ECOLOGY CONSULTING

Kronospan 132kV, Chirk, Wrexham

Information to Inform a Habitats Regulations Assessment

Prepared for Axis PED Ltd, January 2026

Prepared by: Ecology Consulting Ltd
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Authored by: Lee Bagnall

On behalf of: Axis PED Ltd

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1 Introduction

1.1 Terms of Reference

Ecology Consulting Ltd was instructed by Axis PED Ltd to provide information to inform a Habitats Regulations Assessment (HRA) for the construction of two 132kV electricity cable routes proposed near Chirk, which is located within the administrative boundary of Wrexham County Borough Council (WCBC). The application boundary (hereafter referred to as the site) for the Proposed Development is shown on Figure A below.



Figure A: Site Boundary. Map data: Google, QuickMapServices © 2026

1.2 Objectives

This report provides the competent authority (WCBC) with the necessary ecological information to inform a Habitats Regulations Assessment of the Proposed Development on the qualifying interests of European Designated Sites in accordance with Article 63 of The Conservation of Habitats and Species Regulations 2019 (Amendment)(EU Exit) Regulations.

1.3 Report Structure

The remainder of this report is split into five sections as follows:

- Section 2: Information to inform the assessment comprising a description of the Proposed Development and sites scoped into the assessment.

- Section 3: Baseline information for designated sites relevant to the assessment, species baseline information for the site and surrounding area.
- Section 4: Screening Assessment - Review of the potential for Likely Significant Effects (LSE) on designated sites and/or qualifying features of designated sites.
- Section 5: Appropriate Assessment – Review of LSEs following presentation of proposed mitigation measures. The section identifies and examines the implications of the Proposed Development for the designated features present, including for the typical species of designated habitats as well as the implications for habitat types and species present outside the boundaries of the relevant designated sites; insofar as those implications are liable to affect the conservation objectives of the relevant designated sites.
- Section 6: Conclusion.

2 Project Background

2.1 Project Description

The Proposed Development comprises the installation of two 132kV circuits and two fibre cables between the existing Legacy to Oswestry 132kV wood pole overhead line and the consented Kronospan 132kV substation. The proposed cables would be installed via open trench, unless with the exception of Special Engineering Difficulties (SEDs) where relevant sections will be installed by Horizontal Directional Drilling (HDD).

It should be noted that the Proposed Development overlaps with the consented (P/2022/1080) Kronospan Northern Access Road scheme and the ecological assessment of cabling and associated works within this area is covered separately within documentation submitted as part of the consented scheme.

2.1.1 Designated sites to be scoped into the assessment

European designated sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA) which are designated through domestic legislation that enacts EC Habitats Directive 92/43/EEC and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive) respectively. SPAs and SACs are now included under the new national site network. The listed habitat types and species are those considered to be most in need of conservation at European level.

Ramsar sites are designated under the convention on Wetlands of International Importance (Ramsar Convention 1971) Under the National Planning Policy Framework 2019 (Paragraph 176), Ramsar Sites and possible SAC/potential SPA must be given the same protection as SACs and SPAs fully designated under international and domestic legislation. Following the UK Exit of the EU, in accordance with Article 63 of The Conservation of Habitats and Species Regulations 2019 (Amendment)(EU Exit) within the UK these sites now form part of a "UK National Network" of sites which remain subject to Habitats Regulations Assessment.

The proposed works mainly comprise temporary open trenching within existing highways or highway verges, with new cables to be installed and covered over sequentially. As such, as defined within the project Ecological Impact Assessment[1], a 1km Zone of Influence (ZoI) was considered appropriate for consideration of impacts on designated sites.

