



**Defence  
Infrastructure  
Organisation**

Future Defence Storage and Redistribution Programme,  
Redevelopment of MOD Bicester  
Environmental Statement Volume 1:  
Non-technical Summary

BIC/OPA/DOC/08

September 2011



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**Report for**

Ms Ellen O Grady  
Senior Planning Officer  
Professional and Technical Services  
DIO Operations North  
Kingston Road  
Sutton Coldfield  
B75 7RL

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**Main Contributors**

Simon Atkinson  
Richard Breakspear  
Rachel Dimmick  
Stephen Dooley  
Liz Duffy  
Louise French  
Annie Hindley  
Chris Hooper  
Tessa Jenkins  
Marc Rennie

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**Issued by**

  
.....  
Rachel Dimmick

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**Approved by**

  
.....  
Karen Wilson

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**AMEC Environment & Infrastructure  
UK Limited**

Gables House  
Kenilworth Road  
Leamington Spa  
Warwickshire CV32 6JX  
England  
Tel: +44 (0) 1926 439000  
Fax: +44 (0) 1926 439010

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# Defence Infrastructure Organisation

## Future Defence Storage and Distribution Programme - Redevelopment of MOD Bicester

Environmental Statement:  
Volume 1: Non-Technical Summary  
(BIC/OPA/DOC/08)

September 2011

AMEC Environment & Infrastructure  
UK Limited



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# 1. Non-Technical Summary

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## 1.1 What is proposed and what is the purpose of the Environmental Statement?

- 1.1.1 The Defence Infrastructure Organisation<sup>1</sup> is applying for outline planning consent for the development of land at two sites to the south-east of Bicester in Oxfordshire. The two sites are Graven Hill, which is 0.9 miles (1.5 kilometres (km)) south-east of Bicester and C Site which is in the village of Upper Arncott, 3.6 miles (6km) south-east of Bicester (see Figure NTS 1). A Site is also shown on Figure NTS 1 and although the Defence Infrastructure Organisation is also proposing to dispose of A Site, this does not form part of this planning application.
- 1.1.2 The planning application for this proposed development is accompanied by an Environmental Statement, as required under *The Town and Country Planning (Environmental Impact Assessment) Regulations 2011* (SI 1824) (the 'EIA Regulations'). The preparation of this Environmental Statement, which has been undertaken by AMEC Environment and Infrastructure UK Ltd<sup>2</sup>, forms part of the Environmental Impact Assessment (EIA) for the proposed development.
- 1.1.3 This report is the non-technical summary of the Environmental Statement. It summarises the content and conclusions of the Environmental Statement (see Volume 2 Main Report BIC/OPA/DOC/09 and Volume 3 Appendices BIC/OPA/DOC/10), to which readers should refer for further information. The following sections of the non-technical summary describe:
- the reasons why the proposed development is required;
  - what is at the Sites where development is proposed at present;
  - what the proposed development comprises;
  - the EIA process;
  - the likely significant effects of the proposed development; and
  - the next steps and where the Environmental Statement can be viewed.

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<sup>1</sup> The Defence Infrastructure Organisation was formed on 1 April 2011 when the former Defence Estates was brought together with other property and infrastructure functions in the MOD to form a single organisation.

<sup>2</sup> Following its acquisition by AMEC, Entec UK Ltd was integrated into AMEC Environment and Infrastructure in July 2011, all references to work previously completed by Entec are now to AMEC E&I.



## 1.2 Why is the proposed development required?

- 1.2.1 Graven Hill and C Site have been in use by the military since the establishment of the Central Ordnance Depot in 1941 in order to help supply the rapidly growing needs of the expanding World War Two (WWII) Army and many of the current buildings were built at that time.
- 1.2.2 At the present time, the Logistics and Commodity Services operation provides logistics services for the Armed Forces. The majority of this service is provided from two sites: Bicester and Donnington in Telford. At MOD Bicester the logistics operation is located on more than one site - D and E Sites, which are part of Graven Hill and C Site in Arncott.
- 1.2.3 In 2009 a programme was undertaken to identify ways in which the logistics service could operate in a more efficient way and provide cost reductions. This identified that there was a need, amongst other requirements, to reduce the amount of stock stored, modernise the way in which goods were packaged and delivered and reduce the physical distances between the different tasks needed to process orders which will therefore help improve productivity. As a result it was decided to move the logistics service to one site. After a review of different options the MOD decided to move this service from Donnington and Graven Hill so that the whole service is located at C Site. Therefore the MOD no longer needs Graven Hill and has decided to dispose of this site (i.e. to sell it) along with the woodland (Graven Hill Wood). The MOD is seeking outline planning permission to redevelop this site prior to its sale. St David's Barracks, which is also located at Graven Hill, will remain in place and continue to operate as it currently does. The sale of the Graven Hill Site could potentially fund the proposed development at C Site.

## 1.3 What is at the Sites and in the surrounding area at the moment?

### Graven Hill

- 1.3.1 Approximately two-thirds of Graven Hill is 'brown field' land. This is land that has previously been developed. The Site mostly consists of warehouse buildings with some office space which are used by the MOD to store, process and distribute stock. Associated with these buildings are areas of hardstanding which are used for storage and car parking. There is also an external storage area known as Bicester International Freight Terminal where freight containers are stored and stacked. Approximately a third of the Site is greenfield land (i.e. land which has not been previously developed) and much of this comprises woodland most of which is located on Graven Hill and is known as Graven Hill Wood. This woodland is used for some military training such as cross country running, and some of the fields in the Site are currently leased to a local farmer for grazing.
- 1.3.2 St David's Barracks is also located within the Site (although this is outside the red line boundary so does not form part of the planning application) and will remain in place.





- 1.3.3 The Site is bordered by the A41 to the north, farmland to the east and north, the Oxford to Bicester railway line to the north-west and the MOD railway line to the south. Beyond the boundaries of the Site there is farmland to north-east, east, south and west which also includes some scattered residential properties. Bicester Sewage Treatment Works is approximately 100m to the north-west of the Site boundary. Bicester town centre is approximately 1.5km north of the Site with the closest residential suburb of Bicester (Langford Village) approximately 100m north of the Site. The village of Ambrosden is 600m south-east of the Site.
- 1.3.4 The current layout of Graven Hill is shown in more detail in Figure NTS 2.

