

History of Bicester

Archaeological evidence suggests that settlers began farming in the area as early as the Bronze Age, but Bicester was only founded as an official settlement in 630 A.D. The Domesday Survey of 1086 recorded Bicester as a growing settlement inhabiting approximately 200 people. Thereafter, the village continued to expand its lucrative farming industry and was granted a market license in 1239.

Both Oliver Cromwell and King Charles I are thought to have stayed in the expanding town during the 17th century, when Bicester was fought over numerous times during The English Civil War.

In 1790, the Oxford to Coventry canal opened, transforming the wharf at Lower Heyford into a significant coal depot which resulted in rapid economic development across the Bicester district. The towns connectivity was further strengthened by the establishment of a public coach route into London, offering 'cheap and easy conveyance'.

The Oxford to Bletchley railway opened in 1850, and later in 1910 the Great Western Railway was established (today's Bicester Village and Bicester North stations), both of which provided advanced links across the nation.

Bicester Airfield was constructed in 1916 to train Royal Flying Corps and has since experienced numerous uses and ownerships such as the RAF Bomber Training in World War II, and the formation of 'The Windrushers Soaring and Gliding Club' in 1956 which still exists today.

During the Cold War in the 1960s, RAF Bicester transformed into a busy maintenance unit dealing with both

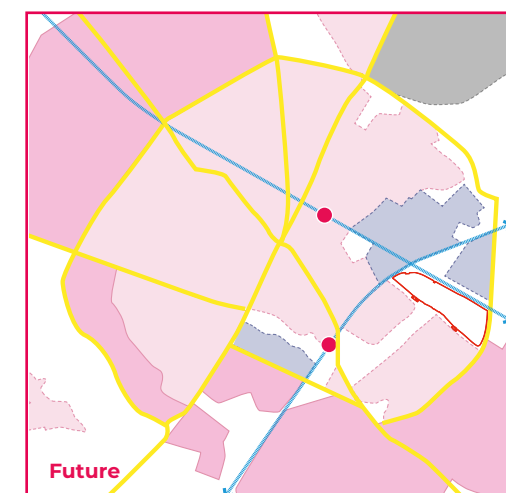
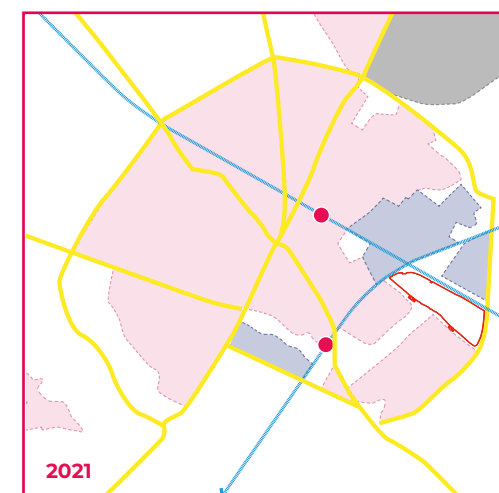
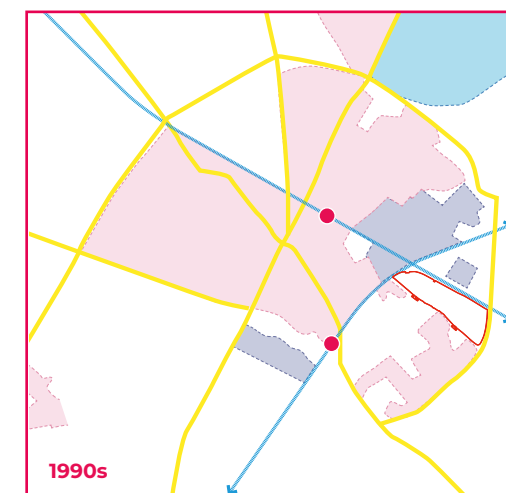
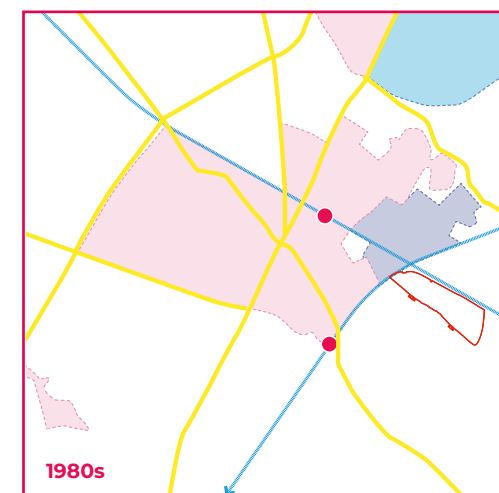
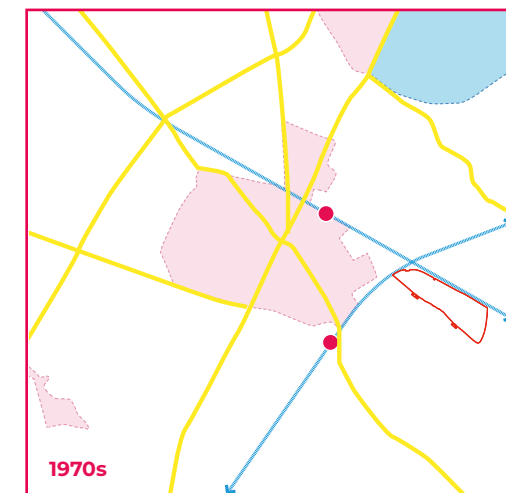
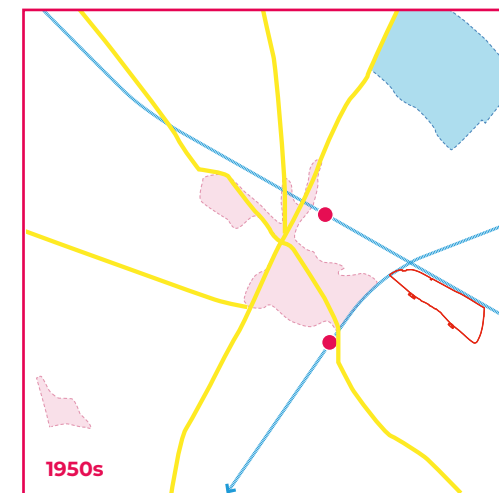
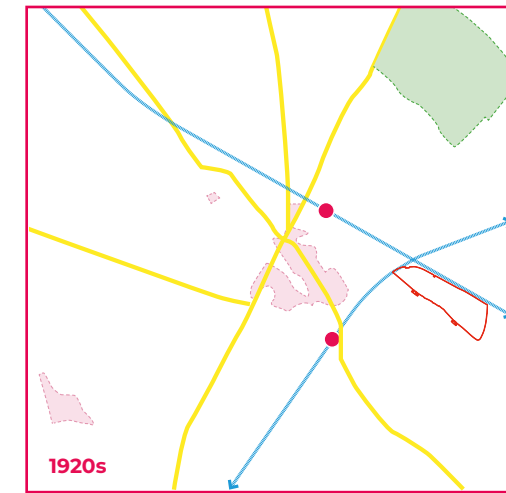
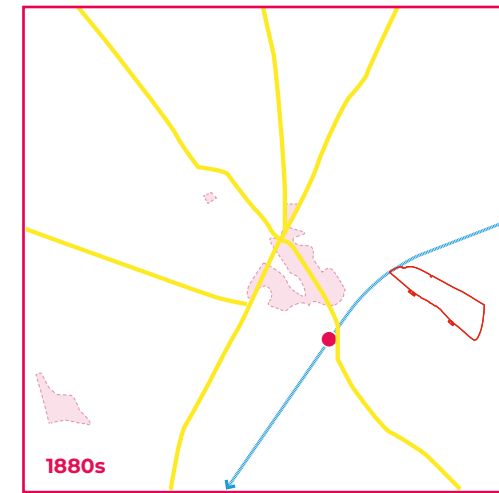
aeroplanes and motor transport. Its expansion led to the rapid development of new residential estates around the historic town centre, which continued to infill towards the upgraded 'ring road' (including the A4095 and A4421) right into the 21st Century.

