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Date: 10th June 2019

Subject: Ecological assessment and recommendations to address ecological matters raised within the Decision Notice 181860 regarding – Reading Link Retail Park, Rose Kiln Lane, Reading; March 2019

Dear Kay,

A site visit and Holy Brook Local Wildlife Site data search was completed by Emily Sullivan from David Archer Associates in order to address Refusal Reason 7 within the Reading Borough Council decision notice dated 15th March 2019. The contents of this letter address the three ecological matters raised within Refusal Reason 7, as shown below:

*7. The applicant has failed to submit sufficient information for the Council to determine whether or not **bats (a protected species and therefore a material planning consideration), priority habitats and the adjacent Holy Brook Wildlife Site** will be adversely affected by the proposed development. As such this proposal is considered to be contrary to Policy CS36 (Biodiversity and Geology) and CS38 (Trees, Hedges and Woodlands) of the Core Strategy 2008 (amended 2015) and the National Planning Policy Framework 2018 (paragraphs 170, 174 and 180).*

An ecological assessment of the site and the surrounding habitats was undertaken on Tuesday 7th May 2019 in order to establish if the development proposals could potentially impact upon on roosting, commuting and foraging bats, the adjacent Local Wildlife Site (LWS) and priority habitats. A data search request on LWS's adjacent to the site was submitted to TVERC on 9th May 2019 in order to obtain the required information on the reasons for designation and approximate boundary of Holy Brook LWS.

The following paragraphs outline results of the ecological assessment carried out with regards to bats, Holy Brook LWS and priority habitats adjacent to the site. All recommendations have been provided in accordance with planning policy, and European and UK wildlife legislation. The advice provided is based on the proposals presented in the Tree Protection Plan (DAA, 2018), as shown in **Figure 1** below.



Figure 1: Tree Protection Plan



Bats – Roosting Habitat

The trees that are identified to be removed as part of the development proposals and as per the advice included within the tree survey (DAA, 2018) (8 in total) were surveyed for evidence of bats and Potential Roost Features (PRFs), and then assigned a level of suitability for roosting bats as outlined in Table 1. PRFs include woodpecker holes, rot holes, hazard beams, cracks and splits, knot holes, cavities, loose bark, and partially detached ivy (Andrews, 2013).

Table 1: Classifying the bat roosting suitability of trees (Collins, 2016).

Negligible roosting suitability	Trees with few, if any, features suitable for roosting.
Low roosting suitability	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate roosting suitability	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat. These trees are unlikely to support a roost of high conservation status.
High roosting suitability	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Table 2 below describes the results of the bat roost assessment of the scattered trees that will either be removed as part of the proposals or were originally proposed to be removed as a result of the tree survey (DAA, 2018). Two trees (numbers 6 and 7) were found to provide **moderate bat roosting potential** and two trees (numbers 8 and 9) were found to provide **low bat roosting potential**. The remaining trees that are proposed for removal as part of the development proposals are of **negligible potential** for roosting bats.



Table 2: Results of the ground level tree inspection of the trees on site which are proposed for removal as part of the proposals or were originally proposed to be removed as a result of the tree survey.

Tree Number, as per Tree Protection Plan (DAA, Oct 2018)	General Description	Description of suitable features	Suitability
1	Lime – semi-mature, no ivy covering.	None.	Negligible roosting suitability
3	Wild cherry - young, no ivy covering (U grade, recommended for removal).	None.	Negligible roosting suitability
4	Ash – semi-mature, no ivy covering.	None.	Negligible roosting suitability
6	White willow – semi-mature, pollarded, dead, no ivy covering (U grade, recommended for removal).	- Peeling bark within trunk of tree, which provides small crevice spaces. - Small possible cavity within NW facing aspect of tree, c.3-4m from ground level. - Holes within branch tear, NW facing aspect, c.6-7m from ground level.	Moderate roosting suitability
7	White willow – semi-mature, pollarded, dead, no ivy covering (U grade, recommended for removal).	- Peeling bark within trunk of tree, which provides small crevice spaces. - No ivy covering. - Woodpecker hole in trunk of tree (currently occupied by a great tit nest), could lead into suitable crevice space, facing S, c.6m from ground level. - Potential cavity within the top of the trunk, c.7m from ground level.	Moderate roosting suitability
8	White willow – semi-mature, pollarded, dead, thin ivy covering (U grade, recommended for removal).	- Peeling bark within the trunk of the tree could provide suitable crevice spaces. - Some thin ivy covering could potentially obscure suitable features from a ground level inspection.	Low roosting suitability
9	White willow – mature, dead, covered in thick and thin ivy (U grade, recommended for removal).	The ivy covering could potentially obscure suitable features from a ground level inspection and in some areas could also create suitable features with its covering.	Low roosting suitability



18	Sycamore - young, no ivy covering	None.	Negligible roosting suitability
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Following the survey of the 4no. white willow trees (Tree 6-9) which identified their potential as a bat roost, the design team has revised the proposals to retain these trees as they do not need to be removed to facilitate the development. Should these trees need to be removed at a later date for safety reasons the necessary survey work will be undertaken at that time.

