

The Cassington Green Infrastructure Plan



A Report Prepared for Cassington Parish Council and the Residents of Cassington
Village by AD Rogers

Introduction

Cassington Village has a history stretching back more than 3,000 years. It is located in West Oxfordshire in a rural area now subject to considerable pressure for housing development. In response to increasing concerns that development may be imposed upon the Cassington with insufficient consideration of sustainability and the well-being of its residents a Neighbourhood Plan was proposed by the Parish Council. As a result, a Neighbourhood Planning Committee was drawn from the residents of Cassington Village with representation of the Parish Council. O'Neill Homer were taken on to act as consultants for the Cassington Village Neighbourhood Plan with funding being obtained from XX by the Parish Council. This Green Infrastructure Plan forms part of the consultation process for the Neighbourhood Plan.

Parish and Town Green Infrastructure Plans are a valuable tool for planners, committees, developers and communities themselves. They can help inform important decisions and assist local people to identify what is important to them, and what they would like to happen in the future. For example, they can inform Neighbourhood Plan policies and designations, and shape the aspirations of a non-statutory Parish Plan. Parish and Town Green Infrastructure Plans have been used to support funding bids, helping people make important improvements to their local environment, and they also provide a snapshot of the local environment.

It should be acknowledged that not all of the aspirations identified in this plan will be delivered, because there are many other influencing factors, such as the views of landowners, existing planning permissions and allocations, potential future land use allocations and the cost of implementation.

The value of this Green Infrastructure plan lies in the fact that it has been produced by Cassington residents for their own community. As such it includes a lot of local knowledge not available to those in local government (e.g. District and County-level planners), regional and national agencies, utility companies and other commercial interests. It can help inform planning decisions and be used as a mechanism to identify where financial benefits from development should be directed. It cannot be used as a tool to prevent development but may influence considerations in the planning process. All aspirations which gained community support have been included; however, it remains a community owned document which, whilst supported by Cassington Parish Council, has not been formally adopted. The plan as a whole is based on a robust approach to mapping and implementing a high-quality Green Infrastructure network for the existing, and future, residents of Cassington Village.

Endorsements

TBA

Aims of the Plan

To identify the key existing natural, historic, cultural and landscape assets, accessible greenspace and rights of way and to plan new features that will provide a connected network of green infrastructure for the benefit of present and future generations.

Objectives:

- To create a comprehensive document that will assist the local community to:
- Protect and where possible enhance the landscape, biodiversity and the historic environment
- Improve access and links for people and wildlife
- Provide a multi-functional green infrastructure network
- Provide a source of information and guidance for planners, landowners and developers in formulating land use plans
- Consider the next generation in planning for the future
- Promote community involvement
- Improve safety and protection of people
- To improve the well-being of the people of Cassington
- Identify projects and produce an action plan to implement projects.

Links to other Plans

The Cassington Green Infrastructure links to policies outlined in the National Planning Policy Framework (2021) and the West Oxfordshire District Council Local Plan 2031 (WODC, 2018). It specifically provides background and informs policies in the Cassington Village Neighbourhood Plan.

Methodology & Community Involvement

The Cassington Green Infrastructure Plan was assembled largely through research using planning documentation and other sources from West Oxfordshire District Council (grey literature) as well as academic literature (peer-reviewed papers) on specific topics. Local knowledge was used on topics such as foot paths, biodiversity and amenities. In addition to these sources, maps were prepared using a combination of ESRI Map Viewer Classic (e.g. Environment Agency Flood Risk maps) and ESRI Map Viewer Classic for a base map and MS Powerpoint for labelling (e.g. Footpaths). Maps for biodiversity planning were downloaded from Magic Maps (<https://magic.defra.gov.uk/>). Most of this research was undertaken by Prof. Alex David Rogers, a resident of Cassington Village in consultation with the Neighbourhood Plan Committee (Members: Piers Beeton, Ian Finlay, Parish Councillor Barbara King, Anne Luttmann-Johnson) and with Leani Haim from O'Neill Homer.

Subsequent to this initial work, the Green Infrastructure Plan was presented to the public, mainly villagers on the 26th June, 2021 at the Cassington Village Hall. This meeting was aimed at informing the village on the contents of the Green Infrastructure Plan and Neighbourhood Plan which was being put together by O'Neill Homer for the Parish Council. It included a presentation on the Green Infrastructure Plan and Neighbourhood Plan and a display of the slides in the presentation for viewing by the public. A questionnaire on the Green Infrastructure and Neighbourhood Plans was also put together to obtain feedback for further input to both the Green Infrastructure and Neighbourhood plans. Any verbal feedback from the meeting was also noted for inclusion. The slides for the presentation were also displayed in the Sports Pavillion during the late summer Cassington Picnic for the village on the 4th September, 2021 and further questionnaires distributed for attending residents. Finally, the questionnaire was also circulated in the September 2021 issue of the