The remainder of the Airfield now belongs to Bicester Heritage, involving over 40 specialist businesses famous for its 'historic motoring excellence'.

Bicester is a flourishing town making its mark by utilizing its past and taking advantage of its strategic location. Development such as Bicester Village, Bicester Avenue, and Kingsmere particularly have taken off since the opening of the M40 motorway in 1991, and so it is likely that Bicester will continue to expand and thrive for the foreseeable future.

Bicester was awarded Garden Town status in 2014, receiving central government funding to provide a range of 'desirable and innovative new homes, located in well planned, healthy communities' (Cherwell District Council). Bicester's population is set to double to around 50,000 residents during the Garden Town project.

- Site boundary —
- Strategic road infrastructure —
- Railway line —
- Train station ●
- Development (predominantly residential) ■
- Industrial/Commercial ■
- War-time Airfield ■
- Gliding Club ■
- Bicester Heritage ■
- Future growth ■



Heritage

A **Heritage Assessment** has been undertaken to understand whether development upon the Site would have any impacts upon nearby historic assets.



The Site does not include any designated heritage assets, such as listed buildings and scheduled monuments, where there would be a presumption in favour of their retention. In addition, consideration of the indirect effect of developing the Site has identified that it would not affect the setting of any designated heritage assets in the wider surroundings, such that could harm their significance.

A number of archaeological investigations have been undertaken within the Site, including geophysical survey and trial trenching. This has identified the remains of a Roman enclosure, which falls outside of the development footprint and would be preserved within the proposals, and an Iron Age pit and a small number of undated ditches and pits, which it has been agreed previously with the LPA archaeological advisor can be mitigated through a phased programme of archaeological investigation.

Whilst the north west end of the Site comprises a modern prairie field, the south east retains a number of historic landscape features, such as pre-modern hedgerows and ridge and furrow. These landscape features will be retained and subject to sympathetic management for their long-term care and public enjoyment.

A number of listed buildings can be found within Bicester's Conservation Area and Launton village (examples of these buildings can be found in the images). Although these heritage assets will not be affected by development upon the Site, characteristics of these buildings should be considered and incorporated where possible in the masterplan.

KEY:

-  Site boundary
-  Scheduled Monument
-  Conservation Area
-  Grade I Listed
-  Grade II* Listed
-  Grade II Listed



Context Analysis

Pattern of Development

The Cherwell Residential Design Guide promotes the study of the 'historic evolution and character of the District', to encourage proposals 'which fit well with the pattern and character of local towns and villages' thereby producing 'locally distinctive' neighbourhoods.

The findings of our study can be depicted across the next few pages, whereby we explore six example character areas and highlight how positive features within each can be incorporated into the evolving masterplan.

It was broadly discovered that the patterns across Bicester reflect the growth of the town, with the historic core typically having a different pattern and character to the newer residential areas.



Context Analysis

Historic Character Areas

Church Street (Centre) - 1600-1700s

- 1-3 storey buildings;
- Terraced with gable and dormer roofing, commonly slate;
- Diverse materials (from red brick, to pastel renders) making each building different to the adjacent;
- Building façades directly upon the pavements with no plot boundary;
 - Narrow, curved streets with pavements usually lining both sides;
- No significant green or public spaces.

Structure



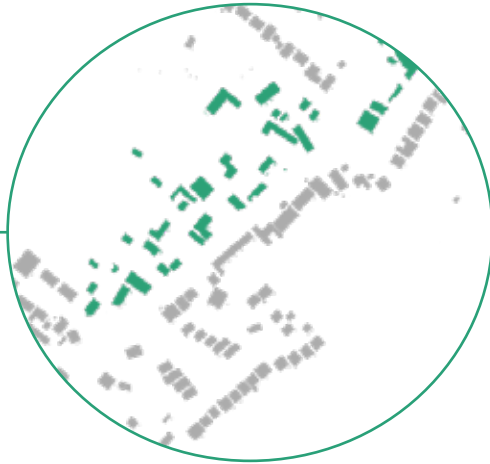
Buildings



Streets

West End (Launton) - 1600-1700s

- 1-4 storey buildings;
- Eclectic mix - from white rendered thatched cottages, to exposed stone detached dwellings;
- Either set back façades (behind large concealed front gardens) or located directly upon the street edge;
- Informal linear street structure, often with a footpath only on one side;
 - Wide grassy verges;
- No significant green or public spaces.



Launton House along West End (Grade II Listed)

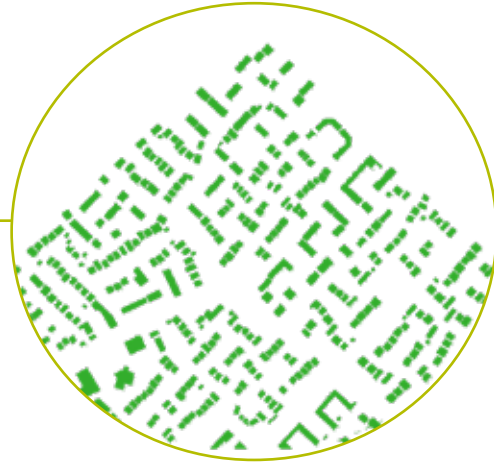


Typical dwellings along Church Street (Grade II Listed)

Newer Character Areas

Langford (east) - 1990s

- 2-4 storey dwellings - eclectic mix;
- Detached, semi-detached, terraced;
- Dominantly gable roofing but with intermittent barn and hip;
 - Brick clad or cream renders, occasionally with faux beam façades;
 - Pavements on both street sides;
- Mixed driveways and front gardens;
- Cul-de-sacs and private drives but with permeable pedestrian access;
- Little landscaping or public spaces.