## C Site

- 1.3.5 C Site is currently used by the MOD for storage, office and logistics uses. The Site largely comprises warehouses with some office buildings and areas of hardstanding for parking and storage, open spaces and small areas of planting, woodland and scrub. There is rail access through the Site from Graven Hill (to the north-west) linking through C Site and providing rail access onto other MOD Bicester Sites although rail access is not currently used beyond C Site (into A, B, G and H sites). A small number of buildings on C Site are occupied by third party tenants, some of which activity is defence-related, some of which is not.
- 1.3.6 C Site is bordered by agricultural land to the west and south and by residential properties and the village of Arncott to the east. Further to the east and south-east of the Site are other MOD sites (A, B, G and H sites), St George's Barracks and MOD training areas.
- 1.3.7 The current layout of C Site is shown in more detail in Figure NTS 3.

## 1.4 What does the proposed development comprise?

- 1.4.1 The proposed development at each of the Sites is illustrated on Figures NTS 4 to NTS 7 and comprises the following.
- 1.4.2 At Graven Hill:
- Proposed demolition of all MOD buildings on Graven Hill (E and D Site).
  - Construction of 1,900 homes, up to 30% of which will be affordable housing.
  - A local centre in the northern part of the Site which will include a two form entry primary school with a multi-use games area and car parking, a community hall (located next to the primary school), five local shops or units which could be used for other local services, a grocery store, a building which could be used as a hotel, pub or restaurant, offices and an energy centre to provide energy to the local centre. The site that the school is built on is large enough to extend the school to a three form entry school in the future.
  - Commercial buildings in the southern part of the Site which can be used for light industrial uses, research and development uses and warehousing.



- A space in the southern part of the Site which will be reserved as a potential energy centre location.
- Public open spaces including children's play areas and sports pitches.
- Graven Hill Woodland Park.
- Two sites to be used as allotments.
- Improvements to two junctions providing access into the Site from the A41.
- Retention of the MOD rail link from the Oxford-Bicester railway line, through Graven Hill and into C Site. Rail access will also be provided to the warehouses in the southern part of the proposed Graven Hill development.
- New footpaths and cycleways.
- New services such as a drainage system.
- Landscaping, planting and ecological enhancement measures.

#### 1.4.3 At C Site:

- Demolition of all MOD buildings and features in the northern area of C Site and the removal of rail infrastructure and trees in the vicinity of the demolished buildings.
- Construction of a warehouse, known as the Fulfilment Centre. This will be up to 18.6m in height with 320m x 220m internal floor space. On the outside there will be 36 loading/unloading doors to provide access to the west side of the building where Heavy Goods Vehicles (lorries) will load and unload and an unloading yard to the west of building. There will be a canopy along the west side of the building to provide cover over the loading/unloading doors. There will also be some office accommodation attached to the main building on the south-western corner. There will be a car park for up to 350 cars to the south of the building and an access road to reach this car park along the eastern side of the building (Heavy Goods Vehicles will not be allowed to use this road to avoid disturbance to residents living close to the boundary of the Site).
- A container storage area will be provided to the north of the Fulfilment Centre and additional storage areas adjacent to this.
- A new freight terminal will be constructed between the southern end of the Fulfilment Centre and the railway line along the western boundary of the Site. This will replace the current freight terminal at E Site and will be used to move goods from rail to road and into storage and vice-versa.
- A new internal road layout will be constructed and the Site entrance will be realigned so that the Site gate is further back from the road than at present, to avoid lorries queuing onto the main road.
- An earth bund will be provided between the eastern side of the Fulfilment Centre and the eastern boundary of the Site and this will be planted with shrubs and trees



to screen views of the Fulfilment Centre from Norris Road and Green Lane. The bund will also provide incidental benefits of noise attenuation. Additional vegetation will also be planted along the northern boundary to improve the existing vegetation which screens the Site from properties along Ploughley Road.

- A new drainage system will also be provided.

- 1.4.4 Should the Defence Infrastructure Organisation be successful in gaining planning permission, the MOD would firstly work with contractors to construct the proposed Fulfilment Centre and external storage areas and road layout at C Site. This is estimated to take about two years to construct and would be finished by December 2014. The MOD would then move out from Graven Hill and into the new development at C Site so that Graven Hill could then undergo redevelopment. At Graven Hill, the Defence Infrastructure Organisation would work with individual developers who would then be responsible for obtaining detailed planning permission, building the proposed development and selling on the properties once built. It is expected that the proposed development at Graven Hill would be constructed over a period of about 13 years and would be completed by the end of 2028. This would be completed in phases and the assessment assumes that about 150 houses would be built each year.

## 1.5 What does the Environmental Impact Assessment Process involve?

- 1.5.1 At an early stage in preparing its proposals for the proposed development, the Defence Infrastructure Organisation recognised that, given the scale of development proposed and the sensitivity of the surrounding environment, the development required Environmental Impact Assessment under the EIA Regulations. In view of this, the Defence Infrastructure Organisation decided to prepare an Environmental Statement to accompany the planning application for the Site.
- 1.5.2 A Scoping Report was prepared by the Defence Infrastructure Organisation in March 2011, which outlined the work that it was considered at that time was needed to assess the potentially significant effects of the proposed development. This report was issued to consultees for their comments.
- 1.5.3 The scope of the assessment was refined in response to comments received on the Scoping Report and also in response to comments received through subsequent consultation, environmental information obtained from further survey and assessment work, and changes that were proposed to the proposed development design. In addition, A Site was removed from the planning application for redevelopment because it is likely that the time frame over which redevelopment at A Site is likely to take place would be longer than the standard three year consent period sought in this application. The design process involved the consultant team working closely with the Defence Infrastructure Organisation and key stakeholders to identify how the proposed development proposals could be refined to mitigate negative environmental effects and deliver environmental enhancement.



