

Greater Cambridge Shared Planning
Planning Policy Team
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By email only: localplan@greatercambridgeplanning.org

Date: 7 October 2022

Our ref: [REDACTED]

Your ref:

Dear Sir/Madam

Greater Cambridge Local Plan- J25 Bar Hill Update / Further Representation to the GCLP Preferred Options (Regulation 18) obo Lolworth Developments Limited

We write on behalf of our client, Lolworth Developments Limited ('LDL'), to provide a short update to Greater Cambridge's Planning Officers and Members on the J25 Bar Hill site assessment provided at Appendices 3 & 4 of our 13 December 2021 representation to the Greater Cambridge Local Plan: Preferred Options (Regulation 18) consultation (re-attached for convenience).

Our Representation promotes the J25 Bar Hill site for allocation for a leading-edge sustainable employment park development with business and logistics capability and capacity, in response to the employment need and demand across the area. The site benefits from excellent strategic accessibility, lies outside of the Green Belt and is well located relative to existing population and the emerging new residential neighbourhoods.

We provide an Evidence Update following the decision at the Joint Local Plan Advisory Group ('JLPAG') meeting of 3 October 2022¹ whereby Members agreed to a proposed schedule of JLPAG meetings² to explore issues raised in the Preferred Options feedback and help to inform development of the draft plan.

¹ <https://scambs.moderngov.co.uk/ieListDocuments.aspx?CIId=1125&MIId=9618>

²

<https://scambs.moderngov.co.uk/documents/s128649/Proposed%20schedule%20of%20meetings.pdf>

This Update comprises a further representation which is pertinent to the ‘Strategy- Development numbers and overall strategy’, ‘Strategy-Major Sites’ themes and the Evidence base elements of the Officers’ report to and Members’ considerations at the JLPAG meeting scheduled on 24th October.

Further Assessment Work

Since the submission of the LDL Representation, there has been further assessment work and dialogue with statutory consultees, including National Highways, Cambridgeshire County Council and the Environment Agency.

This letter refers to and attaches updates on some of the technical appraisal reports as follows:

- Transport Update, prepared by Vectos
- Flood Risk, Foul Water Drainage and Surface Water Drainage Update, prepared by MJM Consulting Engineers
- Contamination and Ground Stability Update, prepared by MJM Consulting
- Biodiversity and Geodiversity Update, prepared by FPCR

In addition, Hydrock KTA have undertaken initial Utility Services Infrastructure investigations for Electricity, Gas, Water and Telecoms connectivity.

These technical updates should be read alongside our (Lichfields) 13 Dec 21 Representation, in particular the technical appraisal reports at Appendices 4i, 4iii, 4vii, 4viii and 4xi.

Transport

The Vectos Update (to Representation Appendices 4vi – viii) explains that:

- 1 **Accessibility:** The Mobility Strategy will connect the site to Cambridge, Bar Hill and emerging communities such as Northstowe, using the excellent existing connections and adding measures to facilitate active and shared travel. Therefore, with regard to the HELAA assessment, the site should now be assessed as **Green** rather than **Amber** with regard to accessibility.
- 2 **Site Access and Transport:** The discussions with National Highways and Cambridgeshire CC (as the LHA) have led to the principle of the site access, trip generation and trip attraction rates alongside a sensitivity scenario having been in agreed in principle. New baseline traffic surveys have been undertaken to provide a post-A14 opening traffic scenario. Therefore, this reinforces that the site should be assessed as **Amber** with regard to site access and transport.
- 3 **Transport and Roads:** A contemporary assessment of the highway network capacity finds that initial phases of development can progress in advance of the highway improvements. Highway improvements to local junctions will increase capacity to allow the full development to come forward. A Monitor and Manage approach is advocated. Therefore, this reinforces that the site should be scored as **Amber** with regard to transport and roads.

