reserved corridor for the proposed MK Bullet (rapid transit proposal).

3.25 In our view it would be reasonable for the local planning authority to determine that the wider public benefits delivered would be so substantial that they would outweigh any limited, or less than substantial, harm to the significance of the listed building(s) as part of an overall and proportionate planning balance in the final decision making process¹². The Development Framework and planning application process provide the opportunity to further mitigate and or minimise any adverse effects of development. On this basis we consider that these built heritage considerations are not a constraint to the principle of the proposed development on Site at MKE, including its allocation with the Plan:MK.

¹² Also in light of the considerable weight and importance that should be placed on the relevant statutory duties in relation to listed buildings and their settings

Appendix 1: List Entry

Moulsoe Buildings Farmhouse

MOULSOE BUILDINGS FARMHOUSE

List Entry Summary

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

Name: MOULSOE BUILDINGS FARMHOUSE

List entry Number: 1212914

Location

MOULSOE BUILDINGS FARMHOUSE, LONDON ROAD

The building may lie within the boundary of more than one authority.

County:

District: Milton Keynes

District Type: Unitary Authority

Parish: Moulsoe

National Park: Not applicable to this List entry.

Grade: II

Date first listed: 16-Feb-1984

Date of most recent amendment: Not applicable to this List entry.

Legacy System Information

The contents of this record have been generated from a legacy data system.

Legacy System: LBS

UID: 397393

Asset Groupings

This list entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List entry Description

Summary of Building

Legacy Record - This information may be included in the List Entry Details.

Reasons for Designation

Legacy Record - This information may be included in the List Entry Details.

History

Legacy Record - This information may be included in the List Entry Details.

Details

SP 84 SE MOULSOE LONDON ROAD

5/79 Moulsoe Buildings Farmhouse

- II

House. Late C18 or early C19. Red brick, hipped slate roof with slightly coved eaves, chimney stacks on right only. 3 storeys and cellar, projecting plinth, 1st and 2nd floor bands. West front of 3 bays with central modern door with original arched radiating and wreathed fanlight in semi-circular arched brick opening approached by flight of stone steps. Windows have gauged flat arches, modern small paned metal casements replacing sashes, dummy window to 2nd floor centre. Blank recesses to flank elevations. Curved walls each side of front elevation masking out buildings, which are not of special interest.

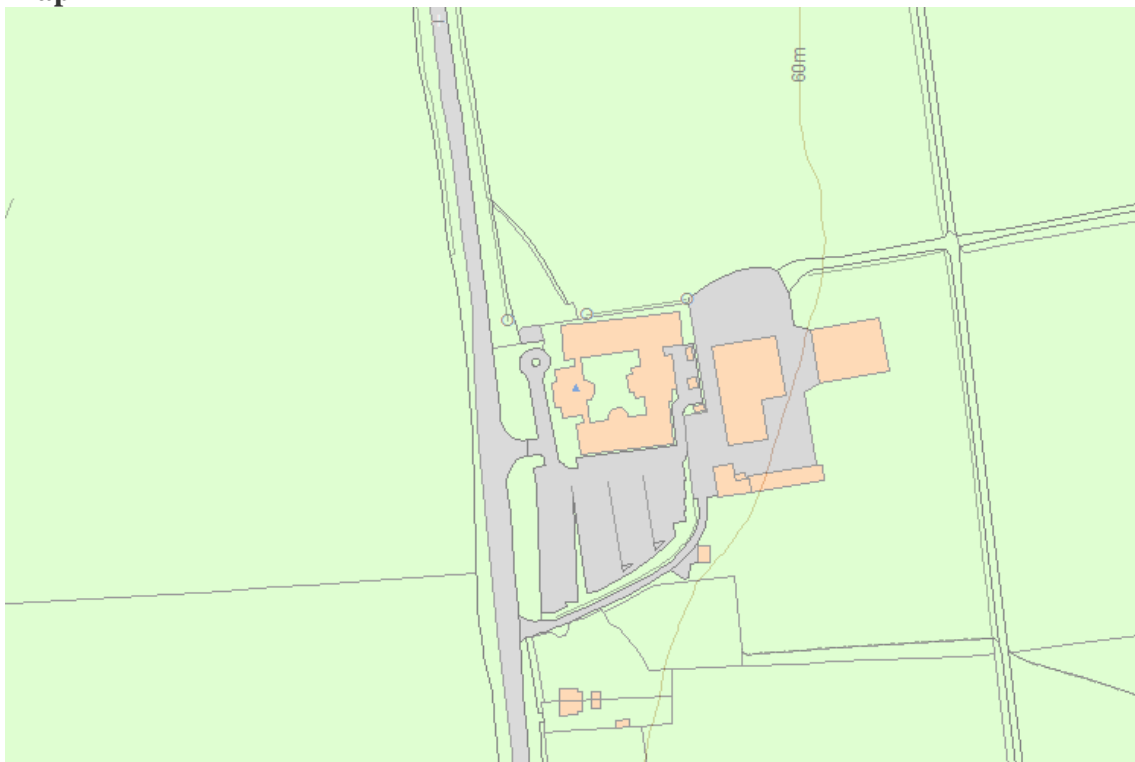
Listing NGR: SP8915341727

Selected Sources

Legacy Record - This information may be included in the List Entry Details

National Grid Reference: SP 89153 41727

Map



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Appendix 2: Heritage Legislation, Planning Policy and Guidance

- 3.1 This appendix sets out in detail the heritage legislation requirements, and national and local planning policy and guidance, relevant to applications for development / works affecting the significance of built heritage assets. This includes guidance for understanding and appreciating the significance of heritage assets and the contribution that setting and views can make to that significance.
- 3.2 It has been identified that the Site at Milton Keynes East (MKE) includes within its boundary one statutory listed building, and also that this Site forms part of the wider setting of a number of other designated heritage assets, including listed buildings and conservation areas.

Statutory Duties

The Planning (Listed Buildings and Conservation Areas) Act 1990

- 3.3 Section 1 (1) of the Act states that the Secretary of State shall compile lists of buildings of special architectural or historic interest. In compiling this list, they may take into account not only the building itself, but also:
- (a) any respect in which its exterior contributes to the architectural or historic interest of any group of buildings of which it forms part; and
 - (b) the desirability of preserving, on the ground of its architectural or historic interest, any feature of the building consisting of a man-made object or structure fixed to the building or forming part of the land and comprised within the curtilage of the building.
- 3.4 Once a building has been included on the statutory list, Section 7 (1) of the Act sets out that no person shall execute or cause to be executed any works for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest, unless the works are authorised, by way of a listed building consent application.
- 3.5 Section 16(2) sets out the general duty with regard to the determination of listed building consent applications:

“In considering whether to grant listed building consent for any works the local planning authority or the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.”

- 3.6 Section 66 imposes a similar duty with respect to the exercise of planning functions. Subsection (1) provides:

“In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.”

- 3.7 With regard to applications for planning permission within conservation areas, the Act outlines in Section 72(1) that:

“In the exercise, with respect to any buildings or other land in a conservation area, of any powers under any of the provisions mentioned in subsection (2), special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.”

- 3.8 Thus the statutory provision is satisfied if the development does one thing or the other, and there will be cases where proposals will both preserve and enhance a conservation area. The meaning of preservation in this context is taken to be the avoidance of harm. Character relates to physical characteristics but also to more general qualities such as uses or activity within an area. Appearance relates to the visible physical qualities of the area. Importantly, however, the concept of the setting of a conservation area is not enshrined in legislation and does not therefore attract the weight of statutory protection.
- 3.9 Notably and importantly, recent case law¹³ has confirmed that Parliament’s intention in enacting section 66(1) was that decision-makers should give “considerable importance and weight” to the desirability of preserving the setting of listed buildings, where “preserve” means to “to do no harm” (after South Lakeland). Case law has also confirmed that this weight can also be applied to the statutory tests in respect of conservation areas¹⁴. These duties, and the appropriate weight to be afforded to them, must be at the forefront of the decision makers mind when considering any harm that may accrue and the balancing of such harm against public benefits as subsequently required by national planning policy. The Secretary of State has confirmed¹⁵ that “considerable importance and weight” is not synonymous with “overriding importance and weight”.