- 1.5.4 The Environmental Statement includes an impartial assessment of the predicted environmental effects of the proposed development. To meet the requirements of the EIA Regulations, the assessment focuses on those effects that are potentially significant (both positive and negative), with a comparison being made between the likely environmental conditions in the presence of the proposed development and in its absence (i.e. the baseline situation).
- 1.5.5 As the various elements of the proposed development will be built over a period of 15 years (two years for C Site and then 13 years for Graven Hill) and then operated indefinitely, it cannot be assumed that the baseline conditions in the absence of the proposed development will be the same as at present. This reflects changes resulting from human influences, such as new development, or natural processes which have the potential to modify current environmental conditions. Therefore, where baseline conditions are likely to change over these 15 years (e.g. as with traffic flows), the assessment has predicted these future baseline conditions and the effects of the proposed development have been assessed against these. Where baseline conditions are unlikely to change, the effects of the proposed development are assessed against the existing baseline.
- 1.5.6 Cumulative effects from the proposed development in-combination with other proposed development in the area surrounding the Sites have also been taken into account in the assessment. The assessment has, where appropriate, taken into account the effects from the Chiltern Railways Evergreen 3 project, Phase 1 Exemplar of the North West Bicester Eco-town, Kingsmere development and proposed business park to the south and east of the A41. In addition, although a planning application has not yet been submitted for the remainder of the North West Bicester Eco-town, the traffic modelling has also taken into account traffic that this development could generate.
- 1.5.7 Reaching a conclusion about which effects, if any, are likely to be significant is the result of an iterative process that involves the following stages:
1. identifying those effects that may be significant;
  2. assessing environmental changes and any consequent effects on people, animal/plant species or other 'receptors' (for example archaeological remains); and
  3. determining whether or not these effects are likely to be significant.
- 1.5.8 The findings of the assessment will assist Cherwell District Council, those that it consults and other stakeholders in coming to a view about whether or not and, if appropriate, how the proposed development should proceed. This decision-making is also part of the EIA process.

## **1.6 What are the likely predicted significant effects of the proposed development?**

- 1.6.1 The Environmental Statement has assessed the potentially significant effects, whether positive or negative, on population (including visual effects and effects on the local community, including from traffic), flora and fauna, soil, water, air, climatic factors, material assets (such as archaeology or listed buildings - the 'historic environment'),



landscape and the interrelationship between all of these factors. The results of the assessment are summarised below.

### **Traffic and Transport**

- 1.6.2 Both sites are currently operated by the MOD and the effects of the proposed developments have been assessed by considering the likely change in traffic flows that will occur.
- 1.6.3 The proposed development incorporates measures to improve both road access into the Sites and road capacity, and will also avoid queuing occurring at key road junctions as a result of traffic from the proposed development. Existing bus services will also be amended to serve Graven Hill.
- 1.6.4 With these measures in place pedestrians will be unlikely to experience significant effects caused by traffic associated with the operational development at either site, whether in the form of severance (the perceived division that could occur within a community when it becomes separated by a major road), delay (the time taken to cross roads), fear and intimidation associated with traffic or accidents. Although the proposed development will result in changes in traffic flows on local roads, these will not cause significant delays to road users.
- 1.6.5 Construction activity at the two sites will not happen at the same time. C Site will be completed first (over two years) so that the Graven Hill activities could move across. This and the proposed phasing of the Graven Hill development means the volume of construction traffic will be much less than that from operational traffic and will not result in any significant effects on road users and pedestrians.

### **Air quality**

- 1.6.6 The assessment of the effects of the proposed development on air quality has considered whether the development will have a significant effect on the air quality of existing residents in the area around each development site and of future residents of Graven Hill. Pollutants associated with the construction and operation of the development, in terms of construction dust, emissions of pollutants associated with construction traffic, and emissions of pollutants associated with operational traffic have been assessed.
- 1.6.7 Effects from dust during construction and construction traffic have not been assessed in detail in terms of air quality, as appropriate mitigation (in the form of recognised good practices) will be used to ensure dust effects are minimised, and construction traffic will not be of significant numbers as to affect the future air quality in the area.
- 1.6.8 The effects on air quality from operational traffic in the areas surrounding the development will not be significant even with the whole development in place. This is because the development will not result in any exceedences of the air quality objectives (the standards set by the Government in relation to air quality pollution) and no effects on human health will occur.



## Noise and vibration

- 1.6.9 Construction work at each site could lead to noise being generated which will be audible at existing residential properties in the vicinity of each site (due to the operation of fixed and mobile plant). The residential development at Graven Hill, proposed changes to the operation of C Site and the use of the freight rail line running between the two sites could potentially affect noise levels experienced by people living in close proximity to roads and railway lines in the area, as a result of changes in road and rail traffic patterns and changes in the operations at C Site. Finally, noise generated by existing local road and rail sources has the potential to affect the suitability of the Graven Hill Site for its proposed residential, commercial and educational uses. All of these effects have been assessed.
- 1.6.10 During construction, contractors will be required to work to set limits which will help to control excessive noise levels. Several other measures will also be put in place which will minimise the potential for disturbance by construction activities (e.g. construction work will be limited to standard daytime working hours). With these measures in place it is unlikely that noise from construction activities will have a significant effect on local people.
- 1.6.11 Noise from road traffic created by the development is in the main unlikely to have a significant effect on local people living close to roads near to both sites and the wider area. An increase of 3 decibels (the unit which noise levels are measured in) is needed to create a widely perceptible increase in road traffic noise and a change less than this is less perceptible to human hearing. For the majority of roads in the area, daytime and night-time road traffic noise levels will not increase by more than 3 decibels.
- 1.6.12 C Site will operate 24 hours per day Monday to Friday and due to MOD operational requirements a three shift pattern will be used. As a result of the morning shift changeover, significant short-term increases in road traffic noise during the period 05:00-06:00hrs are likely for residents on Ploughley Road (up to Ambrosden) and Palmer Avenue due to cars arriving at the Site. This will not be the case at the weekends when a skeleton staff will be required.
- 1.6.13 Noise from freight rail traffic utilising the line between Graven Hill and C Site will not increase ambient noise levels by more than 3 decibels over the daytime period, and hence will not have a significant effect on local people living close to the railway line.
- 1.6.14 Noise from on-site activities at the new C Site Fulfilment Centre (e.g. loading and unloading of freight rail, lorry movements, etc.) will not increase ambient noise levels significantly above the existing background noise level, and hence will not have a significant effect on residents living in close proximity to the Site.
- 1.6.15 Noise modelling has shown that the Graven Hill Site is suitable for housing and that people living in the new properties and attending/working in the school are unlikely to be affected by excessive noise. Further work will be undertaken as part of the detailed design of the development at the Reserved Matters Stage in relation to the design of the building facades (e.g. glazing/ventilation elements) to achieve minimum standards of noise reduction. This will ensure suitable internal conditions for residential/educational uses. Furthermore, outdoor living areas and teaching spaces



will be positioned where possible to minimise the effects of road and rail traffic noise in these areas.

