

Chapter 3 The proposals

Introduction

- 3.1 This chapter describes the development proposals in detail with reference to the layout of the master plan, the design of the development and size of facilities proposed. Information is provided on the proposed residential development, education facilities, open space and amenity provision, local centre (including, retail, employment land, pub, and community centre), medical facilities and hotel. Consideration has also been given to the highways and access proposals, the landscape strategy, drainage strategy and the provision of services to the site.
- 3.2 The alternatives considered during the EIA process are described in this chapter and information is included on the construction and post-construction periods.

The master plan

- 3.3 Figure 3.1 shows the site layout of the development proposals. This master plan is fixed and has been used for the EIA assessment of potential effects.
- 3.4 The proposals comprise:
- up to 1,585 residential dwellings, 30% of which will be affordable
 - 2 ha of employment land to be located in the north-east of the site, with a further 1000m² within the local centre
 - outdoor playing space including formal outdoor sports, sports pavilion and changing facilities, children's play areas and informal open space
 - a primary school and land for a second primary school
 - land for a secondary school
 - a local centre including a community centre, and land reserved for a children's day nursery, retail area, a family- friendly pub and office space
 - 1ha reserved for a hotel
 - a safeguarded site for a health village, **which will include a nursing home** and could include a community hospital, GP surgery and complementary uses, which will revert to employment uses if not taken up
 - a perimeter road and junction improvements
 - access to a potential site for park and ride (potential site outside application boundary).
- 3.5 The development will generally be two, three or four storeys. The maximum height of the proposed development is shown on figure 3.2.

Residential development

- 3.6 Countryside Properties proposes to develop up to 1,585 residential dwellings at Bicester. A variety of house types and tenures across the site is proposed, which will help to ensure that a mixed community is delivered. These will include apartments as well as two, three, four and five bed-houses. Flexible building types will be provided where appropriate to allow the neighbourhood to change and adapt to social and economic pressures over time.

- 3.7 Of the new housing developed, 30% will be affordable. The size of the units and the range of tenure will be agreed with the two nominated housing associations.
- 3.8 In order to make efficient use of land, the site will be developed at an average density of 34 dwellings per hectare. Densities will vary throughout the development, with higher density (e.g. 40–45 dwellings per hectare) applied where appropriate, such as adjacent to the local centre, along the main public transport spines and close to the town centre. This will maximise potential for walking and cycling into town and the local centre, thereby reducing car use and allow for areas of lower densities (e.g. 30-35 dwellings per hectare) to be located in the outlying areas, particularly the countryside edge. The building density plan is included as figure 3.2a.
- 3.9 The layout of the new development considers the character of Chesterton and Bicester and the variety and detail of built form in both places.
- 3.10 Land to the west of the proposed residential development, north of the proposed perimeter road will remain in agricultural use at this time. However, Countryside is concerned with planning sensitivity for the longer-term. As such, land to the west of the current planning application and north of the proposed perimeter road is likely to be promoted for further residential development through the planning policy system (i.e. Cherwell's Local Development Framework). This will optimise the use of the proposed investment in social and physical infrastructure currently envisaged as part of this application, and add to the sustainability credentials of this new community. Land south of the proposed perimeter road will remain as open countryside providing the long term limits of Bicester and permanent buffer between the town and Chesterton.

Education

Primary schools

- 3.11 Provision will be made for two primary schools on-site to serve the local community. A primary school of up to 2.47 hectares will form part of the local centre and have a capacity for 420 pupils in a dual class entry system. Land for a second primary school (approximately 1.31 ha for 210 pupils) will be provided to the west of the development. Both primary schools will be highly accessible by bus.

Secondary school

- 3.12 Land for a secondary school will be provided on-site, incorporating an area of up to 3.14 ha of buildings and hardstanding. The school will share sports pitches and facilities on the formal open space. The secondary school will be accessible by bus and could cater for 850 pupils.

Open space and amenity provision

Formal sports provision

- 3.13 The development will include 17.29 hectares of formal sports provision. Ten hectares is to make up the existing deficiency in the town and meet the needs for the planned growth of Bicester. Six hectares provides for the development proposal.

- 3.14 A mix of facilities will be provided **that could** include senior football pitches, senior rugby pitches, plus pitches for junior use, cricket pitch, athletics facility, a bowls facility and tennis provision. Details of **type** and layout **will** to be confirmed **by Cherwell District Council after public consultation and** at a future detailed stage.

Sports pavilion and changing facilities

- 3.15 A **sports pavilion**, changing facilities and parking area will be provided on-site **adjacent to the playing fields**. This will support the six hectares of formal sports provision required for the development proposal.