Flood Risk, Foul Water and Drainage

The MJM Update (to Representation Appendix 4i) explains that:

- 1 **Flood Risk-** Further detailed hydraulic modelling of Oakington Brook has been undertaken to assess the flood risk. This modelling confirms as before that the flood risk and out of bank flow on the site is minimal. Therefore, the conclusions and evidence presented in the MJM report dated 01/11/2021 (at Appendix 4i) remain valid and unchanged, namely that the site should be assessed as **Green** rather than **Amber** with regards to Flood Risk.
- 2 **Foul Water Drainage-** There are no existing public foul sewers in the vicinity of the site. Therefore, detailed discussions have been held with Anglian Water who have confirmed that a new pumping station can be provided (if required for a future employment park development allocation) in the northwest corner of the site from which rising mains will discharge to the Uttons Drove treatment works.
- 3 **Surface Water Drainage-** Discussions have been held with both the Environment Agency and Cambridge County Council, who are the Lead Local Flood Authority for the area. They have advised that existing overland flow paths should be maintained and that surface water discharges from the site must be limited to no more than existing greenfield run off rates and take into account increases in rainfall intensity from climate change.

Contamination and Ground Stability

The MJM Update (to Representation Appendix 4xi) explains that:

- 1 The monthly groundwater monitoring has continued and as expected has confirmed the high natural ground water level on site.
- 2 Therefore, the conclusions and evidence presented in the MJM report dated 01/11/2021 (at Appendix 4xi) remain valid and unchanged, namely that the site should be assessed as **Green** rather than **Amber** with regard to Contamination and Ground Stability.

Biodiversity and Geodiversity

The FPCR Update (to Representation Appendix 4ii) explains that:

- 1 Since December 2021, further survey work undertaken for badger, bats, birds, invertebrates, reptile, water vole and otter during 2022.
- 2 The assessments undertaken recorded a wide range of habitats and species on Site, however, with appropriate design and implementation it is considered that the impacts of the development will be limited, entailing the loss of habitats of low ecological value, with habitats of higher ecological significance being retained and buffered.
- 3 Proposed extensive green infrastructure will provide the opportunity to significantly enhance the value of the Site, allowing a 10-20% biodiversity net gain to be achieved and will also provide compensation and additional habitats for protected species utilising the Site minimising any potential impact on these species.
- 4 Therefore, the conclusions and evidence presented in their Biodiversity and Geodiversity Technical Appraisal Report remain valid and unchanged, namely that the site should be assessed as **Amber**.

Utilities

In addition, Hydrock KTA have undertaken initial Utility Services Infrastructure investigations for Electricity, Gas, Water and Telecoms which have indicated that connection can be made for an employment park development allocation.

Conclusions

These updates to the assessment work undertaken reinforce our conclusion that the J25 Bar Hill site is suitable, available and achievable for a major employment park development allocation to help to meet Greater Cambridge's employment needs.

We trust that the LDL team technical updates, together with our original 13 December 2021 representations, will be carefully considered, so as to help inform the Officers' report to and Members' consideration of these matters at the Monday 24th October JLPAG meeting.

We would be pleased to discuss any of the points raised above and would welcome further engagement on the GCLP.

Yours faithfully



Steven Butterworth
Senior Director

J25, Bar Hill Transport Update

184265/N18

1. This note provides a summary of key transport considerations associated with the promotion of J25 Bar Hill for an employment park development and its allocation through the emerging Local Plan. This update should be read in conjunction with our note (dated November 2021), appended to Lichfields' representation (obo Lolworth Developments Ltd, dated 13 December 2021) to the Greater Cambridge Local Plan Preferred Options (Regulation 18) at Appendices 4vi - 4viii.
2. Since the December 2021 representation, discussions with officers at Cambridgeshire County Council and National Highways have taken place and the principles of the overall transport strategy and access to the site discussed and the scope of initial assessments of highway capacity agreed.

