

## **P20/V2298/FUL - Land at Yarnells Hill**

### **Ecology comments (29/10/2020)**

Objection.

This application seeks full planning permission for the erection of three detached dwellings on site, with landscaping, vehicular access and parking.

This application is supported by ecological, arboricultural and hydrological technical reports.

I have reviewed the supporting application documents, visited the site, visited Raleigh Park and had discussions with the case officer and drainage colleagues to inform these comments.

It is noted that a previous planning application (P17/V1862/O) on site was withdrawn prior to determination.

I am aware of the public responses being received raising concerns regarding the potential ecological impacts of the proposed development. The main issues of these responses, with regards to ecology, can be broken down into three main areas:

1. Net impact on biodiversity;
2. Impact on badgers;
3. Impact on Raleigh Park Local Wildlife Site (LWS).

I have reviewed the submitted information and discussed the proposed development at length with the case officer and the council's drainage engineer.

#### **Net impact on biodiversity:**

The habitats within the application site, directly impacted by development, are semi-improved grassland (both species-poor and with neutral/wet grassland influences), scrub, ruderal and scattered trees. The habitats on site are not assessed as being priority habitats and are not considered to represent a material constraint to development.

These habitats have intrinsic value which needs to be accounted for in the decision-making process.

It is considered that impacts on protected species, not including badgers (discussed below), are unlikely if mitigation measures are used.

The ecological appraisal is supported by a biodiversity metric assessment. Having reviewed the metric assessment and compared it to the findings of the phase 1 habitat survey and proposed landscaping scheme, I am generally satisfied that (notwithstanding later comments related to the off-site impacts of the proposed development) the on-site impacts could be compensated for – having regard for the scope of habitat creation and management within the red and blue line areas.

There is potential for a landscape and ecology management plan (LEMP) to be secured by planning condition to ensure the delivery of biodiverse habitats shown on the submitted soft landscaping plan.

### **Impact on badgers:**

Concerns have been raised by members of the public and local interest groups regarding the impacts of development on the local badger population. These concerns can be summarised as:

1. Closure and replacement of main sett not appropriate;
2. Severance of movement corridors;
3. Loss of foraging habitat;
4. Increased risk of road mortality.

The ecological appraisal includes details of a badger survey which has been conducted on site.

Three badger setts have been identified close to the proposed development. Sett 1 is a main sett with 12 entrances. Setts 2 and 3 are considered to be outlier setts with one or two entrances.

Badgers are a protected species and therefore a material consideration when assessing this planning application.

### **Close and replacement of main sett**

Sett 1 would be within 5 metres of plots 1 and 2 and the associated vehicular access. It is likely that sett 1 would be damaged and the inhabiting badgers disturbed/injured/killed if works were to proceed without mitigation. As such, the ecological report recommends the closure of sett 1 and the provision of a replacement sett in retained woodland within the blue line.

As badgers are a protected species and impacts are likely, the relevant tests are triggered under Core Policy 46 of the Local Plan Part 1. These tests are:

- i. The need and benefit of the development outweigh the harm;
- ii. It can be demonstrated that there is not an alternative (site selection, design) which would result in less harm; and
- iii. Measures can be provided to avoid, mitigate and compensate for the harm to achieve a net gain.

The first test (need/benefit) is one for the case officer to consider in the planning balance. It may be appropriate for the case officer to consider the 5yhls position and any other material benefits of the scheme. As this is a main sett, likely used for breeding, the importance of this sett is elevated.

In my opinion, the closure and replacement of a badger main sett should only be considered where development must be sited in the offending position, there are tangible benefits to that development justifying the harm and the local badger population's status is not materially compromised.

The needs and benefits of this development must outweigh the harm.

To develop this site, access infrastructure will be required to be sited in the current location. I cannot see a reasonable alternative which is compatible with development of this site.

The applicant will also need to demonstrate that mitigation and compensation proposals are able to maintain the status of the local badger population. Sustainable development should not: perturb badgers into leaving an area entirely, prevent badgers from moving freely within the landscape or put the local population at any greater risk of death, injury or starvation.

In this instance, notwithstanding previous comments regarding need/benefits/alternatives, it is considered necessary to require the applicant to demonstrate that the proposed replacement sett approach is likely to succeed. The use of artificial replacement setts has a risk of failure (no occupation by badgers).

Additional details as to the location, specification and design of the proposed replacement sett should be submitted to give the local planning authority confidence that the recommended approach will work. Other factors, such as ground conditions and root protection areas will need to be considered. Case studies or relevant guidance documents justifying the approach would be useful.

#### Badger movement corridors

Evidence on the application site shows that badgers move through the site regularly. During my visit to the site, badger paths were seen to be heading towards (and likely beyond) the northern access lane (serving Sweetman's Cottage and Summerhill House), to the woodland to south and south-west of the site, and to the east towards Raleigh Park. The presence of a main sett on site likely means that these paths are very well used.

The proposed development would disrupt these existing movement corridors. However, in my opinion, there is likely adequate habitat connectivity around the site to ensure that badgers would still be able to access areas they access currently.