Children's play space

- 3.16 Children's play areas of varying sizes and layouts will be provided to comply with National Playing Fields Association (NPFA) and Sport England requirements and in accordance with local requirements. Specific locations and layouts will be identified in more detail at a later stage in negotiations with the **council, however the proposed locations for neighbourhood and local equipped areas of play (NEAP and LEAPs) are shown in figure 3.2b.**

Informal open space

- 3.17 There will also be a number of areas of informal open space **provided throughout the application site, including land around Pingle Brook, a greenway through the site and the existing woodland belts**, as shown on the master plan.

The local centre

- 3.18 The mixed use local centre is proposed to provide a range of facilities to support the proposed neighbourhood including:
- up to 1.6ha of land for retail units with parking and dwellings above, 1000 sqm of employment land, children's day nursery, and a family-friendly public house with parking, within the local centre
 - a community centre within the local centre.
- 3.19 The local centre will combine facilities such as the shops, community and health facilities to enable trips to be linked to minimise the need for travel. It will also bring together all uses with potentially high activity levels to ensure that a busy, vibrant centre can survive.
- 3.20 The local centre will be located at the intersection of main routes through the development so that the facilities can benefit from capturing the 'passing trade' potential of people travelling by car and bus. In order to achieve a high level of accessibility by high quality public transport, it is proposed to divert existing bus services through the local centre. The local centre will also be highly accessible by pedestrians and cyclists and is within 5 minutes' walking distance of the proposed residential areas.
- 3.21 The location of the local centre has avoided too much overlap with the walking catchments of other local shops, especially at Shakespeare Drive, Kings Croft and those in the town centre.

Hotel

- 3.22 An area of 1 ha has been reserved for the provision of a hotel (approximately 100 beds) as shown on the master plan. The hotel will be located adjacent to the employment land on the eastern boundary, close to the new access from the A41.

Health village

- 3.23 2.69 hectares of land in the north-east of the site has been reserved for health and employment uses. A health village has been proposed and will include a nursing home and could include a community hospital, GP surgery, diagnostic clinic and medical centre. This area will revert to employment uses if the health option is not taken up.

Highways and access

Key roads and access

- 3.24 Additional road infrastructure will be required to deliver the proposed development, the most significant of which will be a new connection between the A41 and the B4030. This is known as the perimeter road and will seek to reduce the amount of through traffic using the Middleton Stoney Road and Queens Avenue through the town centre.
- 3.25 The overall vehicular access strategy for the development is shown on figure 3.1. The access strategy has been designed not only to ensure that it does not prejudice future development in south-west Bicester, but also to bring forward infrastructure that is needed to enable the comprehensive development of the area.
- 3.26 For a development of 1,585 homes it is appropriate that there should be several road connections to the primary road network. In order to reduce the need for people to rely on a limited point of access, or needing to adopt overly circuitous routes to reach the external road network, road links are spaced around the site.
- 3.27 The main vehicular access from the A41 Oxford Road to the proposed development will be provided by a new four-arm roundabout. This will be coupled with the closure of the slip roads for the existing grade separated junction, which currently provides access to Chesterton. Access to Chesterton will be provided from the new roundabout, the eastern arm of which will link to the existing unclassified road to the east of the A41 Oxford Road. The new arrangements for access to Chesterton from the A41 Oxford Road, coupled with the new perimeter road, are likely to reduce existing rat-running movements through Chesterton.
- 3.28 It is proposed to reduce the speed limit of the A41 Oxford Road to 40 mph to the north of the proposed access roundabout. This measure will improve safety for drivers along this corridor and, in particular, help reduce the occurrence of shunt type accidents at the A41 Esso Roundabout.
- 3.29 Secondary accesses will be provided via a new signalised junction off the A41 Oxford Road, a new priority junction and a new roundabout on Middleton Stoney Road and a further roundabout onto the proposed perimeter road. These access roads and junctions will

be designed to the relevant county and national standards and will be appropriate for the forecast flows.

