

# Environmental Impact Assessment Non - Technical Summary

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## **1.0 INTRODUCTION**

1.1 This document summarises the findings of the Environmental Impact Assessment (EIA) prepared as part of an outline planning application for Proposed Development at Marston Valley. The plan at Appendix 1 shows the location and the detailed boundary of the Proposed Development.

### **Purpose of an EIA**

1.2 The purpose of an EIA is to assess the likely significant environmental effects of a development proposal and to identify appropriate and suitable measures to minimise or remove any such significant impacts. Environmental effects are assessed as “adverse” or “beneficial”; and of “major”, “moderate”, “minor” or “negligible” significance, in accordance with recognised EIA methodology, based on technical information and the application of professional judgement.

1.3 The relevant “receptor(s)” for each EIA topic are identified within each chapter of the Environmental Statement (ES). Receptors are the features or components of the environment which could be affected by the Proposed Development. The “significance” of each effect takes into account both its “magnitude” and the “sensitivity” of the receptor affected. For example, a change of “large” magnitude affecting a receptor of “high” sensitivity would generally result in an effect of “major” significance. Conversely, a change of “small” magnitude affecting a receptor of “low” sensitivity would generally result in an effect of “minor” significance.

1.4 The full findings of this EIA are reported in an Environmental Statement (ES). The ES is available on Central Bedfordshire Council’s website ([www.centralbedfordshire.gov.uk](http://www.centralbedfordshire.gov.uk)) and can also be obtained on request from:

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1.5 This concise document summarises the main findings of the ES in non-technical language.

1.6 The ES supports an Outline Planning Application (OPA) to Central Bedfordshire Council for the Proposed Development which is described at paragraph 2.7 of this document. Comments on the EIA should therefore be directed to Central Bedfordshire Council, as part of its consideration of the OPA.

## **2.0 THE SITE AND THE PROPOSED DEVELOPMENT**

### **Application Site Location**

- 2.1 The Marston Valley site is 565.5ha (1,397 acres) in size. The Application Site is to the south west of Marston Moretaine and the north east of the village of Brogborough. The village of Lidlington lies to the south-eastern boundary of the site. Other existing settlements close to the Application site are Millbrook, Stewartby and Cranfield.
- 2.2 The site is located within the Marston Vale, an area between the towns of Milton Keynes and Bedford. The area includes a number of important strategic transport routes, with much of the north western boundary of the Application Site formed by the A421 trunk road. The Marston Vale Railway Line runs along a large part of the south-western boundary. The site is close to three railway stations at Ridgmont, Lidlington and Millbrook. These stations provide services to Bedford and Bletchley. In the future, this line will be upgraded as part of the East-West Rail route which will provide onward connections to Oxford.
- 2.3 Current access to the Application Site is from the C94 road (old A421). This road also provides access from the Application Site to the M1 motorway via Junction 13. There are future proposals for a new waterway to connect between Bedford and Milton Keynes. This project is known as the Bedford and Milton Keynes Waterway. This route is planned to pass through the middle of the Application Site.
- 2.4 The Midland Mainline is also near to the site. A new station on the Midland Mainline is planned as part of the Wixams new settlement which is located between the B530 and A6 roads approximately 4.5 kilometres (KM) to the north east of the Application Site. In the future, this will provide rail services to London.

### **Physical Characteristics of the Application Site**

- 2.5 The Application Site lies within a shallow valley, and is mostly flat, sloping up towards the Greensand Ridge to the south. Visible features at the Application Site are a result of the historic use of the area by the brickmaking industry, most notably the old clay pits which have been restored as lakes – including Brogborough Lake and Lidlington Lake (both are now County Wildlife Sites).
- 2.6 The Elstow Brook is a watercourse which runs through the Application Site. This connects to Brogborough Lake and Stewartby Lake. The Application Site contains some existing vegetation and a small number of existing buildings but does not contain any listed buildings or conservation areas. A high voltage overhead line crosses the site close to the eastern edge of Brogborough Lake.

