

08.

Biodiversity

8. Biodiversity

8.1 Introduction

8.1.1 This chapter addresses the likely impacts and effects of the construction and operation (including maintenance) of the proposed Denny to Wishaw Network Upgrade on ecological features.

8.1.2 Where appropriate, this chapter provides details of mitigation and/or enhancement measures which have been identified to avoid, minimise, reverse, or compensate for adverse effects on ecological features.

8.1.3 This chapter is supported by the following appendices in Volume 3:

- Appendix 8.1 WB, CB, AA Habitat Results;
- Appendix 8.2 WB, CB, AA Bat Results;
- Appendix 8.3 WB, CB, AA Otter and Water Vole Results;
- Appendix 8.4 WB, CB, AA Great Crested Newt Results;
- Appendix 8.5 WB, CB, AA Badger Results (Confidential);
- Appendix 8.6 Ornithology;
- Appendix 8.7 Bean Goose Group Data;
- Appendix 8.8 Habitat Regulations Appraisal;
- Appendix 8.9 Uprated Lines Bat Results;
- Appendix 8.10 Uprated Lines Otter and Water Vole Results;
- Appendix 8.11 Uprated Lines Great Crested Newt Results;
- Appendix 8.12 Uprated Lines Badger Results (Confidential);
- Appendix 8.13 Cumbernauld Habitats and Protected and Notable Species Results (Excluding Badger);
- Appendix 8.14 Cumbernauld Badger Results (Confidential); and
- Appendix 8.15 Marine Directive MD-SEDD Checklist.

8.1.4 It is also supported by the following figures in Volume 2:

- Figure 8.1a Internationally Designated Sites;
- Figure 8.1b Nationally and Locally Designated Sites;
- Figure 8.2 Ancient Woodland, Peatland and Watercourses;
- Figure 8.3 Phase 1 Habitat Survey Results;
- Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species;
- Figure 8.5 Potential Groundwater Dependant Terrestrial Ecosystems;

- Figure 8.6 Bat Ground Level Tree Assessment / Preliminary Roost Assessment Results;
- Figure 8.7 Otter and Water Vole Survey Results;
- Figure 8.8a Great Crested Newt Habitat Suitability Assessment and eDNA Survey Result;
- Figure 8.8b Great Crested Newt Population Assessment Results;
- Figure 8.9 Badger Survey Results (Confidential);
- Figure 8.10 Bird Survey Area;
- Figure 8.11 Vantage Point Survey Locations;
- Figure 8.12 General Breeding Bird Survey Transects;
- Figure 8.13 All Bean Goose Results;
- Figure 8.14 Gean Goose Foraging Roosting Activity;
- Figure 8.15 2019-20 Bean Goose Foraging Roosting Activity;
- Figure 8.16 2021-22 Bean Goose Flight and Foraging Roosting Activity;
- Figure 8.17 2024-25 Bean Goose Flight and Foraging Roosting Activity;
- Figure 8.18 Non-breeding Season Goose Flights (Excluding Bean Goose);
- Figure 8.19 Non-breeding Season Non-Goose Flight;
- Figure 8.20 2021-22 Non-breeding Season Non-Goose Flights (Excluding Bean Goose);
- Figure 8.21 2021-22 Non-breeding Season Non-Goose Flight;
- Figure 8.22 2024-25 Non-breeding Season Goose Flights (Excluding Bean Goose);
- Figure 8.23 2024-26 Non-breeding Season Non-Goose Flights;
- Figure 8.24 2019-20, 2021-22 and 2024-25 Non-breeding Season Goose Foraging Roosting Activity (Excluding Bean Goose);
- Figure 8.25 2022 Breeding Goose Flights;
- Figure 8.26 2022 Breeding Season Non-Goose Flights;
- Figure 8.27 Territory Analysis Results;
- Figure 8.28 Raptor and Owl Territories;
- Figure 8.29 Barn Owl Territories (Confidential);
- Figure 8.30 Bean Goose Counts 2020-2025;
- Figure 8.31 Bean Goose 2020-2021;
- Figure 8.32 Bean Goose 2021-2022;
- Figure 8.33 Bean Goose 2022-2023;
- Figure 8.34 Bean Goose 2023-2024;
- Figure 8.35 Bean Goose 2024-2025; and

- Figure 8.36 Location of Bird Flight Divertors on the New Build Overhead Line Earth Wire.
- 8.1.5 Note that due to the possible risk of persecution of badger, Volume 3, Appendix 8.5, 8.12, 8.14 and Volume 2, Figure 8.9 Badger Survey Results are confidential.
- 8.1.6 In addition to the above, the following separate reports are also referred to within this assessment:
- AECOM (2026) Denny Wishaw Network Upgrade Habitat Regulation Assessment
 - AECOM (2026) Denny Wishaw Network Upgrade – Overhead Line BNG Assessment
 - AECOM (2026) Denny Wishaw Network Upgrade – Substation BNG Assessment (excluding Cumbernauld)
 - AECOM (2026) Denny Wishaw Network Upgrade – Cumbernauld BNG Assessment
- 8.1.7 In Sections 8.1 – 8.3 of this document, the locations of the overhead line and Substation Works are herein referred to as the ‘Site’ (shown on Volume 2, Figure 8.1 Internationally Designated Sites) and the proposals themselves, as described in Chapter 4, are defined as the ‘Project’.
- 8.1.8 In Sections 8.5 – 8.14 the Site and the Project more specifically refer to the Site and Project for the relevant component described in each of those sections.
- 8.1.9 Throughout this chapter, species are given their common and scientific names when first referred to and their common names only thereafter. Nomenclature for vascular plants follows Stace (2019¹) and for bryophytes, Atherton *et al* (2010²). Where no common name is available to distinguish between species (for example, within the *Sphagnum* genus of mosses), these are referred to by their scientific name on every mention. All distances are cited as the shortest distance ‘as the crow flies’, unless otherwise specified. Scottish Biodiversity List Priority habitats are underlined. Annex I habitats are underlined and italicised.