I am satisfied that the proposed development would not materially sever any important badger movement corridors in the local landscape which would prevent them from accessing suitable habitat for foraging or dispersing from the area.

#### Loss of foraging habitat

The application site is used by badgers for foraging, as seen on my visit to the site. Development will mean that the application site will have reduced foraging value to the local badger population in the future, through direct loss of habitat and also through anthropogenic perturbation.

Due to the proximity and amount of adjacent suitable foraging habitat, and continued connectivity, I am satisfied that the proposed development would not have a material impact on the local badger population's ability to forage and find adequate food.

### Road mortality

The proposed development would involve the creation of an access drive through the site serving all three plots. The access drive could be avoided by badgers using other edge habitats and vehicles using this access drive would likely be travelling very slowly. Overall, I am of the opinion that the proposed vehicular access drive does not present a material risk of road mortality to the local badger population.

### Summary: Badgers

The proposed development will have an adverse impact on a protected species which would require the closure of a main badger sett.

As such, the applicant should provide additional information justifying the recommended approach in the ecological appraisal against the tests outlined in Core Policy 46 of the Local Plan Part 1.

### **Impact on Raleigh Park LWS:**

The submitted ecological appraisal does not fully assess the impacts of the proposed development on the adjacent Raleigh Park LWS (site code: 40X03).

Raleigh Park LWS is identified as being of nature conservation importance for the presence of the lowland alkaline (base-rich) fen. The site contains a wetland habitat mosaic consisting of fen areas, tufa-forming stream, pond, grassland, scrub and trees. The site supports a varied assemblage of plant and animal species of conservation importance. The site does not benefit from a statutory designation (e.g. SSSI).

Raleigh Park LWS directly borders the application site to the east, with the long south-west fen and tufa-forming stream running adjacent to the south-east boundary of the application site.

Fens are hydrologically dependent habitats which rely on receiving water from various sources (groundwater, rainfall, surface run-off, watercourses). Lowland alkaline fen is a highly sensitive habitat, where small changes in water chemistry, water volume, nutrient levels and flow can have material impacts on the extent and condition of the habitat.

Lowland alkaline fen is a habitat of principle importance for the conservation of biodiversity ('priority habitat') under section 41 of the NERC Act 2006 and is identified as being an irreplaceable habitat on pages 68/69 of the NPPF 2019. As such, the lowland alkaline fen within Raleigh Park benefits from the protection of paragraph 175(c) of the NPPF. This being the case, *any* loss or deterioration to the lowland alkaline fen habitat within Raleigh Park is unacceptable, unless there are wholly exceptional reasons.

Raleigh Park has been subject to ecological monitoring as part of the Wild Oxford project (2016 – present), with two monitoring reports being publicly available online. As such, the ecohydrology of the Raleigh Park LWS is well understood. I have reviewed these ecological monitoring reports to inform these comments. These

reports contain valuable information on the specific hydrological characteristics of the LWS and the extent, condition and management of the lowland alkaline fen within.

Concerns have been raised regarding a number of potential different impacts on the LWS by members of the public, local interest groups, BBOWT and Oxford City Council. I have reviewed these comments and consider that the following matters are unlikely to have adverse impacts on the hydrology and ecology of the lowland alkaline fen within Rayleigh Park, or could be adequately controlled to avoid impacts:

#### Foundations impacting groundwater quantity

I have discussed this matter with the council's drainage engineer. The applicant has submitted sufficient information for the council to conclude that the construction of building foundations on the application site will likely not have an adverse impact the quantity of groundwater reaching the LWS.

#### Foul drainage infrastructure presents a risk of pollution

Whilst it is understood that the introduction of foul water into the areas surrounding the LWS would be harmful to its sensitive hydrology (polluting with macronutrients), this is a hypothetical risk. The drainage engineer is satisfied that the local sewerage system is not over-capacity and that a robust, watertight foul water system could be provided to serve the development. The detailed design of a foul water drainage system would be subject to a planning condition and Building Control approval.

#### Pollution control included in the on-site drainage will reduce in efficiency over time

Again, it is understood that hydrocarbons and other surface-water pollutants from driveways and areas of hardstanding would have a harmful impact if they were to enter the LWS fen ecosystem. However, ensuring the efficacy of drainage pollution control through regular maintenance is something that could potentially be addressed through a planning condition/obligation requiring regular maintenance.

This being said, I uphold some of the concerns expressed and consider that the proposed development is likely to have an adverse ecological impact on the lowland alkaline fen within Raleigh Park LWS for the following reasons:

#### Loss of irreplaceable habitat

The proposed drainage scheme (albeit somewhat indicative) currently relies upon collecting surface-water from the site, storing water in an attenuation basin and then discharging this water into the tufa-forming stream which runs along the south-eastern boundary of the site. This would require the construction of the drainage outfall in the northern bank of the stream.