[1] Ecology Consulting (2026)_Ax_04_Kronospan 132Kv_EcIA_Rev03

3 Baseline Information

3.1 European Designated Sites

The River Dee and Bala Lake SAC is the only European designated site within 1km of the Proposed Development. The River Dee and Bala Lake SAC is located approximately 30m east of the Proposed Development at its closest point, near Cable Route 2. Whilst the River Dee is not present in close proximity to the site, the River Ceiriog Tributary is present 30m to the east and this is hydrologically connected to the River Dee and therefore forms part of the SAC. The River Dee Site of Special Scientific Interest (SSSI) shares the same boundary as the River Dee and Bala Lake SAC at this location.

The River Dee SAC is designated for its Annex I habitat Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation and its primary Annex II species Atlantic salmon *Salmo salar* and floating water plantain *Luronium natans*. Otter *Lutra lutra*, bullhead *Cottus gobio*, brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus* are also qualifying features. The location of the designated site is shown on Figure 1.

3.1.1 Conservation Objectives

The conservation objectives for the River Dee and Bala Lake SAC are as follows:

"Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species.*
- *The structure and function (including typical species) of qualifying natural habitats.*
- *The structure and function of the habitats of qualifying species.*
- *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely.*
- *The populations of qualifying species.*
- *The distribution of qualifying species within the site."*

3.2 Onsite Habitats

The following habitats were recorded on or adjacent to the Proposed Development site during the extended UKHab survey.

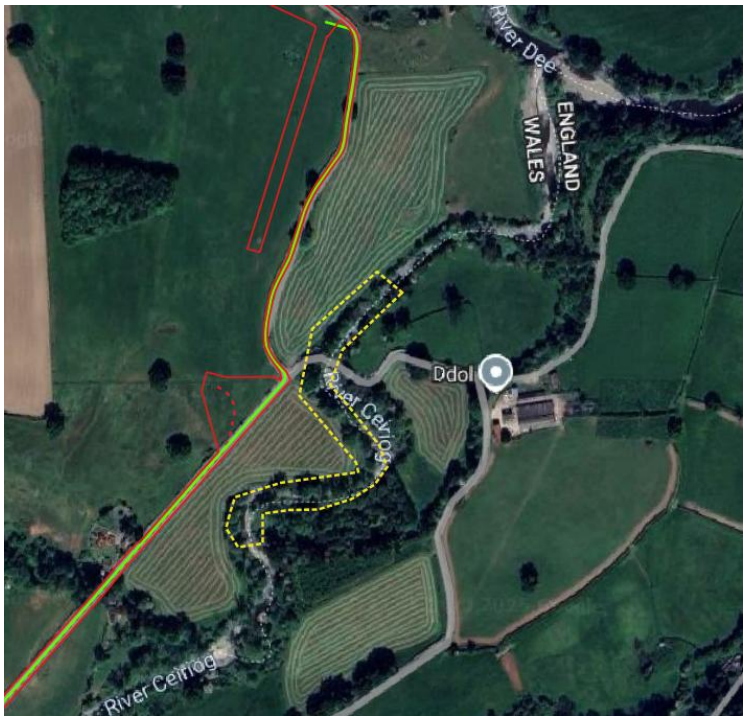
- G3c – other neutral grassland.
- G4 – modified grassland.
- H2a5 – species-rich native hedgerow.
- H2a6 – other native hedgerow.
- U1c – artificial unvegetated, unsealed surface.
- U1e5 – built linear feature.
- W1g – other broadleaved woodland.
- Individual tree.

3.3 Relevant Species Surveys

3.3.1 Otter

Methodology

Due to the potential presence of otters within the River Ceiriog within close proximity to the Proposed Development, an otter survey was undertaken on part of the River Ceiriog on 13 January 2026. The otter survey followed published methodologies including Chanin (2003)[2] and involved a search for evidence of otter activity including spraints, footprints, feeding remains, holts, couches and slides. It was considered that otters, if present, would be unlikely to be disturbed at a distance if greater than 50m given the relatively low impact of the Proposed Development and temporary nature of the works and setting of the river at the bottom of a steep embankment away from the works. Therefore, the otter survey was undertaken on a section of the River Ceiriog, which is broadly within 50m of the Proposed Development, as shown below.