### **Community and socio-economics**

- 1.6.16 The assessment has concluded that the proposed development will have significant positive effects for the economy and existing community in the local area as well as the new residents of the proposed development at Graven Hill. For existing and new residents within the ward or surrounding local area these result from the provision of open space (for recreation), affordable homes and labour supply at Graven Hill and jobs at both sites during both construction and operation. The increase in the number of jobs both during construction and operation as well as increased labour supply will also have significant positive effects for the local economy. Whilst these effects are likely to be significant for the local area (i.e. the local wards within which each site is located) they will be positive but not significant across the district (i.e. for everyone living within the Cherwell District Council area).
- 1.6.17 Graven Hill will include a number of community facilities including a primary school, sports pitches, open spaces for recreation, allotments, community hall, local shops, a grocery store and a building that could be used as a pub, restaurant or hotel. Providing these facilities will ensure that the new residents of the development have access to local services without constraining existing services in the surrounding area and therefore affecting access to services for the existing local community.
- 1.6.18 The assessment has identified that the increase in the local population which will result from Graven Hill could put a strain on local pre-school education. However, as the development could accommodate a nursery school in the proposed community hall, these effects are unlikely to be significant.

### **Historic environment**

- 1.6.19 Graven Hill and C Site have been in use by the military since the establishment of the Central Ordnance Depot in 1941. On-site accommodation was provided within the depot in the form of Nissen huts organised into self-contained camps, and groups of Romney huts were added in order to supply the build-up of American forces during the war. The Site has continued to operate as a depot in the post-war period, though temporary hutted accommodation camps were gradually removed along with most of the Romney huts. None of the buildings within either site are listed.
- 1.6.20 The development of the Sites will involve the demolition of the military buildings within Graven Hill as well as in the northern part of C Site which will be developed. As the WWII buildings are of some historic interest a programme of recording will be undertaken in advance of their loss. A group of Romney huts within C Site will be retained. With these measures in place the loss of military buildings on each site is unlikely to be significant.
- 1.6.21 Whilst much of the Graven Hill Site has been disturbed by the twentieth century military use, archaeological surveys have identified a number of areas of potential archaeological interest. These include the course of a former road, as well as evidence for sub-surface archaeological features. Provision will be made for the detailed



excavation and recording of any such areas in advance of any demolition and construction work. It is not expected that similar sub-surface archaeology is likely to be present at C Site due to the building and disturbance that has already taken place. No significant effects on archaeology are likely to occur.

- 1.6.22 Off-site, there are two scheduled monuments (nationally important historic environment features) near to Graven Hill, with the nearest being Alchester Roman town. These monuments will not be disturbed as a result of the proposed development, and their setting will not be harmed. Several listed buildings are also located within the area around Graven Hill, and the proposed screening planned around the Site boundary will ensure that their settings will be protected. Similarly, there are a number of listed buildings near to C Site and the planned screening bund and boundary planting will ensure that the setting of these will be preserved or enhanced. Therefore, it is unlikely that there will be any significant effects on protected historic environment features in the area around each site.

## **Landscape and visual effects**

### **Graven Hill - landscape effects**

- 1.6.23 The Graven Hill Site lies within an area described in Cherwell District Council's Landscape Assessment as having lost its rural character and having become visually degraded. The Landscape Assessment suggests a strategy of 'restoration'. The change to the character of the landscape that will occur due to removal of the existing military buildings and structures and their replacement with new 'mixed use' development, with a new open space and landscape planting strategy to provide the setting has been assessed. During the construction phase of the development at Graven Hill the proposed development is likely to have a significant negative effects on landscape character, elements and patterns as a result of the presence of temporary features during construction and an increase in movement associated with construction activities. However, once the 13 year construction period is complete effects on the character of the landscape will, in the long-term, be positive and significant. The proposed development design restricts new development on the hillside of Graven Hill, retaining the wooded brow and adjacent open fields that characterise this landscape feature. The design also incorporates new planting proposals.

### **Graven Hill - visual effects**

- 1.6.24 The changes in people's views that will occur as a result of the proposed development and the effect that these will have on visual amenity have been assessed. The Environmental Statement includes photomontages to illustrate these changes from key viewpoints. Views at different distances and locations have been assessed, in particular those experienced from residential properties, local footpaths and bridleways. Retained and planted trees and vegetation within the Site as well as vegetation in the area surrounding the Site will restrict views of the proposed development.
- 1.6.25 Views from Langford Park Farm, the isolated farms to the south-east of Langford Village, Wretchwick Farm and adjacent properties, properties in the western part of Ambrosden, properties on Langford Lane, isolated residential properties near





Blackthorn Hill and from the public footpaths near Middle Wretchwick Farm are likely to experience significant negative effects at differing times during construction as the phased construction works take place. No one property is likely to experience effects for more than five years. It is anticipated however, that early perimeter earthworks and planting will help screen evidence of construction activity in later phases.

- 1.6.26 In the longer term, once construction is complete and new planting has matured (likely to take 10 to 15 years) there will be no significant negative effects on views. Properties on Langford Lane, in the western part of Ambrosden, Wretchwick Farm and adjacent properties and on Langford Lane adjacent to the stables are likely to experience significant positive visual effects as present views from the properties are of large-scale industrial warehouses and these will be replaced with smaller scale residential development set within maturing landscape planting.

### **C Site - landscape effects**

- 1.6.27 C Site, situated at the base of Arncott Hill, lies within a similar area of landscape character to that at Graven Hill and is similarly described in Cherwell District Council's Landscape Assessment as requiring a strategy of 'restoration'. The military development is clearly evident in the locality and detracts from the setting of Arncott Village, although in terms of the wider area's landscape character, the proposed demolition of buildings in the north of the Site and their replacement with a new single building will not have a significant effect on landscape character.

### **C Site - visual effects**

- 1.6.28 Views from a number of properties in Arncott (including those on Green Lane, Norris Road, Murcott Road, Hopcroft Close, Teal Close and Ploughley Road) as well as views from publicly accessible areas (such as the village green, the open space around the village hall and the public rights of way south of Brook Farm and leading to Merton Road) will experience significant negative effects during construction of the proposed development due to the changes in these views. Effects from construction will last for approximately two years although the earth bund and planting along the eastern side of the building will be implemented in the early phases of construction.
- 1.6.29 In the longer term, once the proposed development is complete, the earth bund along the eastern side of the building has been constructed and the planting within the Site has matured (likely to take approximately 10 to 15 years), a positive change is predicted. This is because the current views into the Site will be replaced by a backdrop of native trees and woodland understory planted on the perimeter screen bunding. These changes will be positive and significant for properties along Green Lane, Norris Road, Hopcroft Close and Teal Close. There will also be improved views to the C Site main gate area following the realignment of the security wire and landscape planting to adjacent open spaces.