8.2 Legislation and Policy

- 8.2.1 Information on legislation and planning policy relevant to the Denny to Wishaw Network Upgrade can be found in Chapter 5. However, details of legislation and a summary of national and local planning policy relevant to nature conservation are given under the following sub-headings.

Legislation

- 8.2.2 This assessment has been carried out in the context of relevant nature conservation legislation including, but not necessarily limited to, the following:
- Conservation of Habitats and Species Regulations 2017 (the ‘Habitats Regulations’);
 - Convention on Wetlands of International Importance (‘Ramsar Convention’);

¹ New Flora of the British Isles. 4th edition. C&M Floristics, Middlewood Green (2019) Stace, C.

² Mosses and Liverworts of Britain and Ireland – a Field Guide. British Bryological Society, London (2010) Atherton, I., Bosanquet, S. and Lawley, M.

- Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (more commonly referred to as the ‘Habitats Directive’);
- Council Directive 2009/147/EC on the conservation of wild birds (more commonly referred to as the ‘Birds Directive’);
- Council Directive 2000/60/EC establishing a framework for Community action in the field of water policy (the ‘Water Framework Directive’ (WFD));
- Nature Conservation (Scotland) Act 2004;
- Protection of Badgers Act 1992;
- Invasive Non-native Species (EU Exit) (Scotland) (Amendment etc) Regulations 2020 (Regulation 1143/2024);
- Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003; and
- Wildlife and Countryside Act 1981 (the ‘WCA’); and
- Wildlife and Natural Environment (Scotland) Act 2011 (‘WANE Act’).

8.2.3 Prior to the United Kingdom’s (UK) exit from the European Union (EU), Scotland’s Special Area of Conservation (SACs) and Special Protection Areas (SPAs) were part of a wider European network of such sites known as the ‘Natura 2000 network’. They were consequently referred to as ‘European sites’. Now that the UK has left the EU, Scotland’s SACs and SPAs are no longer part of the Natura 2000 network but form part of a UK-wide network of designated sites referred to as the ‘UK site network’. However, it is current Scottish Government policy to retain the term ‘European site’ to refer collectively to SACs and SPAs³.

National Policy

8.2.4 National Planning Framework 4 (NPF4) was formally adopted by Scottish Ministers on 13 February 2023⁴. Policy 3b of NPF4 requires biodiversity enhancements be provided in addition to any proposed mitigation stating that:

“Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used”.

8.2.5 In compliance with the biodiversity policy contained within NPF4, the Project has therefore sought to both protect existing ecological features⁵ within the Site and will seek to deliver an overall enhancement for biodiversity. At the time of preparing this chapter, there was no formal policy requirement in Scotland to undertake quantitative Biodiversity Net Gain (BNG) assessment as part of the planning process for infrastructure

³ EU Exit: The Habitats Regulations in Scotland. December 2020. (2020) Scottish Government.

<https://www.gov.scot/publications/eu-exit-habitats-regulations-scotland-2/>

⁴ National Planning Framework 4 (2023) Scottish Government.. <https://www.gov.scot/publications/national-planning-framework-4/documents/>

⁵ The term “ecological feature” is used to refer to sites designated for nature conservation, habitats and species (protected, invasive or otherwise notable flora and fauna)

developments, although NatureScot do provide guidance on the use of existing biodiversity metrics in the Scottish Planning system⁶ and draft planning guidance of Biodiversity identifies that the use of a metric or tool maybe used⁷. The Applicant is committed to deliver measurable biodiversity improvements in line with its commitment to providing at least 10% BNG on projects subject to planning consent as set out in its Environmental Action Plan⁸.

- 8.2.6 BNG assessments have been completed for specific Project components where there are predicted changes to habitats. For the other project components, where habitats are affected temporarily, but will be reinstated to the current baseline habitat types and condition within 2 years of the impact, these have not been subject to BNG assessment. Separate reports are provided detailing the New Build Overhead Line and Uprated Overhead Lines, Substations and Cumbernauld BNG Assessments, these set out the methodology followed for the BNG assessment. These reports identify the change in biodiversity value and set out the requirements to achieve a 10% gain in biodiversity value, which SPEN have made a commitment to achieve. This 10% gain to be provided will ensure that the Project provides a significant ecological enhancement, in line with the requirements of NPF4. Section 8.16 sets out wider biodiversity enhancement measures that will be implemented, in addition to this, these relate to species based measures which are not measured through a toolkit or metric.