- 3.30 The access junction toward the eastern end of Middleton Stoney Road, although connecting with the main part of the development, is intended primarily to serve the 100 dwellings located north of Pingle Brook. Traffic from the main part of the site will be discouraged as the link between the main development and these 100 dwellings will be designed to be of the lower end of the hierarchy, for instance narrow roads with footways, shared surfaces or home zones with design speeds of 10 and 20 mph. The link will not directly connect to either a spine street, the routes designed to accommodate the main vehicle movements through and within the development, or a secondary level street, which will connect to the development areas. These measures will ensure that this is not an attractive alternative in terms of journey time for the majority of residents.
- 3.31 The alignment of the perimeter road has been considered on the basis of a design speed of 50mph with the objectives of:
- connecting to the proposed A41 roundabout which has been carefully located at a safe distance from the Chestern/Wendlebury junction and proposed and existing junctions further north on the A41 providing adequate land to the west of the A41 can be utilised as a future park and ride facility
 - closely following the topography of the site to help assimilate with the landform
 - taking account of sensitive views in and around Chesterton, Whitelands Farm and the new development
 - aligning with existing hedgerows, copses and trees to fit within the landscape
 - minimising potential noise and light pollution
 - enabling a conventional T-junction to be constructed between the realigned A4095 and the perimeter road
 - connecting to Howes Lane with a straight alignment to enable a conventional roundabout junction with Middleton Stoney Road to be constructed.
- 3.32 At the north-western end, the proposed implementation of the perimeter road requires the realignment of the existing A4095 towards Chesterton and a roundabout at the Middleton Stoney Road / Howes Lane junction. The existing road north of the new junction Middleton Stoney Road will be a bus only link, with pedestrian and cycleway access. Cars travelling in both directions and buses travelling south will use the north-western section of the perimeter road.
- 3.33 Access to Whitelands Farm house and building complex will continue along the existing access from Middleton Stoney Road, until the spine road through the development is constructed. At that point, access to the building complex will be via the spine road from Middleton Stoney Road and then down the existing access. The detail of how this will be accommodated will be considered as a reserved matter as part of the design of the greenway.
- 3.34 Access to the remaining agricultural land to the north of the proposed perimeter road will be directly from Whitelands Farm, as it is at present. Access to agricultural land south of the proposed perimeter road will be from the existing farm access on Chesterton Road and a new proposed access off the perimeter road indicated on the master plan near the northern

public right of way, entitled on the key as 'new access to existing agricultural land'. The detail of this is reserved for future consideration.

Internal road network

- 3.35 The layout of the proposed development will be carefully designed to accommodate, but not encourage, the use of the private car. The proposed internal street network will consist of routes designed to accommodate the main vehicle movements through and within the development. These 'spine streets' will not be designed to provide a high capacity route, as the intention is to create a conventional street pattern whereby motorists have a choice of routes that are shared with other users of the development. They will also be subject to conventional features including frontage accesses, traffic signals and pedestrian crossings. This will ensure that these roads do not dominate the area and become an obstruction to movement by other modes.
- 3.36 The 'spine streets' will provide appropriate vehicle access to the local centre and employment use. They will be able to accommodate buses and heavy goods vehicles in order that buses can move with ease around the site and commercial uses can be serviced efficiently.
- 3.37 The 'spine streets' will need to be supported by a secondary level of linking to the development areas. Within the residential areas, the remaining vehicular movements will be accommodated by a series of minor streets. These are generally designed as narrow roads with footways or shared surfaces. Movement on foot and cycle will therefore be encouraged. However, they will also permit vehicle access into the development areas.
- 3.38 The design speed of the 'spine streets' will be 30mph, but the detailed alignment design and street layout will contain traffic speeds to 20mph. Similarly, the minor streets and shared surfaces will be limited speeds of 10mph and 20mph as appropriate.

Footpaths and cycleways

- 3.39 The layout of the proposed development has been designed to facilitate easy movement by foot and cycle. The objective has been to provide a principal network of footways and cycleways, some of these alongside roads or shared with vehicles. Traffic speeds within the development will be controlled accordingly in order to provide a safe environment for pedestrians and cyclists.
- 3.40 The routes for the strategic pedestrian and cycle network have been carefully considered in response to the disposition of land uses and identification of the key desire lines for movements within the proposed development. This ensures that foot and cycle journeys to the major destinations within the development, such as the local centre and schools, can be undertaken directly and comfortably. Pedestrian and cycle routes will be designed in accordance with national design guidance ensuring that good quality routes are provided which are both conspicuous and convenient.
- 3.41 Land to the west of the proposed residential development, north of the proposed link road will remain in agricultural use at this time. However, Countryside is concerned with planning sensitively for the longer-term. As such, land to the west of the current planning application and north of the proposed link road is likely to be promoted for further

residential development through the planning policy system (i.e. Cherwell's Local Development Framework). This will optimise the use of the proposed investment in social and physical infrastructure currently envisaged as part of this application, and add to the sustainability credentials of this new community. Land south of the proposed perimeter road will remain as open countryside, and possibly used as a country park, providing the long-term limits of Bicester and a permanent buffer between the town and Chesterton.

- 3.42 Secure cycle parking and storage facilities will be incorporated into the residential areas, local centre and employment areas. In this regard, cycle parking will be provided in accordance with Cherwell's Non-Statutory Local Plan cycle parking standards.
- 3.43 The existing public rights of way within the site are to be retained. Indeed, where appropriate, enhancements will be made to the existing provision. The pedestrian and cycle routes within the site have been designed to link into the wider pedestrian / cycle and public rights of way networks and, as a result, the quality of journeys by non-car modes will be upgraded providing improved accessibility and encouraging new users.
- 3.44 The pedestrian footpaths and cycleways will be designed to link to the existing and proposed facilities along the A41 Oxford Road, Middleton Stoney Road, Howes Lane and toward Bicester town centre via Pingle Drive and King's End from south west Bicester. The development proposals include the provision of improved crossing facilities along the A41 and Middleton Stoney Road corridors. These measures will ensure the development is fully integrated into Bicester.
- 3.45 The development will open up new 'green routes' that link open spaces, watercourses and woodland areas. This will provide attractive leisure routes through the areas and should complement the street network but not replace it. Segregated cycle routes will also be provided for leisure routes. Footpaths and cycleways will link the development to the surrounding countryside and Chesterton.