Accessibility and sustainable travel

3. The site is well located to existing and future communities. Cambridge is accessible through the Busway, bus services and existing cycle routes leading directly to the site. Bar Hill and Northstowe are also connected through high quality cycle routes. Bus services to wider destinations are in place and run alongside the site.
4. The future mobility strategy will be to connect into these existing travel corridors and facilitate movement between nearby communities for future employees. Key aspects are:
 - New bus stops: either within the site or on the A1307 to link to existing services or to provide new shuttle services for employees and the local community. This could complement the emerging proposals to transform the bus network as promoted by Greater Cambridge Partnership¹.
 - Cycle route connections: segregated route through the site connecting into existing cycle routes that surround the site and the Bridleway towards Northstowe. The potential for a new cycle route along Dry Drayton Road is also being developed.
 - Site Travel Plan: this will deliver a package of measures including commitments to clean technologies for vehicle movements to the site such as Electric Vehicle charging. Employee shuttle services to local settlements. This could complement the principle of Demand Responsive Transport advocated by the Greater Cambridge Partnership through their intention to transform the bus network.

¹ Greater Cambridge Partnership Executive Board Agenda Pack 28 September 2022

5. Whilst the Mobility Strategy is being developed, the location of the site relative to Cambridge, Northstowe and Bar Hill with existing cycle and bus infrastructure provides an excellent base from which a comprehensive strategy can be developed for future employees.

Site Access

6. The principle of the site access arrangement for vehicles has been discussed with highway officers at Cambridgeshire County Council.
7. The primary access is proposed from the A1307 with upgrades to the existing Dry Drayton Road junction providing a secondary access.
8. The principle of the access arrangement is agreed subject to the necessary safety, design and capacity reviews at the appropriate time.

Baseline assessment

9. Traffic surveys of the local highway network have been undertaken and the scope agreed with the highway authorities.
10. The baseline traffic surveys ensures that movements across the new highway network, post the opening of the A14 in May 2020 are understood. It also reflects movements post the lifting of restrictive measures associated with the Covid-19 pandemic.
11. The surveys provide a superior baseline from which to assess the development compared to that used for the Northstowe planning applications which relied upon manual interpretation of likely changes following the opening of the A14.

Forecast traffic movements

12. We have engaged with officers at National Highways and Cambridgeshire County Council to agree forecast traffic movements that might be associated with a future employment park.
13. A trip attraction technical note has been prepared by Vectos and submitted to and reviewed by the highway authorities.
14. Broad agreement has been reached to allow a full assessment of the employment park.
15. The approach considers two scenarios. The first considers forecast using data from a large-scale logistics park that has been used to assess similar proposals across the country. The second, sensitivity test, considers a scenario whereby information from the Trics database is extrapolated to provide higher trip assumptions on the basis that increases in floor area are proportional to trips.

16. The combination of the two agreed traffic scenarios allows for highway capacity assessments of the local network to be undertaken.

Highway capacity

17. An assessment of the immediate highway network has been undertaken as an initial analysis as agreed with the highway authorities. The assessment considers:
 - A1307 traffic signals
 - Junction 25 of the A14
 - Dry Drayton Roundabouts
 - Junction 24 of the A14
18. The assessment considers the application of trip forecast scenarios for the employment park, application of growth associated with Northstowe and utilises the up-to-date traffic survey information to provide a post A14 scheme opening assessment. It considers effects through to 2041 which is consistent with recent Northstowe Phase 3 assessments.
19. The assessment suggests that the Dry Drayton roundabouts and Junction 24 of the A14 are forecast to operate within capacity.
20. The A1307 traffic signals begin to near capacity as future year growth and development traffic increases. The concept of improvements to these junctions through extending the B1050 southbound flare and adjustments to signal sequencing has been tested through modelling and would result in the junctions operating within capacity.
21. Capacity at these junctions is not reached until future year growth, Northstowe traffic and movements associated with the development increase. As such, initial phases of development at J25 Bar Hill can likely progress in advance of improvement. The phased implementation of improvements would need to be agreed with the highway authority.
22. For Junction 25 of the A14, the improvement scheme that will be delivered through the Northstowe development improves the capacity performance of the junction. However, for the future year with full consideration of the Northstowe development, but without consideration of J25 Bar Hill, the westbound off slip arm is forecast to operate marginally over capacity.
23. Application of traffic associated with J25 Bar Hill confirms that this arm is the only arm forecast to have capacity considerations under this scenario. This also only occurs in the PM peak. The additional traffic associated with the employment park would naturally increase the effects at this arm. However, this only occurs for 15 minutes of the PM peak hour and only once all traffic associated with a full Northstowe development and full employment park traffic. This short period is relevant when considering overall affects.