Buildings

Streets

Spaces



Langford (west) - 1980s

- 2-3 storey dwellings;
- Detached, semi-detached, terraced;
 - Stone or red brick cladding;
 - Gable roofing, dark clay tiles;
- Varied street façades making each building different from the adjacent;
- Textured, shared streets and private drives with landscaping;
 - Pocket parks and green spaces;
 - Maintained green verges;
- Strong pedestrian permeability.



Launton Road - 1970s

- 2 storey dwellings clustered around green communal spaces;
- Most commonly semi-detached;
- Stone or red brick clad buildings, occasionally with dark wood accents;
 - Gable and hip roofing;
- Tarmac streets with pavements and grass verges either side;
- Private drives and front gardens set the buildings back from the street;
 - Garages are common.



Sherwood Close (Launton) - 2000s

- 2 storey detached dwellings;
- Stone clad with slate tiles;
- Gable and dormer roofing;
- Low stone wall boundaries;
- Porches and garages are common;
- Large front gardens and driveways;
- Sweeping streets with pavements either side, many with grass pavers;
 - Textured, private drives;
 - One large cul-de-sac;
 - Green pocket spaces.








Bicester's Influence

It is important to incorporate desirable elements observed from the character study into the masterplan, helping to settle the Site into the surrounding context. This includes capturing and customising both historic and contemporary forms of development, to enhance local identities whilst ensuring good urban design practice.

Below is an overview of the general characteristics found within the historic and more contemporary area of Bicester and how we propose these characteristics could manifest themselves and influence the overall design of the proposals for the Site.

The images on the opposite page are for precedent purposes and to draw inspiration from when further evolving the proposals for the Site.

Design feature	Historic	Contemporary	Our proposal
 1. Diverse street form & hierarchy	Narrow sweeping, informal streets surfaced with tarmac or stone, with grassy verges.	Both curved and straight roads, often surfaced with tarmac or textured shared surfacing, with grassy verges.	Varied widths and surfaces should provide a clear street hierarchy, with grassy verges and landscaping.
 2. Building form & composition	Terraced - even if each unit is vastly contrasting in appearance - with variations in height from 1-4 storeys.	Mixed detached, semi-detached and terraced dwellings and apartments ranging from 1-4 storeys.	A variety of building forms should be used to add variation and encourage a diverse residency, whilst boosting densities.
 3. Building lines & parking	Buildings face directly onto the pavement with car parking in courts behind, providing a strong frontage.	Front gardens and driveways create a set-back, linear building line - but results in car-dominated plots and streets.	Shallow front gardens with driveways to the side should mask vehicles, and create a strong built line.
 4. Materials & details	Dormer / gable porches and roofs are slate clad; while walls vary from exposed cream stone, to renders.	Gable porches and roofs are clay or slate clad; while walls vary from exposed red brick and cream stone, to renders.	A diverse mix of materials should be applied upon each dwelling, with gable roofs and porches to provide unity.
 5. Public spaces	Utilises the informal streets and shared surfaces as public meeting and greeting spaces.	Frequent pocket parks and pedestrian walkways which connect to larger spaces - such as parks and plazas.	Strong foot and bike permeability should connect residents to play spaces and the Gavray Wildlife Meadows.



Local Services & Facilities

A wide range of facilities and services exist in Langford just south of the site, including a Primary School, convenience store, public house/restaurant and doctors.

More commercial services can also be accessed via foot or bike across the bridge to the west of Langford, where a hardware store, supermarket, and petrol station are located. Both a Business Park and Retail Park are located further down this road.

A secondary pedestrian bridge on the north-west periphery of the Site provides a walking route to Bicester Park Industrial Estate (approximately 500m away), unlocking further employment opportunities.

The majority of facilities and services are located within Bicester's centre along the historic spinal street and around 'Pioneer Square' - a retail centre completed in 2013, integrating a 56,000 sq ft supermarket and a 7 screen cinema.

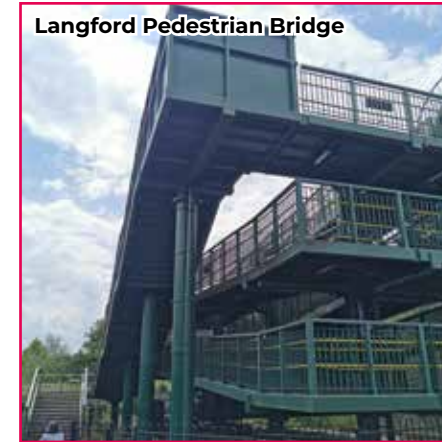
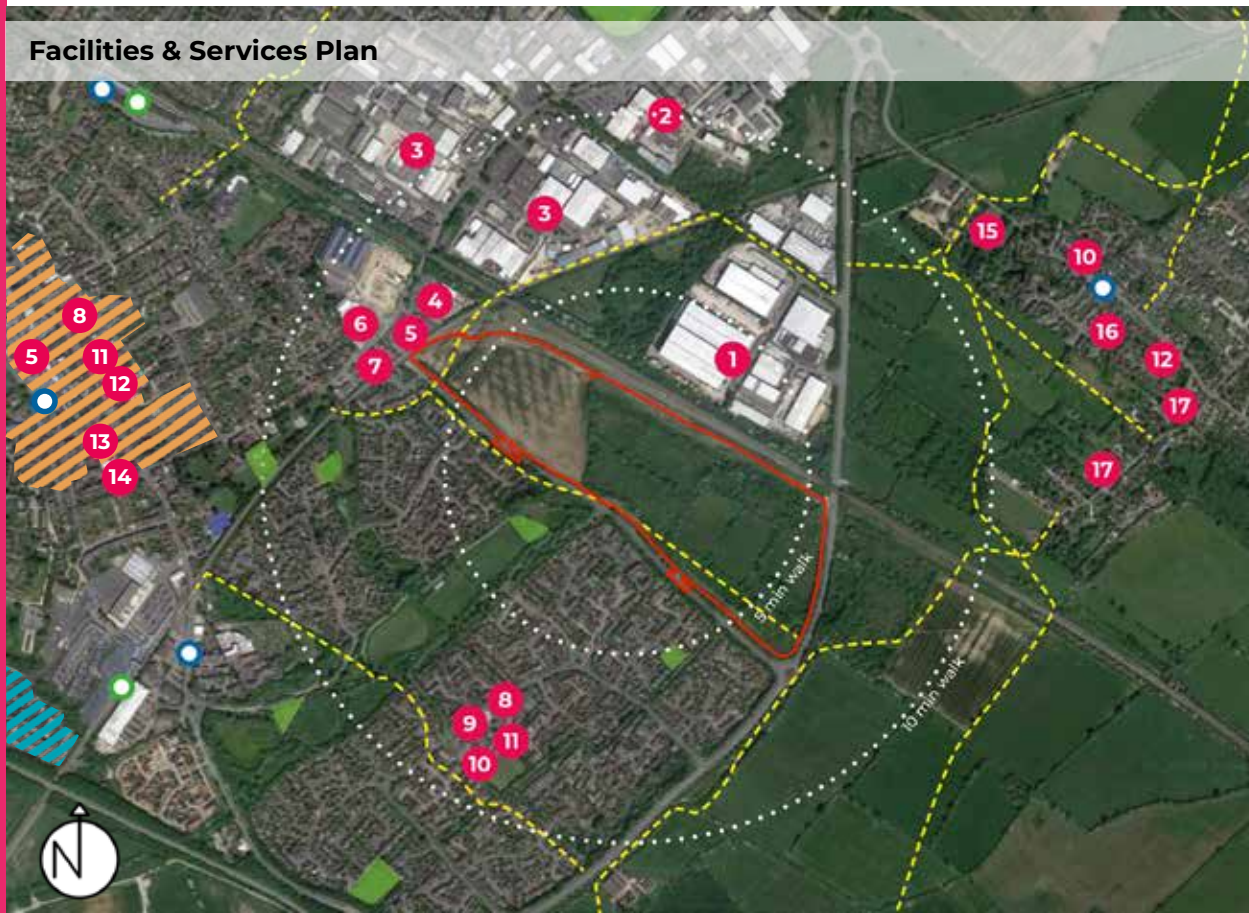
There are a number of footpaths that cross or run close to the Site providing convenient access to Launton village, accommodating further facilities such as two public house's and a church.