National Policy

National Planning Policy Framework (NPPF) 2012

- 3.10 The National Planning Policy Framework (NPPF) was introduced in March 2012 and provides a full statement of the Government’s planning policies. The NPPF is currently undergoing public consultation and an amended draft has been issued by the Ministry.

- 3.11 As it stands, one of the core planning principles in the NPPF is that planning should:

“Conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations.”

- 3.12 Chapter 12 Conserving and enhancing the historic environment, sets out the Government’s policies specifically regarding planning and the historic environment.

¹³ Barnwell Manor Wind Energy Limited and (1) East Northamptonshire District Council (2) English Heritage (3) National Trust (4) The Secretary of State for Communities and Local Governments, Case No: C1/2013/0843, 18th February 2014

¹⁴ The Forge Field Society v Sevenoaks District Council [2014] EWHC 1895 (Admin); North Norfolk District Council v Secretary of State for Communities and Local Government [2014] EWHC 279 (Admin)

¹⁵ APP/H1705/A/13/2205929

- 3.13 With regard to the plan making process; paragraph 126 of the NPPF sets out that local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. They should take into account:
- *the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
 - *the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;*
 - *the desirability of new development making a positive contribution to local character and distinctiveness; and*
 - *opportunities to draw on the contribution made by the historic environment to the character of a place.*
- 3.14 When considering the designation of conservation areas; either new or amended, local planning authorities are required by paragraph 127 to ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.
- 3.15 In determining applications for development (or works); paragraph 128 requires that an applicant provide a description of the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential effect of the proposal on their significance.
- 3.16 Paragraph 131 sets out the considerations to be made by the local planning authority in determining planning applications. These are; the desirability of sustaining and enhancing the significance of heritage assets and putting them into viable uses consistent with their conservation; the positive contribution that conservation of heritage assets can make to sustainable communities including their economic viability; and, the desirability of new development making a positive contribution to local character and distinctiveness.
- 3.17 Paragraph 132 applies to the consideration of the effect of proposed development on the significance of a designated heritage asset¹⁶, noting that great weight should be given the asset's conservation¹⁷ - the more important the asset, the greater the weight should be. This includes the setting of a heritage asset. It is noted that significance can be harmed or lost through alteration or destruction of the asset itself or, by development within its setting.
- 3.18 As heritage assets are irreplaceable, any harm or such loss requires clear and convincing justification. It is noted in paragraph 132 that substantial harm or loss of a

¹⁶ Designated Heritage Asset defined as a World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area under the relevant legislation (NPPF Annex 2: Glossary)

¹⁷ Conservation defined as the process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance (NPPF Annex 2: Glossary)

grade II listed building or park or garden should be exceptional and substantial harm or loss of designated heritage assets of the highest significance should be wholly exceptional.

- 3.19 Paragraph 133 established that in cases where a proposed development would lead to substantial harm to or total loss of significance of a designated heritage asset; local planning authorities should refuse consent in these circumstances unless it can be demonstrated it necessary to deliver substantial public benefits that outweigh such harm or loss. Alternatively, the nature of the heritage asset prevents all reasonable uses of the site; and, no viable use of the heritage asset can be found in the medium term through appropriate marketing that will enable its conservation; and, conservation by grant funding or some form of charitable or public ownership is demonstrably not possible; and, the harm or loss is outweighed by bringing the site back into use.
- 3.20 Paragraph 134 applies where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset. In these circumstances the harm should be weighed against the public benefits of the proposal. It outlines this harm should be weighed against the public benefits¹⁸ of the proposal, including securing its optimum viable use.
- 3.21 Paragraph 135 considers the effect of an application on the significance of a non-designated heritage asset and states that this should be taken into account in determining an application. In decision making, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
- 3.22 Paragraph 137 encourages local planning authorities to look for opportunities for new development within conservation areas and within the setting of heritage assets, such as the listed buildings, to enhance or better reveal their significance. It also states that proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of a heritage asset should be treated favourably.
- 3.23 Paragraph 138 states that not all elements of a conservation area will necessarily contribute to its significance. Loss of a building (or other element which makes a positive contribution to the significance should be treated either as substantial harm under paragraph 133 or less than substantial harm under paragraph 134, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the area as a whole.

National Guidance

National Planning Practice Guidance (NPPG) 2014

- 3.24 National Planning Practice Guidance (NPPG) 2014 has been issued by the Government as a web resource and living document, including a category on conserving and enhancing the historic environment. This is intended to provide more detailed

¹⁸ Public benefits are defined in NPPG to include anything that amounts to economic, social or environmental progress as described in paragraph 7 of the NPPF and must be of a nature and scale to be of clear benefit to the public at large

guidance and information with regard to the implementation of national policy set out in the NPPF.

- 3.25 The NPPG 2014 helps to define some of the key heritage terms used in the Framework. With regard to substantial harm, it is outlined that in general terms this is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special interest. Optimum viable use is defined in the NPPG as the viable use likely to cause the least harm to the significance of the heritage asset, not just through necessary initial changes, but also as a result of subsequent wear and tear and likely future changes.
- 3.26 Public benefits are also defined in the NPPG 2014, as anything that delivers economic, social and environmental progress as described in the NPPF. Public benefits should flow from the proposed development, and they may include heritage benefits.
- 3.27 Heritage benefits are also defined in the NPPG as:
- *sustaining or enhancing the significance of a heritage asset and the contribution of its setting*
 - *reducing or removing risks to a heritage asset*
 - *securing the optimum viable use of a heritage asset in support of its long term conservation.*

Department of Culture, Media and Sport Circular: Principles of Selection for Listing Buildings 2010

- 3.28 The Principles of Selection for statutory listing buildings sets out the general criteria for assessing the special interest of a building in paras. 9 and 10, as below:

“Architectural Interest. To be of special architectural interest a building must be of importance in its architectural design, decoration or craftsmanship; special interest may also apply to nationally important examples of particular building types and techniques (e.g. buildings displaying technological innovation or virtuosity) and significant plan forms;

Historic Interest. To be of special historic interest a building must illustrate important aspects of the nation’s social, economic, cultural, or military history and/or have close historical associations with nationally important people. There should normally be some quality of interest in the physical fabric of the building itself to justify the statutory protection afforded by listing.

10. When making a listing decision, the Secretary of State may take into account the extent to which the exterior contributes to the architectural or historic interest of any group of buildings of which it forms part. This is generally known as group value. The Secretary of State will take this into account particularly where buildings comprise an important architectural or historic unity or a fine example of planning (e.g. squares, terraces or model villages) or where there is a historical functional relationship between a group

of buildings. If a building is designated because of its group value, protection applies to the whole of the property, not just the exterior.”

- 3.29 In addition to the criteria and general principles set out in the guidance, a number of **Selection Guides** for different building types have been re-published as updates by Historic England in 2017. These Selection Guides provide further information regarding each building type, and demonstrate what features are considered significant and likely to make a building of special architectural or historic interest when assessing each building type.

National Advice

Historic England: Historic Environment Good Practice Advice in Planning Note 1: The Historic Environment in Local Plans 2015

- 3.30 GPA Note 1 provides information to assist; principally local planning authorities, in implementing historic environment policy in the National Planning Policy Framework (NPPF) and the related guidance given in the National Planning Practice Guidance (NPPG). It emphasises that all information requirements and assessment work in support of plan-making and heritage protection needs to be proportionate to the significance of the heritage assets affected and the impact on the significance of those heritage assets. At the same time, those taking decisions need sufficient information to understand the issues and formulate balanced policies.