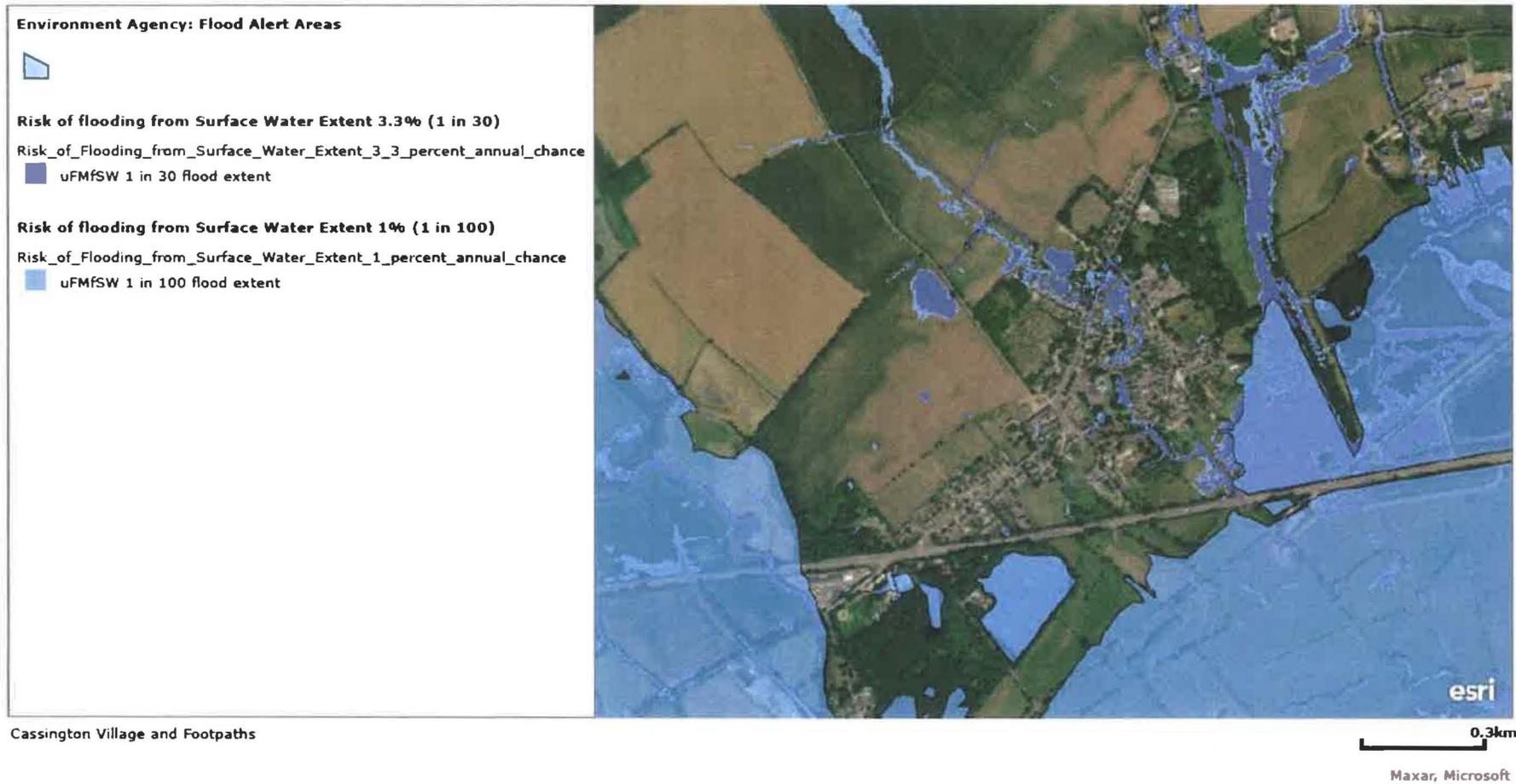


Figure 1. UK Environment Agency Flood Risk Map. Flood Alert Areas shown in mid blue. These are mainly associated with rivers in the area. Surface flooding event risk is shown in pale blue (1 in 100 year event) and dark blue (one in 30 year event). These are consistent with recent flooding history.

- (iv) Survey traffic density through Cassington now and monitor in the future in case measures to mitigate traffic flow are required.
- (v) Request modelling of traffic flows for Cassington over a 10-year horizon with inputs including the increased housing, car ownership and traffic from surrounding developments in West Oxfordshire and Cherwell

Noise

Noise from the A40 is a significant problem for the village and is now noticeable across 24 hours. Heavy Goods Vehicles are a particular issue as they accelerate down the hill from Cassington Traffic Lights. Further sources of environmental noise include air traffic from London Oxford (Kidlington) Airport and RAF Brize Norton. Traffic through the village is light at night times. Some noise from local farms can also be heard at certain times of the year (e.g. gas guns to scare birds) but this is at acceptable levels and reflects the rural location of the village. The following measures should be undertaken:

- (i) Consultation with WODC is undertaken to ascertain what mitigation measures for traffic noise from the A40 might be put in place especially with the planned widening of the carriageway to incorporate bus lanes (e.g. planting of trees / shrubs to reduce traffic noise and pollution; adding other forms of acoustic barriers; road surfacing to reduce noise). This is especially important as planned works may result in loss of current vegetation along the A40.
- (ii) Ensure that the Parish Council has effective representation on the consultative committee for London Oxford Airport to try and prevent air traffic from significantly increasing over the village.

Light

The benefits of a dark night sky are wide ranging and include (adapted from Cornwall Country Council, 2019):

- Enjoyment and appreciation – improving quality of life and providing creative inspiration
- Health – promoting better sleep patterns and reducing stress
- Wildlife – supporting a more natural environment for both nocturnal and diurnal animals
- Educational outreach – potentially including formal education and more informal activities
- Leisure advantages – enhancing conditions for amateur astronomy
- Energy efficiency – reducing wastage from unnecessary or excessive lighting

The National Planning Policy Framework (2021) states that planning policies and conditions should “limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation” (Cornwall Country Council, 2019). This is supported by National Planning Policy Guidance on Light Pollution (2014; Cornwall County Council, 2019)

Cassington village has never had street lighting installed which means there is a low level of disturbance to both people living in the village from streetlights and also to nature. This also makes the village a good location for star gazing with telescopes. At present the majority of residents are against installation of street lighting so new housing developments, modifications to the roads, such

- Path 4 Eynsham Mill. The footpath can be accessed via the old Cassington – Eynsham Road (involves crossing the A40 at the traffic lights then crossing a field then crossing the A40 again so hazardous). Alternatively, pedestrians can walk from Cassington down the north side of the A40 until the footpath is reached. From here it crosses a field, follows the River Evenlode for a short distance before crossing the grounds of Eynsham Mill. Beyond here the footpath follows field boundaries, crossing Lower Road (hazardous) and then traversing field boundaries to Eynsham Wood. From here the A40 can be crossed into Eynsham. Footpaths connect this footpath west of Lower Road to footpaths heading north to Church Hanborough and Freeland. Note that the building of Salt Cross will largely obliterate the countryside to the west of Lower Road through which Path 4 traverses.
- Path 5 Eynsham. This walking route is along the old Cassington – Eynsham Road ending at Eynsham. This route forms an important pedestrian / cycling link to Eynsham and its amenities including shops, cafes, schools and public houses. It is particularly important for families (e.g. for those walking with prams and / or young children) and also for cyclists, (especially for teaching children to cycle safely on a road with light traffic). Footpaths at the southern end strike south to connect with Eynsham Lock and the Thames Path. The Thames path also connects to the east with the Oxford Green Belt Way with access to Wytham Wood (permission required). The Thames Path connects to the south with Farmoor Reservoir, Stanton Harcourt, Northmoor and Newbridge (historic location). Chimney Meadows, a Wildlife Trusts Site.



Figure 3. Entrance to Foot Path 1 “The Track”. This is the only footpath accessible to less mobile members of the community. Note that even here the gate is quite narrow.



Figure 6a,b. Foot Path 2 (a) Footpath to the east of Worton Farm (b) Dense growth along the foot path where it runs parallel to the railway tracks.



Figure 7. Meadows south of Yarnton accessible as part of a walk from Foot Path 2 or Foot Path 3.



Figure 10 (a) Footpath 3 track along mixed forest to the east of Cassington (b) Overgrown footpath along A40.



Figure 11. The hazard of crossing the A40 on Footpath 3 from east of Cassington to the lowland meadows to the south of the A40. Sunday 30th May ~ 10.30am. The cycle path along the A40 is visible on the right (southern side of A40).

extend the local open space for recreation and adds to the footpath network, consistent with the National Planning Policy Framework and provides a safer commuting route for workers travelling between Cassington and Long Hanborough.

- Better maintenance of Footpath 3 along the A40.
- As part of the A40 improvements scheme a pedestrian crossing should be placed to allow walkers on Footpath 3 to safely cross from the north side of the A40 to the meadows on the southern side. This would improve Footpath 3 and access to the meadows to the south of the A40, consistent with the National Planning Policy Framework (2021). Concerns about the crossing interfering with traffic flow could be allayed by only operating the crossing at weekends and during public and school holidays outside of peak traffic flow times.
- Improvements to the accessibility of the footpaths should be considered to enable greater use of them by all residents including those with mobility issues and parents and grandparents pushing prams and buggies. These improvements could include the changing of Stiles to gates more friendly to people with mobility issues or on wheelchairs / scooters. This is a clear opportunity to provide better facilities for users and is consistent with the National Planning Policy Framework (2021).