Public transport strategy

- 3.46 In determining the public transport strategy for the proposed development, a review has been undertaken of the potential opportunities to extend the bus network into the site. The recommended strategy involves the diversion of the existing service 22 / 23 through the proposed development. This could achieve a 20 minute frequency throughout the day with only one additional vehicle. Further discussions are needed with the operator and Oxfordshire County Council in order to determine the optimum strategy for diverting this service.
- 3.47 Bus access to the proposed development will be from Middleton Stoney Road with a loop through the site via the local centre to the A41 Oxford Road. Bus stops will be provided at appropriate locations through the development, in particular at the local centre.
- 3.48 The development proposals will also ensure convenient access to the existing bus services that operate along the A41 Oxford Road corridor. This proposed strategy will ensure the majority of residents and occupiers within the proposed development are located within a 400m walking distance of frequent, high quality bus services.

Parking strategy

- 3.49 The parking strategy for the proposed development will need to provide a balance whereby the development is vibrant and commercially successful, but excessive parking provision does not encourage the use of the car for short or regular trips. Maximum parking standards are proposed.
- 3.50 Residential parking throughout the development will be allocated either within the curtilage or close to each group of dwellings wherever possible. In order to ensure that parking does not become an overly-dominant feature of the development, consideration will be given to providing the spaces as on-street parking where the proposed internal road layout allows.
- 3.51 In accordance with Cherwell's standards, there may be cases where reduced parking provision may be promoted. For example, studies show that car ownership amongst residents of affordable housing is typically one third lower than for market housing. Therefore, reduced parking provision in line with the lower car ownership levels could be promoted for some of the affordable housing elements of the residential development. However, depending on the nature and tenure of the dwellings, there may be instances where no reduction will be made.
- 3.52 Similarly, it may be appropriate to apply a reduced parking standard to some of the dwellings that lie closer to the bus route running through the site or along the A41 Oxford Road corridor in order to reflect the higher non-car accessibility that these residents will enjoy.
- 3.53 The local centre will enjoy a high level of public accessibility. It is therefore important to balance the need for parking spaces with the promotion of non-car trips. The application of the appropriate reductions to Cherwell District parking standards will help to achieve the aspiration of reduced car use, although it is important that the attractiveness of commercial opportunities to potential businesses is not inhibited, thereby helping to ensure the local centre flourishes from the outset. Parking for the commercial uses within the local centre will be allocated to each respective business wherever possible.
- 3.54 Therefore, it is proposed to adopt a flexible approach to parking in order to recognise that the commercial success and viability of these uses may require higher levels of parking for certain types of business users. However, it is envisaged that the overall level of parking that will be provided for these uses will ensure that the development acts to discourage travel by the private car.

Access to a park and ride

- 3.55 A site for a possible future park and ride facility of 2ha (outside the application boundary) has been identified to the south of the junction with the A41. It will be accessed from the perimeter road, via the new A41 roundabout. **The roundabout has been designed to accommodate a new arm to access a possible park and ride facility, if this is required in the future.**

Landscape strategy

- 3.56 Within the site there are **four** copses. The most significant is Foxey Leys Copse situated south east of Whitelands Farm. Numerous mature native trees can be found within the hedgerows and the land around Whitelands Farm. The majority of trees are native indigenous species.
- 3.57 The proposals are to complement the wider landscape by using green links through the site to connect adjacent green areas to the east and west. Using existing hedged alignments green routes will be created linking the existing and new communities with new open spaces, schools and recreational areas. All buffer planting zones are to be planted with native indigenous plant species. **The tree removal and retention plan is included as figure 3.2c.**
- 3.58 Views from the surrounding areas have assisted in formulating the positioning of the perimeter road and the key development elements. Special consideration respecting views of Chesterton has been made.
- 3.59 The **four** copses within the site are to be retained and maintained. All the copses are to be maintained with under-storey species thinning to encourage biodiversity. Where considered appropriate and viable, all mature trees will be retained and enhanced with new tree planting.
- 3.60 Wherever possible, hedgerows will be retained and enhanced. However, where necessary, sections of hedgerow can be removed without significant impact. Retained hedgerows should be positive design features, fronted onto by development.