## **The Application Proposals**

2.7 The Planning Application seeks Outline Planning Permission for:

- Up to 5,000 new homes with the potential for specialist residential accommodation / institutions (including up to policy compliant levels of affordable housing) (Class C2 and C3);
- Up to 30 hectares of employment land (class B1 and B2) plus employment uses (B1a) within the community hubs;
- Up to 9,500m<sup>2</sup> of retail uses (A1-A5 use class) including a food store (A1) of up to 2,500m<sup>2</sup>;
- Up to 5,000m<sup>2</sup> for hotel use (class C1);
- Up to 1,750m<sup>2</sup> of community uses (class D1);
- Up to 4,000m<sup>2</sup> of assembly and leisure uses including indoor sports facilities (class D2);
- Four lower schools (class D1) including playing fields / sports pitches plus allowance for land for an extension to the existing lower school in Lidlington;
- Two middle schools (class D1) including playing fields / sports pitches including floodlighting;
- One Upper school (class D1) including playing fields / sports pitches including floodlighting;
- Retention and re-use of existing buildings;
- Formal Open space (up to 17ha) to include playing fields and sports pitches (including associated sports pavilions and lighting) and children's play areas;
- Informal open space (approximately 288ha) to include:
  - retained and new woodland planting ( approximately 127ha)
  - retained and enhanced / reinforced waterbodies and waterway links;
  - allotments and orchards and ecological and amenity open space
  - reservation of land for parts of the Bedford and Milton Keynes Waterway Park and creation of parts of the Waterway;
- Supporting infrastructure - comprising of: upgrades to / provision of / diversions of utilities – electricity, gas, water, sewerage, sustainable drainage systems and telecommunications and any associated pumping stations and substations);
- Access roads including public transport routes, internal streets and connections on to the existing highway network (C94 Bedford Road, Sheeptick End, Marston Road); retention and improvements to existing routes and partial realignment and downgrading of existing routes;
- cycle and pedestrian network; and
- associated ground remodelling, demolition works and landscape works.

- 2.8 The Outline Planning Application (OPA) includes a range of uses to support the 5,000 homes proposed including new community facilities, new medical facilities, schools, employment, shops, leisure, and recreation uses, allotments, orchards, and a range of formal and informal open spaces. The Proposed Development will provide a proportion of the 5,000 homes as affordable housing, in line with Central Bedfordshire Council's local plan policies which currently require 30% of the homes to be affordable.
- 2.9 The OPA includes a Development Specification document and a Parameter Plan. The Parameter Plan is important as this fixes the broad structure for the development proposed including the areas to be developed, the approximate location for schools and community hubs, areas of proposed woodland, green infrastructure, open spaces, and key transport routes. The Parameter Plan also fixes the maximum heights of proposed buildings within the development areas. Although buildings may not be as high as shown on this plan (and could be much lower), the Parameter Plan ensures that buildings will not exceed the heights shown.
- 2.10 The Development Specification contains a full description of the Proposed Development and 'Spatial Principles' which will be used to guide the delivery of important aspects of the scheme.
- 2.11 The Environmental Impact Assessment (EIA) is based upon the Parameter Plan and Development Specification in order to provide an assessment of the effects of the Proposed Development. A wider range of measures are included in the Proposed Development to avoid, reduce, or remedy potential significant adverse effects (these are known as 'mitigation measures'). Many of these measures have been designed into the Application Proposals, and others will be secured through a legal agreement or conditions if planning permission is granted by the Local Planning Authority (LPA).
- 2.12 If planning permission is granted, the development of the site could start in 2018 with the first houses being occupied in 2019. The development of the whole site is likely to take around 20 years to build, so would continue until 2039. New 'physical infrastructure' (such as new roads, services and utilities, and systems to control the flow of surface water) will be built at the same time as new development comes forward. New medical, community and educational facilities will also be provided when these are needed to support the new residents. The delivery of this infrastructure will be secured through legal agreements.
- 2.13 It is expected that a Construction Environmental Management Plan (CEMP) will be prepared to control any potential adverse environmental effects during the construction stage. Provision of the CEMP is expected to be secured by a condition if planning permission is granted. This would require the submission and approval of the CEMP before any development proceeds. Details of the measures that would be included in the CEMP are set out in the Environmental Statement (ES) chapters.