Bats – Foraging and Commuting Habitat

Suitable habitat for foraging and commuting bats was recorded within the north east corner of the site, which includes scattered trees, tall ruderals and scrub habitat. The river adjacent to the site also includes suitable habitat for foraging and commuting bats in the form of large mature scattered trees, scrub and tall ruderal habitat within the bank vegetation. The river provides a habitat corridor connecting the site to areas of suitable foraging and commuting habitat within the wider area. The site is therefore of low suitability for foraging and commuting bats.

Only a small number of trees and a small area of tall ruderal and scrub habitat with value to bats will be removed within the site. These habitat features can easily be mitigated for through replacement planting and therefore any impacts arising from habitat loss as a result of development on foraging and community bat habitat is considered to be negligible. The suitable foraging and commuting bat habitat along the riverbank will not be directly impacted by the proposals. The recommendations outlined within the paragraphs below discussing Holy Brook LWS will ensure that the habitat within the LWS is suitably protected from any impacts.

There is risk that increased lighting within the proposed development could negatively impact upon suitable foraging and commuting habitat within and adjacent to the site. Further recommendations have been provided below to ensure appropriate mitigation measures for lighting proposals are considered and implemented as appropriate.

Replacement planting

The following recommendations are proposed to ensure that there is no net loss in foraging and commuting habitat for bats on site and suitability of the river corridor and LWS for foraging and commuting bats is maintained:

- Retain native trees where possible and protect where required during construction with Heras fencing in line with Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012 (British Standards Institution, 2012).
- Replant any trees lost to the development with native specimens of local provenance. The tree species currently proposed for planting along the eastern border of the site include common hornbeam, which is considered suitable.
- In order to mitigate for the loss of scrub and tall ruderal habitat within the north east corner of the site, where the new access will be situated, it is recommended that a native hedgerow or native shrub species with wildlife value are planted along the eastern border of the site. The inclusion of



connecting habitat between the proposed hornbeam trees will replace the foraging and commuting habitat for bats within the site and help towards increasing connectivity around the site.

Lighting

The following measures should be implemented within the development to reduce impacts on foraging and commuting bats caused by artificial lighting (BCT & ILP, 2018):

- Direct any task lighting used during construction away from boundary trees (retained and new) and the 5m buffer zone adjacent to the river;
- Set any necessary security lighting on short timers with a sensitivity to large moving objects only;
- Consider installing internal light fittings in a recess where installed in proximity to windows facing the boundary vegetation and the 5m buffer area along the river in order to reduce glare and light spill;
- Limit lighting times to provide dark periods;
- If appropriate to the final design, consider screening as a means of reducing light spill to boundary vegetation to the east and the 5m buffer zone along the river. This could take the form of soft landscaping, fences, walls or bunds. Fencing could also be overplanted with hedgerow or climbing species to add further ecological value to the site and soften its appearance;
- LED light sources should be used wherever possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capabilities. A warm spectrum light (ideally <2700 Kelvin) should be used to reduce the blue light component. Lights should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012). Luminaires should be mounted on the horizontal, i.e. with no upward tilt. Avoid the use of UV light and do not use metal halide, fluorescent light sources; and
- As a last resort, use hoods or cowls to avoid light being directed at the sky or towards the boundary vegetation and 5m buffer zone along the river.

These requirements could be conditioned as part of a lighting scheme to be submitted as part of any reserved matters application.

Holy Brook Local Wildlife Site

Holy Brook Local Wildlife Site is situated adjacent to the northern border of the development site. Holy Brook Local Wildlife Site (LWS) is approximately 4.5km in length and is comprised of a number of different sites which have been combined into one designation. Holy Brook LWS stretches from just west of the Burghfield Road to the Reading Inner Distribution Road. The river within Holy Brook LWS transfers water to and from a stretch of chalk river, known as River Kennet. The section of the LWS that extends along the northern border of the site includes the eastern part of its course which runs through housing and commercial and industrial areas. The LWS is a chalk river which is noted as a Section 41 habitat of principal importance (NERC Act, 2006), as discussed below.