24. It is also the case that future year growth may not occur as forecast. Equally travel planning measures can reduce trips and the combined effect of reduce travel by future Northstowe residents which might work at J25 Bar Hill would further reduce trips and impacts.
25. Under the sensitivity assessment with increased trip forecasts assumptions, capacity is reached sooner. Whilst the details would need to be developed, the approach would lend itself to a Monitor and Manage approach.
26. Initial phases of the development could be brought forward in advance of improvement schemes, following which the development up to the limits considered through the application of sensitivity assessment could be implemented. Through the monitoring of network performance and development trip attraction, further development could be implemented.

Summary

27. The proximity of the site to Cambridge, Bar Hill and emerging communities such as Northstowe, is a positive in a sustainable transport sense. The Mobility Strategy will connect the site to these locations using the excellent existing connections and adding measures to facilitate active and shared travel. In the context of this employment site, we consider a green Housing and Economic Land Availability Assessment (HELAA) score should be applied with consideration to accessibility to Local Services
28. The principle of the site access is agreed. We would agree with the amber HELAA score for the site access allocated for this site.
29. The baseline traffic surveys provide a post-A14 opening traffic scenario and a more contemporary assessment of the network compared to recent assessments associated with the Northstowe Phase 3 applications.
30. The broad approach to trip attraction forecasts has been agreed with the highway authorities alongside a sensitivity scenario using higher trip assumptions.
31. The highway capacity assessment finds that initial phases of development can progress in advance of the highway improvements. Highway improvements to local junctions will increase capacity to allow the full development to come forward. A Monitor and Manage approach is advocated. We would suggest that for both transport and roads
32. With reference to the evidence provided and previous concerns relating to the HELAA assessment for Transport and Roads, the site should receive at least an Amber score. There are no identifiable reasons for scoring the site Red. Given the recent improvements to the A14 and modelling presented, we maintain that the HELAA score for the SRN should be altered from red to Amber.

Date: 07/10/2022

Ref: 7437/CRS/ Update 01

Proposed Site Allocation at J25 Bar Hill, Cambridge – Update to Flood Risk technical appraisal

This update should be read in conjunction with our original report dated 01/11/2021, appended to Lichfields' representation (dated 13th December 2021) to the Greater Cambridge Local Plan Preferred Options (Regulation 18) at Appendix 4i and has been expanded to include foul and surface water drainage.

Flood Risk

Since 01/11/2021 further detailed hydraulic modelling of Oakington Brook has been undertaken to assess the flood risk to the site taking into account flows into the Brook from the new A14 and A1307.

The modelling also takes into account various comments made by the Environment Agency to WS Atkins who are preparing a similar hydraulic model as part of their involvement on the A14 works

This modelling confirms as before that the flood risk and out of bank flow on the site is minimal. In any case the majority of the flooding and out of bank flow occurs on land to the north of the Brook that is not within our site curtilage

Attached is MJM drawing no 4585-CA-OO-OO-DR-A-00087 which shows the various flood zones and site boundaries overlain on an aerial image of the site

The red extent represents the 100 year flood extent, the green extent represents the 100 year plus climate change (9%) flood extent, the blue extent represents the 1000 year flood extent.

The hydraulic model will be submitted to the Environment Agency for their comments and final approval in due course.

Therefore the conclusions and evidence presented in our report dated 01/11/2021 remain valid and unchanged, namely that the site should be assessed as **Green** rather than **Amber** with regards to Flood Risk.

Foul Water Drainage

There are no existing public foul sewers in the vicinity of the site.