Historic England: Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision Taking in the Historic Environment 2015

- 3.31 GPA Note 2 provides information to assist in implementing historic environment policy in the National Planning Policy Framework (NPPF) and the related guidance given in the National Planning Practice Guidance (NPPG). These include; assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and unauthorised works, and marketing. It provides a suggested staged approach to decision-making where there may be a potential impact on the historic environment:

- 1. Understand the significance of the affected assets;*
- 2. Understand the impact of the proposal on that significance;*
- 3. Avoid, minimise and mitigate impact in a way that meets the objectives of the Framework;*
- 4. Look for opportunities to better reveal or enhance significance;*
- 5. Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change;*
- 6. Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.*

3.32 With particular regard to design and local distinctiveness, advice sets out that both the NPPF (section 7) and NPPG (section ID26) contain detail on why good design is important and how it can be achieved. In terms of the historic environment, some or all of the following factors may influence what will make the scale, height, massing, alignment, materials and proposed use of new development successful in its context:

- *The history of the place*
- *The relationship of the proposal to its specific site*
- *The significance of nearby assets and the contribution of their setting, recognising that this is a dynamic concept*
- *The general character and distinctiveness of the area in its widest sense, including the general character of local buildings, spaces, public realm and the landscape, the grain of the surroundings, which includes, for example the street pattern and plot size*
- *The size and density of the proposal related to that of the existing and neighbouring uses*
- *Landmarks and other built or landscape features which are key to a sense of place*
- *The diversity or uniformity in style, construction, materials, colour, detailing, decoration and period of existing buildings and spaces*
- *The topography*
- *Views into, through and from the site and its surroundings*
- *Landscape design*
- *The current and historic uses in the area and the urban grain*
- *The quality of the materials*

Historic England: Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets 2017 (2nd Edition)

3.33 The second edition of the GPA Note 3 provides information to assist in implementing historic environment policy with regard to the managing change within the setting of heritage assets, and also relevant views analysis. This also provides a toolkit for assessing the implications of development proposals affecting setting and views. A series of stages are recommended for assessment, these are:

Step 1: identifying the heritage assets affected and their settings

Step 2: assessing whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s)

Step 3: assessing the effect of the proposed development

Step 4: maximising enhancement and minimising harm

Step 5: making and documenting the decision and monitoring outcomes.

- 3.34 Guidance sets out that the contribution of setting to the significance of a heritage asset is often expressed by reference to views. However, assessing how development can affect heritage significance is not purely a visual consideration, but should also consider other aspects such as any impact on historical relationships between assets and within the townscape or landscape context, patterns of use or access, noise through activity etc.

Historic England: Advice Notes

- 3.35 Further advice notes have been published by Historic England, which include detailed practical advice on how to implement national planning policy and guidance. These include:

Historic England: Advice Note 1: Conservation Area Designation, Appraisal and Management 2016

Historic England: Advice Note 2: Making Changes to Heritage Assets 2016

Historic England Advice Note 3: The Historic Environment and Site Allocations in Local Plans 2015

Historic England Advice Note 4: Tall Buildings 2015

Historic England Advice Note 5: Setting up a Listed Building Heritage Partnership Agreement 2015

Historic England Advice Note 6: Drawing up a Local Listed Building Consent Order 2015

Historic England Advice Note 7: Local Heritage Listing 2016

Historic England Advice Note 8: Sustainability Appraisal and Strategic Environmental Assessment 2017

Historic England Advice Note 9: The Adaptive Reuse of Traditional Farm Buildings 2017

Historic England Advice Note 10: Listed Buildings and Curtilage 2018

The Development Plan

- 3.36 There is no statutory requirement to have regard to the provisions of the development plan (regional and local policy) in the consideration of applications for listed building consent. As such, less weight should be given to the policies set out in the plan compared to the statutory duties of the Act. This is not the case for the determination

of applications for planning permission that may affect the significance (or setting) of heritage assets.

- 3.37 The objectives of national policy and the development plan, with regard to the protection of heritage assets, should be closely aligned. Local authorities should also ensure that aspects of heritage conservation policy that are relevant to development control decisions are included in the local development plan.
- 3.38 There are several planning documents currently under preparation which will largely replace the existing Development Plan which include the Plan:MK and the Site Allocations Plan (both currently undergoing Examination in Public (EiP) prior to adoption). The current Development Plan for the borough includes the following documents:

Milton Keynes Core Strategy 2013

- 3.39 The Milton Keynes Core Strategy was adopted in July 2013 and provides strategic planning policy up to the year 2026. It aims to build upon making Milton Keynes an attractive place to live and work.
- 3.40 Policy CS19 is concerned with the historic and natural environment. With regard to built heritage assets, this states that:

“Developments will protect and enhance the significance of the Borough’s Heritage Assets, including important elements of the 20th Century New Town architecture. Development proposals must consider the character, appearance and setting of sites, buildings, structures, areas, parks and gardens and landscapes that are of historic, architectural, cultural, biodiversity or archaeological significance ...”

Milton Keynes Local Plan (Saved Policies) 2005

- 3.41 The Milton Keynes Local Plan was first adopted in December 2005 with an intended lifetime up to 2011. A number of policies of this local plan have been saved under direction from the Secretary of State by letter dated 24 October 2008 and remain in use until replaced following the full adoption of the new Plan:MK that would also replace the current Core Strategy.
- 3.42 With regard to built heritage assets, firstly Policy HE2 states that the Council will exercise its planning and listed building control powers to safeguard the preservation of listed buildings by permitting a change of use where it would contribute to the retention of the building without adversely affecting its character, special interest or structural integrity.
- 3.43 Policy HE3 relates to the demolition of listed buildings and sets out a presumption against the demolition of such building, except within very exceptional cases.
- 3.44 Policy HE4 states that external development to a listed building will not be permitted unless, where relevant, the siting, design, external appearance, access to and landscaping of the proposed development would respect the listed building’s setting, integrity, character and appearance and would also serve to preserve, restore or complement its features of special architectural or historic interest.

- 3.45 Policy HE5 goes onto states that planning permission will be refused for any form of development that would adversely affect the setting of a listed building or group of listed buildings.
- 3.46 Policy HE6 relates to conservation areas, and sets out that development proposals within or affecting the setting of a conservation area should preserve or enhance the character and appearance of that area.
- 3.47 Policy HE7 relates to the policy protection of the significance of historic parks and gardens.

Emerging Local Plan (Plan:MK)

- 3.48 Milton Keynes Council is preparing a new local plan called the Plan:MK which will determine how much new development is required and where it should go. It will also include detailed policies that will be used in determining planning applications. Once adopted the Plan:MK will replace all of the saved policies in the Local Plan 2005 and the Core Strategy 2013. The Council has now submitted the Proposed Submission version of the Plan:MK to the Planning Inspectorate for an independent examination into the soundness of the Plan to be undertaken.
- 3.49 Draft Policy HE1 sets out the objectives for the conservation and enjoyment of the historic environment in order to sustain and enhance the significance of Milton Keynes' rich and varied historic character, important local distinctiveness and its sense of place. Requirements for the production of heritage assessments and proposals that sustain or enhance the significance of heritage assets are also set out.
- 3.50 Draft Policy SD14 relates to the Site and Milton Keynes East (MKE), and sets out that:

"Land is allocated at Milton Keynes East – as shown on the Key Diagram and Policies Map – for a comprehensive new residential and employment development to meet the long-term needs of Milton Keynes ..."

Emerging Site Allocations Plan

- 3.51 The council has submitted the Site Allocations Plan Proposed Submission Draft to the Planning Inspectorate for independent examination. The Council has recently carried out a period of consultation on the schedule of main modification to the Site Allocations plan.