Together the nearest bus stop and train station (Bicester Village) are approximately 1km away from the Site, providing direct connections to London within an hour.

Numerous playgrounds are dispersed across Langford, while Bicester Fields provides hectares of open, green public land for miscellaneous uses. A lack of recreation grounds presents an opportunity to incorporate enhanced facilities within the Site to benefit new and existing residents of Bicester.

KEY:

- 1 Industrial Estate
- 2 Retail Park
- 3 Business Park
- 4 Hardware Store
- 5 Supermarket
- 6 Pre-School
- 7 Petrol Station
- 8 Restaurant
- 9 Convenience Store
- 10 Primary School
- 11 Doctors/Pharmacy
- 12 Post Office
- 13 Bank
- 14 Hotel
- 15 Church
- 16 Hairdresser
- 17 Pub
- Playground
- Town Centre
- Bicester Village
- Public Right of Way
- Train Station
- Bus stop



Landscape

A **Landscape and Visual Impact Assessment (LVIA)** has been undertaken to establish the current baseline condition of the site and surroundings both in terms of landscape character and visual amenity, through desktop and on-site analysis. The baseline can be summarised as follows:

- The Site does not lie within any nationally or locally designated landscape;
- Two arable fields lie at the Site's western extent, separated to the rest of the site by Langford Brook, where the central and eastern sections comprise meadow grassland and woodland/scrub planting;
- The Site is identified as an urban area within the Oxfordshire Wildlife and Landscape Study, however, it shares similar characteristics with the adjacent Clay Vale Landscape Character Type, such as low-lying landform, mixed land uses and tree lined streams; and
- Visually, the surrounding built form, transport infrastructure, vegetation and undulating topography heavily restrict available views into the Site to the immediate surroundings,

including Bicester Footpaths **1** and **2** as well as users of Gavray Drive to the south.

The Site forms a linear strip of land immediately north of Gavray Drive and can be generally split by land use. To the west are two arable fields (A), separated by a north-south aligned hedgerow with trees. These fields are bound by hedgerow and Langford Brook to the east, a hedgerow to the south adjacent to Gavray Drive, with the embankment of the London-Birmingham railway forming its northern perimeter (B). The northern and western boundary comprise security fencing separating the Site from the recently constructed Bicester-London line.

The eastern section comprises a mixture of large areas of heathland, scrub, woodland and grassland in varying conditions. The northern boundary comprises a security fence to the railway line, with the eastern boundary formed by a mature tree belt running alongside the A4421 (C). Gavray Drive,

running along the southern boundary is separated from the site by a number of groups of mature trees, interspersed with two bell mouth road junctions and a number of informal pedestrian accesses.

Two rectilinear meadows lie towards the eastern half of the site, which are generally bound by mature hedgerows with occasional hedgerow trees. Informal routes have established through and around the perimeters of the meadows (D).