Local Policy

- 8.2.7 The Project lies within the Falkirk and North Lanarkshire Council areas.

Falkirk

- 8.2.8 Local planning policies for the Falkirk Council area are detailed in the Falkirk Local Development Plan 2 (LDP2), adopted August 2020⁹. Policies of Falkirk LDP2 relevant to nature conservation are summarised in Table 8-1.

Table 8-1 Summary of relevant policies within the Falkirk Local Development Plan

Planning policy	Relevant purpose
PE13: Blue and Green Network	PE13 sets out in broad terms how the Central Scotland Green Network will be implemented in the Falkirk area. The spatial focus will be on a series of green and blue network components and corridors.
PE14: Countryside	PE14 states there will be a limit to the expansion of settlements and land outwith these boundaries is designated as countryside.
PE16: Protection of Open Space	PE16 states the Council has prepared an Open Space Strategy, which is based on a detailed audit of its parks and open spaces, and sets out a vision, standards and priority actions for improving the open space

⁶ Guidance on the use of existing biodiversity metrics in the Scottish planning system (2026)

<https://www.nature.scot/doc/guidance-use-existing-biodiversity-metrics-scottish-planning-system>

⁷ Draft Planning Guidance: Biodiversity (2023) Scottish Government

<https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2023/11/scottish-government-draft-planning-guidance-biodiversity/documents/scottish-government-draft-planning-guidance-biodiversity/scottish-government-draft-planning-guidance-biodiversity/govscot%3Adocument/scottish-government-draft-planning-guidance-biodiversity.pdf>

⁸ Environmental Action Plan – RII0-T3 Business Plan (Redacted) (2024) SP Energy Networks

⁹ Falkirk Local Development Plan 2. August 2020 (2024) Falkirk Council. [Development planning: Falkirk Local Development Plan 2 - Falkirk Council](#)

Planning policy	Relevant purpose
	resource. If the open space is of significant ecological value, then development of the open space will not occur.
PE19: Biodiversity and Geodiversity	PE19 sets out standard legal requirements for protected sites and levels of justification for permitting developments affecting them (the stringency dependent on the nature of the designation), and requirements for mitigation.
PE20: Trees, Woodland and Hedgerows	PE20 sets out that the Scottish Government's policy on Control of Woodland Removal will be followed, and that ancient, semi-natural and long-established woodland, including sites identified in the Scottish Ancient Woodland Inventory (AWI), will be protected as a resource of irreplaceable value. Also, that enhancement and management of existing woodland and hedgerows will be encouraged and management plans implemented where necessary, and preference for locally native species in new and replacement planting.
PE22: The Water Environment	PE22 recognises the water environment within the Council area is important in terms of its landscape, ecological, recreational and land drainage functions. This policy aims to improve the water environment.

North Lanarkshire

- 8.2.9 North Lanarkshire Council is in the process of preparing the North Lanarkshire LDP2; though at present the existing Local Development Plan (LDP), adopted in 2022, remains in effect¹⁰. Policies of North Lanarkshire LDP relevant to nature conservation are summarised below in Table 8-2.

Table 8-2 Summary of relevant policies within the North Lanarkshire LDP

Planning policy	Relevant purpose
PROM LOC4: Special Landscape Areas & Green Network Improvements	PROM LOC4 sets out the requirement for all provisions within the 'Protecting Assets' and 'Environmental & Design Qualities' policies to be satisfied for proposals affecting Special Landscape Areas and Green Networks.
PROT A: Natural Environment and Green Network Assets	PROT A states that the Council will safeguard natural heritage assets including international sites (e.g. European sites), national sites (e.g. Sites of Special Scientific Interest (SSSIs) and ancient woodland), Local sites (e.g. Seven Lochs Wetland Park, Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), Geodiversity Sites), Urban Green Network (e.g. wildlife corridors, trees and woodlands, watercourses and wetlands and flood plains), and Protected species.
EDQ 1: Site Appraisal	EDQ 1 details the matters to be addressed within site appraisal including "Green Network, landscape character and quality on the site and surrounding Land Use Character Area", "impacts associated with the holistic water environment and flood risk", and "biodiversity of plants and animals on the site and surrounding Land Use Character Area."

¹⁰ Current North Lanarkshire Local Development Plan. October 2024. (2024) North Lanarkshire Council
<https://www.northlanarkshire.gov.uk/planning-and-building/development-plans/current-north-lanarkshire-local-development-plan>

Planning policy	Relevant purpose
EDQ 3: Quality of Development	EDQ 3 sets out the high standards of site planning expected from developments, including consideration of existing Green Network features and those identified during site appraisal.

Local Biodiversity Action Plans

Falkirk

- 8.2.10 The Falkirk Council Biodiversity Action Plan (BAP)¹¹, published in March 2019, highlights key areas, ecosystems, and species requiring enhancement/protection within the local authority area.
- 8.2.11 The BAP outlines action plans, of which the following are relevant to the Project: estuary, farmland and grassland, heath and bog, water and wetland, woodland, urban. The BAP also has action plans for taiga bean geese *Anser fabalis*, and invasive non-native species (INNS).