## Biodiversity

### Graven Hill

- 1.6.30 A desk study and surveys undertaken in 2010 and 2011 identified the following sites, habitats and species of nature conservation importance within Graven Hill or close enough to it that they could be significantly affected by the proposed development. Statutory and non-statutory sites are: Arncott Bridge Meadows Site of Special Scientific Interest (SSSI) (a nationally important designation); Wendlebury Meads and Mansmoor Closes SSSI; Stratton Audley Quarries (SSSI); Otmoor (SSSI) and Bure Park Local Nature Reserve (LNR); Graven Hill Wood County Wildlife Site (CWS) (a county important conservation designation); Bicester Wetland Reserve (CWS); and Meadows north-west of Blackthorn Hill (CWS). Valued habitats located on-site or within the development's potential zone of influence include: ancient woodland, wet woodland, broad-leaved woodland, ponds and hedgerows. Legally protected and priority species that have been recorded on-site are: badger; Daubenton's bat; Leister's bat; Myotis sp. bat, long-eared bat; serotine; common pipistrelle; soprano pipistrelle and noctule bat (with the latter three species also roosting on-site); polecat; dormouse; great crested newt; common lizard; grass snake; breeding birds; and 21 priority and/or notable species of invertebrate and common spotted orchids have also been recorded on-site.
- 1.6.31 Environmental measures incorporated within the proposed development design include the creation of a mosaic of habitats including waterbodies, scrub and a wildflower meadow (which will include the translocated common spotted orchids), the planting of 1.4km of species-rich hedgerow, the creation of 1.9ha of broad-leaved woodland (within 8.2ha of more general broad-leaved planting on-site), the provision of two artificial badger setts, the provision of alternative roosting space through the inclusion of bat tiles/bricks within the new commercial developments and 30 bat boxes, the provision of 50 dormouse boxes within Graven Hill Wood and the creation of green corridors linking Graven Hill Wood to the wider countryside. A habitat creation plan detailing the environmental measures to be incorporated within the development design will be written by a suitably qualified ecologist. This will provide a detailed specification of the habitats to be created, together with a programme of works.
- 1.6.32 Dust, light, noise and pollution abatement strategies will also be included within the proposed development design and the construction environmental management plan. Where appropriate, the necessary applications to Natural England for development licences in respect of legally protected species will be made.
- 1.6.33 Parts of Graven Hill Wood County Wildlife Site will be opened up to the public for access and recreation although access will be restricted to the northern area of woodland and surrounding habitats to minimise effects on species present within the woodland. This, along with the future management of retained, enhanced and newly created areas of habitat, will be detailed in an integrated recreation and habitat management plan.
- 1.6.34 As a result of the environmental measures to be included within the proposed development design, it is concluded that the proposed development will not have any significant effects on the ecological receptors that the Site supports. The creation of



areas of woodland, waterbodies, mosaics of habitats and green corridors on-site will results in 'gains' to the biodiversity on-site and the legally protected/notable species that these areas of habitat support.

## C Site

- 1.6.35 A desk study and surveys undertaken in 2010 and 2011 identified the following sites, habitats and species of nature conservation importance occurring within C Site or close enough to it that they could be significantly affected by the proposed development. Statutory and non-statutory sites are: Muswell Hill (SSSI); Whitecross Green & Oriel Woods (SSSI); Arncott Bridge Meadows (SSSI); Murcott Meadows (SSSI); Otmoor (SSSI); Wendlebury Meads and Mansmoor Closes (SSSI); Long Herdon Meadow (SSSI); Shabbington Woods Complex (SSSI); Meadows south of River Ray (CWS); Arncott Wood (CWS); and Bicester Garrison Site Local Wildlife Site (LWS). Legally protected and notable/priority species that have been recorded on-site are badger, roosting bats (common pipistrelle) as well as foraging bats Leisler's, Myotis sp., long-eared and serotine bats, dormice, great crested newts, breeding birds and five notable species of invertebrates.
- 1.6.36 Environmental measures incorporated within the proposed development design include the creation of a mosaic of habitats including waterbodies, scrub and a wildflower meadow, 8.6ha of broad-leaved planting, the provision bat tiles/bricks (to facilitate access to roof spaces within new commercial buildings) and 20 bat boxes and the provision of arboreal links to join areas of isolated dormouse habitat. A habitat creation plan detailing the environmental measures to be incorporated within the development design will be written by a suitably qualified ecologist. This will provide a detailed specification of the habitats to be created, together with a programme of works. The long term management of the existing and newly created habitats will be detailed in a in a habitat management plan.
- 1.6.37 Dust, light, noise and pollution abatement strategies will also be included within the proposed development design and the construction environmental management plan. Where appropriate, the necessary applications to Natural England for development licences in respect of legally protected species will be made.
- 1.6.38 Through the adoption of theses measures it is concluded that the proposed development will not have a significant effect on the ecological receptors that the Site supports. The creation of areas of woodland and a mosaic of habitats within existing areas of amenity grassland represent 'gains' to biodiversity. Furthermore, it is proposed that a central area of woody scrub in which a dormouse nest was found, is reconnected to the surrounding plantation woodland via a mixture of additional planting and through the installation of arboreal ropes, linking the canopies. These measures are likely to safeguard the future of the existing but vulnerable population of dormouse on-site, and as such positive effects on the local conservation status of this species are likely.

## Water resources

- 1.6.39 There are ditches running throughout the Graven Hill Site and C Site, which drain into adjacent watercourses - the Langford Brook and other tributaries of the River Ray in



the case of Graven Hill, and directly to the River Ray in the case of C Site. During construction measures will be implemented by the contractor to limit the likelihood of polluted run-off reaching local watercourses, for example by containing chemicals in a bunded area which will prevent any spillages escaping into local watercourses. The proposed development design includes a Sustainable Drainage System. This will include features which will also help to minimise effects on water quality from surface water run-off from the proposed development. For example, permeable paving and attenuation ponds on both Sites will allow sediments to settle before run-off reaches watercourses. As a consequence of these measures, significant effects on water quality from redevelopment at either Site are unlikely.