The ecological monitoring reports of Raleigh Park show that areas on either side of the stream are part of the long south-west fen. This is supported by the findings of the supporting ecological appraisal and my own observations on site where typha, sedge and other inundation-tolerant/fen species are found around the northern bank of the stream.

As such, it is considered that the drainage outfall would result in the direct loss of a small area of lowland alkaline fen habitat, contrary to paragraph 175(c) of the NPPF.

Drainage proposals would disrupt the hydrological characteristics (flow and water chemistry) of the LWS

From the evidence available to me, it is apparent that the application site is hydrologically linked to the lowland alkaline fen within the LWS. The application site, by virtue of its location, topography and relative elevation, is a constituent part of the LWS's rainfall catchment and contributes water to the fen habitats below. Rain falls on the catchment, percolates into the ground and moves downhill into the fen habitats.

As mentioned above, the drainage scheme for the proposed development site would involve the collection, storage and discharge of surface-water from the site into the stream to the south-east. Some exceedance may occur result in storm events, overflowing water from the attenuation basin.

By the nature of collecting surface-water (rainfall) and discharging through an outflow, some parts of the LWS will receive less water by volume and others will receive more (the stream). Whilst the drainage scheme seeks to match the greenfield runoff rate of the application site, the spatial distribution and movement of water, not just the rate, is important. In my opinion, this presents a very real risk to the extent and condition of lowland alkaline fen habitat within the LWS.

Furthermore, the proposed drainage scheme would discharge intercepted rainwater from the outfall. This discharge (neutral rainwater) would dilute the alkaline water of the tufa-forming stream (which contains dissolved calcium carbonate to form tufas when precipitated) from the point of the outfall and further downstream. This change in water pH would represent a deterioration of the unique hydrological characteristics of the site.

Section 4.4.2 of the drainage strategy report is noted, but this aspect of the report only considers suspended solids, metals and hydrocarbons.

Finally, it is proposed to construct scour protection in the tufa-forming stream to prevent future physical changes to the watercourse by erosion (note 2 of the drainage plan). The tufa-forming stream is a functional part of the lowland alkaline fen habitat. As such, and in accordance with matters discussed above, this aspect of the proposal will likely result in the loss or deterioration of an irreplaceable habitat.

It is not clear whether the applicant has control of the land required to construct scour protection within or on the opposite bank of the stream. This may be outside of the red/blue line area. If the applicant does not have control of this land and scour protection were not provided (notwithstanding my opinion above regarding the loss of irreplaceable habitat), scouring/focused erosion has the potential to change the profile of the stream and alter the velocity that water flows through the site – as water in a deeper and narrower channel has the potential to flow faster, and *vice versa*. The rate at which water moves through the site is also a key hydrological characteristic of the LWS.

### Alternative drainage options

In discussions with the drainage engineer, alternative drainage options for the site may include pumping surface-water into the foul sewer, although this is generally not preferred. Such an approach would reduce the volume of water reaching the LWS and would not be supported from an ecological perspective.

### Resilience of the lowland alkaline fen

Climate change is a very real phenomenon. Hotter, dryer summers and abnormal weather events are becoming more common and more intense. For water dependent habitats which are highly sensitive, such as fens, climate change represents an ever-increasing threat. This view is widely accepted and is explored in Natural England's Climate Change Adaptation Manual (12. Lowland Fens).

Considering the irreplaceable nature of this habitat (a finite biodiversity resource that cannot be recreated once lost) it is appropriate to resist development which would make valuable biodiversity assets more vulnerable to deterioration or loss through climate change. This is supported by paragraph 150(a) of the NPPF.

The impacts of the proposed development (discussed above) would likely reduce the resilience of the lowland alkaline fen within Raleigh Park LWS to climate change, making it more vulnerable to future pressures.

### Summary: Raleigh Park LWS

Raleigh Park LWS contains irreplaceable lowland alkaline fen habitat.

Paragraph 175(c) of the NPPF makes it clear that development resulting in *any* loss or deterioration of an irreplaceable habitat is unacceptable, unless there are wholly exceptional circumstances justifying the harm against public benefit.

Due to the hydrological link between the application site and the sensitivity of the lowland alkaline fen habitat to changes in hydrology, I am satisfied that the proposed development would have adverse impacts on the irreplaceable habitat through both loss and deterioration.

The need and public benefits of the proposed development will need to be weighed in the planning balance by the case officer. In my opinion, the public benefits of the proposed development do not outweigh the harm that will likely result, noting footnote 58 of the NPPF.

The proposed development would likely make the lowland alkaline fen habitat within Raleigh Park LWS more vulnerable to the impacts of climate change, contrary to paragraph 150(a) of the NPPF.

### **Overall Summary:**

I cannot support this application.

It is considered that the proposed development would result in the direct loss and deterioration of an irreplaceable habitat within a Local Wildlife Site. This is contrary to paragraph 175(c) of the NPPF and Core Policy 46 of the Local Plan Part 1.

Development would also have impacts on protected species. Further evidence is required to meet the tests outlined in Core Policy 46 of the Local Plan Part 1 justifying the harm.

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