North Lanarkshire

- 8.2.12 The North Lanarkshire LDP is supported by the North Lanarkshire BAP 2023-2027¹² which outlines actions needed to safeguard vulnerable species in North Lanarkshire, and to protect and enhance key habitats at an ecosystem scale. It highlights priority habitats and species within the local authority area.
- 8.2.13 Ecosystems discussed in the strategy with relevance to the Project are freshwater landscapes, peatlands, woodlands and urban areas and farmland.
- 8.2.14 Action plans are provided for a range of habitats including bogs, floodplain and grazing marsh, and woodland. Action plans for species include those for swift *Apus apus*, bats, otter *Lutra lutra*, water vole *Arvicola amphibius*, pine marten *Martes martes*, great crested newt *Triturus cristatus*, small pearl-bordered fritillary *Boloria selene* and native bluebell *Hyacinthoides non-scripta*.

8.3 Methodology

Guidance and standards

- 8.3.1 The following guidance was used when designing the field survey carried out to inform this assessment and to determine the scope and method of the assessment itself:
- *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Chartered Institute of Ecology and Environmental Management (CIEEM), 2024)¹³;
 - Standing advice notes for protected species published by NatureScot (2024)¹⁴;
 - North Lanarkshire LDP¹⁰;

¹¹ *Second Nature: A Biodiversity Action Plan for the Falkirk Council area*. March 2019 (2026) Falkirk Council <https://www.falkirk.gov.uk/environmental-management/biodiversity>

¹² *Biodiversity Action Plan 2023-2027*. September 2025. (2025) North Lanarkshire Council [Our local biodiversity | North Lanarkshire Council](#)

¹³ *Guidelines For Ecological Impact Assessment in the UK and Ireland. Version 1.3*. September 2024. (2024) CIEEM [EcIA-Guidelines-v1.3-Sept-2024.pdf](#)

¹⁴ Advice notes on protected species (2026) NatureScot [Protected species | NatureScot](#)

- North Lanarkshire Local Biodiversity Action Plan (LBAP)¹²;
- NatureScot guidance Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds¹⁵;
- NatureScot guidance Assessing Connectivity with Special Protection Areas (SPAs)¹⁶;
- NatureScot guidance on Assessing the Cumulative Impact of Onshore Wind Energy Developments¹⁷;
- Scottish Government (2023) Draft Planning Guidance: Biodiversity⁷;
- NatureScot Guidance on Planning and development: Enhancing biodiversity¹⁸; and
- NatureScot Guidance on Advising on peatland habitats and carbon rich soils in development management¹⁹.

8.3.2 In addition, other industry-standard good practice guidelines for surveying for protected and/or important ecological features were also followed and are referenced throughout this section.

Consultation

8.3.3 Consultation undertaken with relevant stakeholders is summarised below in Table 8-3.

¹⁵ Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds (2025) NatureScot <https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds>

¹⁶ Assessing Connectivity with Special Protection Areas (SPAs). Version 3 (June 2016) Scottish National Heritage <https://www.nature.scot/doc/assessing-connectivity-special-protection-areas>

¹⁷ Assessing the Cumulative Impact of Onshore Wind Energy Developments (2025) Scottish National Heritage <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments>

¹⁸ Planning and development: Enhancing biodiversity (2026) <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-enhancing-biodiversity>

¹⁹ Advising on peatland habitats and carbon-rich soils in development management (2026) <https://www.nature.scot/doc/advising-peatland-habitats-and-carbon-rich-soils-development-management>

Table 8-3 Consultee Feedback

Stakeholder	Type	Summary of consultee responses relevant to biodiversity	Outcome
North Lanarkshire Council	Pre-application advice (received 02 July 2025)	North Lanarkshire Council highlighted the following: • Relevant national and local policy requirements; • The need to avoid, minimise and mitigate impacts on ecological features; • That it should be demonstrated that biodiversity will be in a demonstrable better position as a result of the development; • A Biodiversity Protection and Enhancement Plan, showing how biodiversity will be protected and enhanced; and • The need for preliminary ecological assessment.	In line with North Lanarkshire Council's response, AECOM actioned the following during the assessment: • Relevant national and local policy requirements have been taken into account; • The assessment assumes that significant impacts on ecological features will be avoided where possible and mitigated where not; • The Project incorporates BNG and this will result in overall benefits to biodiversity; • Details of how biodiversity will be protected and enhanced will be provided within this chapter and the associated BNG report; and • This chapter and assisted appendices will contain all information as would be expected in a preliminary ecological assessment.
North Lanarkshire Council	Scoping Opinion (received 24 September 2025)	North Lanarkshire Council raised the following: • The Project intersects or lies adjacent to several designated and non-designated ecological sites as well as woodland which is part of a wider ecological network. The assessment should clearly acknowledge the sensitivity of the surrounding environment and demonstrate how potential impacts have been minimised; • NLC note that the Development plan has enhanced requirements for balance between infrastructure development and the protection and enhancement of natural assets - and as such there should be a robust	• It is acknowledged that the Site is within and surrounded by designated sites and habitats which form part of a larger network. The substation footprint has been minimised as far as possible. • The approach to alternatives is addressed within Chapter 3 Design Evolution and Alternatives.