The LWS contains tree species such as alder and willow along the riverbanks and within these riparian habitats the ground and aquatic flora species include reed sweet-grass *Glyceria maxima*, hemlock water dropwort *Oenanthe crocata* and occasional water dock *Rumex hydrolapathum*. The site was known to contain water-crowfoots (*Ranunculus aquatilis/fluitans*) in 1987 and 1994. Notable invertebrates have been



recorded within the LWS and water voles *Arvicola amphibius* have been recorded within the central and western sections of the river. Both red and amber listed species of birds including house sparrow *Passer domesticus* and mute swan *Cygnus olor* have been recorded.

The stretch of Holy Brook LWS adjacent to the site contains a section of river, with a gentle current that flows south west to north east. The river is approximately 11m in width. The water was murky at the time of the survey so an estimation of the depth of the water was not possible. Some of the river edge contains shallow sloping riverbanks and some areas comprise a concrete ledge. The vegetation along the bank contains a mixed of scattered trees, scrub, tall ruderals and small patches of amenity grassland. Some of the bank vegetation is dense and tall, creating a dense array of vegetation and some small areas along the bank have been worn through disturbance and contain sparse vegetation.

Species of tree include crack willow *Salix fragilis*, white willow *Salix alba*, weeping willow *Salix babylonica*, horse chestnut *Aesculus hippocastanum*, alder *Alnus glutinosa*, elm *Ulmus minor* 'Atinia' and Norway maple *Acer platanoides*. Species present within the scrub habitat includes mostly bramble *Rubus fruticosus* agg. with other species including *Viburnum* sp., hemlock water dropwort, willow herb *Epilobium* sp., common nettle *Urtica dioica* and red dead nettle *Lamium purpureum*. The areas of tall ruderal habitat include common nettle, ivy *Hedera helix*, cleavers *Galium aparine*, common mallow *Malva neglecta*, bramble, white dead nettle *Lamium album*, water dropwort, garlic mustard *Alliaria petiolate* and dandelion *Taraxacum officinale* agg. The small areas of amenity grassland surrounding the LWS include species such as annual meadow grass *Poa annua*, barren brome *Bromus sterilis*, red dead nettle, common chickweed *Stellaria media*, white deadnettle, Shepard's purse *Capsella bursa-pastoris*, cocksfoot grass *Dactylis glomerata*, broadleaf plantain *Plantago major* and dandelion.

The current development proposals include construction works 5.5m away from the river and associated riparian habitat. In the absence of mitigation, the LWS may be impacted as a result of the close proximity of construction works to the habitat in the form of direct impact, pollution, littering and human disturbance. The development works therefore have the potential to directly impact Holy Brook LWS.

Whilst the development proposals indicate that the riparian habitat along the riverbank (including trees, scrub and tall ruderal habitat) will be retained, in order to ensure any risk to the LWS is reduced, an appropriate buffer zone should be maintained. No construction works (including excavation of the earth or compaction of the earth) will be undertaken within 5m of the top of the riverbank within areas that are not currently tarmacked. The 5m buffer area from the top of the bank of the river should be clearly marked out and suitable signage and fencing installed to prevent access into this area throughout construction. It is also recommended that suitable fencing is installed to prevent operational phase access to the riverbank, in order to limit the potential for habitat degradation through trampling and littering. Within areas of the site that already contain tarmac within the 5m buffer zone, the fencing and signage should start from the edge of the tarmac. This may help to reduce current levels of disturbance to the LWS, in addition to preventing any extra potential disturbance that could otherwise result due to the proposals. As such, impacts to the LWS arising from trampling and littering could be reduced from their current levels.

In order to mitigate for the potential direct impacts, pollution, lighting and visitor-related impacts to the LWS, hydrologically linked habitats and associated wildlife, the following measures are recommended.



A Construction Environmental Management Plan should be conditioned to ensure prevention of air- and water-borne pollution of the adjacent watercourse and riparian habitat during construction.

An assessment for operational phase surface and ground water run-off into the adjacent water-course and a suitable drainage strategy should also be conditioned to ensure long-term protection of the river, its wildlife and any linked hydrological habitats.