Otter survey extent (yellow dashed line), cable routes shown dashed red and green

Results

The stretch of the River Ceiriog adjacent to the Proposed Development comprises suitable otter habitat in the form of a fast flowing, meandering river section with deep pools for hunting, a rocky substrate, occasional mud banks and a steep embankment on the west side lined with scrub and mature trees to provide cover and potential refuge/breeding habitat.

[2] CHANIN. 2003. Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series, No 10. Peterborough: English Nature.

The survey did not identify any otter holts or lying up areas although features which could be used as holts are present on the northern/western embankment in the form of partially washed out and decayed tree roots and otters were confirmed to be present as otter footprints were found on a muddy bank during the survey.

4 Screening of Potential Likely Significant Effects

4.1 Habitat loss within the designated site

The Proposed Development does not lie within the boundary of the designated site, therefore there will be no LSE through direct land take/habitat loss within the River Dee and Bala Lake SAC.

4.2 Disturbance of River Dee and Bala Lake SAC qualifying species during construction (Otter)

The majority of qualifying features are fish or aquatic plants which are highly unlikely to be disturbed by cable installation works in the adjacent carriageway which is approximately 30m west of the designated site at the closest point. However, as otters are semi-aquatic, they could potentially be disturbed during construction.

4.2.1 Lighting and visual disturbance during construction

Lighting during construction has the potential to disturb and displace otters using the adjacent River Ceiriog site and potentially adjacent fields. This could prevent the use of a breeding site or lying up area or cause disturbance during breeding, potentially causing a breeding attempt to fail. On this basis, a LSE on otters from lighting disturbance during construction of the Proposed Development cannot be ruled out and further assessment is required.

Visual disturbance from site workers and moving machinery is considered unlikely to occur as the River Ceiriog sits at a much lower elevation than the carriageway to the north/west and is screened by a steep embankment, scrub and mature trees. On this basis, no LSE is predicted due to visual disturbance during construction of the Proposed Development and no further assessment is required.

4.2.2 Noise and vibration during construction

Noise during construction of the Proposed Development has the potential to disturb otters using the adjacent River Ceiriog. Whilst otters which are passing through are unlikely to be disturbed, any otters which are resident and have holts or lying up areas which are used during the daytime could be disturbed. Such disturbance could prevent the use of a breeding site or lying up area or cause disturbance during breeding, potentially causing a breeding attempt to fail. On this basis, a LSE on otters from noise disturbance during construction cannot be ruled out and further assessment is required.

Vibration associated with the proposed works is unlikely to be significant, with no perceptible impact at the designated site, and a LSE due to vibration can be screened out with no further assessment required.

4.3 Indirect effects on the designated site through surface water run-off during construction

In the absence of mitigation, there is a potential for indirect impacts upon the River Dee and Bala Lake SAC during construction, including uncontrolled surface water run-off and pollution events.

During construction, if uncontrolled, surface water run-off and polluted water from pollution incidents could run-off downslope directly to the River Dee and Bala Lake SAC or via any connected roadside culverts/drains. Therefore, it is possible that, in the absence of mitigation, surface water run-off/pollution events could reduce the water quality temporarily and adversely affect qualifying fish and plant species within the affected section and downstream, although the magnitude and duration of the impact would depend on the nature of the pollution event. Therefore, a LSE on the River Dee and Bala Lake SAC due to habitat degradation caused by surface water runoff and/or pollution events during construction cannot be ruled out and further assessment is required.

4.4 Indirect effects on the designated site through dust generation during construction

During construction, dust may be generated that, if uncontrolled, could deposit onto the River Dee and Bala Lake SAC habitats. However, given the relatively low impact and temporary nature of the works it is considered that the impact of any dust deposition onto the adjacent SAC would be barely perceptible and there would be no adverse effects on water quality or on any of the qualifying features. On this basis, no LSE due to dust deposition during construction is predicted and this potential effect is screened out from further assessment.