Cycle Paths

There is only one cycle path close to Cassington, the A40 cycle paths which are located at present both on the north and south side of the carriageway (Figure 11, 13). This is an important cycle route as it connects to Oxford City Centre to the east and to Witney in the west. It is therefore important for those that wish to use a bike to commute to work at these locations. There are, however, several issues with this cycle track:

- It is fully exposed to noise and pollution from traffic on the A40 and therefore the wearing of an anti-pollution mask is probably a wise precaution.
- The cycle path is unmarked and unlit so bright lights are required in conditions of poor light or at night.
- It crosses the exits from several roundabouts which are dangerous to negotiate.
- During the summer the cycle path can be encroached by vegetation including sting nettles.
- During winter months pooling of water on the cycle path can lead to frozen sheets of ice which are hazardous to cyclists (the author has witnessed one cyclist injured this way).

There are plans to improve the cycle path as part of the A40 improvements by widening between Cassington and Oxford. This may include the placement of a new cycle connection to the cycle path along the canal into Oxford. As a result, this will allow cyclists on the north side of the A40 to avoid the dangerous crossing of the A40 at the Pear Tree roundabout. Such a connection, however, will be expensive so whether it is approved or not remains to be seen.

The cycle route to Eynsham is via the Cassington – Eynsham Road which is a no-through road for vehicular traffic and therefore reasonably safe for cyclists. This is up to the point of the roundabout on the B4449 which is hazardous to cross into Eynsham by foot or cycle as demonstrated by a teenager being knocked off their bike by a driver and injured in July 2021. Cycling routes to Yarnton, Bladon / Woodstock and Long Hanborough are along country roads. These routes are hazardous for cyclists for various reasons including fast-moving traffic, blind bends, hump-backed bridges, difficult junctions (especially on the A4095 travelling east and trying to turn into Lower Road or the Burleigh

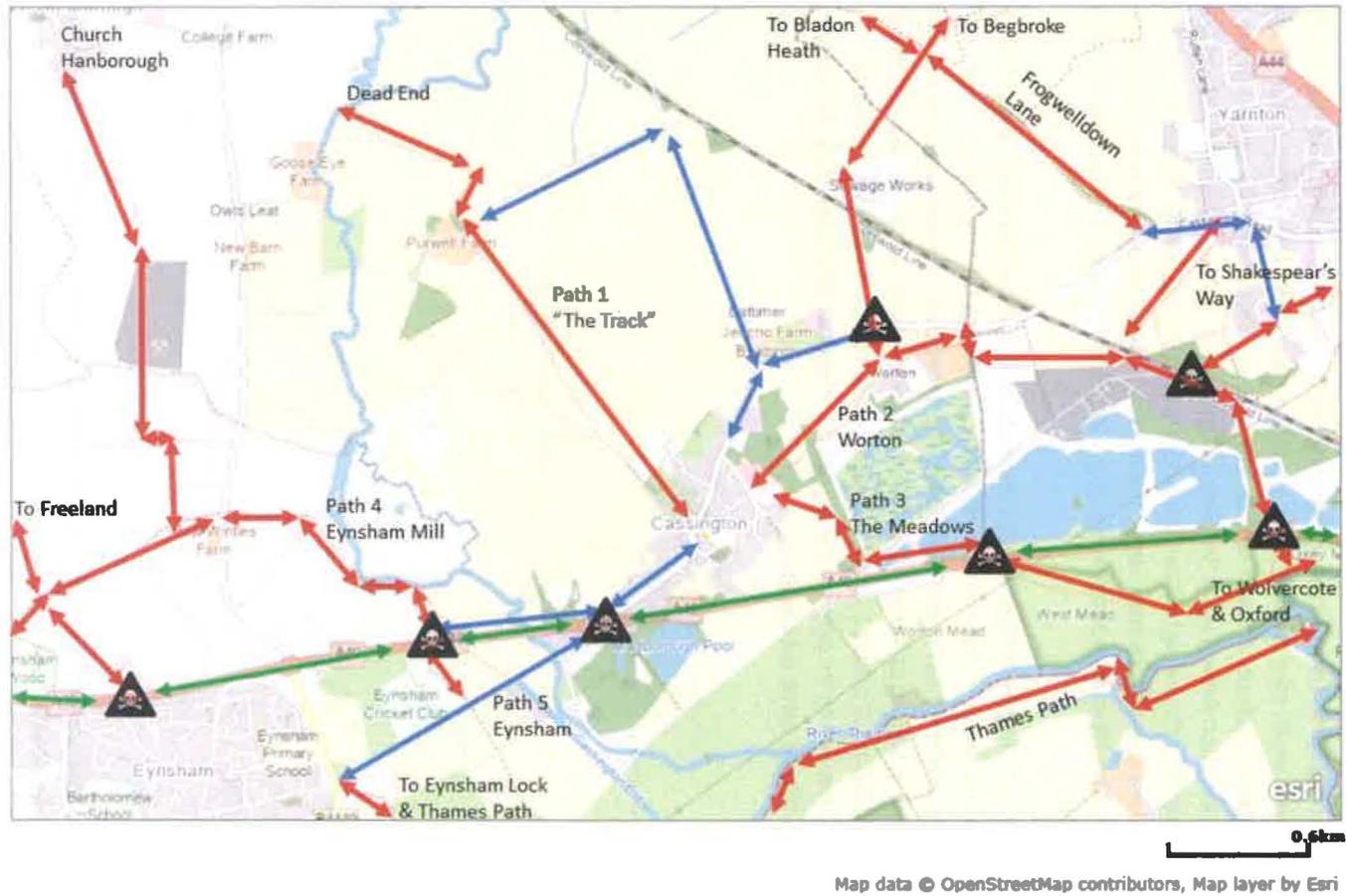


Figure 13. Cassington Village. Footpaths (red arrows), pedestrian routes along roads (blue arrows), cycle paths (green arrows). Hazardous cross points of fast roads or railways are indicated (skull and cross bones).