Drainage strategy

- 3.61 A formal sustainable drainage system (SUDS) is proposed for the surface water discharge from the site. This strategy will be developed in accordance with the Environment Agency's Best Management Practice (BMPs) for dealing with surface water run-off. A series of measures are proposed ranging from local source control to area measures such as swales, to outfall attenuation features such as ponds. These measures aim to provide water quality improvements as well as maintain the natural greenfield run-off regime.
- 3.62 Surface water attenuation can be achieved using wet or dry ponds. Wet ponds are designed to contain water at all times and can be utilised as a visual or recreational amenity. During periods of heavy rainfall an additional volume of water can be stored in the pond. Dry ponds are only utilised during periods of heavy rainfall and can therefore be used for dry recreational activities at other times. **Four** wet ponds are proposed. These will be designed for a 1 in 100 year storm event plus 20% storage by volume in line with Environment Agency requirements and Planning Policy Guidance Note 25. A storage volume of 22,000 m³ will be provided through these ponds. **Three** of these ponds are located in the north-west of the site near Middleton Stoney Road, discharging to Pingle Brook, and one in the south-east corner of the site, adjacent to the A41 and east of Whitelands Farm. This will discharge to an unnamed watercourse.

- 3.63 The impermeable site areas will be drained via a positive piped gravity system to the balancing ponds. These in turn will drain via ditch watercourses to the relevant outfall watercourses.
- 3.64 It may be necessary to provide light liquid separators on the car park drainage within the site. However, if SUDS features such as swales or permeable pavements are used, separators may not be needed. The Environment Agency has advised that no special additional 'anti-pollution' measures will be required with respect to groundwater protection where residential and non-manufacturing business units and facilities are to be constructed.
- 3.65 It has been demonstrated in the Highfields Estate that the Cornbrash and Forest Marble substrates have sufficient infiltration rates to permit soakaways to be used on the higher (north-western) side of the site. Therefore in addition to the ponds, the introduction of permeable pavements with associated sub-surface storage and infiltration layers will attenuate flows from hard landscaped areas.

Service provision

- 3.66 The key services and service providers at the site are:
- electricity supply – Scottish and Southern Energy plc
 - foul and surface water drainage, potable water - Thames Water Utilities (TWU)
 - gas supply – Southern Gas Networks Ltd.
 - telecommunications – BT and Telewest Broadband
 - highway drainage - Oxfordshire County Council.

Existing foul water drainage

- 3.67 Records received from TWU indicate that there are no adopted foul water sewers located within the site. Whitelands Farm has septic tanks serving both the farm complex and the cottages.
- 3.68 The main Bicester sewage treatment works is located approximately 500m east of the site on the east side of Oxford Road. There is capacity at this works to serve the proposed development. A new sewer will be needed to connect the development to the sewage treatment works. It may be necessary for the lower southern parts of the site to be served by a sewage pumping station. It is expected that a gravity connection can be made for the majority of the site.

Electricity supply

- 3.69 Overhead electricity distribution lines (33kV) are evident passing across the north-east corner of the site; these loosely follow the southern bank of the Pingle Brook. These power cables will be diverted as a result of the development and placed into a ducted cable route along the A41, Oxford Road and Middleton Stoney Road. There are also 11kV overhead power lines on the west side of site.
- 3.70 The provision of electrical services to the new development will involve a number of 11kV distribution sub stations and a primary sub-station if gas heating is not used.

Gas supplies

- 3.71 Whitelands Farm and the cottages do not have a gas supply and rely on fuel oil and electricity for heating purposes. Southern Gas Networks Ltd. records have been obtained and they indicate medium pressure trunk mains in the public highways to the north and east of the site. This is capable of supporting the additional potential demand arising from the development.

Potable water

- 3.72 The water supply for Whitelands Farm is extracted from a borehole within the site. The farm has a large water tower for potable water storage. TWU's service record plans indicate water mains within all the roads surrounding the site boundary.
- 3.73 TWU has confirmed that there is sufficient bulk water supply to the Bicester area to support this development.

Telecommunications

- 3.74 British Telecom (BT) has supplied existing plant information, which indicates cable routes along the A41, Oxford Road serving various developments along the road. Whitelands Farm has a dedicated over ground service which spurs off the A41 trunk route and passes up the south verge of Middleton Stoney Road before following the farm road through to the cottages and farm. This network can be expanded to serve the new development.
- 3.75 Telewest Broadband has been consulted as to their existing plant in the area. They confirm that the development will have no effect on their existing network and that no strategic additions are envisaged as a result. Elements of this network are built in response to customer orders and there is potential to expand this service to meet the needs of the development.

Alternatives

- 3.76 Schedule 4 of the EIA Regulations sets out the information for inclusion in an ES. Part II of schedule 4 defines the information that must be provided which indicates:

'An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.'

- 3.77 Paragraph 83 of the DETR Environmental Impact Assessment Circular 02/99 provides further guidance and states that:

'Where alternative approaches to development have been considered, paragraph 4 of part II of Schedule 4 requires the developer to include in the ES an outline of the main ones, and the main reasons for his choice.'

- 3.78 Therefore, where alternatives have been studied during the EIA process, these should be described in the ES.