4.5 In-combination Effects

Given the short-term and temporary nature of the proposed cabling works, which will largely be undertaken within existing highways, the Proposed Development is not considered likely to give rise to any significant effects on ecological features, either alone or combination with other plans or projects

4.6 Summary of Potential Likely Significant Effects

The screening assessment has identified the following potential LSEs on the River Dee and Bala Lake SAC that could occur in the absence of mitigation:

- Disturbance of River Dee and Bala Lake SAC qualifying species (otter) during construction of the Proposed Development, specifically:
  -Disturbance of otters caused by lighting used during construction.
  -Disturbance of otters from noise generated during construction.
- Surface water runoff and pollution events during construction.

A summary of the affected features of the designated sites identified is provided in Table 1 below.

Table 1: Potential affected features of the River Dee and Bala Lake SAC

Topic area	Disturbance of SAC qualifying species due to lighting during construction	Disturbance of SAC qualifying species due to noise during construction	Degradation of SAC habitats due to surface runoff/pollution events during construction
River Dee and Bala Lake SAC			
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	-	-	✔
Floating water-plantain	-	-	✔
Atlantic salmon	-	-	✔
Brook lamprey	-	-	✔
Bullhead	-	-	✔
River lamprey	-	-	✔
Sea lamprey	-	-	✔
Otter	✔	✔	✔

5 Appropriate Assessment

5.1 Disturbance to otter due to noise during construction

In the absence of mitigation, a LSE on otters due to noise generated during construction could not be ruled out. It was assessed that, in the absence of mitigation, disturbance caused by noise could prevent the use of a breeding site or lying up area or cause disturbance during breeding, potentially causing a breeding attempt to fail.

A pre-construction otter survey will be undertaken to ensure there are no otter holts or couches on sections of watercourse within 50m of the site. If an active otter holt or lying up area is identified, a suitable exclusion zone would be clearly demarcated, at the discretion of the on-site ECoW (50m for breeding holts and 30m for non-breeding holts or active otter couches/lying up areas). Guidance will then be sought from the ECoW on how to proceed with works in the affected area and on the requirement to obtain a development derogation licence.

In accordance with NS5228-1: 2009+A1 (2014) (Code of Practice for Noise and Vibration Control on Construction and Open Sites), the following mitigation measures will be implemented:

- The construction delivery hours proposed would be generally limited to 07.30 to 18.00hrs Monday to Friday and 08.00 to 14.00hrs Saturday, with no work on Sundays or Bank Holidays. However, there may be occasions when construction would need to be undertaken outside of the core hours, for example, during major concrete pours or the transfer of abnormal loads.
- Avoid unnecessary plant operation and revving of plant or vehicles.
- Where practicable, locate plant away from nearest sensitive receptors or in locations which provide good screening in the direction of sensitive receptors.
- Use of broadband noise reverse alarms (where practicable) on mobile plant.
- Regular maintenance of plant and equipment.
- Use of local screening where plant is in proximity to sensitive receptor boundaries (e.g. within 50m of a sensitive boundary) using temporary hoarding.

On consideration of the above potential impacts and proposed mitigation measures no adverse effect on the integrity of the designated site is predicted as a result of disturbance of otters caused by noise during construction of the Proposed Development.

5.2 Disturbance due to lighting during construction

In the absence of mitigation, a LSE on otters due to lighting during construction could not be ruled out. It was assessed that, in the absence of mitigation, disturbance caused by lighting could prevent the use of a breeding site or lying up area or cause disturbance during breeding, potentially causing a breeding attempt to fail.

Winter working may require task-specific lighting due to the shorter days when lighting will be required at the beginning and end of the day. However, lighting will be used only when

required during core working hours and will comprise lighting of work areas and access and egress using low level directional lighting.