Peter's Church is the most significant building and is Grade 1 listed (Figure 15). It dates from the 12th Century and includes a "wealth of fine details" both outside and inside the building. Many of the old cottages around the Upper Village Green and some in the vicinity of the Lower Village Green and Horsemere Lane are Grade 2 listed buildings, as is the Cassington War Memorial. Drystone walls are a notable feature of some areas of the village and also lie along the footpath connecting the Upper Green and Lower Green (Figure 25). The Conservation Area reports that much of the 20th Century development of the village was out of character with its historic buildings with the exception of the development to the southwest of the Upper Green (includes the Chequers Pub; Figure 16). Much of the Upper Green has been lost over time to building, such as for the village school (St Peter's). The wider area around the village is rural in nature and essential to protecting its rural character. Green space dividing Cassington from the small settlement of Worton and larger settlements of Eynsham, Yarnton, Long Hanborough and Bladon must be maintained for this purpose. It is also noted that these spaces include important archaeological sites, for example the field to the east of Bell Lane is the site of a Saxon Cemetery (Bell & Hey, 1999) but lies outside of the Conservation Area. These spaces are also crucial for wildlife and for outdoor activities such as walking. It is important that the following are considered for the future preservation of the character of Cassington Village:

- Restrict development within the current conservation area, including where important view-points are indicated.
- Where development is permitted in the village it should be restricted where feasible to brown field sites or sites which have a low-level of impact on the visual character and amenity value for current residents.
- If development is permitted, it should be of keeping with the historical character of the village buildings. An example of this is given in the Conservation Area report (WODC, 2007; Fig. 16). This would seem to relate to use of local building materials and small scale of buildings as well as sympathetic to the general rural character of the village and the curtilage of Listed buildings.
- There should be further consideration and survey of features of the village that may be worthy of conservation, such as drystone / boundary walls and historic or archaeological sites. An example of a recently designated site is the village War Memorial.
- The village is made up largely of properties for residential use. This should be maintained and the opportunity for any industrial / commercial development is not demanded or appropriate. An exception to this may be rural-based commercial activities (e.g. development of fisheries ponds).
- Cassington is a "small" village and this character is a rare survivor in Oxfordshire and particularly in such proximity to the city. This character must be protected through limited development and growth.



Figure 17. Recent development off the Upper Green at Williams Court. Note that although the stonework is similar to the “ideal” development in Figure 16 the roofing material is modern and not in keeping with older buildings.

Biodiversity

Wider Area

Much of the countryside surrounding Cassington Village has been given over to intensive modern agriculture, predominantly arable farming (e.g. Figure 21). This has led to gradual amalgamation of fields and a steady degradation of hedgerows. Rapid run-off of rainwater contains a significant amount of soil and probably residues of fertilisers and other agrochemicals such as pesticides and herbicides. The result is that many of the minor waterways and ditches are of low grade for freshwater animals and plants although they may be relevant to biodiversity as wildlife corridors. Likewise, much of the ancient forest of the area, particularly associated with the Wychwood, has also been lost and what remains has been degraded, and in many cases replaced with plantations, mainly of conifers (e.g. large areas of Pinsey Wood, Church Hanborough). Green space is often not respected as evidenced by littering in the countryside, a result of a poor connection of Oxfordshire’s citizens with the natural environment, despite living in a largely rural county.

Whilst this picture is a bleak one there are biodiversity hotspots surrounding the village of Cassington. Some of these are natural, others are examples of human restoration or natural reclamation of land by native vegetation and fauna. Many of these areas are connected to Cassington by footpaths or walking routes, whilst some are out of bounds as they lie on private land. Figures 18, 19 and 20 shows some of the large-scale habitats and areas designated for conservation present in the vicinity of the village.

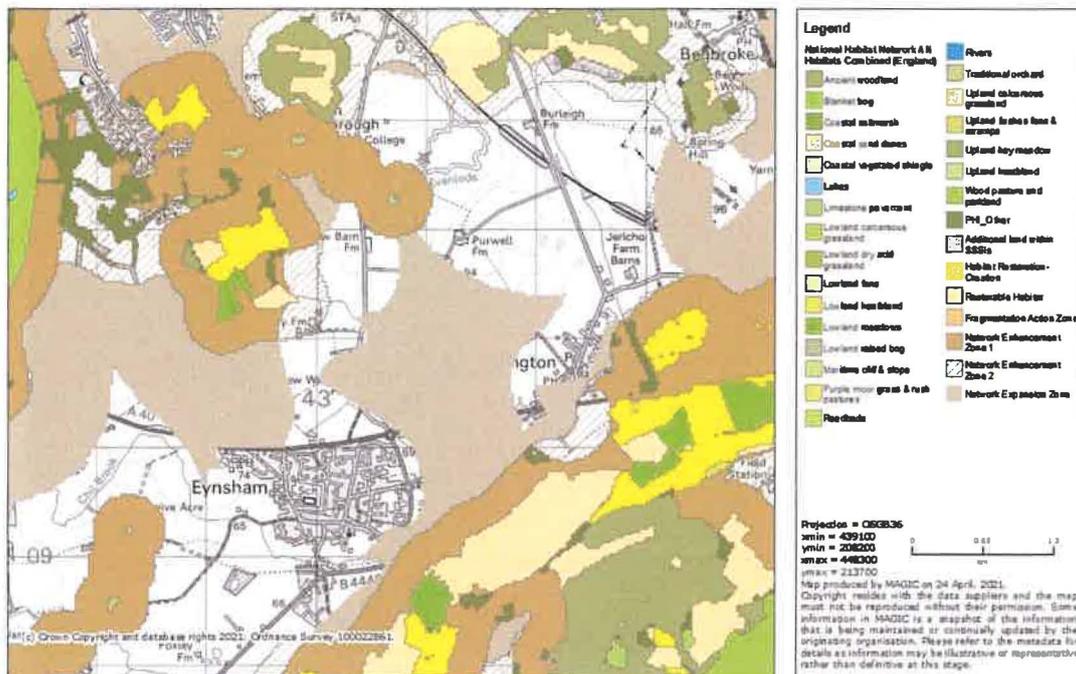


Figure 19. Cassington and surrounding areas National Habitat Network.

The most significant areas for biodiversity close to Cassington are the Lowland Meadows and Floodplain Grazing Marsh located to the south of the village along the northern side of the Thames. These meadows date back to medieval times and include Oxey Mead, Pixey and Yarnton Meads, Cassington Meadows and Oxford Meadows. These sites are either Special Sites of Scientific Interest (SSSIs) or Special Areas of Conservation (SACs). They host a spectacular diversity of meadow plants, including the snake's head fritillary, insects and some species of wetland birds such as curlews and lapwings as well as wildfowl from the river. 97% of this type of habitat was lost between 1930 and 1984 (Wildlife Trusts, 2012) so it is a nationally scarce community of plants and animals. To the south of the River Thames there are more flood meadows as well as Wytham Woods (SSSI), an area which is notable as being a site where the University of Oxford has run long-term experiments and observations on many aspects of ecology. It is a semi-ancient woodland with parts dating back to the ice age and hosts 500 species of plants, a wealth of woodland habitats, and 800 species of butterflies and moths amongst other animals.

To the north of Cassington there are several semi-natural woodlands. Pinsey Woods is a good example, which has a combination of natural woods with a considerable diversity of plants as well as conifer plantations which are of little value for nature. There are also small patches of lowland meadow and semi-improved grassland.