Stakeholder	Type	Summary of consultee responses relevant to biodiversity	Outcome
		explanation for why less harmful alternatives have not been addressed in relation to substation extensions and associated works to nearby pylons - specifically Cumbernauld; • That the Environmental Impact Assessment (EIA) Report should include updated survey results, assessment of potential impacts, demonstration of BNG and consideration of cumulative impacts: and • Several local designations are present which were not included in Scoping Report.	• The EIA Report includes all of these. • These local designations are now accounted for within this EIA Report.
North Lanarkshire Council	EIA Scoping Opinion (September 2025)	North Lanarkshire Council highlighted the following: • Slamannan Plateau SPA; • Woodend Loch SSSI; and • Multiple SINC, LNRs and ancient woodland areas. Highlights the need to provide justification for the proposals, including a robust explanation of why less harmful alternatives have not been pursued Cumbernauld Substation to demonstrate a clear commitment to minimising adverse impacts The EIA Report should include a clear demonstration of BNG within North Lanarkshire.	A Shadow HRA is provided which considers the Slamannan Plateau SPA (see Volume 3, Appendix 8.9 Updated Lines Bat Results) and this EIA uses the detail from the Shadow HRA to assess impacts. This assessment has considered impacts on the SSSI, SINC, LNR and woodland listed on the AWI (including ASNW and LEPO). Chapter 3 Evolution of Design and Alternatives provides a description of the alternatives considered and why this design has been selected based on technical, economical and environmental considerations. At Cumbernauld the substation footprint has been minimised as far as possible. A separate BNG report is provided, which splits the BNG assessment to cover North Lanarkshire and Falkirk.

Stakeholder	Type	Summary of consultee responses relevant to biodiversity	Outcome
Nature Scot	EIA Scoping Opinion (Received August 2025)	Agreed with the topics and issues proposed to be scoped in and out – and agreement noted on proposals for protected species surveys.	Noted
		Agreed that sufficient data had been collected for the non-breeding taiga bean geese and that no survey bird survey work was recorded.	Correspondence undertaken with NatureScot in October 2024, Nature Scot confirmed that <i>the previous survey work was reasonably thorough, albeit with some limitations due to access restrictions and changes to the survey area between winters. It is also just within the temporal limits of acceptability. Given that taiga bean geese are well monitored, and as there is little other bird interest in the area, there is no need for further survey work by the applicant.</i>
		Agreed that Special Areas of Conservation (SACs) could be scoped out due to a lack of connectivity.	Noted
		NatureScot also advised the following: That a Bird Protection Plan is required;	Standard measures to protect nesting birds, as included as embedded mitigation to be managed by the Ecological Clerk of Works (ECoW) or other suitably experienced ornithologist, will be incorporated into a Bird Protection Plan prior to construction;
		That they supported a second water vole survey;	No second water vole survey was undertaken due to the lack of water vole evidence identified and the sub-optimal habitat present, both habitat associated with watercourses and the use of grassland habitat (by Fossorial water voles) was considered;
		That pre-construction surveys for badger and pine marten are required; and	Pre-works survey for protected and/or notable species as required, including badgers, is included as embedded mitigation to be managed by the ECoW or other suitability

Stakeholder	Type	Summary of consultee responses relevant to biodiversity	Outcome
		That further bat survey to confirm presence/absence are needed where trees or structures suitable for bats are identified.	experienced ecologist. The requirement for pre-works survey for badger is also included in the Badger Protection Plan. Tree inspection surveys found no potential bat roost features which require further survey. No structures suitable for bats are present.
Scottish Environment Protection Agency (SEPA)	Scoping opinion (received August 2025)	SEPA highlighted the following (of relevance to the Biodiversity Chapter): - Policy 3 of the NPF4 requires all EIA developments to conserve, restore and enhance biodiversity including nature networks so they are in a better state than without intervention. - The EIA submission must contain a scale drawing of GWDTEs. This is necessary to ensure the EIA process has informed the layout of the development to firstly avoid, the reduce and then mitigation significant impacts on the environment. A Phase 1 habitat survey should be provided and where initial assessment results indicate relevant habitats may be present a National Vegetation Classification (NVC) survey should be submitted. - That SEPA have produced a dataset identifying where riparian planting will be most beneficial	In line with SEPA's response, AECOM actioned the following during the assessment: - The requirements of NPF4 have been accounted for within this EIA Report. - A Phase 1 habitat survey has been undertaken, which has informed the GWDTE assessment, the details of which are provided in Chapter 9 Water Environment - Biodiversity enhancements are considered after any residual effects of the Project within this EIA Report. This is noted.
SEPA	Pre-application query with respect to GWDTE Assessment	SEPA confirmed that the extent of NVC survey area could be reduced to 50m where the following conditions are met. The proposed new foundations are not significantly larger or deeper than the existing (consented) foundations.	In response to this the survey area for NVC survey for the Uprated Overhead Line covered a 50m buffer, as the conditions stated are considered to be met. The exception to this being, that the details of areas used for the original construction are not known and there is no previous habitat mapping available. It is noted that