Construction compounds will not be lit at night outside core working hours except for welfare and site security cabins that will include low level lighting. Motion sensor lighting will be used in areas of increased security risk.

Any new or modified external lighting should be designed to avoid direct illumination of the habitats including the River Ceiriog to the east/south of Pont Y Blew Road. If lighting is required, a sensitive lighting strategy should be implemented during construction to avoid disturbance should otters be present.

Measures to be considered include the following:

- Lights installed will be of the minimum brightness and/or power rating capable of performing the desired function.
- Directional lighting with full cut-off lanterns to minimise upward and outward light spill.
- Limiting light column height (e.g. max. 8m) and spacing columns to reduce overlap.
- Use of shields, baffles, and timers/sensors to reduce unnecessary illumination where avoidance is impossible.
- Unnecessary lights will be switched off.

On consideration of the above potential impacts and proposed mitigation measures no adverse effect on the integrity of the designated site is predicted as a result of disturbance of otters caused by use of artificial lighting during construction of the Proposed Development.

5.3 Indirect effects on the designated site through surface water run-off/pollution events during construction

In the absence of mitigation, LSEs on the River Dee and Bala Lake SAC due to surface water run-off/pollution events during construction could not be ruled out. It was assessed that such events have the potential degrade habitats within the SAC, adversely affecting habitats, qualifying fish and plant species within the affected river section and downstream.

The Principal Contractor (PC) will prepare a Drainage Management Plan (DMP) which will determine potential risks in relation to the water environment and identify appropriate control measures to avoid or reduce the risks. The DMP will be consistent with the relevant guidance documents listed in the project CEMP[3].

Examples of the mitigation measures that will be implemented to reduce the risk to the water environment are described in the sections below.

[3] Axis PED Ltd (2025), Framework Construction Environmental Management Plan.

Surface Water Discharge

Construction activities may adversely affect the quality of surface water or ground water because of contaminated run-off from, or spillages on the construction site. Control and mitigation measures to be implemented to prevent pollution include:

- Dewatering of all excavations to be subject to a permit and/or land drainage consent from NRW as appropriate; the process will be proactively managed to meet at least the permit conditions.
- No silty water to be pumped directly into any watercourse but to be allowed to settle out (for example, in settlement lagoons) or filtered (for example, using straw bales to filter out coarse particles) prior to discharge, in accordance with permit conditions.
- Where settlement or filtering is not practicable or effective, alternative disposal options will be considered for example, discharge onto a grassed or vegetated area (with consent from the landowner and following NRW consultation as appropriate).
- If clean water is discharged into a watercourse, a baffle will be fitted to the discharge point to prevent disturbance of the watercourse bed.
- Watercourses will be protected from contaminated surface water run-off by using French drains, cut off ditches, grips, silt fences or bunds round the edge of watercourses. Numerous small, passive mitigation measures will be installed in preference to one large treatment system to prevent large-scale water build-up, using Sustainable Drainage Systems (SuDS) principles.
- Existing and new surface water drains will be kept clear of silt or weed build-up.
- Roads and hard surfaces will be kept clean, to prevent a build-up of mud and sediment that could contaminate surface water.
- Implementation of a monitoring schedule to ensure that measures taken to protect watercourses are effective.

Working areas will not be required to be within 9m of watercourses. If circumstances arise where this is not possible, approaches will follow guidance in GPP5: Works and maintenance in or near water (NRW, 2018).

Works in proximity to watercourses are subject to consenting regimes. Consent is required to ensure works do not increase flood risk, damage flood defences, or harm the environment, fisheries, or wildlife. Appropriate consents will be obtained from NRW and/or Internal Drainage Boards (IDB) under the Land Drainage Act 1991 and/or the Water Resources Act 1991 as required.