Both within and surrounding Cassington are several zones within the Natural England Habitat Network. These include areas of habitat restoration (Worton gravel pits; Figure 28), Network Enhancement Zone 1 (fields to the east of Cassington; Figure 9) Network Enhancement Zone 2

These Habitat Network Zones can be defined as follows (Natural England 2020):

- Network Enhancement Zone 1 - Land connecting existing patches of primary and associated habitats which is likely to be suitable for creation of the primary habitat. Factors affecting suitability include proximity to primary habitat, land use (urban/rural), soil type and slope. **Action in this zone to expand and join up existing habitat patches and improve the connections between them can be targeted here.**
- Network Enhancement Zone 2 - Land connecting existing patches of primary and associated habitats which is less likely to be suitable for creation of the primary habitat. **Action in this zone that improves the biodiversity value through land management changes and/or green infrastructure provision can be targeted here.**
- Network Expansion Zone - Land beyond the Network Enhancement Zones with potential for expanding, linking/joining networks across the landscape i.e. conditions such as soils are potentially suitable for habitat creation for the specific habitat in addition to Enhancement Zone 1. **Action in this zone to improve connections between existing habitat networks can be targeted here.**

Biodiversity Within Cassington Village

Much of the village of Cassington and the surrounding intensively farmed land and road infrastructure could be considered as anthromes, land which is intensively used by humans. Maintaining a 20% coverage of land by native habitat has been recommended to sustain local nature's contributions to people (e.g. Garibaldi et al., 2021) with higher areas of coverage of 30% of representative habitats recommended to conserve biodiversity. Such action at a local level is significant because if applied systematically across a region such as West Oxfordshire it can add up to significant action to conserve biodiversity, as well as mitigating climate disruption and providing contributions to people's well-being. Even in the most built-up city scapes introducing opportunities for nature, such as parks, gardens and green roofs can help to improve biodiversity and to improve human lives through direct effects such as reducing urban temperature as well as increasing a sense of well-being through provision of green space.



Figure 21. Large arable field at the start of Foot Path 1. This illustrates modern intensive agriculture with very large monoculture fields.



Figure 22. The Upper Green Cassington Village.



Figure 23. St Peter's School grounds showing part of the Forest School area used for outdoor education and play.



Figure 25. Footpath from the Upper Green to Lower Green. Note the growth of shrubs and plants along the edges of the footpath and the dry stone walls.



Figure 26. Kenilworth ivy growing on a much-repaired drystone wall on the Upper Green – Lower Green foot path. Note also the various species of lichens growing on the stone.

meadows bordering the Thames this is a significant sight for flora and fauna within Cassington Village.



Figure 28. Water filled old gravel pits lying to the south of Foot Path 2 “the Worton Path”. Although they can be viewed at a distance these water bodies are on private land and not accessible for bird watching.



Figure 29. Marlborough Pool showing a rich cover of broad-leaved trees and vegetation. A dragonfly resting on the twig at the lake. Photos © Matt Britton.

The allotments in Cassington are probably one of the most important habitats for wildlife within the confines of the village (Figure 32, 33). Large numbers of reptiles are encountered in this habitat including mainly slow worms, viviparous lizard and grass snakes (Figure 30a). All these species are protected in the UK under the Wildlife and Countryside Act, 1981 and Priority Species under the UK Post-2010 Biodiversity Framework. Amphibians include the common toad (protected in the UK under the Wildlife and Countryside Act, 1981 and Priority Species under the UK Post-2010 Biodiversity Framework), the common frog and smooth newt (protected under the UK Wildlife and Countryside Act, 1981). The bird species found on the allotments include:

RSPB Green List species (least conservation concern)

Blackbird, Blackcap, Blue tit, Canada goose (flying over), Chaffinch, Collared dove, Crow, Garden warbler, Goldfinch, Great tit, Greenfinch, Jackdaw, Magpie, Mallard duck, Pheasant, Pied wagtail, Red kite, Red legged partridge, Reed bunting, Robin, Rook, Snow goose (flying over), Swallow, Whitethroat, Willow warbler, Woodpigeon, Wren

RSPB Amber List species (at least one factor negatively affecting populations)

Black headed gull (flying over), Dunnock, Kestrel, Mute swan (flying over), Swift

RSPB Red List species (highest conservation priority species needing urgent action)

House sparrow, Fieldfare, Linnet, Song thrush, Starling

As can be seen 8 of the species which have been observed on the allotments are classified as Amber List or Red List species meaning they are in decline and require conservation action (Red most urgently). The allotment also represents an area of low-intensity land use and is therefore likely provide foraging for agricultural and migrant birds species. It is noted that the red kite has benefited from a multi-million-pound restoration scheme and is now well established in the village and often forages in the allotment. In addition to these species, rugged oil beetle have been observed several times in the allotment breeding during the autumn (Figure 33a). As stated above, this is on the S41 List of rare species for the U.K. The allotments comprise a diverse range of habitats including artificial habitats (allotments and associated sheds and other equipment), semi-natural meadowland including tussock grass favoured by rugged oil beetle and hosting abundant wildflowers, as well as thickets of hawthorn, blackthorn and briar bushes. These are rich in insects and other wildlife including various species of rodents, hares, foxes and deer. Bats also forage in the allotments at night.

Bats

Three bat species - Common pipistrelle, Soprano pipistrelle and Brown long-eared bat are commonly encountered throughout the village environs and there is a likelihood that other species will be encountered from time to time. The conservation of bats within the village is reliant on the delivery of several factors, namely the provision of roosting opportunities, the availability of foraging and commuting habitat and the appropriate management / protection of existing roosts and areas. It is important to note that all UK bat species and their roosts are protected under national and European law and that this legislation has been incorporated into planning policies, meaning that planning authorities have a legal obligation to consider whether bats are likely to be affected by any proposed development. Bats may roost in a wide range of structures and the legislation makes no distinction between the size or type of development. Legislation dictates that any structures or place which bats use for shelter or protection are protected from damage or destruction, whether occupied or not.

Bats in and around the village will use a variety of landscapes or habitats throughout the year as they feed, roost and travel. They use hunting grounds or foraging habitats to find food and commuting habitats to travel between roosts and foraging habitats. Bats are known to roost in village buildings, but they also forage in the variety of green spaces on offer, namely gardens, the allotments, meadows, sports field and water bodies. In reference to this it is important to note that bats use linear features to commute from one area of the village to another. These features act as navigational landmarks and can also provide some protection from predators. As bats fly through the night, their echolocation calls bounce off these linear landscape features, helping the bats find their way to and from their roosts and foraging habitats. If bats' commuting routes are severed (for example, by roads or housing developments) they can be cut off from their foraging habitats, making it difficult for them to hunt and survive.

Great crested newts

The great crested newt (*Triturus cristatus*) is a protected species in the UK under schedule 5 of the Wildlife and Countryside Act, 1981, and in Europe under the European Union Directive on Natural Habitats and Wild Fauna and Flora (Ratcliffe, 2021). Section 9 regulations of the Wildlife and Countryside Act, 1981 protect the great crested newt at all life stages, from eggs to mature adults, stating it is illegal to kill, harm, capture or be in possession of parts of individuals; disturb, damage or obstruct access to breeding sites, areas of shelter or habitats; and/or partake in any form of trading in this species (Ratcliffe, 2021).

The suitability of Cassington for great crested newts was assessed by the NatureSpace Partnership, who have concluded that large parts of Cassington are highly suitable habitat for this species shown by the red polygon (Figure 34; Ratcliffe, 2021). The polygon bordering the red core area is defined as a suitable habitat where GCN's are known to be present, thus emphasising the importance of creating a key area of habitat so that nearby newts can be conserved (Ratcliffe, 2021).