2.14 As part of the EIA, the potential for environmental effects that could occur through combination of the Proposed Development alongside other important development projects in the area has been considered. The projects that have been considered are shown in Table 2.6-1 in Chapter 2 of the ES. Their locations are shown in Figure 2.5 of the ES. This approach is called a 'Cumulative Effects' assessment. The assessment of the potential transport effects of the Proposed Development includes a range of other sites in the local area which has been agreed with the Local Highway Authority.

2.15 The potential for cumulative effects for each topic is included as part of each chapter in the ES.



### **3.0 PLANNING POLICY**

- 3.1 The planning policy context for the Proposed Development is set by the Government's *National Planning Policy Framework* (NPPF) (2012) and *Planning Practice Guidance* (PPG), the statutory Development Plan and documents including the emerging Local Plan and Supplementary Planning Documents (SPD).
- 3.2 The statutory Development Plan includes the *Core Strategy and Development Management Policies* (2009) (the Core Strategy), the *Site Allocations Development Plan Document* (2011) (Site Allocations DPD) and saved policies of the *Mid Bedfordshire Local Plan 2005. Minerals and Waste Local Plan: Strategic Sites and Policies (MWLP:SSP)* (adopted January 2014).
- 3.3 CBC is at an advanced stage of preparing an up to date Local Plan. The current *Central Bedfordshire Pre-submission Local Plan 2015 – 2035* (the Emerging Local Plan) includes the Marston Valley site as a draft allocation for strategic mixed-use development to provide up to 5,000 dwellings and employment uses.
- 3.4 The Local Plan has been subject to two rounds of consultation, the latest during January and February 2018 (the 'Regulation 19' consultation). The Local Plan was submitted to the Secretary of State for examination on 30th April 2018, which means that an independent Inspector will review the Local Plan and provide a report to the Council confirming whether the policies and plan are 'sound' (in line with national policy and legal requirements).

## **4.0 SOCIO ECONOMIC EFFECTS**

- 4.1 The Environmental Impact Assessment (EIA) includes a consideration of the potential socio-economic effects from the Proposed Development including the effect on population, housing, employment, education, social and community facilities, shops, and community safety.
- 4.2 This assessment indicates that there will be no significant adverse effects from the Application Proposals; all but one of the effects identified will be beneficial. There would be a negligible effect in relation to community safety and deprivation. This assessment is on the basis that new community facilities, medical facilities, schools, employment uses, shops, leisure and recreation uses and open spaces are provided when needed. This will be secured through conditions or legal agreement.
- 4.3 The Outline Planning Application (OPA) proposes that up to 5,000 homes will be provided. Many of these homes will be provided as affordable homes. The number of homes will be consistent with Central Bedfordshire Council's policies. At present the Council's policies require that up to 30% of the total number of homes would be affordable. The Proposed Development will make a large contribution to meeting housing need in Central Bedfordshire. This is likely to improve housing affordability and availability.
- 4.4 When complete, the Application Proposals will generate 4,180 full time equivalent jobs for people working in the buildings and facilities on-site. This could be as much as 9% of the total number of jobs planned in Central Bedfordshire. It is assessed that a further 315 full time equivalent jobs will be a direct result of the development during the construction of buildings and infrastructure. There would be 200 additional full time equivalent indirect jobs which are associated with the construction of the development although these jobs would not be permanent. It is assessed that the development would generate £253.2m GVA per year.
- 4.5 The Application Proposals include 4 lower schools with the additional opportunity to expand Thomas Johnson Lower School in Lidlington, 2 middle schools and 1 upper school. The development could also include provision for post-16 and special educational needs. The Application Proposals for educational facilities will meet all of the needs of residents of the development and could provide new educational capacity which would be a local benefit.
- 4.6 The OPA proposes to provide land for new health facilities, new community facilities and new retail needs to support the new population. A range of new open spaces and areas for recreation and leisure are included in the application. The Application Proposals will lead to a substantial increase in public access to existing landscape features and woodland.