Detailed discussions have been held with Anglian Water and a new pumping station will be provided (if required for a future employment park development allocation) in the north west corner of the site from which rising mains will discharge to the Uttons Drove treatment works.

These works will be procured under either a Section 98 or a Section 30 agreement and the pumping

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station and rising mains will be adopted in due course once the flows from the site reach a pre-agreed level.

Within the site itself there will be a network of gravity foul sewers and pumping stations and rising mains (due to the sheer size of the site and its topography) which will discharge to the new Anglian water pumping station.

This network may be offered for adoption in due course or may remain private.

Surface Water Drainage

Extensive site investigation and monitoring has confirmed that there are naturally high ground water levels on site and that the site is not suitable for disposal of surface water by infiltration into soakaways.

Discussions have been held with both the Environment Agency and Cambridge County Council, who are the Lead Local Flood Authority for the area.

They have advised that existing overland flow paths should be maintained and that surface water discharges from the site must be limited to no more than existing greenfield run off rates and take into account increases in rainfall intensity from climate change

The site splits naturally into two zones east and west of the existing bridleway which forms the "watershed " on the site.

The main (72ha) part of the site east of the bridleway discharges naturally into Oakington Brook in the eastern part of the site.

The brook enters the site on the southern boundary with the A14 and A1307 and flows north east to leave the site on the northern boundary and onwards towards Oakington

The brook also takes water from the new A14 and A1307

The surface water drainage system for this part of the site could incorporate a substantial network of lagoons, swales and reed beds mainly concentrated around and linked to Oakington Brook and on individual development plots , to provide surface water storage, flood relief and habitat enhancement.

As mentioned above there is a natural "watershed" on the site along the route of the existing bridlepath and avenue of mature trees toward the west of the site running from north-east to southwest towards the A14.

The 28ha area of site to the west of the watershed drains naturally towards the west into Longstanton Brook which runs adjacent to the western boundary of the site and then north into the catchment of the Swavesey Internal Drainage Board. The brook also takes water from the new A14 and A1307.

Detailed discussions have been held with Swavesey IDB and their consultants Stantec who have advised that the Swavesey catchment is prone to flooding and that the gravity outfall at Webbs Hole Sluice is locked by the EA in times of high water levels in the Lower Ouse to prevent back flow from the river into the catchment.

The closure records of the sluice and the local rainfall records during the closure periods have been

obtained and we have carried out detailed calculations to assess the volume of surface water generated during these periods. This gave a maximum figure of 1323.81m³ per developed hectare that will need to be stored when the sluice is closed for a four week period

Based on more usual design criteria we have also calculated that the storage volume that would be required if the catchment did not have flooding issues is 620m³ per developed hectare.

Our proposal therefore is to provide attenuation along the western boundary of this part of the site adjacent to Longstanton Brook at a rate of 1323.81m³ per hectare of developed area on this western part of the site. This is more than 100% greater than the rate of attenuation of 620m³ per developed hectare that would be required if the catchment did not have flooding problems.

The outfalls from the attenuation into Longstanton Brook will be linked by telemetry to the Webbs Hole sluice and will be automatically locked to prevent any discharge during periods when the sluice is closed

This 28ha area of the site currently drains overland into Longstanton Brook with no attenuation or restriction so the proposal to provide such a large volume of attenuation offers significantly enhanced protection to the catchment where none currently exists.

This proposal has been technically agreed verbally in principle with Stantec and awaits final confirmation from the IDB

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Date: 07/10/2022

Ref: 7437/CRS/Update 01

Proposed Site Allocation at J25 Bar Hill, Cambridge – Update to Contamination and Ground Stability technical appraisal report

Contamination and Ground Stability

This update should be read in conjunction with our original report dated 01/11/2021 appended to Lichfields' representation (dated 13th December 2021) to the Greater Cambridge Local Plan Preferred Options (Regulation 18) at Appendix 4xi.

Since that time there have no significant changes or development on the site or any further intrusive site investigations.

The monthly groundwater monitoring has continued and as expected has confirmed the high natural ground water level on site.