Alternative sites

- 3.79 The site is identified in the Cherwell Local Plan 2011 Revised Deposit Draft (July 2004) for mixed use development (figure 3.3) and the site's location is supported by national, county and regional policy. No alternative sites were examined by the applicant; hence no details have been reported in the ES.

The design of the master plan

- 3.80 The proposals were developed with the involvement and participation of the local community, including members and officers of the local authorities, representatives of local interest groups and the wider public. A number of events were held in June and July 2005. The results of these sessions were used during the early stages of the master plan design.
- 3.81 Discussions have also been held with Cherwell District Council with respect to the design of the site. Policy H13 of the Cherwell Non Statutory Local Plan 2011 sets out a development mix for the allocation and this has guided the proposals for the site. No alternative land use mix was considered in the master plan design.
- 3.82 The local plan includes a potential site layout for the development, as shown on the extract included as figure 3.3. This layout has not been used during the design of the master plan, which involved working from first principles in accordance with best practice, carrying out detailed site evaluation and appraisal work and consultation with the local community. Further details of the design process are included in the design and access statement submitted in support of the planning application. However, at the end of the design work, the two schemes were compared. The main alternatives considered were the alignment and design of the perimeter road and the location of the local centre.
- 3.83 Following the on site archaeological investigations and further discussions with Cherwell District Council and the Oxford County Council Archaeologist, amendments were made to submitted master plan. The environmental assessment has been reviewed in light of these changes. This ES sets out the changes and amended/updated environmental assessment.

The alignment and design of the perimeter road

- 3.84 The perimeter road is located further south than the proposed route shown on the local plan proposals map. There are two reasons for this. It minimises the impact of the road in landscape and visual terms, and it ensures that the Whitelands Farm land holding remains a viable agricultural business, albeit with a smaller farm area.
- 3.85 The alignment for the perimeter road has been designed with consideration to the topography and landscape features of the site. South of Whitelands Farm the land falls noticeably down to Gagle Brook. The alignment of the road is set back from an existing ridge or 'shoulder' of land, and sections follow key hedgerows on-site. Both of these factors help to minimise the visual impact of the road and this is a key advantage of the proposed alignment. The setting of Whitelands Farm and the new development edge are also significantly enhanced.
- 3.86 A further advantage is that the proposed alignment of the road ensures fields are crossed either along the boundaries or through the middle thereby ensuring that the field parcels

remain a viable size. A number of fields have been retained around the Whitelands Farm complex to allow ease of access to these areas. This will minimise the disruption caused to farm operations by the new road. A suitable crossing is proposed to ensure farm vehicles can cross the new perimeter road safely to access the remaining fields associated with the farm holding.

- 3.87 A potential disadvantage of the proposed alignment is that it is closer to Chesterton than the option set out on the local plan proposals map. However, the alignment of the road has been carefully designed to respect the setting of Chesterton and to make the best use of the existing vegetation and site contours to ensure a good fit in the landscape **and reduce its visibility in views from the south. As part of the landscape assessment, it was concluded that** the alignment of the road is a significant improvement to that proposed in the local plan proposals map. A further issue for consideration is the potential noise generated by traffic travelling along the perimeter road. The noise assessment has concluded that traffic noise from the perimeter road will not **significantly increase the future noise levels predicted for 2014 ‘without proposals’ at the residents properties in Chesterton.**
- 3.88 In order to limit the visual impact of the road further, no lighting is proposed along the **majority of the** road, however, the junctions **and approximately 100 metres of road** will be lit. The perimeter road has been designed for a 50 mph speed limit. This **limit was used following advice from the highway authority.**

Location of the local centre

- 3.89 The site is located immediately south of the existing residential areas of Bicester. There are a number of local neighbourhood centres in the housing area north of Middleton Stoney Road and some of these are within walking distance of the northern area of the proposed residential development area.
- 3.90 A key advantage of the proposed location of the local centre is that it ensures that all proposed residential dwellings are within 400m of these new facilities. The local centre is located outside of the catchments for the other local centres north and north-east of the site, thereby minimising any potential effects on these retail areas. An alternative option that was considered by the Council was for the local centre to be located in the area around Whitelands Farm complex. This is considered to be too far from the majority of the new housing areas proposed on the site and a more central site location is preferred.