## **5.0 TRANSPORT**

- 5.1 The Environmental Impact Assessment (EIA) regarding transport includes a review of the current conditions within the area and identifies measures that have been designed into the Application Proposals. The terms (or 'scope') of the assessment have been discussed with the Local Highway Authority and Highways England. Milton Keynes and Bedford Borough Council were also consulted. The study area for the assessment is comprehensive and includes the road network immediately surrounding the Application Site as well as the wider road network including the A421 Marston Moretaine Junction and the M1 Junction 13, and eastwards to include the A6 Corridor and the A507 to the south.
- 5.2 The Transport Assessment (TA) for the Proposed Development sets out the traffic modelling which provides the data to allow the environmental impact assessment to be completed. The assessment considers the effects of the development on transport at a number of stages during the development (in 2026; 2035 and 2039 when the development is assumed to be complete). Environmental assessment considers the following issues relating to transport: severance; driver delay; pedestrian delay; pedestrian amenity; fear and intimidation; personal injury; collisions; and safety and in relation to hazardous loads.
- 5.3 The assessment found that there would be no significant adverse effects from the Proposed Development. However, the assessment found that before mitigation measures are provided, there would be minor adverse effects in relation to driver delay at the Marston Moretaine A421 Junction, at the junctions of the C94 and Beancroft Road, Station Road and Bedford Road, Woburn Road and Bedford Road and Beancroft Road, Bedford Road and Salford Road, and at M1 Junction 13. Through mitigation, including highway improvements to M1 Junction 13, the assessment found that the effect would be not significant or would have a minor beneficial effect.
- 5.4 The assessment found that if no mitigation measures were provided, the Proposed Development would result in minor adverse effects in relation to severance at one location. However, mitigation measures are proposed which would improve the ability of pedestrians to move through this area and therefore this effect would not be significant.
- 5.5 The assessment concluded that before mitigation measures are provided, there would be a minor adverse effect in relation to fear and intimidation but mitigation in the form of a sensitive design for routes in the development would mean that this would be a negligible effect overall.
- 5.6 The assessment has found that the construction stage of the Proposed Development would result in negligible effects for severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation, personal injury, collisions, and safety and in relation to hazardous loads.

If planning permission is granted, a Construction Environmental Management Plan (CEMP) will be prepared to manage the construction process. This would be agreed with the Local Planning Authority before any work started on site.

- 5.7 Cumulative effects have been considered. The transport movements generated by other future development schemes identified and agreed with the Local Highway Authority has been included in the assessment of the transport effects of the Proposed Development.

## **6.0 AIR QUALITY**

- 6.1 The air quality assessment has considered the existing air quality of the study area and the impact of the construction and operation of the Proposed Development on the Application Site and the surrounding area. The main air pollutants of concern which would occur through construction of the development are dust and fine particulate matter. When the development has been completed and through its operation the main air pollutants of concern are nitrogen dioxide and fine particulate matter.
- 6.2 The air quality assessment found that the effects of dust and fine particulate matter would not be significant through the construction of the Proposed Development. This is because a Construction Environmental Management Plan (CEMP) would include measures to prevent and minimise emissions of dust generated on site. If planning permission is granted, the CEMP would be submitted to and agreed with the Local Planning Authority before construction work started.
- 6.3 The effect of traffic on levels of nitrogen dioxide and fine particulate matter when the Proposed Development has been completed and through its operation has been undertaken. This assessment found that concentrations would not be significant and that there is no requirement for mitigation measures.
- 6.4 The impact of traffic on nitrogen oxides, nitrogen and acid deposition on ecology when the Proposed Development has been completed and through its operation has been assessed. This found that concentrations would not be significant and that there is no requirement for mitigation measures.

## **7.0 NOISE AND VIBRATION**

- 7.1 The Environmental Impact Assessment (EIA) considers the potential for noise and vibration effects from the Proposed Development.
- 7.2 The assessment includes the noise and vibration effects during the construction of the Proposed Development for existing homes that have the potential to be affected by sound and vibration caused by construction activity.
- 7.3 The study area for this assessment includes existing homes in the local area that are most likely to be affected by a change in the noise levels caused by the Proposed Development once it is completed and through its operation. The assessment also considers if the future noise environment at the Application Site will be suitable for the type of development proposed.
- 7.4 The assessment found that during the construction of the Proposed Development, noise and vibration from demolition and construction activities, and traffic noise would have a minor – moderate effect. This would be mitigated to being negligible through measures included within a Construction Environmental Management Plan (CEMP) which would be agreed with the Local Planning Authority if planning permission is granted. Construction of the Proposed Development would not commence until the CEMP was agreed.
- 7.5 When the Proposed Development is completed, and through its operation, the assessment found that the change in noise levels due to the increase in road traffic noise would be significant. However, through mitigation at the detailed design stage, this effect would be reduced to being negligible.
- 7.6 The assessment found that there were no further significant effects.