The footpath that extends along the south of the LWS, which eventually connects to Fobney and Kennet Valley Meadows LWS was walked during the survey on 7th May 2019. Viewing this section of the river to the west of the site and the adjacent commercial businesses highlighted some potential future risks. It was noted that litter from the local businesses appears to easily end up in the riparian habitat adjacent. The proposed position of the bin store away from the adjacent river habitat is considered is a positive step towards avoiding this potential outcome.

As the development is situated adjacent to Holy Brook LWS there is potential for an increase in lighting around the building, access, drive through and car parking area to negatively impact the LWS. An increase in lighting on site could negatively impact the LWS by illuminating the river and the adjacent vegetation and thus decreasing its value for nocturnal wildlife. A sensitive lighting strategy, as per that outlined in the 'Bat – Foraging and Commuting' section of this letter, will ensure that the river corridor is not subject to any additional artificial lighting, and thus impacts to nocturnal wildlife using the habitat will be negligible.

The proposed development involves the construction of a new drive through coffee shop building with associated vehicle and pedestrian access. The proximity of the development in general and the positioning of the pedestrian and vehicle accessed close to the southern border of the LWS may also result in increased visitor pressure of this section of the LWS. Although there is a small risk in increased visitor pressure, the majority of the site is comprised of a tarmacked car park and the adjacent section of LWS is already largely surrounded by public footpaths, which will therefore already experience regular high levels of disturbance from public access. It is therefore considered that the increase in visitor pressure is unlikely to significantly impact upon the LWS as the current footpaths will be maintained and a new footpath will be created to manage pedestrian access.

The new vehicle and pedestrian access will be constructed within areas of the site that will not impact directly upon the LWS and are already heavily disturbed by pedestrian footfall. The proposed footpath through the scrub, tall ruderals and scattered trees within the site should help towards directing the pedestrian access into an official pathway and away from the LWS and adjacent habitat that will be retained on site.

The footpaths adjacent to the river are already heavily used and discarded litter and dog fouling was prevalent along the footpaths, adjacent riparian vegetation and within the areas of scrub and ruderal habitat within the site. Litter and dog fouling was noted within the north east area of the site particularly where an unofficial footpath has been trodden through this area of the site. Simple and effective measures can be taken to improve and reduce this type of activity within the site and immediate area. It is recommended that discussions are entered into with the council to ensure provision of a suitable number of general and dog waste bins and associated signage at this stretch of the river, to minimise the risk of increased littering, and hopefully to reduce the current levels of littering and dog fouling.



Invertebrates

The habitats present within the application site that will be impacted by the proposals are not suitable for rare and notable invertebrates.

Reptiles

The area of scrub and tall ruderal habitat within the north east corner of the site provides some suitability for reptiles. However, this area of the site appears to be highly disturbed from human presence and is fairly small and patchy in nature. It is therefore considered unlikely that reptiles will be present on site. In the unlikely event that a reptile is found within the site during any stage of construction, all works should stop, and an appropriately trained ecologist should be contacted for advice.

Nesting birds

During the site visit various species of birds were noted within the LWS, including house sparrow, which is a red listed species noted as a feature within the LWS. Other species present included jay *Garrulus glandarius*, great tit *Parus major*, moorhen *Gallinula chloropus*, mallard duck *Anas platyrhynchos*, starling *Sturnus vulgaris*, magpie *Pica pica* and black bird *Turdus merula*. In addition, a red kite *Milvus milvus* was seen hovering above close to the site.

An active great tit nest was recorded within Tree 7 at the time of the survey.

It is advised that any woody habitats (including ivy growth) are cleared between September and February (inclusive) to avoid the breeding bird season. Alternatively, an ecologist should check potential nesting habitat immediately before clearance that is scheduled during the breeding season (generally March to August inclusive). Any active nests identified must be retained in situ with a suitable buffer until the ecologist has confirmed that the chicks have fledged, and the nest is no longer active.

Water Voles

No signs of water voles were noted within the stretch of river adjacent to the site. Although no signs were noted during the survey, the river provides suitable habitat for water voles and this species has previously been recorded along this stretch of river, to the south west of the site. Whilst the area of river adjacent to the site is fairly public and would experience high levels of disturbance from human presence and dog walkers, there is still a risk that water voles may use this stretch of river, which lies in close proximity to the site.

Construction works will not take place within 5m of the top of the riverbank and therefore no direct impacts to water voles is anticipated. As above, the section of river adjacent to the site is already very public and therefore any impacts from indirect disturbance from human presence is considered negligible. No further action is recommended for water voles.