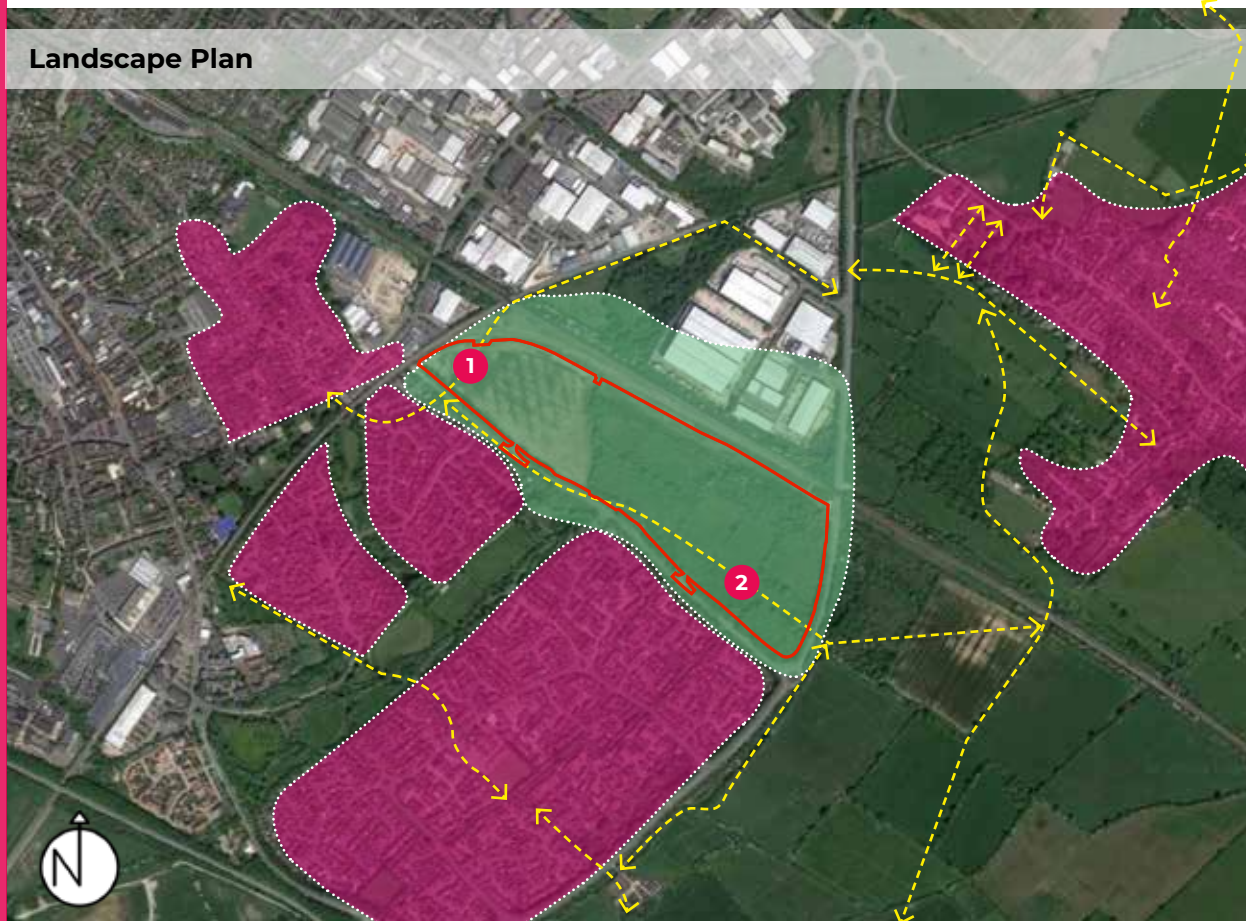
Visually, the surrounding built form, transport infrastructure, vegetation and undulating topography heavily restrict the opportunities for views in and out of the site from the surrounding landscape. The large industrial units at Bicester Distribution Park to the north form an identifiable feature in views from the surrounding PRow network, however the site itself is screened by surrounding vegetation and development.

Bicester Footpath **1** runs across the western corner of the site, allowing open views into the larger of the arable fields. The footpath crosses the Bicester-London railway line and continues north where it passes under the Birmingham-London railway line and views become screened by the embankment and vegetation. Bicester Footpath **2** runs east to west generally along the line of Gavray Drive, entering the site adjacent to Langford Brook on the southern boundary and heads east towards the A4421. Open views are afforded within the site, however to the west along Gavray Drive boundary vegetation helps to filter opportunities for glimpses.

This information helps to establish the sensitivity of the baseline receptors, allowing the baseline appraisal to help identify key principles to be included within the landscape strategy as the framework masterplan has developed, to ensure the proposals can be successfully assimilated into the receiving landscape.

KEY:

- Site boundary
- - - Public Rights of Way
- Zone of primary visibility
- Residential groups



Design Considerations

As a result, the landscape strategy proposes the following:

- The retention and enhancement (where possible) of existing trees and hedgerows to the site perimeter with preference for those of greatest value;
- Masterplanning of the site to retain and integrate existing hedgerows and trees succinctly in to the residential and/or public open space areas with preference for those of greatest value and connectivity;
- The design of the proposed development should reflect the current topography of the site to ensure that any new built form is either screened or filtered by the existing mature landscape setting as far as practicable;
- Formation of green corridors along main arterial routes from Gavray Drive with ancillary and buffer planting;
- Utilise existing access points for main vehicular routes into the site negating the need to remove existing tree groups and hedgerows to the southern site boundary (retaining mitigation and mature landscape setting);
- Provision of access to new dwellings from access routes running inside the existing southern boundary to reduce the need for installing new access points within the existing tree groups and vegetation (retaining mitigation and mature landscape setting);
- Provision of sight lines from Gavray Drive to focus on new public open space within the proposed development with ancillary and mitigation planting.

Ecology

A wide range of **Ecological Surveys** have been undertaken at the Site between August 2019 and November 2020 to determine the baseline conditions.

These include an **Extended Phase 1 Habitat Survey** and a suite of additional **Phase 2 Surveys** including detailed botanical surveys of the hedgerows and grasslands and surveys for wintering and breeding birds, roosting and foraging bats, otter, water vole, dormouse, harvest mouse, badger, great crested newt (GCN), reptiles, terrestrial and aquatic invertebrates.

Statutory & Non-statutory sites

There are no internationally designated sites within 15km of the Site and no nationally designated sites within 5km. However, Wendlebury Meads and Mansmoor Closes SSSI and Ormoor SSSI lie 5.4 and 7.3km away, respectively and within the potential Zone of Influence of the Site being connected downstream of the Langford Brook. Potential adverse downstream impacts on water quality and quantity will be addressed through the surface water drainage strategy incorporating SuDS, which also offer opportunities for biodiversity enhancement.

Habitats

The portion of the Site west of Landford Brook comprises two arable fields of very limited ecological value.

Land to the east of the brook predominantly comprises fields of species-rich grassland ranging from Local to County importance, with discrete areas of locally valuable marshy grassland present, often associated with ponds. Significant portions of this area covered by Gavray Drive Meadows Local Wildlife Site and Ray Conservation



Target Area designations. However, the majority of the high value grassland areas have been left unmanaged for at least 15 years, which has allowed significant encroachment of scrub and tall herb communities, resulting in an overall reduction in both their quantity and quality. Similarly, many former hedgerows have developed into broad bands of scrub and young woodland.

Protected Species

A wide range of protected/notable species have been confirmed or assumed to be present within the Site, the most notable of which is the invertebrate assemblage. These species populations are primarily associated with the botanically rich grassland, scrub, woodland and aquatic habitats found east of Langford Brook.

Design Considerations

As a result, the ecology strategy proposes the following:

- Built development needs to be entirely excluded from the Ray Conservation Target Area and Gavray Drive Meadows Local Wildlife Site, thereby avoiding direct negative impacts upon the most valuable habitats and the associated species populations;
- The proposed development should deliver a long-term management plan for these areas, collectively termed the Ecological Restoration Zone;
- New habitats of ecological value should also be created as part of the open space strategy for the residential development parcels which will enhance the local ecological network further.

Collectively, the restoration of existing habitats and creation of new habitats should offset any unavoidable losses and result in a net gain in biodiversity in excess of 10% and secure the future of an ecological area which is highly valued by local people.



Western arable fields



North-south aligned hedgerow



Mature tree belt along the A4421



Informal routes across the Site

Transport & Movement

A **Transport Assessment** has been prepared to provide an overview of pertinent transport and highways matters related to the promotion of the proposed Site for residential development.