Construction details

Phasing strategy

- 3.91 A phasing programme has been developed as set out in figure 3.4. to set out the estimated build rates for the residential development. It has been assumed that the construction of the development will commence in 2007 and extend until 2014
- 3.92 Construction will begin for the initial residential area off Middleton Stoney Road and **off the new access off the A41 and will continue in phases as shown in the phasing plan (figure 3.4) accompanying the application.**

Year	Number of units delivered by March of that year
2006	Outline consent granted
2007	Pre-commencement conditions discharged and submission of first phase reserve matters. Infrastructure and house building commenced
2008	100 units
2009	275 units
2010	525 units
2011	775 units
2012	1025 units
2013	1300 units
2014 April to July	1585 units

Figure 3.5 Proposed delivery of residential development

Engineering considerations

- 3.93 The use of shallow foundations (concrete strip, trench fill or pad footings) for residential and light industrial structures should be possible over the majority of the site, except in the areas of made ground, where the fill, peat and soft organic clay, is unsuitable. Detailed consideration will need to be given to any proposed development in these areas to ensure appropriate engineering solutions are included within the design of the new buildings.
- 3.94 Where suitable, excavated materials will be reused on-site as general fill or landscaping fill depending on its quality. However, detailed consideration will need to be given to the three quarried areas on the main site and the areas of contamination. It may not be possible to use the material from these areas as general fill. Alternatively, treatment prior to reuse may be required. Further consideration will need to be given to this issue at the detailed stage. Additional information is included in the Ground Conditions and Contamination technical appendix 5.

Nature of construction activities

- 3.95 Figure 3.6 indicates the likely range of construction activities arising from the proposed development.

Initial site preparation	Excavate ground to divert existing underground services on site. Lower overhead power lines. Set-up construction compounds. Set up contractors' parking. Lay temporary supplies and temporary access to contractors' compound. Set up sales enquiry centre in temporary cabin. Remove contaminated spoil if necessary. Remove trees that are not to be retained. Protect trees and hedgerows that are to be retained.
Road construction	Excavate ground and move spoil around the site. Install service ducts, crossings and highway drainage. Form road sub-base and set kerbs. Lay road base courses and tarmac wearing course. Install street lighting and establish footpaths and verges. Add landscape planting.
Site infrastructure	Excavate ground and construct internal road system including foul and storm sewers, manholes and chambers. Construct internal roads to base course only. Create surface water attenuation facilities. Construct show complexes and remove temporary cabins.
Residential development	Excavate ground, lay foundations, connect to services and add superstructure. Reinstate ground. Carry out external works and add landscape planting. Construct footpaths and add street-lighting and wearing course to roads in reasonably practicable sections.
Public buildings / open space	Excavate ground, lay foundations, connect to services and add superstructure. Provide servicing facilities, reinstate ground and add landscape planting and external works.
Site completion	Reinstatement of ground around the site and removal of construction compounds.

Figure 3.6 The likely range of activities to be undertaken during construction

Construction compounds

- 3.96 There will be up to four construction compounds on the application site at any one time. The location of the compounds will change as the development progresses. Each compound will be kept secure at all times and will be maintained in as neat and tidy a condition as practicable. Dust will be controlled during periods of dry weather, and wheel washes will be provided at the main exit points to ensure that mud is not conveyed onto public highways. Car parking for construction workers will be provided adjacent to the contractors' compounds.
- 3.97 During the construction of the non-residential buildings, the contractors will retain an area near these buildings for activities such as materials and plant storage. Temporary buildings such as offices for the site manager and other supervisory staff, welfare facilities and secure storage units will generally be located within the construction compound. Temporary sales offices will also be required.

Employment

- 3.98 The proposed development will create a number of job opportunities, which will be sourced from the Bicester area where possible.
- 3.99 During the construction of the residential dwellings, each developer is likely to have up to 50 skilled and semi-skilled employees on-site, undertaking activities ranging from bricklaying, painting and tiling, to manning sales cabins (initially) and subsequently the show homes. If four developers work alongside, the residential development alone could

directly generate up to 200 jobs. A further 25 jobs would be generated by the construction of the perimeter road.

- 3.100 Additional construction workers will be employed to construct the non-residential buildings as and when required. It is estimated that a maximum workforce of up to 45 could be required for each of these buildings.

Working hours

- 3.101 The standard working hours for all construction activities will be from 0730 to 1730 Mondays to Fridays, and 0730 to 1300 Saturdays. No continuous 24-hour activities are envisaged at this stage and there will be no Sunday or Bank Holiday working.

Plant and machinery

- 3.102 Figure 3.7 indicates the type of plant needed during the construction phases.

Construction activity	Likely plant required
Main roads	Tracked excavator, Earth mover
Residential and employment development	Tracked excavator JCB Concrete and bitumen paver Site dumper Cement mixer Fork truck
Primary schools, secondary school, local centre, community building, public house and hotel	Tracked excavator Concrete and bitumen paver Site dumper Cement mixer Fork truck
Playing fields	Tracked excavator Site dumper Bulldozer

Figure 3.7 The type of plant needed during construction

Construction materials and spoil

- 3.103 The principal construction materials and approximate quantities likely to be required to complete the development are set out in figure 3.7. Due to the scale of the project, it has only been possible to provide crude estimates of the materials required, based on previous experience on other similar projects undertaken elsewhere in the UK. Other materials will also be required, but in much smaller quantities.
- 3.104 Construction materials will be stored within the construction compounds. Sand, aggregates, bricks, blocks, roof tiles and trusses will be stored near the houses being constructed and in accordance with health and safety requirements. Storage of some dangerous or hazardous materials on site, such as Calor gas, will be inevitable and appropriate safety arrangements will be made in accordance with the relevant health and safety legislation.
- 3.105 The spoil generated from the development proposals will be re-used on site wherever possible. Any contaminated spoil will be removed and taken to an appropriately licensed landfill for disposal.