Other Discharges

Other effluents may be produced that need to be properly managed and controlled to prevent contamination of surface water. The PC will ensure that:

- Washing of equipment using detergent is carried out at commercial facilities only.
- Washing of vehicles and equipment without the use of detergent is only carried out at either commercial facilities, or at purpose-built wash stations where the water is contained for controlled disposal.
- All foul effluent will be contained.

- The foul effluent container will be subject to daily inspection and a maintenance and emptying schedule as recommended by the manufacturer. The effluent will be removed by tanker and disposed of at a licensed facility.

Disposal of Accumulated Rainfall/Surface Water

Rainwater and surface water may accumulate in several locations on site, for example in uncovered bunds and drip trays. This has the potential to become contaminated. To reduce this risk, the following measures will be included in the DMP:

- Bunds or drum pallets will be covered, where possible, to prevent the accumulation of rainwater.
- Interceptor type drip trays will be provided rather than standard drip trays (for locations where drip trays will be permanently in place) or plant nappies (for mobile plant).
- If a standard drip tray or uncovered bund is used, the PC will:

  -Ensure it is regularly inspected (daily) and emptied either via tanker and disposed of immediately off site at an appropriately licensed facility (for large quantities) or to an on-site, bunded, storage facility for later off-site disposal (small quantities). The inspection frequency will increase during times of frequent rainfall.

  -Check water from uncovered bunds for obvious signs of contamination (for example, visible oil and smells) in order that the correct disposal option can be identified.
- Ensure that only uncontaminated water is disposed of by draining it onto a grassed or stoned area on the site which is at least 10m from any drains. If contaminated, it will be disposed of as Hazardous Waste.
- Ensure that any oil present is absorbed using a spill kit and disposed of as Hazardous Waste.

Permitted Discharges

Discharges, other than uncontaminated surface water run-off, will require a permit from NRW (for discharges to controlled waters, including rivers, other watercourses and soakaways) or the local sewerage undertaker (for discharges to sewer). Foul water from welfare facilities is likely to be stored in a septic tank and disposed off-site at an appropriate licenced facility (via a licenced carrier).

Such discharges may also require land drainage consent from the relevant Internal Drainage Board. Discharges will not be made without prior consent from NRW, IDB or sewerage undertaker, as appropriate. To ensure discharges are appropriately authorised, the following measures will be followed:

- Consult with the appropriate consenting body before any discharge is expected to be required from the site and obtain a permit, or where a permit is not required, obtain written confirmation that one is not required.
- Ensure that any permitted discharge is sampled and analysed at the frequency specified in the permit to ensure compliance and that monitoring results are kept. More frequent analysis may be required if analytical results indicate that limits are being approached or exceeded.
- Ensure that the consenting body is advised if results indicate that limits are being exceeded and report the occurrence as an incident. The PC will take immediate

steps to rectify the situation, check receiving water for pollution resulting from exceedance, and carry out any remediation works necessary.

On consideration of the above potential impacts and proposed mitigation measures no adverse effect on the integrity of the designated site is predicted as a result of surface water run-off/pollution events during construction of the Proposed Development.