In the autumn of 2021, the school pond was renovated by volunteers from Cassington village to create habitat for GCNs and other species as well as provide an outdoor teaching space for the pupils of St Peter's School.

Biodiversity Offsets and Translocation

National policy now sets a target of net biodiversity gain for any new developments. How this is achieved, however, is important. For example, biodiversity offsetting has been shown to work for only approximately 30% of schemes and for some ecosystems it doesn't work at all (e.g. Ermgassen et al., 2019). Likewise, whether translocation of wildlife from development sites to resettlement sites works is also open to question (e.g. for slow worms, viviparous lizard and adder; Platenburg & Griffiths, 1999; Nash & Griffiths, 2018; Nash et al., 2020). On the basis of this evidence it is reasonable to assume that offsetting of biodiversity or translocation of animals as part of a development scheme is as likely to not work as it is to work in terms of conserving biodiversity or populations of wild animals.

Agro-Ecological Approaches

Conventional intensive agriculture is the prevailing food production approach used across much of the world, including in the U.K. and in Oxfordshire. It is characterised by the industrial management of livestock or large-scale monocultures with high external inputs and mechanisation that circumvent ecological limits to production (Van Bergen et al., 2020). However, such approaches transform the landscape and have become the predominant pressure on biodiversity across much of the world leading to degradation of natural ecosystems and the erosion of nature's contribution to people (Van Bergen et al., 2020; Dasgupta, 2021). A societal consensus is emerging that to mitigate climate change and losses to biodiversity while continuing to feed people a transformation is required to more sustainable agricultural practices (Van Bergen et al., 2020). Agriculture essentially simplifies and homogenises ecosystems by directly altering habitat and the use of agrichemicals (Van Bergen et al., 2020). Increasing land cover heterogeneity at field, farm or landscape levels can increase populations of pollinators as well as natural predators of pests (Van Bergen et al., Dasgupta, 2021). This can be achieved through developing complex landscapes with smaller and/or irregularly shaped fields (Van Bergen et al., 2020). In the context of the surrounding farmland of Cassington this might be achieved by restoration of intact hedgerow networks using native species of trees and shrubs, breaking up large fields into smaller units (including restoration of historical field boundaries) and the introduction of additional habitats such as copses of trees or ponds. Leaving the margins of fields uncultivated is another practice that can enhance biodiversity of vegetation and provide wildflowers for pollinators and habitat for natural predators (Van Bergen et al., 2020).

Such approaches, However, do not address issues such as soil biodiversity or organic content of soils. There are now a variety of approaches to more sustainable agriculture. These include (after Van Bergen et al., 2020):

- Sustainable intensification: essentially the adoption of precision methods in application of fertilisers, pesticides and herbicides with crop rotation. Criticised as essentially reducing waste but without working within natural ecosystem limits or processes.
- Organic agriculture: farming of a variety of intensity but substituting most synthetic fertilisers and pesticides with organic ones.
- Ecological intensification: agricultural practices that confer greater resilience on the farm system by working with co-existing biota and ecological processes to optimise soil fertility, plant performance, crop pollination and natural defences. Practices in this type of

- Biodiversity offset or species translocations are not acceptable for developments within Cassington Village or its immediate surrounding area. Scientific studies have demonstrated that these strategies for biodiversity conservation are unlikely to work.
- Where development is permitted to take place 30% of the overall land area allocated for development should be allocated to nature. This should be in a form which is likely to best match the location or adjacent land or which adds to the connectivity of the existing network of habitats as indicated in Network Expansion Zone land which is much of the land surrounding Cassington to the west and the north. Land should be managed by local environmental groups or the Wildlife Trusts in a way that maximises the benefit to biodiversity and to the people of the village. This would meet the requirements for a Local Nature Recovery Network (O’Neill Homer, 2021) as well as enhancing open space and conserving and enhancing the natural environment as is consistent with the National Planning Policy Framework (2019).
- Within the village of Cassington it is important that existing structures important for biodiversity are retained. These include: lowland meadows, mature trees, natural scrub, drystone walls, hedges, drainage channels and ditches. A survey should be undertaken of trees and drystone walls and preservation orders initiated to preserve them for the future.
- New developments should include features which enhance biodiversity. These include:
 - Compulsory placement of swift bricks and house martin nest boxes on all properties; placement of bat box bricks and insect bricks is also encouraged
 - Placement of “hedgehog holes” in all fences between gardens and between gardens and external natural environments (i.e. not onto the street)
 - Boundary walls should be drystone walls or have a layer of drystone wall on their external faces.
 - The overall design of a development should be wildlife friendly with green space to increase the wellbeing of residents
- Discussions should be initiated with surrounding landowners to explore the scope for land management measures that improve biodiversity and reduce the risk of surface flooding to the village. Land management practices which carry out both functions include:
 - woodland planting
 - conservation tillage
 - buffer strips and buffer zones (e.g. contour grass strips, hedges, shelter belts)
 - establishment of ponds, ditches and wetlands
 - Restoration or planting of hedgerows
- If feasible transformations in agricultural practice around Cassington should be encouraged towards ecological intensification, conservation agriculture or agroecological approaches.
- Where land becomes available through sale the Parish Council should consult with the village to look into the possibilities for purchase through charitable fund raising or through grants to increase space for nature and to enhance the Local Nature Recovery Network.

Village Amenities

School

St Peter’s is a Church of England primary school (<https://www.st-petersoxon.co.uk/>) and part of the Eynsham Partnership Academy (<https://www.epa-mat.org/> ; Figure 36). As of the last school inspection St Peters was rated as Good overall with a rating of Outstanding for Personal Development, Behaviour and Welfare (OFSTED, 2017). At the time 102 pupils were enrolled in the school making it smaller than average size for a primary school in the U.K. (OFSTED, 2017; note that numbers of 106-109 pupils have been recorded on various websites since this date). The school has

Figure 36. St Peter's School, Cassington.

Village Greens

The village greens offer a natural green space located at the centre of the village (Upper Green) and in the residential area of Bell Lane (Lower Green). These spaces add to the rural character of the village and provides green space for the well-being of residents, especially those living around the greens. The Upper Green has also been used for social events such as Cassington's Annual Bike Night in June. Benches are provided on the Upper Green for use by the residents and visitors. The Village War Memorial, now Grade 2 listed, is located on the eastern part of the Upper Green.

Village Hall

Cassington Village Hall is located adjacent to the Upper Green and provides a venue for the village for up to 100 people seated or 150 standing. It is equipped with a stage, a screen, a kitchen, toilets and also WiFi. The Village Hall is fully wheelchair accessible and also has a small car park for visitors (used by parents for dropping off and picking up children at St Peter's School). The Village Hall is one of the main centres for social events in Cassington and hosts: music, dance, games and theatre events; receptions, anniversaries and parties; children's parties; fund raising events; business meetings, conferences, training sessions; sales and promotion events; exercise and dramatics classes. It is a very popular venue within the village for birthday parties and regular events such as Cassington Cinema. The building is structurally sound but in future years could be reviewed in terms of its energy sourcing for heating and other purposes to bring it in line with green / renewable energy use and minimisation of energy waste. At present the building has sufficient capacity for the social needs of the village.