- 1.6.40 The Graven Hill Site is at present a mixture of brownfield and greenfield land whilst C Site is largely brownfield land. The proposed development will result in more intensive development and the area of impermeable surfaces (such as buildings, roads and pavements) will increase thereby increasing the amount of water that runs-off these areas. To avoid this resulting in any increase in flooding, both on and off the Sites, computer modelling work has been used to determine the amount of water running off the Sites for different amounts of flooding once each Site has been developed and then identify the amount of storage required to store run-off from the Site so that the amount water draining from the Site is below existing levels. The design of the development has incorporated several measures at both Sites which will store and slowly release water back to local watercourses, mimicking the natural greenfield run-off patterns. Other measures such as permeable surfaces are included in the design to allow water to infiltrate into the ground and slow down the rate at which it reaches local watercourses.
- 1.6.41 Finally, as various larger watercourses and their floodplains are located next to the Sites, there is a risk that the new properties within the development could be at risk of flooding. To minimise this risk, built development will be located in those areas of each Site at least risk of flooding. In addition, at Graven Hill floor levels of buildings will be raised slightly as a precautionary measure to also minimise flooding risk.

### Land quality

- 1.6.42 The construction works have been designed to ensure that soils are removed, stored and protected so that the risk of contamination from construction activities is minimised, and the physical characteristics of the soils, such as drainage properties, are maintained. The studies have shown that where contamination is likely to be present at the Sites it is localised and present in 'hotspots' on each Site (for example hydrocarbons around fuel tanks) and does not present risks across each site as a whole. Prior to construction work taking place additional investigation of these hotspots will be undertaken. This contamination will be treated to ensure that the affected land is suitable for its end use. As a result of the various measures that have been adopted, there are not likely to be any significant effects in relation to land quality.

### Conclusions

- 1.6.43 The assessment has shown that the following **significant positive effects** are likely.



- Effects on existing and new residents within the ward or surrounding local area as a result of the provision of open space (for recreation). Graven Hill will provide 65.7ha of public open space which is nearly four times that required by planning policy and more than five times the current provision within Cherwell (hectares per 1,000 population).
- Effects on existing and new residents within the ward or surrounding local area as a result of the provision of affordable homes. Graven Hill will comprise up to 30% affordable housing giving a total of 570 affordable homes.
- Effects on existing and new residents within the ward or surrounding local area and the local economy due to an increase in the available number of jobs during construction and operation of both sites as well as increased labour supply from the presence of new residents at Graven Hill. During construction the proposed development will create approximately 28 full time jobs per year at Graven Hill and 143 full time jobs per year at C Site. Graven Hill is predicted to directly generate 2,070 jobs within the Ambrosden and Chesterton ward. If some home working is assumed to occur amongst the development's residents, this could increase the figure to a total of 2,221 direct jobs. 'Multiplier' effects are also likely to indirectly create further jobs. In addition, 200 jobs will be created at C Site. At Graven Hill it is predicted that there will be some 3,340 people of working age (16-64) which will translate into a labour supply of some 2,892 people.
- Effects on people's views from local properties and Public Rights of Way within and close to both Sites will occur once planting that will take place at both sites has matured. This will screen views of both sites in the long term and improve views from those currently experienced in the local area.

1.6.44 The assessment has shown that the following **significant negative effects** are likely.

- Potential short-term noise effects on residents on Ploughley Road (up to Ambrosden) and Palmer Avenue during the period 05:00-06:00hrs. This is due to traffic associated with travelling to C Site for the morning shift changeover and is predicted to result in an audible increase in road traffic noise.
- Potential effects on landscape character, patterns and elements during the 13 year construction period at Graven Hill. The presence of temporary features and construction activities over the duration of the construction period will have a significant negative effect on the landscape.
- Potential effects on people's views from local properties and Public Rights of Way within and close to both sites during construction and the initial phases of the development once complete, prior to new landscape planting maturing.

## 1.7 What happens next?

1.7.1 Prior to determining the planning application, the Council will seek advice from the Environment Agency, Natural England and other organisations. Members of the public will also be able to comment on the planning application. The normal period for determining a planning application such as this is 16 weeks.



## 1.8 Where can more information be found?

- 1.8.1 The Environmental Statement can be viewed at the Cherwell District Council's offices:

Bodicote House  
Bodicote  
Banbury  
OX15 4AA

Tel: 01295 227006

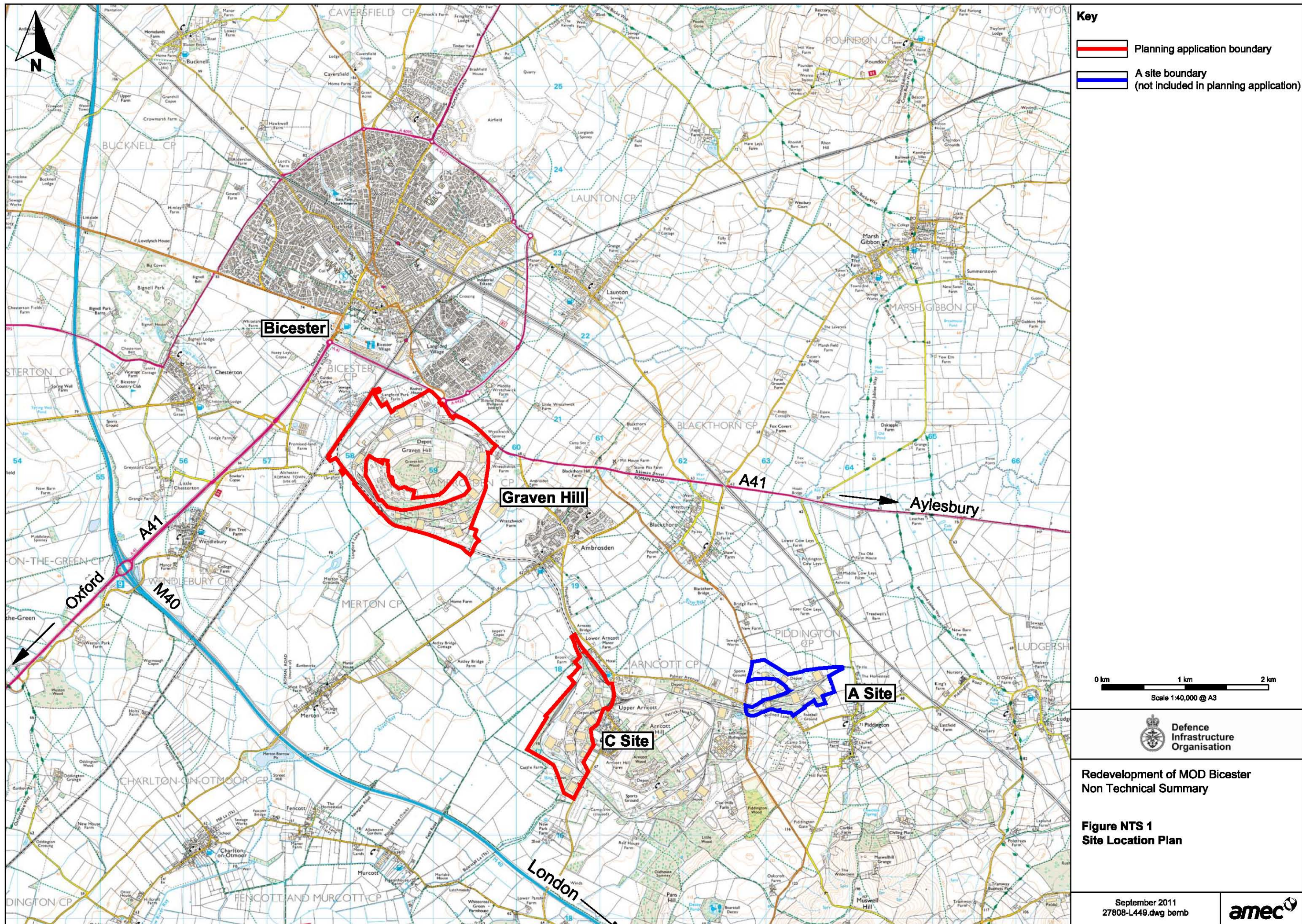
Email: [planning@cherwell-dc.gov.uk](mailto:planning@cherwell-dc.gov.uk)

Website: [www.cherwell.gov.uk](http://www.cherwell.gov.uk)

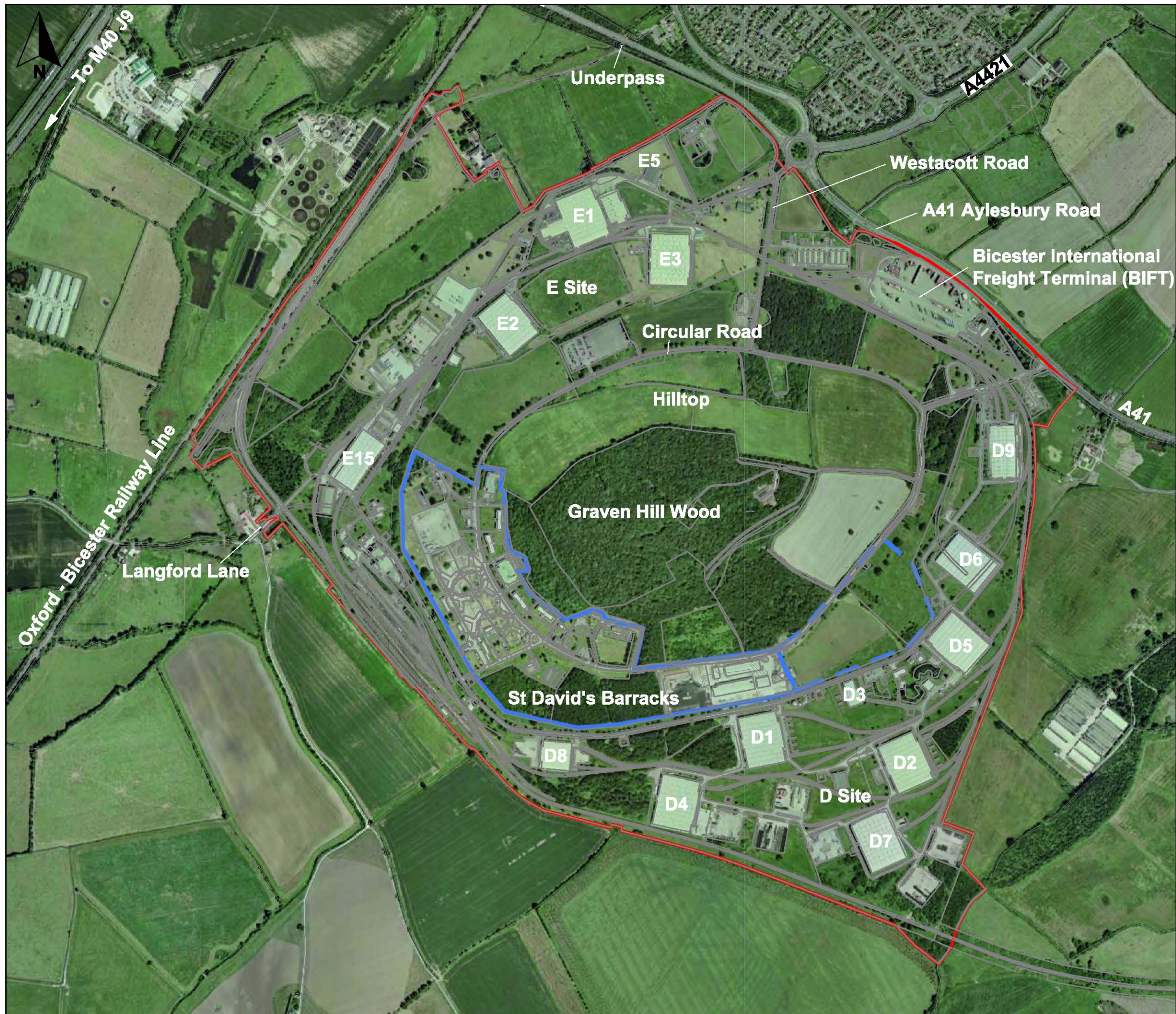
- 1.8.2 Further information about the overall project can be found on [www.gravenhill.info](http://www.gravenhill.info)