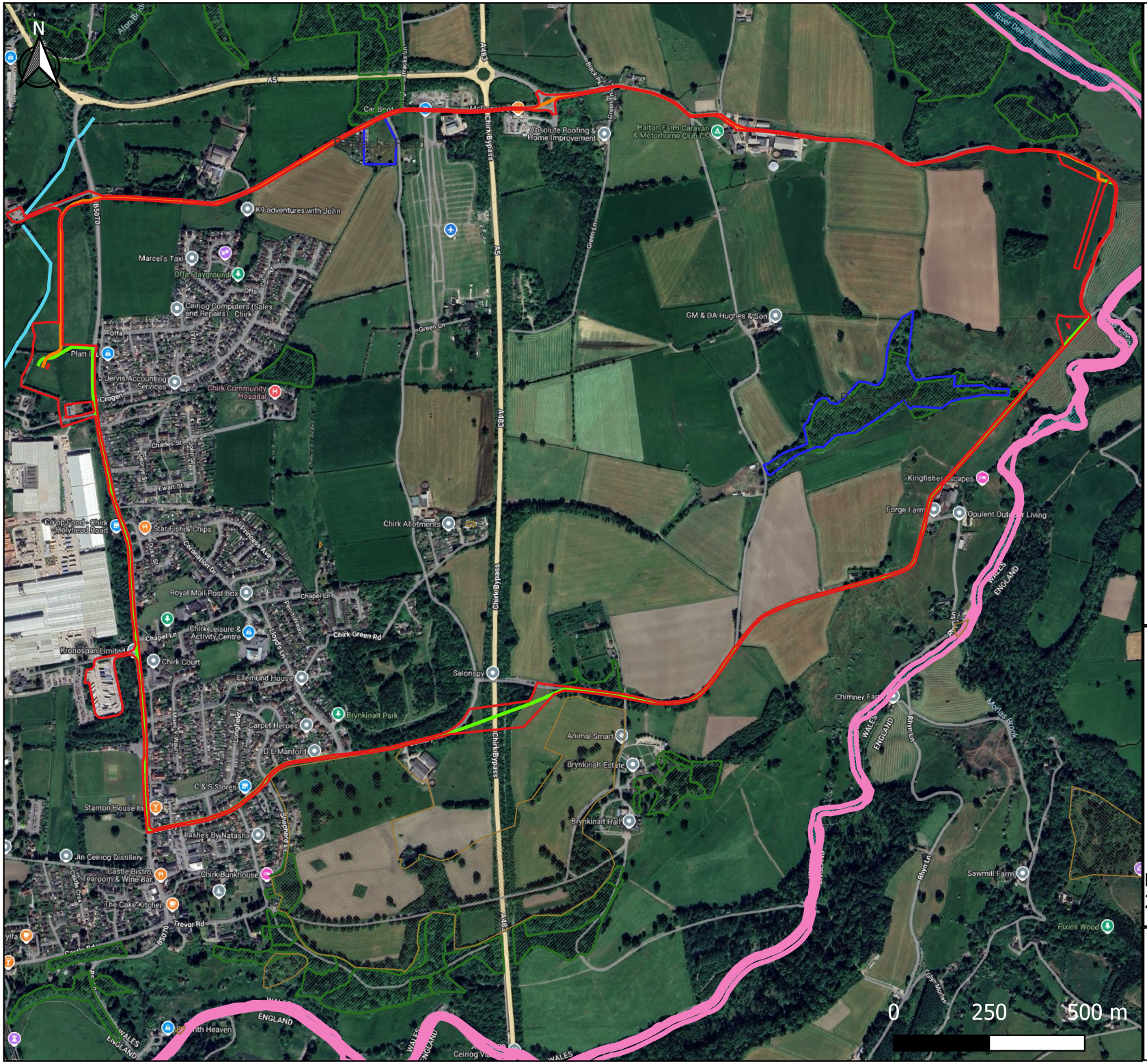
6 Conclusion

Potential effects on the integrity of the River Dee and Bala Lake SAC were identified, while considering the Proposed Development alone, whilst it in-combination effects were screened out.

Detailed assessments of likely significant effects were undertaken and mitigation measures identified to avoid, reduce or offset potential effects.

It is concluded that the Proposed Development will have no adverse effect on the integrity of the River Dee and Bala Lake SAC, when considered in light of the conservation objectives for the site, either alone or in-combination with other projects.

Figures 1 – Designated Sites Plan



- Red Line Boundary
- Cable Route 1
- Cable Route 2
- Fibre Cable Route
- Special Areas of Conservation (Wales)
- SSSI (Wales)
- LWS
- Ancient Woodland (Wales)
- Priority Habitat

Figure 1: Designated Sites

Kronospan 132kV

Produced by: LB

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Map data: Google, QuickMapServices © 2025

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