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Appendix 5: Archaeology Technical Note



ARCHAEOLOGICAL BRIEFING NOTE

Land East of the M1 (Milton Keynes East)

June 2018

1.0 ARCHAEOLOGICAL BRIEFING NOTE

- 1.1 This archaeological briefing note has been prepared by CgMs Heritage (part of the RPS Group) on behalf of Berkeley Strategic Land. The subject of this briefing note is an area of land east of the M1, on the edge of Milton Keynes, Buckinghamshire (Milton Keynes East).
- 1.2 In 2006, CgMs were commissioned to undertake an archaeological desk based assessment for the part of the site controlled by Berkeley, and this briefing note represents a summary of that assessment, updated to include recent archaeological reports and further information from widely accessible sources.
- 1.3 National legislation regarding archaeology is contained in the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002, and updated in April 2014.
- 1.4 Further government guidance is provided by the National Planning Policy Framework (NPPF), which is supported by the National Planning Practice Guidance (NPPG). The NPPF and NPPG are additionally supported by three Good Practice Advice (GPA) documents published by Historic England.
- 1.5 In short, government policy provides a framework which:
- Protects nationally important designated Heritage Assets;
 - Protects the settings of such designations;
 - In appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions; and
 - Provides for the excavation and investigation of sites not significant enough to merit *in-situ* preservation.
- 1.6 The relevant Development Plan framework is provided by the Milton Keynes Core Strategy (2013), and the policy relevant to archaeology is *CS19 The Historic and Natural Environment*.
- 1.7 In addition, a number of policies from the Milton Keynes Local Plan 2001-2011 (Adopted December 2005) remain active, and the saved policy relevant to archaeology is *HE1 Protection of Archaeological Sites*.

- 1.8 Milton Keynes Council submitted their Proposed Submission version of their new Local Plan to the Planning Inspectorate in April 2018. Whilst this document remains draft policy, once adopted in due course it will form the basis for planning decisions. Draft policies relevant to archaeology at the site include *HE1 Heritage and Development*, *Policy DS6 Linear Parks*, and policies *SD11, 12 and 14* which refer specifically to the Milton Keynes East site, which has been allocated for comprehensive development.
- 1.9 There are no relevant designated archaeological assets located on or within the vicinity of the site. The nearest designated archaeological assets to the site are over 1.5km from the site boundary to the north and the west.
- 1.10 The British Geological Survey indicates that the solid geology of the site generally comprises Mudstone formations, with a mix of Sandstone, Siltstone and Mudstone at the far western area. Alluvial deposits are located within the immediate vicinity of the River Ouzel in the western half of the site, whilst gravel terraces and head deposits associated with the river valley are recorded either side of the river.
- 1.11 The River Ouzel flows north-south through the site, creating a river valley within the western half of the site. The topography of the eastern half of the site generally comprises land sloping down towards the river valley, and away from an area of high ground at Moulsoe immediately to the east.
- 1.12 The previous archaeological desk based assessment and subsequent works have identified that the site retains an uncertain archaeological potential for the Early Prehistoric periods and a moderate to high archaeological potential for the Later Prehistoric periods associated with cropmark evidence recorded within the site. A high archaeological potential was identified for the Saxon and Medieval periods associated with the remains of parish boundaries and within the area of Caldecote farm and moated site. Evidence for Medieval agricultural activity is anticipated across the site, whilst Post Medieval building foundations and agricultural land division is likely to be present. A geoarchaeological potential associated with the alluvial deposits of the River Ouzel is also anticipated.
- 1.13 However, there are no nationally designated archaeological assets within the site or in close proximity, nor is it anticipated that any remains within the site will be of a comparable significance. Therefore, from an archaeological

perspective, it is considered that the site is viable for development, and that any adverse impacts on archaeological remains can be satisfactorily addressed through appropriate archaeological mitigation measures.

1.14 Consequently, the archaeological works which are likely to be required at the site by the archaeological advisor to Milton Keynes Council to support any future planning application are as follows:

- An Updated Archaeological Desk Based Assessment;
- A Geophysical Survey;
- Geoarchaeological deposit modelling of the River Ouzel valley to assess the palaeoenvironmental potential of the alluvial sequence;
- Targeted archaeological trial trenching on any areas of archaeological potential identified within the desk based assessment, the geophysical survey and the geoarchaeological deposit modelling.

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Appendix 6: Odour Technical Note

Appendix 7: Noise Technical Note

TECHNICAL BRIEFING NOTE

TO	Berkeley Group	FROM	Steve Fisher (WSP)
DATE	21 June 2018	CONFIDENTIALITY	Restricted
SUBJECT	MKE – Constraints to Development – Road Traffic Noise		

1] INTRODUCTION

This technical briefing note (TBN) aims to identify the extent to which road traffic noise particularly that from the M1, might constrain noise-sensitive development on the Milton Keynes East (MKE) site.

2] GUIDELINES AND STANDARDS

The following documents are appropriate when assessing noise affecting sensitive receptors, whether proposed or existing.

- British Standard (BS) 8233:2014 *Guidance on sound insulation and noise reduction for buildings*, which provides criteria for the assessment of noise affecting various uses including dwellings.
- The World Health Organisation's (WHO's) *Guidelines for Community Noise*, which provide criteria for the assessment of internal and external noise levels affecting (amongst others) dwellings.

For this preliminary noise constraints assessment, consideration has only been given to external noise levels in amenity areas. This is because appropriate internal noise target levels can usually be achieved through suitable design of the building envelope and in particular through the use of appropriate glazing systems and ventilation strategies. There are fewer mitigation options available to minimise noise levels in external amenity areas.

BS 8233 states the following regarding external amenity areas:

“For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might also be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited”.

Consequently, this preliminary assessment considers an external free-field noise level target (at a height of 1.5 metres) of 55 dB $L_{Aeq,16h}$, which is the upper guideline value from BS 8233 and can be considered appropriate for residential development.

That is not to say that development in areas subject to noise levels above this threshold would necessarily be unacceptable (that would be for the Local Planning Authority to decide), just that there would be an increasing need to account for the external noise climate and to demonstrate good acoustic design.

3] NOISE MODEL AND PREDICTIONS

Process

The procedures to be employed for the prediction of road traffic noise are set out in the Department of Transport's memorandum *Calculation of Road Traffic Noise* (CRTN) 1988. This memorandum sets out a step-by-step method for predicting road traffic noise levels (L_{A10}) at a distance from the highway. The factors taken into account in determining the source noise levels include traffic flow (in this case the 18-hour period between 06:00 and midnight), associated speeds and vehicle mix. The road surface and gradient are also important factors in determining the source levels. Other factors that influence the attenuation of noise are the separation distance and type of intervening ground cover between road and receptor, the presence of screening (from barriers, buildings and topography), the angle of view of the traffic and reflections.

Traffic Data

To inform this assessment traffic data have been predominantly obtained from the Milton Keynes Multi-Modal transport Model (MKMMM). Peak hour traffic data from the MKMMM were supplied by AECOM for both the 2031 Reference Case (which excludes any development at MKE) and Scenario 2b (which includes full development at MKE). The Scenario 2b peak hour data has been factored to estimate the 18-hour data required for the CRTN predictions. 18-hour AAWT traffic data from the M1 has been obtained from the Highways England WebTRIS site.

CRTN provides a methodology to predict noise in terms of $L_{A10,18h}$, whilst the proposed noise level target (from BS 8233 and WHO guidelines) is in terms of $L_{Aeq,16h}$. To convert from the $L_{A10,18h}$ level generated in accordance with the CRTN to the $L_{Aeq,16h}$ level required for this assessment, the advice contained within section 6.2.2 of BS 8233 has been adopted:

“...conversion of L_{A10} to L_{Aeq} can be achieved by the (approximate) relationship: $L_{Aeq,16h} = L_{A10,18h} - 2$ dB. This is generally correct with a 95% confidence interval of ± 2 dB for moderate and heavy traffic flows.