Existing access

The Site fronts onto Gavray Drive, a 7.3m single carriageway road that joins the A4421 via a roundabout junction at its eastern end.

There are four existing bellmouth accesses to the Site along the northern side of Gavray Drive. Two of these will be utilised to access the proposed development.

Walking & cycling

Gavray Drive benefits from a 2m wide footway on its northern side and a 3m wide shared use footway/cycleway on its southern side, which forms part of the National Cycle Network Route 51 between Oxford and Milton Keynes.

Gavray Drive terminates at its western end and no access for vehicles is available through to Launton Road. However, the shared footpath/cycleway continues from Gavray Drive and on to Laughton Road via a DDA compliant footbridge over the railway line.

Immediately to the north of where this footpath connects to Launton Road there is a toucan crossing provided to give access for pedestrian and cyclists using the shared footway/cycleway on the western side of Launton Road. This route will form an important link from the site to the centre of Bicester, which is approximately 1.2km from the development site.

To the east of the site, Wretchwick Way is a busy road and forms part of the Eastern Distributor Road around Bicester. It is well lit and a 3 metre wide footway/cycleway runs along the length of the western side of the carriageway.

There are also several shared use pedestrian/cycle links from Gavray Drive running to the south through Langford Village and the open space then runs along the watercourse. These routes provide good access to the local centre

and primary school in Langford Village and beyond into the town centre and Bicester Village Station to the south.

Pedestrian and cycle access are provided through the site and connect into these wider facilities.

Public Transport

In the recent years there has been a reduction in the number of routes served across the County. Following the cancellation of the Bicester Circular bus service (22 and 23) the closest bus stops to the site are Bicester Village Station and Granville Way bus stops.

Bicester Village Station bus stop is located approximately 1km (a 12 minute walk) from the site on London Road and provides access to bus services 27, 29, H5 and 505. Granville Way bus stop is located on Launton Road, approximately 1km (a 12 minute walk) from the site. The bus stop provides access to route 28 bus services. In addition to these locally accessible services, there are also a number of services that can be accessed from the town centre.

Bicester benefits from having two national railway stations Bicester North and Bicester Village Station. Bicester North, which acts as the main station for the town provides access to Birmingham, Stratford-upon-Avon, Banbury, and London Marylebone. The station is located approximately 2km from the Site.

Bicester Village Station, previously called Bicester Town is located approximately 1.1km from the Site. The station provides 3-4 services during peak hours between Oxford and London. The East West Rail scheme, which will re-establish a rail link between Cambridge and Oxford, will operate via Bicester Village Station. Phase 2 of the project will upgrade and reconstruct sections of line that link Bicester to Bletchley and Milton Keynes. Main construction work started in Spring 2020 and is due for completion in Spring 2024.

Proposed access

Vehicular, pedestrian and cycle access to the Site should be achieved from Gavray Drive. Safe and satisfactory access and egress for the development site should be provided utilising two of the existing junctions off Gavray Drive.

The internal road layout should facilitate access to all parts of the site and accommodate turning movements as required. As the application is in outline, the details of parking arrangements will be fixed at the reserved matters stage, however the principle is that it should be provided in accordance with OCC parking standards and as close to each property as possible.

Impact on existing highways

In terms of traffic impact, the TA has demonstrated that the immediate local highway network within the identified study area has capacity to accommodate the additional traffic generated by the development proposals up to an assumed opening year of development of 2026. This analysis has accounted for the impact of background traffic growth and any committed development operational at that time and included in the OCC SATURN model.

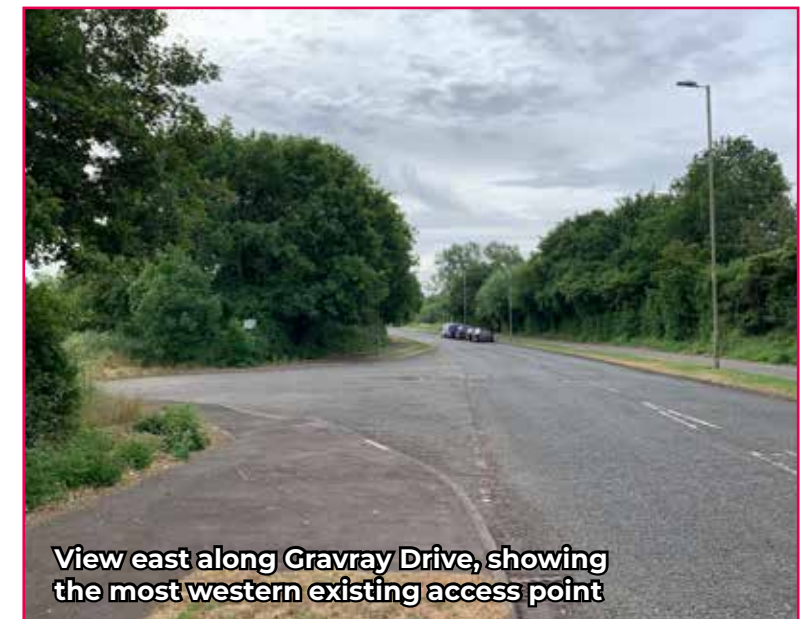
Design Considerations

A number of design considerations have emerged following the baseline review, and should be incorporated into the evolving masterplan:

- The proposed access along Gavray Drive should be adequately designed to provide convenient access to the Site for both vehicles, pedestrians and cyclists;
- There should be a recognisable road hierarchy structure throughout the development as well as a permeable and legible network to aid with wayfinding;
- The layout of the Site should be designed to promote access for pedestrians and cyclists;
- The proposals should tie into the existing PRow network and potential pedestrian/cycle links within neighbouring proposed development. These footpaths should be enhanced with improved surfacing to ensure accessibility in all weather conditions; and
- The arrangement for on-site parking should be determined in line with Cherwell District Council guidance documents.



View west along Gavray Drive



View east along Gavray Drive, showing the most western existing access point



A PRow through Langford Park, to the south of Gavray Drive

Flood Risk & Drainage

A **Flood Risk Assessment (FRA)** has been undertaken to provide an overview of pertinent flooding and drainage matters related to the promotion of the proposed Site for residential development.

Flood risk

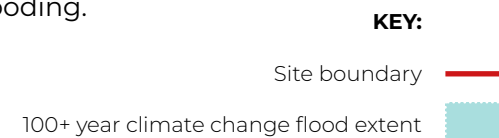
The FRA report has confirmed that whilst the majority of the site is located within Flood Zone 1 and is at low risk, the central section of the site (adjacent to the Langford Brook) is shown as being at an increased risk and affected by all modelled flood events, for both the present day and when making an allowance for climate change through the development design life.