## **8.0 LANDSCAPE AND VISUAL EFFECTS**

- 8.1 A Landscape and Visual Impact Assessment has been undertaken as part of the Environmental Impact Assessment (EIA). This assesses the effects of the Proposed Development on the landscape character and features of the site, the local and wider landscape character and changes to views. This also considers visual impacts including the general setting of the Application Site, views for local residents, walkers, horse riders, visitors and those using routes where views towards the Application Site are possible. Collectively, these are called 'receptors'.
- 8.2 The methodology for the Landscape and Visual impact assessment has been agreed with Central Bedfordshire Council. The baseline character areas assessments that should be used and the extent of the study area has also been agreed with the Council. The study area includes the Application Site and the land within 5 kilometres (KM) of it.
- 8.3 The assessment found that the nature of change for all environmental effects of the Proposed Development during the construction phase of the project would be adverse because the construction period would incorporate a number of visually disruptive elements such as hoardings, plant and machinery, lighting and built features. However, the assessment has concluded that these potential effects would be reduced through compliance with an approved Construction Environmental Management Plan (CEMP) which will include protection of identified landscape and woodland features.
- 8.4 In advance of the construction of the Proposed Development commencing, a Landscape and Ecology Management plan will be agreed with the Local Planning Authority. This document would include a range of measures to mitigate those landscape and visual effects which could occur after year 15 of the development. These measures include management of the natural environment and new woodland planting proposed.
- 8.5 During the period between year 1 and year 15 of the Proposed Development following the growth of the planting, the assessment identifies that there would be a range of minor to major environmental effects on site features, landscape character areas, land parcels, viewpoints, existing properties, existing settlements, recreational routes, transport routes and recreational areas.
- 8.6 Following the growth of tree, shrub and hedgerow planting over a 15-year period within areas of new woodland planting, other green infrastructure and within the built development the assessment concludes as a worst case that there would be some residual adverse effects on views. These include, major-moderate adverse effects at viewpoints B (Public Footpath FP1 leading south to Marston Vale Line, Millbrook), H (viewpoint/picnic site, Folly Wood, Lidlington)

and J (Public Footpath FP20, Upper Broughton End); major and moderate–major adverse effects at 3 residential properties in closest proximity to the Application Site (Common Farm, The old Barn); major-moderate visual effects at the southern edge of Marston Moretaine and major and moderate-major adverse effects for parts of the Marston Vale Trail.



## **9.0 ECOLOGY**

- 9.1 The Environmental Impact Assessment (EIA) includes the potential effects of the Proposed Development on ecology and nature conservation. The ecology chapter identifies important ecology features (known as 'receptors') that could be affected by the Proposed Development and assesses the scale and significance of these effects. This assessment takes account of the mitigation that has been designed into the Application Proposals.
- 9.2 The scope of the work undertaken to survey the Application Site has been agreed through consultation the Local Planning Authority and Natural England.
- 9.3 During the construction stage of the project, the assessment of ecological effects has found that before mitigation is provided, there would be some adverse effects upon a range of receptors including Brogborough Lake which is a County Wildlife Site (CWS), Bats, Badger, Otter and other species. The large majority of these are assessed to be beneficial effects or result in there being no residual effect once mitigation has been provided.
- 9.4 The loss of large areas of arable land would have a permanent adverse effect on some species of birds which rely on this habitat. There would also be a short-term adverse effect on wintering birds due to the potential for disturbance through construction at the southern and eastern shores of Brogborough Lake.
- 9.5 As with the predicted effects during its construction stage, before mitigation is provided, it is predicted that there would be adverse effects on receptors when the Proposed Development has been completed and through its operation. Through measures which would limit or prevent these effects, the large majority of the effects identified would be beneficial or there would be no residual effect.
- 9.6 The assessment has found that there would be short-term local adverse (negligible) effects on bats through habitat loss and disruption and through bats being injured and killed by vehicles within the Proposed Development. Mitigation measures are identified to protect the most important bat flight routes from impacts through artificial lighting and sensitive design of infrastructure such as providing 'hop-overs.' This is tall planting at important locations which helps to guide bats across roads at a safe height. However, this vegetation will take time to be established. When this has been established, in the medium to long term, there would be no residual effect on bats.
- 9.7 The assessment also found that there would be a short to medium term adverse (local) impact on wintering birds using Brogborough Lake through the disturbance caused by people using routes and boats at the lake, and from road traffic using roads near to the lake. Mitigation