Noise Model

To facilitate this preliminary assessment a three-dimensional computerised noise model has been created in the Cadna/A suite of software, which employs the calculation algorithms contained within CRTN.

The noise model has been run on a 10 metre by 10 metre grid layout at a single height of 1.5 metres above local ground level. The results are presented below.

4] RESULTS

Figure 1 at the end of this TBN presents the predicted $L_{Aeq,16h}$ noise contours across the open site. It can be seen that the target level of 55 dB $L_{Aeq,16h}$ is only met in central areas away from dominant road sources and in areas close to the proposed industrial/ commercial areas where buildings would provide significant screening.

It can also be seen that without any intervention measures the greatest constraint is unsurprisingly posed by the M1. Whilst those areas closest to the motorway would be mostly occupied by industrial/ commercial buildings, there is a potential development parcel immediately north-east of the motorway (between the new M1 over-bridge and Willen Road) that is indicatively identified for residential use. Other roads passing through the development area also represent a constraint to development if not mitigated against, although to a lesser extent than the M1.

Generic Mitigation Considerations

In the first instance, consideration should be given to the factors that influence the level of noise at source, for example vehicle speed and road surface. Of course, only Highways England can influence these factors on the M1, but they should not be over-looked for other main roads in the area.

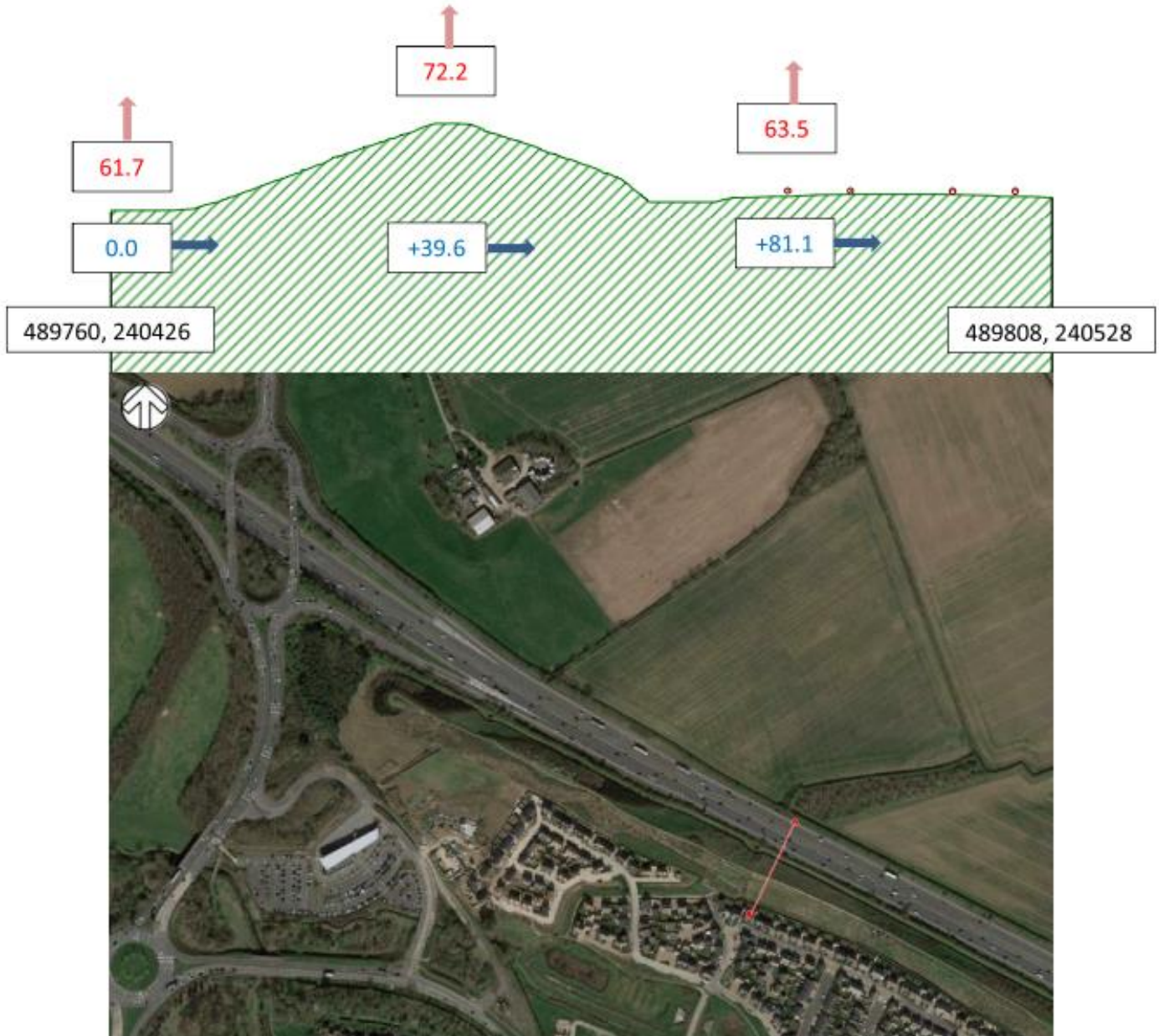
Other generic mitigation measures that could be applied to the MKE site are described briefly below:

- *The location of buildings on site.* The primary control factor is distance – the greater the distance from the source, the lower the noise level. The type of intervening ground cover (acoustically absorbent or reflecting) and the height of the receptor will also influence the received noise level.
- *Screening.* Barriers or screens can reduce noise. They can take the form of an existing feature (for example a cutting), a purpose-designed feature (for example, a solid boundary fence or an earth bund or a combination of the two) or a purpose-designed building (for example, a linear barrier block).
- *Building form and orientation.* Limiting the view of the source by building orientation can reduce the received noise level. Measures include turning a building through 90° to be perpendicular to the road and staggered terraced housing can be arranged to shield noise-sensitive windows. The buildings themselves can also be used to screen associated external amenity areas (i.e. by locating gardens behind the buildings).
- *Internal planning.* Single aspect designs can be employed whereby noise sensitive rooms face into the development, with the outward facing façade either being windowless or incorporating windows to non-noise sensitive rooms.
- *Building envelope.* The final line of defence against external noise is the building envelope and in particular the glazing unit and ventilation package.

Principles based the above measures will be incorporated within the Development Framework for the site.

Site Specific Mitigation Considerations

It is useful to consider how other noise-sensitive developments in the area have mitigated noise from the M1. There is a new residential development (Brooklands) to the south-east of M1 Junction 14. Here a large bund has been constructed as shown in the cross-section below with the M1 motorway to the right-hand side of this section. Lateral distances are in blue font (with the origin at the residential development) whilst heights (AoD) are in red font.



A bund like this could be introduced along the southern boundary of the MKE site adjacent to the M1 to help mitigate the impacts from the M1 on noise sensitive receptors within the site. It should be noted that this represents a single solution which could be adopted and, subject to detailed design, it is possible that steeper slopes on the bund using reinforced earth techniques and introducing acoustic fencing could be used to minimise the footprint of a bund.

In order to understand the likely benefits of incorporating a similar bund within the MKE site, the model has been amended to incorporate a noise barrier parallel to the M1, the apex of which is some 50-55m from the edge of the motorway. The height of the barrier is 9m above the level of the motorway and the barrier has a return to the north, reducing in height to 3m above local ground level. A 3m high noise barrier has also been included to the west of the new strategic north-south link road (which could again be in the form a bund instead of an acoustic barrier) as it runs on embankment from the new M1 over-bridge to a new junction some 300m north-east of the M1.