Stakeholder	Type	Summary of consultee responses relevant to biodiversity	Outcome
	(received October 2025)	Either the temporary access and storage areas to be used for each foundation are the same as those used for the original construction, or they are not on wetland. The survey extends to 50m in all directions from the edges of proposed excavations. If the Phase 1 or UK Habitat Classification (UKHab) survey shows that wetlands, springs or surface water are present within the 50m extent then an NVC survey must be carried out. If the NVC survey shows that there are potential GWDTEs then the works cannot proceed unless there is further qualification. Any habitat mapping associated with the planning permission request for the initial (consented) construction of this overhead line should be re-examined. If that mapping suggests that GWDTEs were present within a 250m survey extent then the works cannot proceed without further qualification.	compounds (and thus storage materials) will be located in the location around the existing towers, and thus are likely to be located in locations which have previously been subject to disturbance.
Marine Directorate - Science Evidence Data and Digital (MD-SEDD)	Scoping opinion (received August 2025)	MD-SEDD provided standing advice for overhead line development which outlines what information, relating to freshwater and diadromous fish and fisheries, is expected in the EIA Report. Response provided a checklist, of the standing advice to ensure that the EIA Report contains the required information.	The MD-SEDD Check list is provided in Volume 3, Appendix 8.15 Marine Directive MD-SEDD Checklist.

Study Area

- 8.3.4 Distinct study areas have been established for desk-based data review exercises and field surveys, to reflect the extent of the Project's Ecological Zone of Influence (Zol) for each ecological feature assessed. The CIEEM EcIA Guidelines define the Zol as the area over which ecological features may be subject to significant effect as a result of the Project, this could extend beyond the footprint of the Project.
- 8.3.5 The Zol will vary for different ecological features depending on their sensitivity to environmental change. It is therefore appropriate to identify different Zols for different features. As recommended in the guidelines for ecological impact assessments produced by the CIEEM¹³, professionally accredited or published studies and guidance, where available, were used to help determine the likely Zol, as well as professional judgement. However, CIEEM also highlight that establishing the Zol should be an iterative process and can be informed by further desk study and field survey. Where limited information was available, the Precautionary Principle²⁰ was adopted and a Zol estimated on that basis.
- 8.3.6 The study areas used for desk study and field survey, and which are reported below, were designed to allow sufficient data to be collected to establish the baseline condition of ecological features.

Scope of Assessment

- 8.3.7 The scope of survey and assessment described in this chapter was informed by the guidance contained in the published documents listed under Section 8.3 above, on the responses of consultees (as set out in Table 8-3, and on the results of detailed study once underway.
- 8.3.8 As discussed in Chapter 4, it is not envisaged that the Project would be decommissioned, and a decommissioning phase is not assessed in this chapter.
- 8.3.9 The guidelines for EcIA published by CIEEM (2024) recommend that only those features that are 'important' and that could be significantly affected by the Project require detailed assessment, stating that "*it is not necessary to carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*".
- 8.3.10 Consequently, for the purposes of the desk study, field survey and assessment described in this chapter, potentially 'important' ecological features were taken to be (these features have been considered for all project components):
- Sites designated for nature conservation, including those designated at national and local levels;
 - The qualifying features of SPAs and Wetlands of International Importance (Ramsar sites) within at least 10km of the Project (or further where a hydrological or other ecological connection may exist), and the notified features of SSSIs within at least 2km of the Project (extending to 20km for SPA designated for geese);
 - Woodland listed on the AWI;

²⁰ Precautionary principle (2026) EUR-Lex <https://eur-lex.europa.eu/EN/legal-content/glossary/precautionary-principle.html#:~:text=The%20concept%20of%20the%20precautionary,used%20to%20justify%20arbitrary%20decisions.>

- Ancient and veteran trees listed on the Ancient Tree Inventory (ATI);
- Habitats listed on Annex I of the Habitats Directive;
- Species listed on Annex I of the Birds Directive;
- Species listed on Annex II of the Habitats Directive;
- Species listed on Schedules 2 and 4 of the Habitats Regulations;
- Species listed on Schedules 1, 5 and 8 of the WCA;
- Badger *Meles meles*, which is afforded protection under the Protection of Badgers Act;
- Habitats and species listed on the Scottish Biodiversity List (SBL), which are thus identified as being of principal importance for biodiversity conservation in Scotland;
- Species on the Red List of Birds of Conservation Concern (BoCC) 5²¹; and
- Species or species assemblages shown to indicate good habitat conditions, for example Good Ecological Status or better in relation to the WFD.

8.3.11 Species and habitats listed above are hereafter referred to as ‘protected’ and/or ‘notable’ as appropriate.

Habitats Regulations Appraisal

8.3.12 A Shadow HRA has been undertaken for the Slamannan Plateau SPA and is available in Volume 3, Appendix 8.8 Habitat Regulations Appraisal.