measures such as limiting the part of the lake that boats can use, providing plants that screen the areas of the lake used by wintering birds and reducing the number of open viewpoints to the lake from any leisure routes close to it will limit the adverse effects but will not remove them.

## **10.0 CULTURAL HERITAGE**

- 10.1 The Cultural Heritage chapter of the Environmental Impact Assessment (EIA) considers the impact of the Proposed Development upon the historic environment. This includes an assessment of the value of the heritage assets which are within or are around the Application Site. These are known as 'receptors'.
- 10.2 The assessment reported within the Cultural Heritage chapter indicates that there would be a range of minor adverse effects on designated heritage assets in the study area with mitigation being provided.
- 10.3 The assessment found that only one designated heritage asset will experience a change resulting from the Proposed Development at construction and post-completion stage. The assessment concludes that before mitigation is provided, there would be moderate adverse effects from the proposed development at Thrupp End medieval village and medieval moated site through a loss of significance. Mitigation through the sensitive design of the Proposed Development close to this receptor would limit this effect. The Application Proposals have designed in mitigation by way of retaining an area of open land around the Thrupp End medieval village and moated site. As a result of this mitigation, the effect on this receptor from the Proposed Development would be minor adverse.
- 10.4 The assessment also found that the loss of non-designated archaeological deposits that could be buried at key points within the Application Site through groundworks for the Proposed Development during the construction phase of the project would result in a moderate to major adverse effect. This effect would be limited by appropriate archaeological investigation and recording, reporting and archiving of the deposits identified. As a result of this mitigation, this effect would reduce to a minor adverse effect. This mitigation would be secured through planning conditions on any grant of consent.

## **11.0 HYDROLOGY AND DRAINAGE**

- 11.1 The effects on the Application Site and the surrounding area relating to the risk of flooding have been assessed for the Proposed Development. The assessment considers how water functions within the study area, the flood risk as a result of the Proposed Development, and how surface water drainage will be managed within for the Proposed Development. The study area includes a range of important watercourses and surface water features which interact with the Application Site. The study area has been defined through consultation with the Environment Agency, Bedford Group of Internal Drainage Boards and Central Bedfordshire Council.
- 11.2 A Flood Risk Assessment (FRA) for the Proposed Development has been prepared and submitted with the application. This sets out the flood risk modelling which provides the data to allow the environmental impact assessment to be completed.
- 11.3 Elstow Brook is the main watercourse in the study area. This generally flows in a south-west to north-east direction. The largest water body within the Application Site is Brogborough Lake which is located in the western part of the site. Stewartby Lake is located to the north of the Application Site and Lidlington Lake is a smaller waterbody in the south-eastern part of the Application Site. The Environment Agency Flood Map shows that the majority of the Application Site is located within Flood Zone 1 which has a low probability of flooding. There are small parts of the Application Site within Zone 2 which has a medium probability of flooding and Zone 3 which has a high probability of flooding. The Environment Agency Flood Map is limited to high-level data assessment. Therefore, additional site-specific flood risk computer modelling has been undertaken as part of the FRA to enable a detailed analysis of the Application Site to be undertaken.
- 11.4 Before mitigation is provided, the assessment found that there would be minor adverse effects from the Proposed Development at the construction phase in relations to increased surface water run-off, contamination of surface water and increased silt in watercourses and upon flood storage and flood flows/routing, leading to increased flood risk. The assessment indicates that there would be a moderate adverse effect on slope stability at Brogborough Lake which would increase the likelihood of a sudden escape of water prior to mitigation. These effects would be reduced to being assessed as not significant through mitigation measures including the implementation of a Construction Environmental Management Plan (CEMP) and work to improve slope stability at Brogborough Lake as necessary.
- 11.5 When the Proposed Development has been completed and through its operation, before mitigation is provided, the assessment identified that there would be a range of moderate