The resulting noise contours from this assessment are presented in Figure 2 with the location of the barriers described above shown in black on this figure. The noise reductions arising from the described mitigation range from 1-2 dB in the north to over 10 dB close to (and in the shadow of) the barrier. Whilst noise levels with this configuration of



barriers do not quite achieve the 55 dB $L_{Aeq,16h}$ target noise levels for external amenity areas, the noise levels across most of this development area are only slightly above the target, mainly in the range 55-57 dB $L_{Aeq,16h}$ and it is considered that refinement of such measures accompanied by appropriate design (e.g. orientation of buildings and gardens) would mitigate noise levels further. As a result, it is considered that the scale of development planned at MKE should not be compromised by noise constraints from the M1 or any of the other strategic roads surrounding or passing through the site.

5] CONCLUSIONS

This preliminary assessment has identified that without intervention, road traffic noise would pose a constraint to noise-sensitive development across several areas at MKE. This constraint is greatest close to the M1, but other major roads through the area would also require consideration.

However, the presence of other existing noise-sensitive development close to the M1, (such as Brooklands) and the range of measures that are available to mitigate noise (including bunds, noise barriers, etc.) demonstrate that this constraint can be overcome and that consequently the scale of development planned at MKE should not be constrained by noise.

*Steve Fisher, BA(Hons), MIOA
Technical Director, WSP Acoustics*

Figure 1 – Noise Contour Plot – No Mitigation (Open Site)

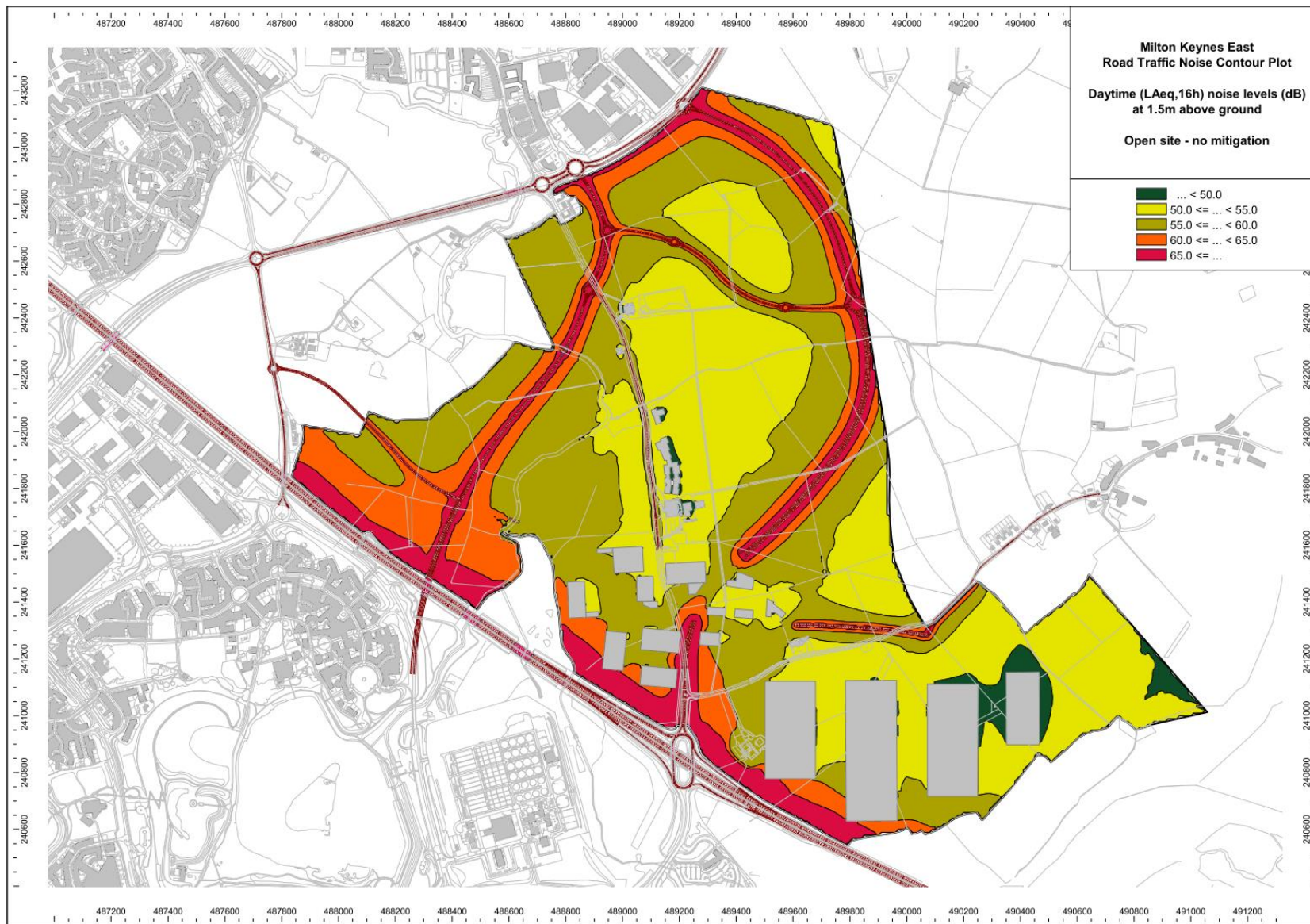
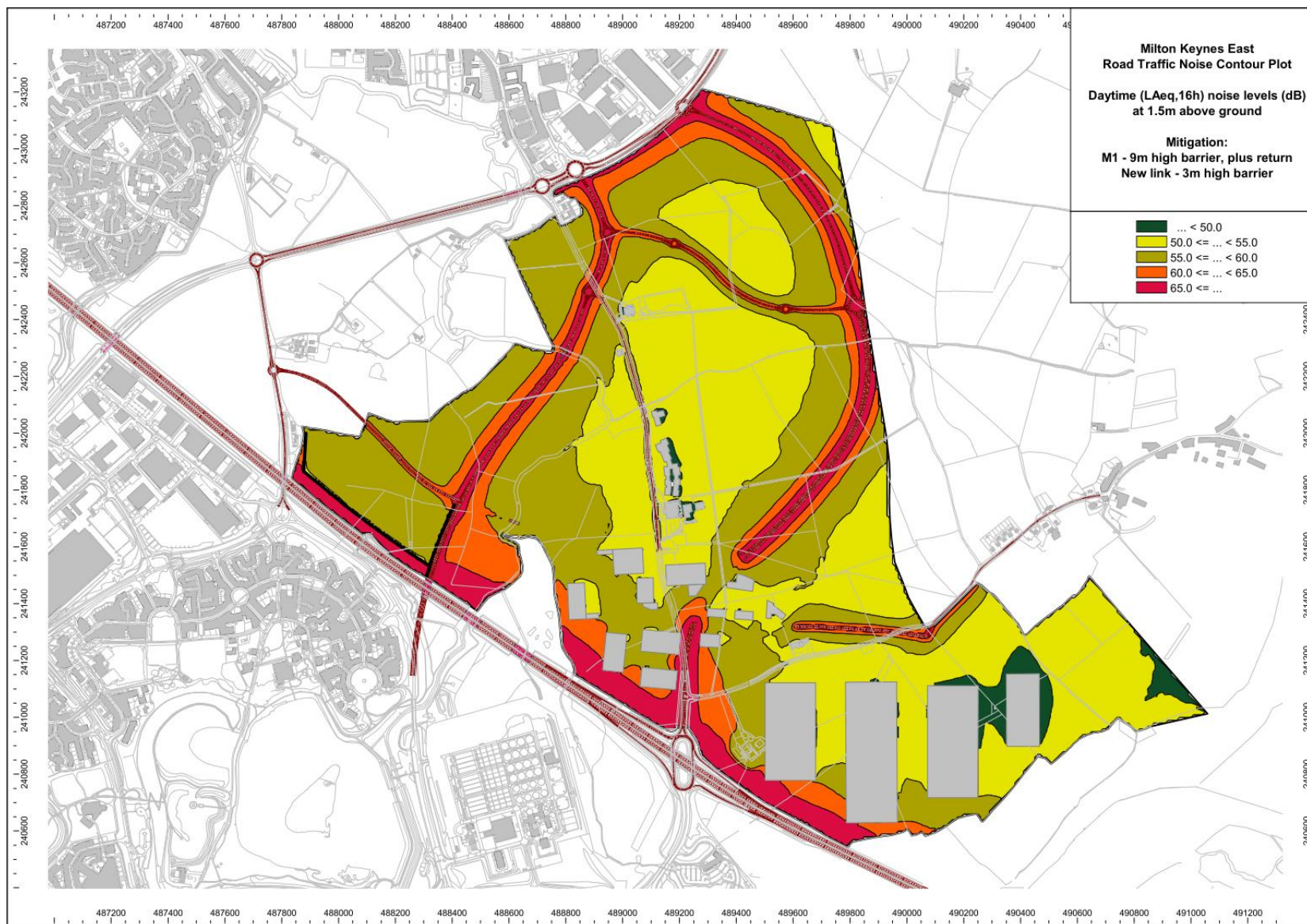