St Peter's Church

Cassington's church is a Grade 1 listed building and dates back to the 11th century. The church is used during the week for worship and also for important family events such as Weddings and Funerals. Celebrations at Easter and Christmas Time are significant village events with a wider community of people attending the church. The grounds of the church are part of the green infrastructure of the village (see Biodiversity).

Allotments

Cassington allotments have been in use for more than 100 years and covers an area of about 7.4 acres (Figure 32, 33, 37), including the wilderness area on the northern boundary. Currently there are 30 plots on the site which are fully subscribed. These plots are of a considerable size and ownership varies from a single plot-holder to shared plots. Allotment gardeners come from Cassington Village, but some come from the wider area including Eynsham and Kidlington. This is because of a shortage of allotment spaces in West Oxfordshire at present, which reflects a national trend of loss of allotments and increasing interest in growing healthy food by the public. The allotments provide a communal meeting place, a place of recreation and a haven for relaxation and well-being. The main use is therefore recreational but given the long history in the village it is also of cultural value.

Bike Night. The building has recently had a refurbishment. At present the Sports and Social Centre has sufficient capacity for the village's needs.

Public Houses

Cassington has two public houses, the Red Lion and the Chequers. Both are used by members of the community for socialising throughout the week as well as special events. The Red Lion is a 17th Century building and includes a large garden, including seating and children's play equipment. The Chequers includes Bed & Breakfast and also provides food throughout the week. This is the only eatery within Cassington Village.

Newspaper shop

There is a small newspaper shop in the front porch of one of the houses in Elms Road where daily newspapers can be purchased. No other shops are located within the village.

Marlborough Pool

Marlborough Pool (Figure 38) lies on the southwestern edge of the village across the A34 and bordering the biodiverse meadows on the north side of the Thames. The pool is a water-filled quarry and has been a club fishing lake for over 70 years. The lake is owned by Blenheim Estates and has been leased by Abingdon and Oxford Angling Alliance Fishing Club for 71 years. The club offers a low-cost fishing opportunity to all people young and old (Figure 39). Aside from being an important site for biodiversity in the village (see above) the lake is considered the hidden gem of Oxford in fishing history books and some of the country's most famous fishermen have had the pleasure of angling there. The lake used to be open to all and free to walk around until there was an uncontrolled release of mink which combined with the increasing otter population in the area. Predation from these piscivores saw the loss of hundreds of thousands of pounds worth of 40-50 year-old carp losing the club many members. This led to the building of a £20,000 anti-predator fence so unfortunately the lake is now fully fenced to keep the otters out. Restocking of the lake over the last 5 years has shown a healthy return to the fish stocks. Recent tree management has opened up some gaps around the perimeter so the lake can be enjoyed by people walking around the surrounding fields. Cassington residents can arrange a tour of the lake via the club if they are interested in fishing.

Worton Farm

Worton Farm includes a range of small business premises as well as horse stabling, paddocks and a covered exercise area for horses. A large venue was recently constructed for events such as weddings. This is also the location of Worton Farm Café which provides a local venue for lunches, coffee and cakes. For walkers this is accessible via foot path 2 but it also has parking. Alongside the café there is also an organic produce farm shop. Worton Farm is also the location of a number of habitat restoration projects (old gravel pits now filled with water). These are inaccessible at present and too distant for the public to view. The placement of a bird hide close to foot path 3 could be achieved with minimal disturbance to wildlife but would require permission from the land owner as well as permission to cross a distance of about 10-15 m from foot path 3 to the hide. This could be achieved through a permissive foot path (i.e. not a right of way but specific permission given by the landowner to allow access).

Public Transport

Currently Cassington Village is served by a bus stops on the northern and southern sides of the A40. These bus stops are a considerable distance from the centre of the village and so not friendly to passengers who have a low level of mobility. Buses travel to / from Oxford to the East and Witney to the west. The service current stops in the early evening from Oxford. The planned upgrades for the A40 will include bus lanes so decreasing journey times on the bus from Cassington to Oxford in the mornings. However, in the outlined plans there was some suggestion of moving the bus stop on the northern side of the A40 (i.e. east bound) possibly further from the village. Buses currently include:

853 Cheltenham Royal Well Bus Station – Oxford via Witney

H2 Carterton – John Radcliffe Hospital via Witney

S2 Carterton – Oxford via Witney

S2X Carterton – Oxford via Witney

Taxi provision for Cassington is also quite poor with several local companies charging a surcharge for pick-ups from Cassington to go to destinations such as Oxford.

Village amenities summary

Cassington Village has a range of amenities focused on education, social activities, religious worship, leisure, sports and other outdoor pursuits. Many of these amenities have the capacity to take more users including the Village Hall, the Sports and Social Club, the Church, and the public houses. St Peter's School is currently at capacity and so further development within the village and surrounding area will require monitoring. Secondary school provision will certainly be exceeded in the area as a result of development at Eynsham and the building of Salt Cross village, should it go ahead. The village currently lacks a shop/convenience store and it is likely that many villagers would favour such a store as part of future development. Whether such a store would be financially viable on its own in a village the size of Cassington is uncertain so a combination with another business (e.g. one of the public houses) might be a more economically sustainable prospect. Public transport is also lacking in Cassington and the only bus stops are located on the A40.

In terms of Green Infrastructure Cassington has a very notable rural aspect in the centre of the village. There is connectivity from the Church and its grounds, via the Upper Green, through the allotments to the Sports and Social Club and Sports Fields. The main road through Cassington intersects this green infrastructure outside the Red Lion public house on the northern edge of the Upper Green. This is one point of hazard when moving from the church or centre of the village to the

given to introducing either a safe crossing or traffic calming to reduce the speed of vehicular traffic through the centre of the village.

- Growth of St Peter's school may become an issue for parking for parents as parking spaces are very limited in the centre of the village. This may represent a constraint on further growth of the school.
- There may be support for a local shop if it could be run as a sustainable business. This might be more likely if it was combined with another business in the village.
- Public transport links to Cassington Village are poor and particularly so for people with low mobility. It is essential that the village is consulted and puts forward its points of view on any decisions regarding public transport links in the future. An example is the proposal to move the bus stop on the eastbound side of the A40 for Cassington. West Oxfordshire District Council should be encouraged to increase public transport links to the village (e.g. a bus route that goes through the village; a light railway stopping at Cassington as part of a Witney – Oxford rail scheme).
- A limited Saturday service and no Sunday service on existing bus routes along the A40 make it unsuitable for weekend users seeking to use sustainable transport from the village to Oxford / Witney. The Parish Council should discuss this with the bus operators and West Oxfordshire District Council.
- Although there are three railway stations around Cassington (Long Hanborough, Oxford Parkway, Oxford Central) there are no bus links to any of them from the village. This makes joined-up sustainable transport very challenging and results in essential car ownership for business and leisure journeys. The whole issue of sustainable transport is an important consideration for Cassington Village.
- The Parish Council should investigate the possibility of building a small bird hide to view birds on the western gravel pit at Worton Farm for both leisure and educational purposes. The village and Parish Council should provide the funding for building this structure and also pay for maintenance each year. Minimal investment could provide the village with a valuable asset for nature education as well as the well-being of residents interested in wildlife.
- The creation of a safe and accessible walking and cycle route would enable Worton Farm to become a more significant amenity to the village. The construction of such a route would require careful design to prevent loss to biodiversity.
- The Parish Council might consider commissioning of signage around the village to provide residents and visitors with information on points of historical interest, biodiversity and other features. This may improve the experience of people when moving about the village for leisure.
- The Parish Council should put out calls for further ideas for amenities, amenity improvement and improvement of green space for people and nature in the village. Ideas could include the provision of a community well-being area, further allotments, a village orchard, provision of small areas of forest, restoration of hedgerows or other village projects.