**Key**

-  Site boundary
-  Retained St David's Barracks
-  Future expansion area

0 m  500 m  
Scale @ A3



Redevelopment of MOD Bicester  
Non Technical Summary

**Figure NTS 2**  
**Graven Hill Site Plan**

September 2011  
27808-L450.dwg bernb







# Key

 Site boundary



Defence  
Infrastructure  
Organisation

Redevelopment of MOD Bicester  
Non Technical Summary

**Figure NTS 3**  
**C Site - Site Plan**

0 m  500 m

September 2011  
27808-L451.dwg bamb







Key		
	Residential	55.4ha
	3FE Primary School	3.4ha
	Hotel / Pub / Restaurant	1.5ha
	Community Hall	0.4ha
	Supermarket	0.6ha
	Local Shops	0.8ha
	Offices	0.6ha
	Light Ind. (B2)	5.7ha
	Storage (B8)	18.6ha
	Public Open Space	29.6ha
	Woodland / Buffer	64.8ha
	Amenity Grassland	9.9ha
	Allotments	4.0ha
	Energy Use	0.9ha
	St Davids Barracks	30.0ha
	Peripheral Road	3.7ha
	Rail Infrastructure	10.0ha
	Total Area	207.23ha

Approx. 1,900 dwellings at 34 dph  
(Internal road infrastructure  
included within land use areas)



Redevelopment of MoD Bicester  
Non Technical Summary

**Figure NTS 4**  
**Graven Hill Land Use Plan**





Redevelopment of MOD Bicester  
Non Technical Summary

**Figure NTS 5**  
**Graven Hill Masterplan**

September 2011  
27808-L453.dwg. bemb







**Key**

- |                            |                                       |                           |
|----------------------------|---------------------------------------|---------------------------|
| Site boundary (83.3ha)     | Existing railway retained             | Proposed tree planting    |
| Employment                 | Proposed railway                      | Trees to be removed       |
| Existing building retained | New main entrance guardhouse position | Re-aligned Security Fence |
| buildings to be demolished | Swale drainage system                 | Section lines             |
| Open space                 | Pond                                  |                           |
| Woodland/screening         |                                       |                           |
| Hardstanding               |                                       |                           |



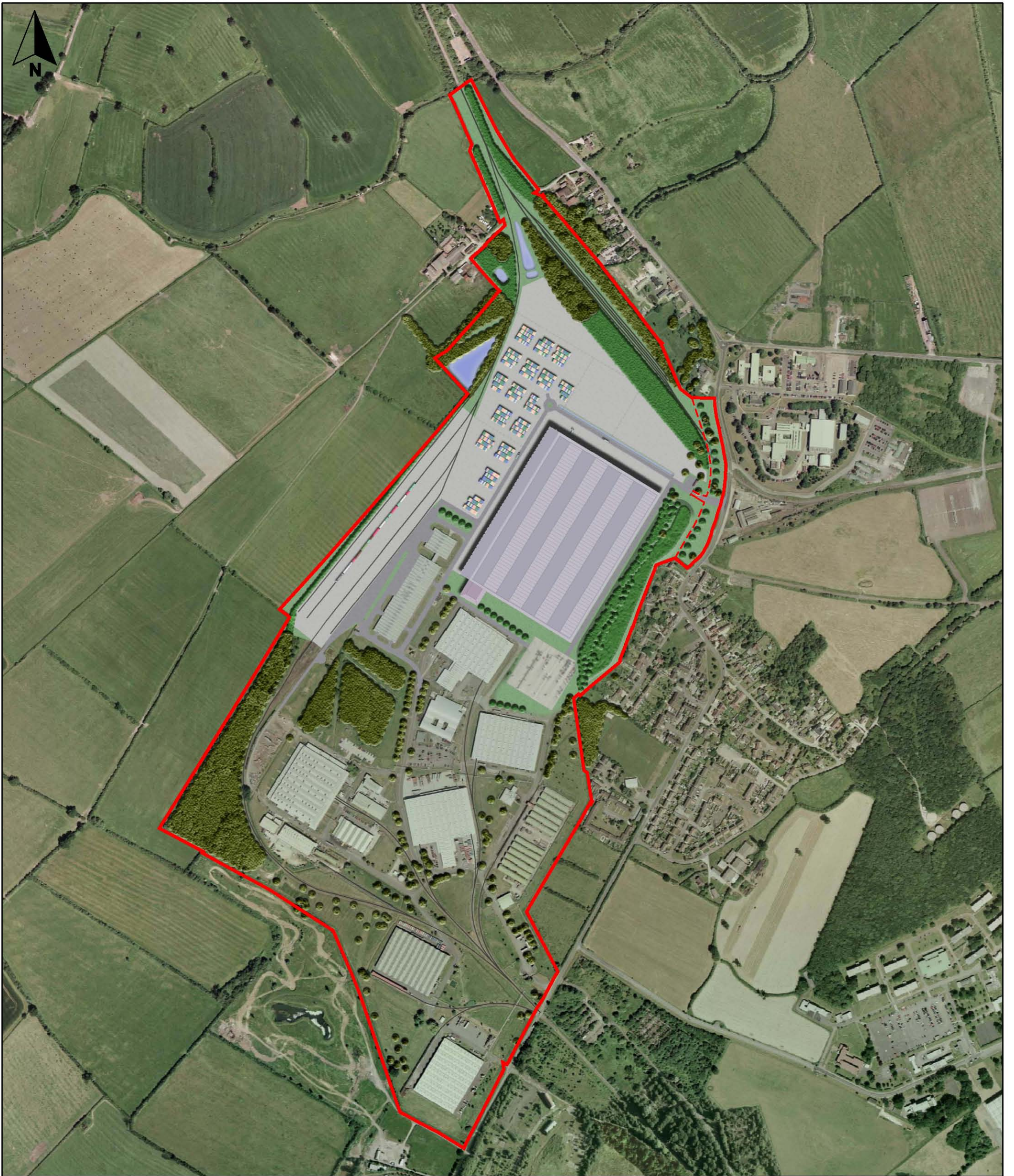
**Redevelopment of MOD Bicester  
Non Technical Summary**

**Figure NTS 6  
C Site Land Use Plan**


September 2011  
27808-L454.dwg bernb







**Key**

 Site boundary (83.3ha)



Redevelopment of MOD Bicester  
Non Technical Summary

**Figure NTS 7**  
**C Site Masterplan**

0 m  500 m

September 2011  
27808-L455.dwg bamb