Figure 2 – Noise Contour Plot – With Mitigation Adjacent to the M1 and Alongside the North-South Link Road





Appendix 8: Flood Risk Technical Note

TECHNICAL APPENDIX - FLOOD RISK

WSP has been advising the Berkeley Group on flood risk associated with the land to the East of the M1 for a number of years and this note summaries the key elements associated with the proposed land-use planning and master planning for the development at Milton Keynes East.

Introduction

Milton Keynes lies within the catchment of the Great Ouse. The Milton Keynes East site lies at the north eastern edge of Milton Keynes, to the east side of the M1 and south east of Newport Pagnell. The site contains the confluence of the Broughton Brook and the River Ouzel near the M1 and is approximately 1km upstream of the River Ouzel's confluence with the River Great Ouse.

Within the confines of the M1, A422 and A509 the site topography is that of a wide, gently sloping but define river valley where levels range from 57 to 62m AOD. To the east of the A509 the site rises gently to around 70m AOD with the high point along the eastern boundary being approximately 75m AOD.

The hydraulic Models

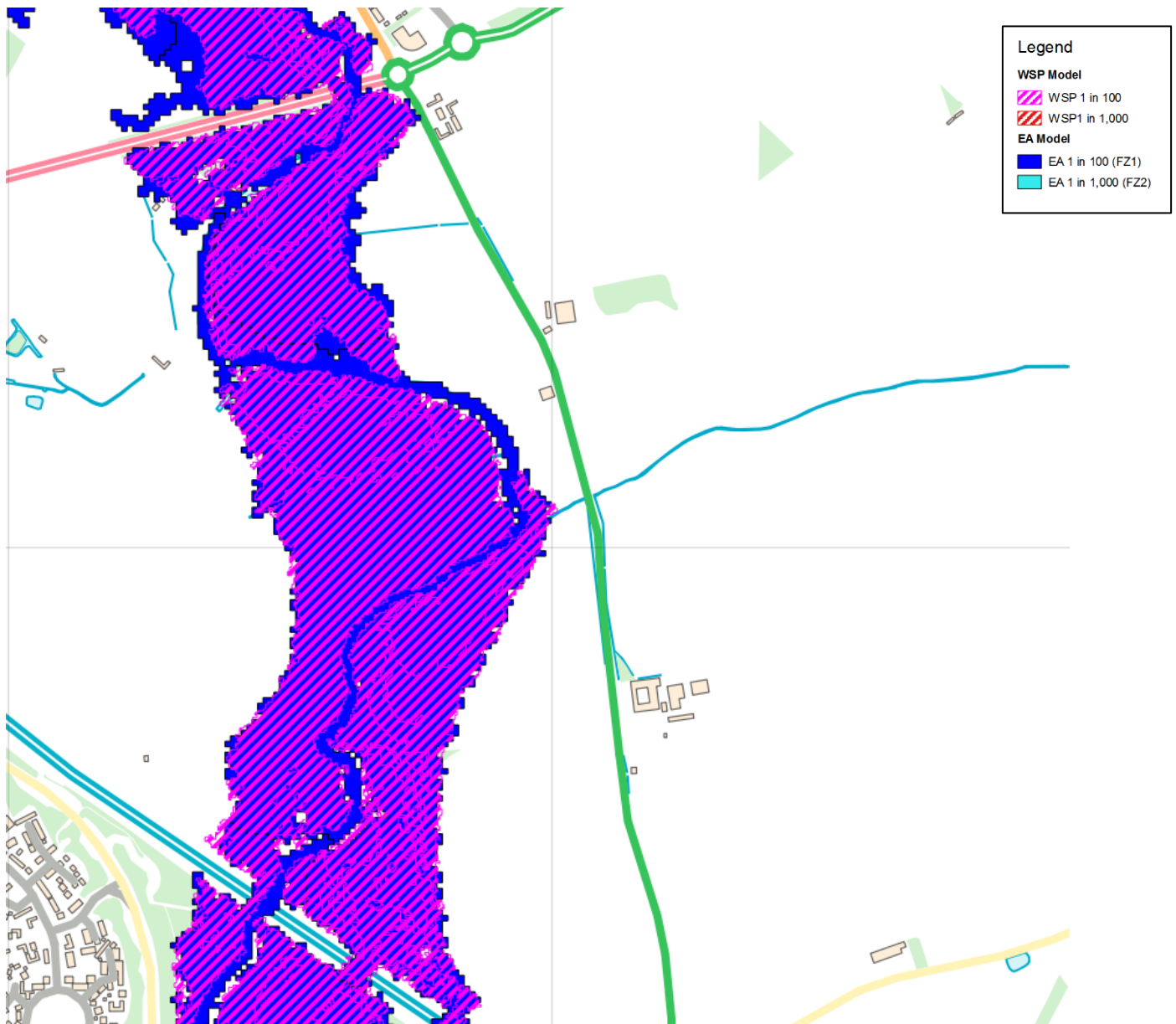
The Environment Agency has created a strategic model of the River Ouse catchment which includes the River Ouzel and the Broughton Brook. This model is used to generate the flood risk zones for Milton Keynes as a whole including the Milton Keynes East site. An extract of the plans are shown below as it affects the site.