Therefore the conclusions and evidence presented in our report dated 01/11/2021 remain valid and unchanged, namely that the site should be assessed as **Green** rather than **Amber** with regard to Contamination and Ground Stability.

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FPCR undertook an extended Phase 1 habitat and desktop survey in September 2020, to inform the scope for further protected species survey work carried out in 2020, 2021 and 2022, associated with the promotion of a Site for an employment park development allocation. Methodology, results and headline mitigation requirements are summarised below. The updates from the December 2021 report, comprise survey work undertaken for badger, bats, birds, invertebrates, reptile, water vole and otter during 2022.

This update should therefore be read in conjunction with the findings presented within the Biodiversity and Geodiversity Technical Appraisal Report, appended (at Appendix 4iii) to Lichfields' representation (dated 13 December 2021) to the Greater Cambridge Local Plan Preferred Options (Regulation 18).

Habitat & Desktop Survey – The Site is dominated by arable field compartments and associated species-poor grassland margins of limited ecological value. Habitats of greater ecological value included plantation woodlands, mature tree lines and a stream (Habitat of Principal Importance (NERC Act 2006)), which all supported native species. None of the on-site habitats are listed as a Priority Habitat by The Cambridgeshire and Peterborough Biodiversity Action Group. No statutory or non-statutory sites of nature conservation importance lie within 5km, 2km or 1km of the Site. Several protected/notable species records fall within the Site boundary and surrounding 1km search area, including badger, barn owl, common lizard, otter, water vole, several bat species and notable invertebrates.

BNG – Development on the Site allocation would be capable of achieving circa 10-20% biodiversity gain on Site (using DEFRA 3.0), by retaining existing habitats of greater ecological value and creating significant areas (~32.5ha) of new habitats including species-rich grassland, native scrub, native woodland, reedbed, SuDS and ponds including some specifically designed for water vole. Further work is ongoing to identify the best method to deliver a 20% net gain. This is likely to take the form of additional habitat creation but may also be secured through funding the creation of habitats off-site in accordance with the strategic aims of the Greater Cambridge Green Infrastructure Network Strategic Initiative.

Badger – Badger surveys carried out in line with the standard methodology as recommended by *Harris, Creswell and Jefferies (1989)* during 2021 and 2022, identified two main and six outlier setts within the Site boundary and 30m (where accessible). Onsite habitats offered foraging, movement and further sett-building opportunities for badger. Careful masterplanning will ensure the retention of setts, where feasible and will include green infrastructure provision of value to badger. A pre-commencement badger survey and precautionary working measures will ensure no badgers are harmed during construction.

Bats – Assessment of the Site's potential for commuting, foraging and roosting bats in line with the *Bat Surveys for Professional Ecologists: Good Practice Guidelines (2016)*, found the Site habitats to be of 'moderate suitability for bats', with 38 trees supporting potential roosting features. Following this assessment and in addition to consultation data available, monthly bat surveys comprising 2 transect routes and 7 static bat detectors were undertaken between April and October 2022. Following aerial assessment of the 38 trees, the number of trees requiring further nocturnal survey work between July and September 2022 was reduced to 14. Analysis of the transect and static data is ongoing, but so far has identified brown long-eared, *Myotis* sp., *Nathusius'* pipistrelle, barbastelle, *Nyctalus* sp., *Nyctalus/Eptesicus* and *Pipistrellus* sp. using the Site, in addition to noctule, common and soprano pipistrelle which were also found to be roosting within trees subjected to nocturnal surveys. Given the assemblage of bats recorded, mist netting was also carried out between August and September 2022 to establish the sex and age of bats utilising Site. All trees supporting roosts will be retained as part of the development and sensitive design of the Site's lighting and green infrastructure scheme will be undertaken to maintain new and retained features such as tree lines, woodlands and watercourses used by bats for foraging, commuting and roosting as dark corridors.