Based on the assessment of fluvial risk, the majority of the proposed development is confirmed as adopting a sequential approach to site use, being located within areas of the site at low risk. However, the latest framework plan highlights that for Gavray West both the proposed vehicular access onto the site and areas of residential development are within areas of Flood Zone 3 for both the present day and when making an allowance for climate change.

As such, mitigation measures are required to ensure the proposals are safe, that they result in no detrimental impact to third party land and that, where possible, they provide a betterment. Compensation storage will be provided up to the 1 in 100 year plus 35% allowance for climate change event. This is to be achieved through lowering a section of the site to 66.5m AOD. This area is located between the Gavray West development and the Langford Brook. Detailed modelling has demonstrated that this results in no increase in flood depths downstream of the site and provides a betterment in flood depths to the north (upstream). Calculations undertaken have also confirmed that the proposed compensation area provides a volumetric betterment of circa 2,000m³ when compared to the baseline scenario.

Flood Risk (Surface Water/Overland flow)

The EA's Flood Risk from Surface Water mapping shows the majority of the site to be at 'very low' risk of surface water flooding, though it identifies areas at 'low' and 'medium' risk of surface water flooding.



The areas shown as being at an increased risk are predominantly along the route of or immediately adjacent to the Langford Brook. As such, these are considered as being more representative of fluvial flows within the watercourse and falling within the fluvial floodplains. Other isolated areas of increased risk are shown throughout the site (both to the west and east of the watercourse) but these provide no connectivity to the wider area and are typically shallow (<300mm) and therefore are considered to be representative of locally lower areas within the site and more akin to localised 'ponding'. As such, and accepting that areas adjacent to the watercourse are prone to fluvial flooding, the site is concluded as being at low risk from surface water flooding.

Flood Risk (Groundwater)

The groundwater table will be hydraulically linked to water levels of the adjacent Langford Brook and, as such, there is potential for groundwater emergence, but this would be expected to be consistent with predicted flood outlines and to impact only a small area of the site.

Mitigation measures, such as raised Finished Floor Levels are stipulated within the Flood Risk Assessment and adequately protect against flood risk.

Surface Water Drainage (Pluvial)

The existing area is greenfield and as such no hard infrastructure is present. Rainfall will currently infiltrate the ground until infiltration capacity is reached at which point flows will travel overland following the topography. Site investigation works demonstrate the soils to be of low infiltration. As such rainfall will predominantly result in the generation of overland flows. The topographical nature of the site presents a split catchment, with surface water naturally draining to the east and west.

Flows travelling in a westerly direction are currently shown to leave the site and ingress onto the adjacent footway bounding Charbridge Lane (A4421), before ultimately discharging to a drain within the highway, whilst those from the westerly catchment area flow towards and discharge into the Langford Brook.

The Drainage Strategy reports detail the implication of Sustainable Drainage Systems (SuDS) and how these are to be used to mitigate any associated risk from pluvial events in terms of the development and its continued use over its design life. The proposed Drainage Strategy will also provide a betterment to areas adjacent the site and reduce risks of surface water flows.

This is predominately achieved through controlling surface water discharge rates to mimic that of existing greenfield rates whilst providing suitable, sustainable forms of attenuation for any surplus flows and maintaining existing catchment regimes. The proposed QMed discharge rates, as agreed with the Lead Local Flood Authority, will also provide a further betterment on the more extreme events (i.e. 1 in 100 year).

Hydraulic modelling has been undertaken to prove the validity of the system utilising FEH catchment data, increased runoff coefficients, allowances for urban creep, and climate change allowances.

Foul Water Drainage

Two new foul drainage networks will be constructed to serve the proposed development. One will serve the proposed area west of the Langford Brook and the other to its east.

Foul flows will be conveyed by gravity before ultimately discharging to the public sewerage network. Viable discharge points have been identified for each network with the eastern network discharging into a public sewer within Charbridge Lane (A4421) and western network discharging to a public sewer within Gavray Drive, adjacent the site.

Noise

A **Noise assessment** has been undertaken to analyse any impact which surrounding noise may have upon the Site.

Based on the analysis of the measured results from the noise surveys, without any mitigation parts of the Site experience noise levels in excess of guideline levels due the proximity of Bicester Chord, future East West rail expansion and general road traffic from Gavray Drive and the A4421.

A mitigation strategy can be implemented as part of the development proposals in order to reduce these levels and achieve the requisite noise criteria. This includes a suitable standoff from the railway lines to the north and west, rendering no development close to the boundary.



Development closest to the railway should be of a continuous frontage whilst the façades facing the railway, as well as some of the closest dwellings to the A4421, will likely require mechanical ventilation and acoustic laminate glazing to achieve the requisite noise criteria. Noise levels could be further mitigated by positioning sensitive

rooms such as bedrooms and living rooms to overlook the quieter areas of the site interior wherever possible.

The remainder of the Site will experience lower noise levels meaning appropriate mitigation can be provided to enable residential development to be supported in these areas. This will likely require some dwellings to incorporate acoustic trickle ventilation as well as typical thermal double glazing. Due to the screening that would be provided by the continuous frontage along the railway line, the majority of dwellings should be able to use natural ventilation with open windows as a result of this massing layout.

In addition It is predicted that noise levels inside private amenity spaces will be below the upper limit recommended without any further mitigation.

KEY:

- Site boundary 
- Noise buffer from railway 

Noise Plan



View of the railway along the northern boarder of the Site



3 Design Evolution

Design Evolution

Constraints & Opportunities

Considering the analysis carried out for the Site, the following constraints have been considered when developing the masterplan layout:

Access

The two existing vehicular access points along Gavray Drive should be retained and upgraded, mitigating the need to remove hedgerow to create new access. An additional pedestrian/cycle entrance point should merge into existing walking and cycling routes, promoting active travel and contributing to the Site's long-term sustainability.

The existing Public Right of Way (PRoW) that crosses the east of the Site should be retained and enhanced, better integrating Gavray Wildlife Meadows and the Local Wildlife Site into the proposed built area. The PRoW to the west of the Site should also be retained, providing reinforced pedestrian links between Langford, Chaucer Business Park, Bicester Park Industrial Estate, and eventually Launton.



Drainage

Langford Brook runs through the centre of the Site, resulting in this section of the Site to be situated in Flood Zone 2 and 3. This land should therefore be predominantly untouched, providing approximately 18 hectares dedicated to water drainage, biodiversity, and recreational activities benefiting both wildlife and residents. Existing watercourses should also be utilised to intercept overland flows as well as the provision of on-site attenuation basins to ensure there will not be an increase in the likelihood of flooding elsewhere.

Topography

The Site is relatively flat. Langford Brook runs through a central corridor which lies lower and the land slopes down towards this central feature separating the Site down the middle.

Heritage

The Site is not located near any Conservation Areas or listed buildings.