Materials required	Approximate quantities (measurements vary)
Dense bitumen /stone macadam	7200m ³
Concrete kerbing	1200m ³
Sub-base crushed stone	7200m ³
Bricks	16,432,000
Blockwork	366,375 m ²
Windows	3 houses per lorry + 2910 for other buildings
Roof tiles	1.25 houses per lorry + 155,250 for other buildings
Timber frames	207
Timber trusses	2 houses per lorry
Bulk timber (joists, floors)	3 houses per lorry
Plasterboard	4 houses per lorry
Ready mixed concrete	6 deliveries per dwelling
Access ways	480m ³
Top soil and grass seed	48,000kg
Plants	450,000 plants
Other materials will also be required, but in much smaller quantities	

Figure 3.8 The principal construction materials and approximate quantities likely to be required during construction

Construction traffic

- 3.106 During construction of the proposed development it will be necessary for various plant, equipment and material to be transported to the site, which will therefore generate additional traffic on the local highway network.
- 3.107 Access to the site for construction vehicles is along the A41 Oxford Road via M40 junction 9. Haul roads within the site will be located, designed and landscaped in such a way as to avoid any noise, smell, dust, visual or other adverse impacts on the existing residents and businesses, and on the new residents and businesses at the proposed development.
- 3.108 Permissible routes for construction traffic will be agreed with Cherwell District Council and Oxfordshire County Council. The current proposal is initially to route all construction traffic from the A41 Oxford Road via Middleton Stoney Road. As the development continues the new access junctions on the A41 Oxford Road can be used by construction traffic. This approach will then minimise the impact of construction traffic on Middleton Stoney Road.
- 3.109 Construction traffic will be segregated from traffic generated by Bicester and the new development as far as possible in order to minimise disruption to the local road users and to minimise safety risks. For example, this may be achieved by restricting construction traffic hours to avoid peak hour congestion. In addition to this, a clear signage strategy will be implemented to ensure that construction traffic utilises designated routes to minimise the impact on existing and evolving communities. HGV movements will be restricted as far as reasonably possible so as to avoid peak traffic flow periods (i.e. from 0800-0900 and 1700-1800).
- 3.110 The number of movements including HGVs associated with the construction of the site is difficult to estimate with certainty on a daily basis as it will depend on the preferred construction techniques and will also vary between construction phases. However, based upon construction experience of other mixed-use development schemes, it is anticipated that there will be 145 construction vehicle movements during the working day. One vehicle movement is equivalent to a journey either to or from the site; a round trip is therefore two movements. However, during the initial phase of development, when construction access is to be provided from Middleton Stoney Road, there are likely to be 65 construction vehicle movements during the working day. It is anticipated that HGVs will be approximately 15 to 25% of the total movements.

Good practice

- 3.111 Best practicable construction measures will be adopted during construction. These measures will include:
- noise and vibration control
 - working hours
 - protective fencing
 - movement, storage and treatment of bulk materials and spoil
 - site organisation
 - traffic management
 - dust control

- storage of fuels and oils and other hazardous materials
- temporary lighting
- tree protection
- arrangements for routine communication with the local community.

3.112 The construction activity will be carried out in the safest manner practicable and all relevant health and safety requirements will be fulfilled. The developers will also be required to demonstrate compliance with appropriate legislation.

3.113 All plant and machinery will be appropriately maintained and hazard warnings used where necessary. Personal protective equipment will be worn by all construction personnel including, where necessary, hard hats, high visibility clothing and protective footwear.

Post-construction

3.114 In order for the potential post-construction impacts to be assessed, the following assumptions, which provide an indication of what is likely to happen at the site post-construction, have been made.

3.115 It is anticipated that on average each house will be occupied by 2.4 people, as this is the average household size for Cherwell district. The construction of 1585 houses will therefore increase the population of Bicester by 3,804 people.

3.116 It has been assumed that the secondary school will employ at least 58 full and part time staff. The primary schools will employ up to 57 full time staff and part time staff, and that the local centre will provide opportunities for up to 30 full time and 10 part time workers. Further job opportunities will arise with respect to the hotel (50 staff), health/leisure club, pub and branch GP surgery. The proposed 1,000 sqm of land will generate 52 jobs in the centre and the 2 ha of employment land will further create 929 employment openings.



Figure 3.1 Master plan



Figure 3.2 Building heights plan