Section 41 Priority Habitat – Chalk River

Holy Brook is noted as a Chalk River Section 41 Priority Habitat (NERC Act, 2006) and therefore the river adjacent to the northern border of the site is not only a LWS but also notable for the type of river that it contains. See the section on 'Holy Brook Local Wildlife Site' above for suitable mitigation measures for the Chalk River Priority Habitat.



Summary of Required Surveys / Mitigation Measures

- Replace any trees and other vegetation lost to development with equivalent numbers of native species.
- Implement a sensitive lighting strategy. This can be conditioned and later submitted as part of any reserved matters application.
- Carry out works to woody vegetation outside of the bird nesting season, or after a nesting bird check by an ecologist.
- Maintain a 5m buffer zone from the top of the riverbank.
- Devise and implement a Construction and Environmental Management Plan to include measures to prevent pollution of the river. This can be conditioned and later submitted as part of any reserved matters application.
- Ensure a suitable drainage strategy is in place to prevent operational phase pollution of the river. This can be conditioned and later submitted as part of any reserved matters application.
- Position the bin store away from the riverbank.
- Ensure appropriate waste bins and signage are provided to minimise the risk of littering and dog fouling.
- In the unlikely event that a reptile is found, stop works and contact an ecologist for advice.

Conclusion

The development can proceed with minimal impact to habitats and protected / notable species if the mitigation measures outlined within this letter are implemented. The inclusion of additional fencing to prevent access along the riverbank, additional bins and signage, and more clearly defined footpaths, may help to reduce ecological impacts from their current levels as well as fulfilling the role of mitigation for any potential new impacts arising from the proposed development.

Yours sincerely

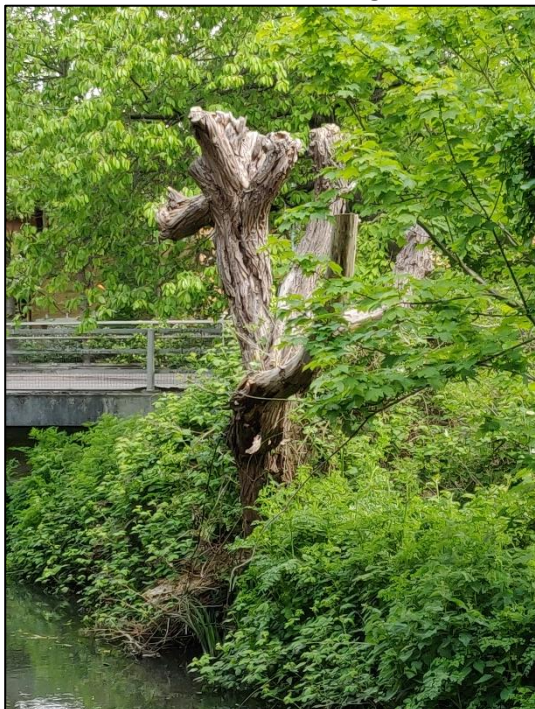
A handwritten signature in black ink that reads "Emily Sullivan".

Emily Sullivan | Senior Ecologist
BSc (Hons) GradCIEEM



Photographs

Tree 6 – Moderate Bat Roosting Potential

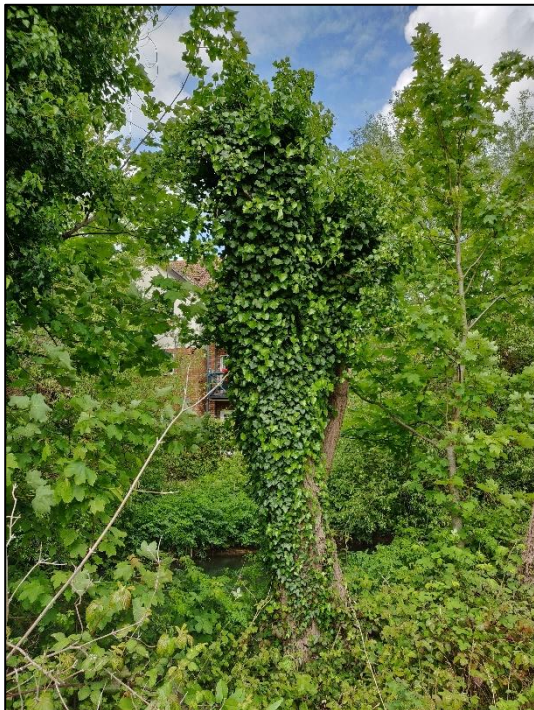


Tree 7 – Moderate Bat Roosting Potential





Tree 8 – Low Bat Roosting Potential



Tree 9 – Low Bat Roosting Potential