adverse effects including (but not limited to) resulting increased surface water run-off; the operation of Stewartby Lake; contamination of surface water entering lakes; watercourses and the proposed Bedford and Milton Keynes Waterway; and the change in land use from agricultural to largely urban uses.

- 11.6 For all of these adverse effects identified, mitigation measures have been built into the design of the Proposed Development or identified to be secured through planning conditions to reduce these effects to being either not significant or in a number of instances, beneficial effects.

## **12.0 GROUND CONDITIONS**

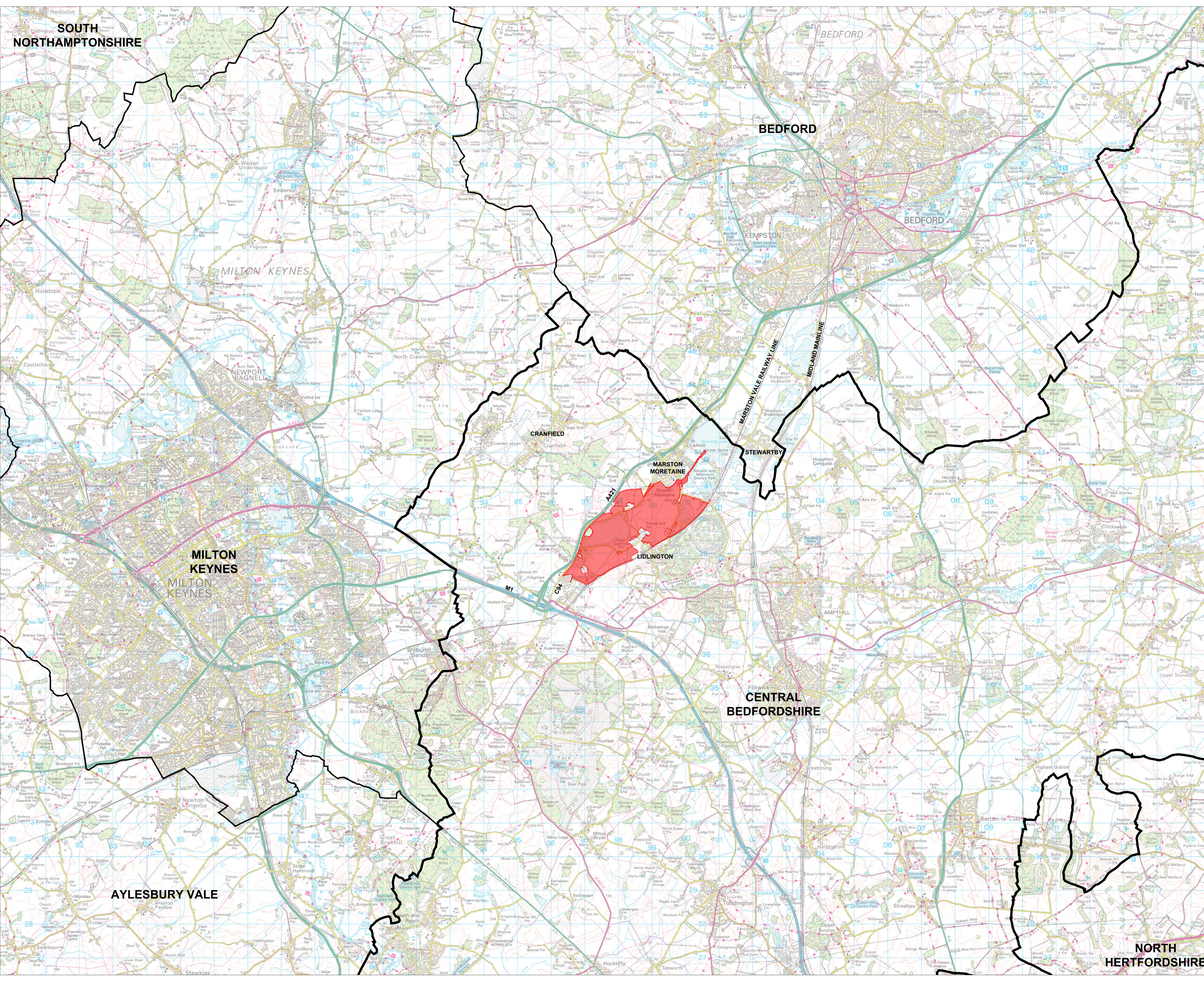
- 12.1 The assessment of the ground conditions of the Application Site and the surrounding area includes a consideration of the effects of the Proposed Development on human health, the environment, and the potential for the development to directly contribute to or to be affected by land instability and ground hazards. The study area for this assessment includes the Application Site, and the land that is around it.
- 12.2 The majority of the Application Site is agricultural land with two large lakes. There are two areas within the Application Site that have previously been used for landfilling. These are at Brogborough Hill and Marston Pit. Historically, parts of the Application Site have been used for the brick making industry that was prevalent in the Marston Vale in the late 19<sup>th</sup> and 20<sup>th</sup> Century. Within the Application Site boundary, there were two brickworks, Millbrook and Marston Valley that were operational between the 1920/30s and the 1970s. The legacy of the former brick works are clay pits from which clay material was excavated to make the bricks. These have now been allowed to flood to form Brogborough and Lidlington Lakes.
- 12.3 At the construction phase of the project, before mitigation is provided, the assessment identifies that there would be minor – major adverse effects relating to harm to construction works, pollution to groundwater and surface water quality and damage to the built environment. When mitigation is provided including using best practice construction standards and working methods, appropriate site investigation and the implementation of a Construction Environmental Management Plan (CEMP), the assessment concludes that these effects would reduce to being negligible. Effects relating to surface water drainage would have moderate beneficial effects through the implementation of the CEMP.
- 12.4 When the Proposed Development has been completed and through its operation, the assessment found that before mitigation is provided, there would be a major adverse effect through harm to site users at locations that historically have been used for landfill. The assessment also identified that there would be a moderate adverse effect before mitigation in relation to damage to the built environment at locations that historically have been used for landfill. When mitigation is provided including appropriate site investigation, and adoption of appropriate ground gas protection measures if required, these effects are assessed to be negligible or minor beneficial.