Green Development

National to Local Building Policies and Recommendations from the Green Infrastructure Report

All of Cassington is located in Green Belt land and as such should be considered in this context for proposed developments to meet local needs for housing as outlined in the National Planning Policy Framework (2019) Section 13. It is summarised here:

- Tackles traffic congestion on key routes such as the A40 and A44
- Improves air quality
- Tackles climate change
- Protects the Green Belt (see also WODC, 2018 Para 4.2, 4.6)
- Ensures that the leisure and recreational needs of residents and visitors are met both in terms of the quality and quantity of facilities available
- Ensures that new development is supported by appropriate investment in new and/or enhanced infrastructure including education, water supply and disposal, transport, affordable housing and open space
- Improves the health of local communities
- Protection and enhancement of the District's rich historic and natural environment (see also WODC, 2018 Para 4.5, 4.6)

Outlined in this document are other guidelines for where development should and should not take place that may be adopted as policies in the Neighbourhood Plan or as guidance to help planners propose sustainable developments or assist with planning decisions. Many of these guidelines are in line with the National planning Policy Framework (2021) and the West Oxfordshire Local Plan 2031. Others go beyond these policy documents but put forward recommendations for more sustainable development for the village of Cassington that takes into consideration the needs of its residents, local and regional biodiversity networks and climate change. These include:

- Avoidance of building in areas subject to flooding or which are important in terms of drainage
- Avoidance of building where there will be substantive impact or the possibility of increased risks in terms of traffic volume and safety
- Avoidance of building on areas which represent important amenities to the residents of Cassington
- Avoidance of building where there is a likelihood of substantive harm to biodiversity
- Avoidance of building on Local Green Space
- Adoption of building design that is in keeping with the vernacular style of the village (see Figure 16) as outlined in the Conservation Area Character Appraisal (WODC, 2007)
- Incorporation of features which enhance biodiversity into buildings, walls and gardens
- Encourage the set aside of land for nature and/or for recreational purposes
- Encourage the provision of or contribution to further land, amenities, improvement of sustainable transport routes (e.g. the Greenway from Cassington to Long Hanborough) and/or routes for walking during leisure time as well as improvement of such routes for accessibility

Building for Climate Mitigation and Adaptation

The design of a housing development, including the use of land, planting, connections to sustainable transport networks, building orientation and the buildings themselves can contribute to climate mitigation and adaptation. In terms of mitigation the UK Government has laid out its vision and a 10-point plan in its Energy White Paper (2020) to reach net zero carbon emissions by 2050. This plan includes a commitment to improve building energy performance to meet this target and as such all

- Use of green roofs or green walls where appropriate as these also have the potential to lower temperatures during summer and insulate during the winter. They are also beneficial to nature.
- Include sustainable transport infrastructure with new developments such as charging points for electric vehicles or bicycles with each household.
- Adoption of renewable power sources and new technologies to reduce power consumption (e.g. non-fossil fuel gases such as hydrogen; ground-source heat pumps etc.).
- Developments to contribute to sustainable transport infrastructure where feasible (e.g. new cycle routes, improvements to existing foot paths etc).



Figure 41. Green roof on building in Cassington village. Not only does this provide advantages in terms of cooling of the building but it also provides flowering plants for pollinators such as bees.

At What Rate Should Cassington Grow?

Over the last 10 years 20 dwellings have been built in Cassington in the Barrow Court and William's Court Developments. This represents a growth of about 10% in the size of the village. A survey of local housing needs by the Parish Council has identified the requirements for approximately 10 1-2 bedroom-dwellings and 2-3 starter homes for families. It is acknowledged that there is a considerable demand for housing in the West Oxfordshire and Cherwell Districts but it should be considered that there are large developments of hundreds to thousands of homes occurring to meet this demand in Eynsham, Salt Cross (assuming it is approved), Woodstock and Yarnton/Begbroke as well as in North Oxford. As such it is justified that the Neighbourhood Plan focuses on local needs. Given the data from the housing needs survey there is a current need for up to 15 homes in the

for reduced rent are agreed during the initial matching process. These tasks will depend on the want and ability of both parties and will be unique to their match, for example, shopping, cooking and gardening. Homeshare is not a personal care service but obviously can be a way of avoiding a lonely existence for a single aged person and also providing assistance with sustaining an independent lifestyle. All aspects of matching, vetting, supporting, monitoring and ending the Homeshare are managed by expert staff from one of the local delivery schemes, in the case of Oxfordshire this is located here:

<https://www.ageuk.org.uk/oxfordshire/our-services/homeshare-oxfordshire/#>. However, the same sustainable transport issues that affect the elderly in Cassington may also impact on Homesharers. This is because they are likely to be people who are dependent on low-cost accommodation and so may not own a car and have to rely on public transport. This facility may therefore be of limited availability for the village.

Another possibility which has not been explored is that the Churchfields Care Home (or an alternative provider) may be interested in developing a model that would enable carers from the Home to look after and support some people in their own homes in the village. Such a model is not common at present but if it could be made to work might prove a scalable solution to providing support for elderly members of the village that wish to remain in their own homes.

The adaptation or building of homes targeted at elderly or disabled people in Cassington still does not resolve the issue of the lack of some village amenities, particularly public transport. The village questionnaire has identified that this lack of connectivity of the village is already influencing decisions regarding location of homes for the elderly. This is a complex problem to resolve and the residents of Cassington may have to consider the development of more formalised methods of community support for elderly or disabled members of the community (acknowledging that this happens informally in some cases already).

Recommendations regarding accessible and adaptable housing in Cassington:

- The Parish Council assesses needs for what proportion of new housing should be built to accessible and adaptable standards from West Oxfordshire District Council or Oxford County Council.
- Based on the outcome of such a consultation the Neighbourhood Plan could adopt a policy that a certain proportion of houses are built to accessible and adaptable standards.
- The Parish Council should put together an advice package for elderly residents on how to access grants for adaptation of housing, identifying reliable or specialist traders who undertake such works, and how to access other services or community care options that they may need (e.g. Homeshare).
- The Parish Council should initiate a conversation with the Churchfields Care Home or other care providers on the possibility of developing a new model of support for elderly people wishing to remain living semi-independently in their own homes.
- Cassington, as a community, may need to step in and consider how to provide care and support for elderly or disabled members of the village where services, such as public transport, do not exist. During the Covid pandemic some village social networks, such as the Cassington Café have had to be closed down and re-

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