Environment Agency Flood Zones

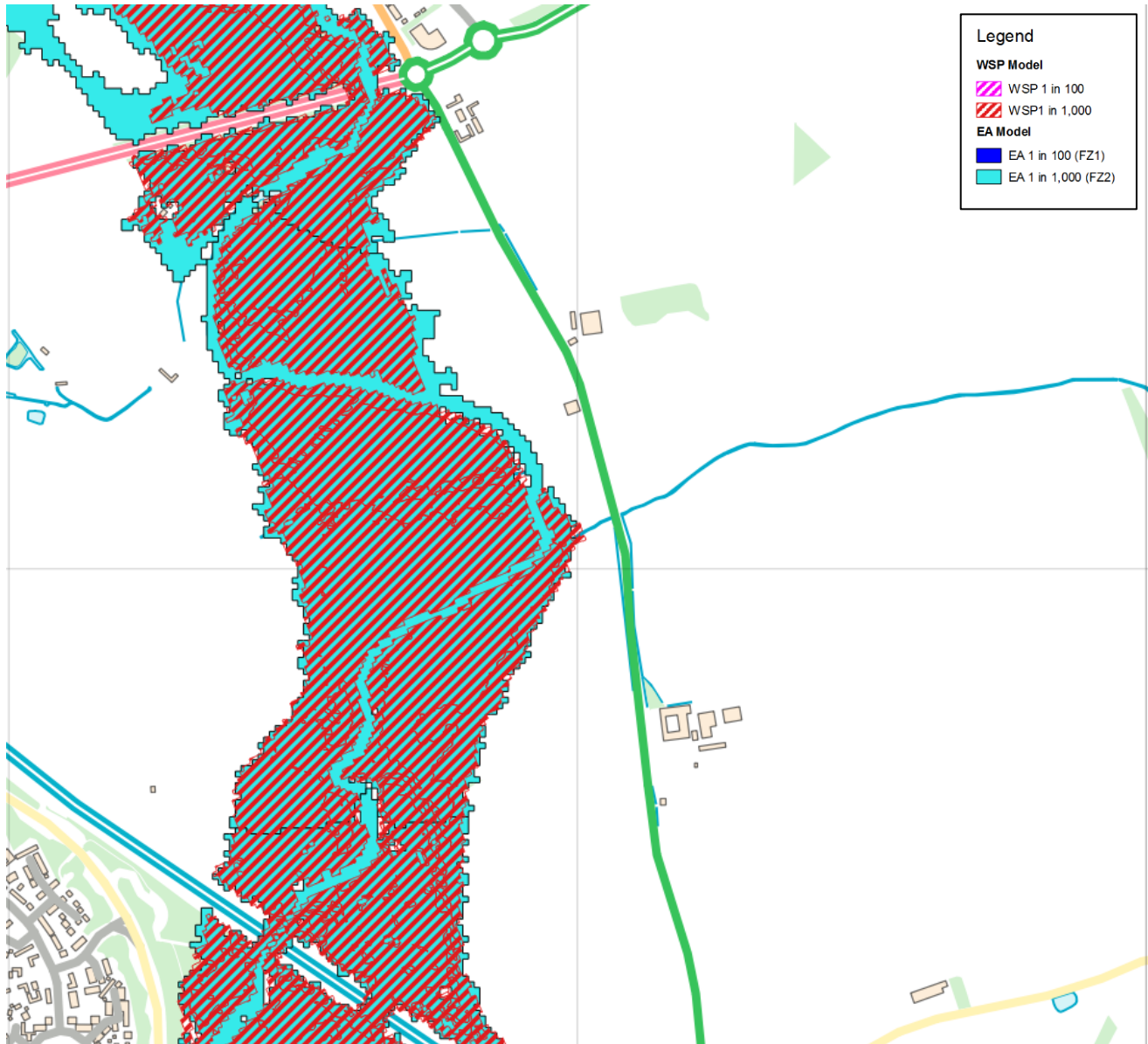


WSP has used this model to make a site specific hydraulic model to understand in more detail the constraints on the site. These modifications included the inclusion of additional topographical data and improving the accuracy of the model. The two models compared very well and provide confidence in the WSP model for the use of climate and infrastructure scenario testing.

Comparison of Environment Agency 1 in 100 & WSP 1 in 100 Year Model

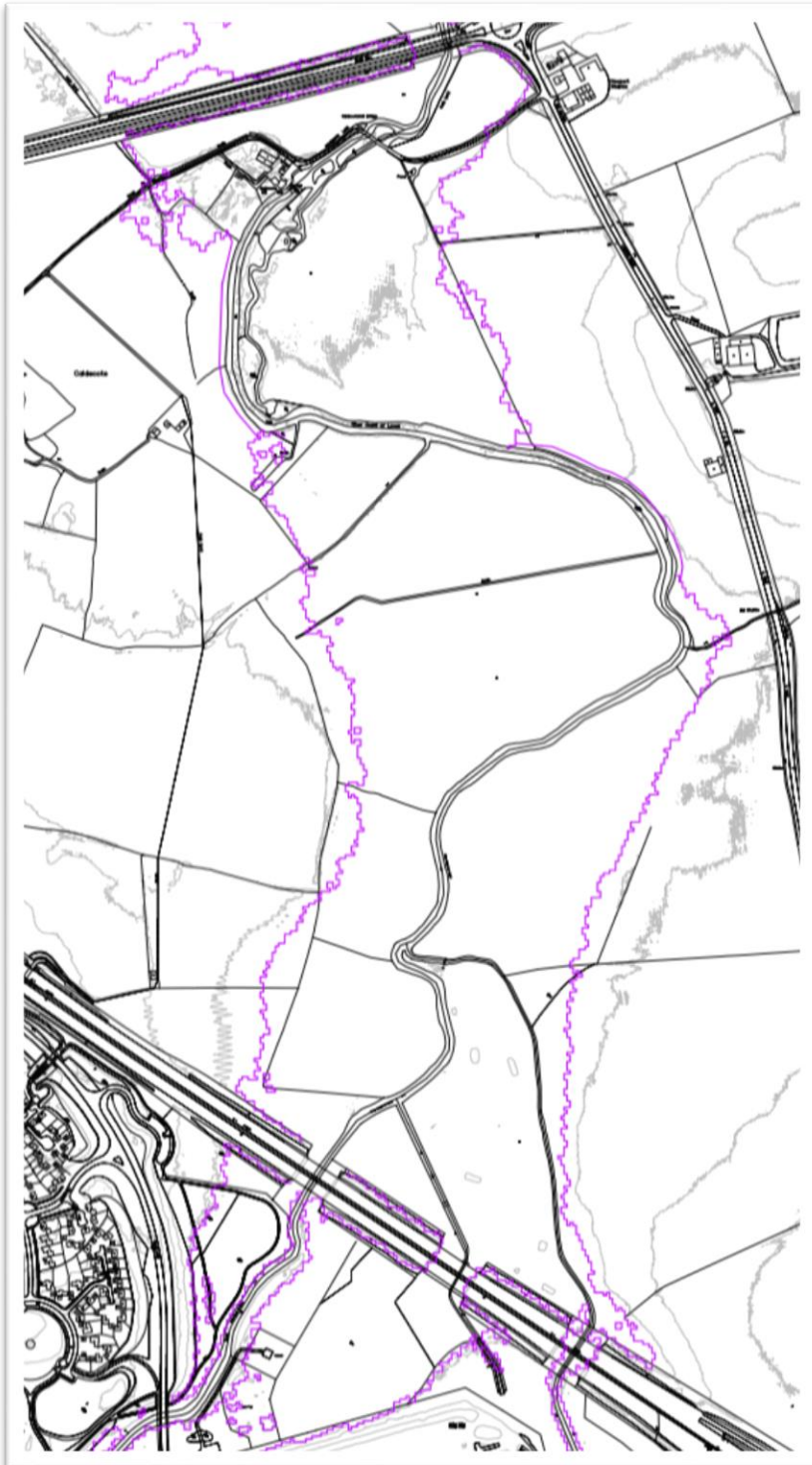


Comparison of the Environment Agency 1 in 1000 & WSP 1 in 1,000 Year Model



WSP have used their model to test a number of different climate change scenarios to ensure that the master plan is robust in understanding the implication of the range in increases in flow.

WSP 1 in 100 Year Model Including Climate Change Allowances



From the original and the climate sensitivity hydraulic modelling carried out by WSP it is apparent that the flood zones are contained within a river corridor which is being proposed to be maintained as a river corridor and parkland.

The development proposals do include new roads across the river corridor and the flood plain of the River Ouzel. Subject to appropriate design and mitigation these are acceptable uses within Flood Zones 2 and 3. With appropriate designs for clear spans, flood relief culverts and associated earthworks the roads would not impede flood flow or increase flood levels within the flood plain.



In summary there is sufficient land within the Milton Keynes East site for the proposed residential, employment and mixed use development platforms to be located in areas defined by national planning guidance on flood risk as being suitable for development.