### **13.0 SOILS AND AGRICULTURE**

- 13.1 The soils and agricultural chapter of the Environmental Statement (ES) presents the approach and findings of the assessment of the potential effects of the Proposed Development on soils and agricultural land.
- 13.2 The Application Site is predominantly (86%) of lower agricultural quality or of no agricultural potential. Soils within the Application Site are almost exclusively fine textured topsoils with slowly permeable subsoil.
- 13.3 At the construction stage of the project, the assessment found that there would be moderate adverse effects through the loss of agricultural land. There is no possible mitigation for this loss. Before mitigation measures are provided, the assessment found that there would be a major adverse effect through the loss of soil resource and function. Mitigation in the form of the implementation of a detailed soil management plan which would be prepared as part of a Construction Environmental Management Plan (CEMP) is assessed to reduce this effect to being negligible.
- 13.4 When the Proposed Development has been completed and through its operation, the assessment identified that there would be no further significant environmental effects relating to soils and agricultural land.

## **APPENDIX 1 STRATEGIC SITE LOCATION PLAN**





**KEY:**  
 Site Boundary

**NOTE**  
 This drawing is for information purposes only and not for use in construction.  
 Do NOT scale from this drawing.  
 All dimensions are to be checked on site and any discrepancies should be immediately reported to the originator of the drawing.  
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Title  
**Marston Valley**  
**Strategic Site Location Plan**  
**Figure 1.1**

Date	27.04.18	Scale	1:100,000@A3 - 1:50,000@A1
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Approved	---	Drawing Number	OHB036 - 017
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