Intervening modern housing, rail infrastructure and nearby industrial/commercial development ensures that there will be no harm to the setting of listed buildings in Bicester and Launton.

Noise

With the northern and western boundary of the Site bordering the railway line, these areas will be at higher noise risk. A stand off from the railway line should be incorporated where no building occurs. Good acoustic design to dwellings should be implemented to ensure that there is no adverse effect of noise. Private gardens should be orientated away from the railway line to protect their amenity space.

Existing vegetation

Trees and hedgerows should be retained and enhanced where possible in order to maintain existing habitats and visual screening. New hedgerow planting should be incorporated to provide additional screening and to reflect the landscape heritage as well as providing enhancements to habitats.



Landscape

The Site is well screened along the eastern and southern borders due to existing mature vegetation, therefore development should have little visual impact along Gavray Drive and the A4421. Railway tracks bound the northern and western peripheries, and beyond which lies large industrial and commercial units. New hedgerow and tree planting are thus proposed along these edges, to minimise visual impact.

The existing Site vegetation should be used as a backdrop to the new development, with homes facing outward to take advantage of this and not utilise it as rear boundaries to properties where future retention and maintenance may become problematic.

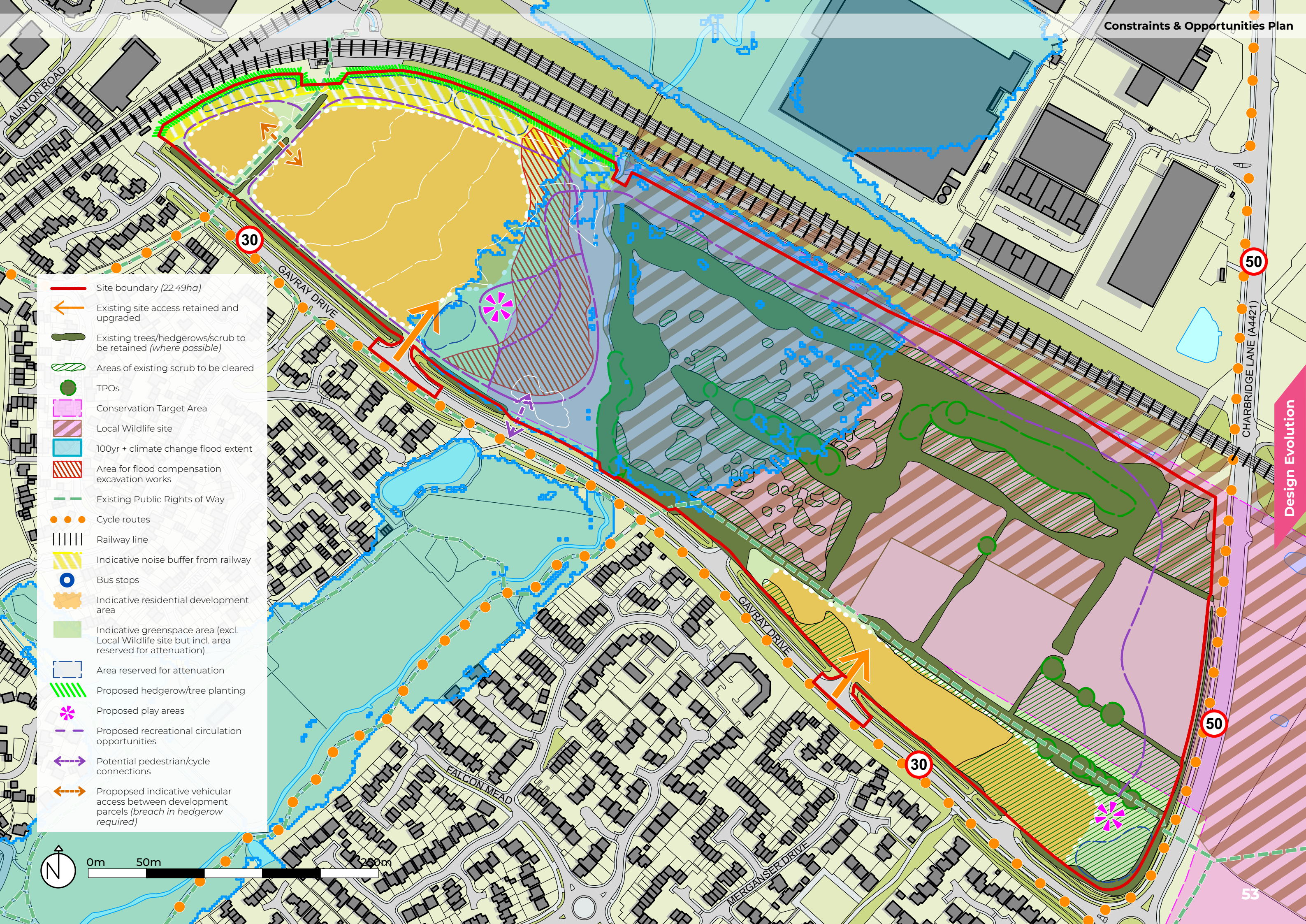
Development should be excluded from the Conservation Target Area and Gavray Drive Meadows Local Wildlife Site. An Ecological Restoration Zone should be incorporated to enhance the area and create new habitats of ecological value.

There are further opportunities to enhance the landscaping with native species to diversify the overall Green Infrastructure palette for the Site. The creation of additional ponds and landscaping with scattered scrub will provide an increase in on-site breeding habitat for GCN. This Site presents an opportunity to provide approximately 75% of the gross site area as public open space, a significant benefit to the area.



Sustainability

The emerging Local Plan recognises Bicester as a sustainable settlement. The proposals should promote a low carbon development by incorporating opportunities for reducing energy consumption and enabling more efficient use of energy, both of which are important for reducing carbon emissions and wasteful use of finite natural resources. The sustainable design of buildings and spaces is integral to achieving carbon neutrality.



- Site boundary (22.49ha)
- ← Existing site access retained and upgraded
- Existing trees/hedgerows/scrub to be retained (where possible)
- / / / Areas of existing scrub to be cleared
- TPOs
- Conservation Target Area
- / / / Local Wildlife site
- 100yr + climate change flood extent
- / / / Area for flood compensation excavation works
- - - Existing Public Rights of Way
- ● ● Cycle routes
- | | | | Railway line
- / / / Indicative noise buffer from railway
- Bus stops
- Indicative residential development area
- Indicative greenspace area (excl. Local Wildlife site but incl. area reserved for attenuation)
- Area reserved for attenuation
- / / / Proposed hedgerow/tree planting
- ✳ Proposed play areas
- - - Proposed recreational circulation opportunities
- ↔ Potential pedestrian/cycle connections
- ↔ Propopsed indicative vehicular access between development parcels (breach in hedgerow required)



Design Evolution