Breeding & Wintering Birds – To determine the population status of the breeding birds on the Site, three surveys were undertaken between dawn and 11.00am in April, May, and July 2022. A total of 45

bird species were identified as present on Site across the three survey occasions of which 15 were confirmed to be breeding on Site. These included a number of common and widespread generalists: blackbird, blue tit, buzzard, great tit, jackdaw, magpie, pied wagtail, and robin. Several species of higher conservation concern at local or county levels were also confirmed to be breeding. These include stock dove, starling, woodpigeon, and willow warbler which are considered widespread and abundant. The presence of breeding hobby, lapwing, and yellow wagtail is of higher significance. Further notable species present on Site and likely to be breeding included a few notable species including skylark, kestrel, whitethroat, and greenfinch.

The wintering bird populations on Site were assessed by way of four surveys in the 2020-21 survey season to assess the number of species, and individuals thereof, utilising the habitats present. These surveys were carried out from dawn to early afternoon once per month from November 2020 to February 2021 inclusive, and followed the same methodology as described for breeding birds above. A total of 47 wintering bird species were recorded on Site, 19 of which are classified as protected or notable.

In general, retaining any existing woodlands, hedgerows, and waterbodies/watercourses with a suitable buffer of enhanced habitats will likely satisfy the mitigation requirements for most of the notable species encountered. The proposed loss of arable land will result in greater impacts on lapwing, yellow wagtail and skylark which may require additional mitigation. Impacts on the other species recorded will also be considered in any development proposals and will be mitigated for.

Great Crested Newts – The Site has been entered into Natural England's District Level Licencing scheme in 2022 (DLL-ENQ-CAMB-00046). Therefore, no further on-site mitigation or survey work is required.

Invertebrates – Consultation data returned on-site records of brush-thighed seed-eater and white-spotted pinon. Given the presence of notable invertebrate species, an invertebrate specialist was commissioned to undertake surveys on Site in 2022. Potential impacts on notable invertebrate species will be mitigated for as part of the green infrastructure provision.

Reptiles – Reptile presence/absence surveys were undertaken in line with current best practice guidelines as detailed within the *Herpetofauna Workers Manual and Froglife Advice Sheet 10 – Reptile Survey*, whereby 172 artificial refugia were placed within suitable reptile habitats within the Site boundary and surveyed under suitable weather conditions during May (four surveys), June (three surveys) and September (two surveys) 2022. The surveys identified a low population of grass snake and common lizard on Site, peak count of one per survey occasion. Reptiles were found in areas of plantation woodland in the north-west of Site, boundary habitats along the northern Site boundary and the river corridor. Given the presence of reptiles on Site, precautionary working measures, including directional strimming of suitable reptile habitats and passive displacement of reptiles towards retained habitats will be undertaken. Green infrastructure will provide additional habitats for reptiles within the local area.

Riparian Mammals – Two surveys for water vole and otter were carried out between mid-April – June and July – September 2022 in line with *The Water Vole Mitigation Handbook*. During the surveys, evidence of water vole, including droppings, feeding stations, paths and burrows were recorded along the river corridor, as was evidence of otter, including spraints and potential couch sites. Further survey work, including deployment of artificial feeding stations/floats and two camera traps along the river corridor was undertaken, although these did not record any further evidence to inform the usage of on-site habitats by these species. It is considered that through limiting impacts on habitats within 10m of the river corridor the impacts on these species will be minimised and the creation of a network of ponds, specifically designed for otter and water vole will create additional habitats to be utilised by these species.

Conclusion – The assessments undertaken recorded a wide range of habitats and species on Site, however, with appropriate design and implementation it is considered that the impacts of the development will be limited, entailing the loss of habitats of low ecological value, with habitats of higher

ecological significance being retained and buffered. Proposed extensive green infrastructure will provide the opportunity to significantly enhance the value of the Site, allowing a 10-20% biodiversity net gain to be achieved and will also provide compensation and additional habitats for protected species utilising the Site minimising any potential impact on these species.

Therefore, the conclusions and evidence presented in our Biodiversity and Geodiversity Technical Appraisal Report remain valid and unchanged, namely that the Site should be assessed as **Amber**.