Baseline Data Collection

Desk study

8.3.13 A desk study was carried out to identify nature conservation designations and records of important habitats and species (as defined under Scope of Assessment above) potentially relevant to the Project. The desk study areas selected are based on the likely Zol of the Project on different ecological features. Accordingly, the desk study sought to identify:

- SPAs and Ramsar sites within at least 10km of the Project (or further where a hydrological or other ecological connection may exist), extending to 20km for sites associated with geese;
- SSSIs within 2km of the Project (or further where a hydrological or other ecological connection may exist);
- Any other nationally or locally designated nature conservation sites within 1km of the Project;
- Recent records²² of protected and / or important habitats and species within 1km of the Project made in the last ten years; and

²¹ The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds, 114: 723–747 (2021) Stanbury, A. J *et al*

²² Records are generally considered recent if made in the past 10 years, however, more historic records may be used where appropriate.

- Local policies relevant to nature conservation.
- 8.3.14 In addition to the above, a mix of OS mapping and aerial imagery was reviewed to determine if any ponds potentially suitable for great crested newt were present within 250m of the Site, the distance over which great crested newt will typically travel from breeding ponds^{23, 24, 25, 26}. OS mapping was also reviewed to identify watercourses located within the Site, or hydrologically connected to the Site.
- 8.3.15 A range of data sources were used for the desk study, as set out in Table 8-4 below. All data was accessed between October and December 2025.

Table 8-4 Desk study data sources

Data source	Data obtained
Amphibian and Reptile Groups of the UK (ARG UK) and Amphibian and Reptile Conservation (ARC) Record Pool ²⁷	Amphibian / reptile hectad records.
Ancient Tree Inventory (ATI) ²⁸	Locations of known notable veteran or ancient trees.
Bean Goose Advisory Group	Foraging distribution and GPS tracking data for Taiga bean goose recorded over the last ten years.
Buglife Important Invertebrate Areas (IIA) webpage ²⁹	Locations of IIAs.
Falkirk Council website ⁹	LDP policies relevant to nature conservation. Local non-statutory nature conservation designations and / or green infrastructure assets.
North Lanarkshire Council website ¹⁰	LDP policies relevant to nature conservation. Local non-statutory nature conservation designations and / or green infrastructure assets.
North Lanarkshire GIS Open data North Lanarkshire Council - GIS Open Data ³⁰	Spatial data for local non-statutory nature conservation designations and / or green infrastructure assets.
Mammal Society Species Hub ³¹	Information on protected and / or important mammals.
NatureScot Natural Spaces webpage ³²	AWI for Scotland. Results of Native Woodland Survey of Scotland (NWSS).

²³ The migratory ecology and terrestrial habitat preferences of the great crested newt *Triturus cristatus* at Little Wittenham Nature Reserve. M.Phil Thesis. De Montfort University. Dept. Applied Biology and Biotechnology. (1993). Franklin, P.

²⁴ Status and Ecology of the Warty Newt *Triturus cristatus*, Final Report. Report by Leicester Polytechnic under contract to Nature Conservancy Council, Contract No. HF 3/05/123 Year 3. (1986) Oldham, R.S. and Nicholson, M.

²⁵ Post-breeding migrations of newts with contrasting ecological requirements. *Journal of Zoology*, London 251, pp 297-306. (2000) Jehle, R. and Arntzen, J.W.

²⁶ Newts and toads: licences for land management. (2023) NatureScot. <https://www.nature.scot/professional-advice/protected-areas-and-species/licensing/species-licensing-z-guide/great-crested-newts-natterjack-toads/newts-and-toads-licences-0>

²⁷ <https://www.recordpool.org.uk/>

²⁸ Record Pool (2026) ARG UK. <https://ati.woodlandtrust.org.uk/>

²⁹ Important Invertebrate Areas (2026) Buglife. <https://www.buglife.org.uk/our-work/important-invertebrate-areas/>

³⁰ North Lanarkshire – GIS Open Data. (2026) North Lanarkshire. <https://gisdata-nlcmaps.opendata.arcgis.com/>

³¹ British mammal species (2026) Mammal Society <https://mammal.org.uk/british-mammals>

³² NatureScot data services (2025) NatureScot. <https://www.nature.scot/information-hub/naturescot-data-services>

Data source	Data obtained
Marine Scotland Maps National Marine Plan Interactive (NMPi) ³³	Atlantic salmon <i>Salmo salar</i> distribution in Scotland
NatureScot SiteLink webpage ³⁴	SPAs, SACs and Ramsar sites within 10km of the Project. SSSIs within 2km of the Project.
NBN Atlas Scotland ³⁵	Commercially-available records of protected and / or notable species within 1km of the Project made since 2015 (inclusive).
OS1:25,000 maps and aerial photography ³⁶	Habitats and connectivity relevant to interpretation of planning policy and potential protected and / or notable species constraints.
Scottish Government Spatial Data ³⁷	Spatial data for Local non-statutory nature conservation designations within 1km of the Site in North Lanarkshire.
Saving Scotland's Red Squirrels (SSRS) ³⁸	Red squirrel <i>Sciurus vulgaris</i> records.
SEPA Water Classification Hub ³⁹	Status of watercourses and standing waters.
The National Water Vole Database & Mapping Project (NWVDM) ⁴⁰	Water vole <i>Arvicola amphibius</i> hectad records.
The Wildlife Information Centre (TWIC) ⁴¹	Commercially-available records of protected and / or notable species within 1km of the New Build Overhead Line only, made since 2015 (inclusive).

- 8.3.16 Note that though TWIC local environmental records centre (LERC) covers the land within the Falkirk local authority area in the north, no local records centres are currently active within North Lanarkshire in the south.
- 8.3.17 As part of the desk study for species records, the local records centre (Glasgow Museums Biological Records Centre) was closed for data requests at the time of writing this Chapter. This is not considered to poses a significant limitation to assessment, due to the level of field survey data collected.

Field survey

- 8.3.18 All surveys were led by suitably experienced AECOM ecologists with CIEEM membership and experience in the relevant subject areas.

³³ Maps Marine gov scot (2026) Marine Scotland <https://marinescotland.atkinsgeospatial.com/nmpi/>

³⁴ SiteLink NatureScot (2026) NatureScot <https://sitelink.nature.scot/home>

³⁵ NBN Atlas Scotland (2026) NBN Atlas Partnership <https://scotland.nbnatlas.org/>

³⁶ Maps (2026) Microsoft Bing <https://www.bing.com/maps/>

³⁷ Sites of Importance for Nature Conservation (SINC) - North Lanarkshire (2024) Scottish Government <https://www.data.gov.uk/dataset/e82919b7-5284-459f-ae82-cac58e8a7c25/sites-of-importance-for-nature-conservation-sinc-north-lanarkshire>

³⁸ Scottish Squirrels (2026) Scottish Wildlife Trust <https://scottishsquirrels.org.uk/squirrel-sightings/>

³⁹ Water Classification Hub (2026) SEPA <https://www.sepa.org.uk/data-visualisation/water-classification-hub/>

⁴⁰ The National Water Vole Database Project (2026) Wildlife Trusts <https://www.wildlifetrusts.org/national-water-vole-database-mapping-project>

⁴¹ TWIC (2026) TWIC <https://wildlifeinformation.co.uk/>

- 8.3.19 All field mapping was carried out using Esri Field Maps on a GPS-enabled tablet or mobile phone with aerial photography, to maximise accuracy. Field data was subsequently refined as necessary in GIS for figure production.
- 8.3.20 The guidance followed for the surveys is listed below.
- 8.3.21 For habitats:
- Phase 1 Habitat survey following Joint Nature Conservation Committee (JNCC)⁴² guidance;
 - UK Habitat Classification Survey following UKHab system⁴³;
 - Habitat condition assessment in line with the statutory biodiversity metric⁴⁴; and
 - NVC survey of notable habitats identified by the initial habitat survey (e.g. habitats listed on the SBL or Groundwater Dependent Terrestrial Ecosystems (GWDTE)) following published guidelines.
- 8.3.22 The above surveys (with the exception of habitat condition assessment) were extended out to an appropriate distance as described in Table 8-5 where NVC communities listed as potential GWDTEs in Scottish Environment Protection Agency (SEPA) guidance^{45,46} were present, as identified from aerial imagery and site walkover.
- 8.3.23 For protected and/or notable species:
- Bats - Daytime Bat Walkover (DBW), Ground Level Tree Assessment (GLTA) and aerial/endoscope tree inspection followed Bat Surveys for Professional Ecologists: Good Practice Guidelines⁴⁷, bat activity surveys (transect surveys);
 - Otter survey followed Monitoring the Otter *Lutra lutra*, Conserving Natura 2000 Rivers Monitoring Series No. 10⁴⁸ and Otter Breeding Sites. Conservation and Management, Conserving Natura 2000 Rivers Conservation Techniques Series No. 5⁴⁹;
 - Great crested newt (GCN) (eDNA) survey, Habitat Suitability Index (HSI) assessment and Population Assessment followed guidance on Evaluation the suitability of habitat for GCN⁵⁰;

⁴² *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough (2010) JNCC.

⁴³ *UK Habitat Classification Version 2.0* (2023) UKHab Ltd <https://www.ukhab.org/>

⁴⁴ *Statutory biodiversity metric tools and guides*. November 2023. (2023) DEFRA. [Statutory biodiversity metric tools and guides - GOV.UK](https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides)

⁴⁵ Guidance on Assessing the Impacts of Windfarm Development Proposals on Groundwater Abstractions and Groundwater Dependent. Version 2. October 2014. (2014) SEPA

https://www.sepa.org.uk/media/143868/lupsgu31_planning_guidance_on_groundwater_abstractions.pdf

⁴⁶ *Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems*. August 2024. (2024) SEPA [guidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx](https://www.sepa.org.uk/media/143868/lupsgu31_planning_guidance_on_groundwater_abstractions.pdf)

⁴⁷ Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th edition. Bat Conservation Trust. London. (2023) Collins, J. (ed).

⁴⁸ *Monitoring the Otter* *Lutra lutra*, Conserving Natura 2000 Rivers Monitoring Series No. 10. English Nature, Peterborough. (2003) Chanin, P.

⁴⁹ *Otter Breeding Sites*. Conservation and Management, Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough. (2003) Liles, G.

⁵⁰ Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), pp 143-155. (2000) Oldham, R.S., Keeble, J., Swan M.J.S. and Jeffcote, M.

- Water vole survey followed Water Vole Conservation Handbook⁵¹ and The Water Vole Mitigation Handbook⁵²;
 - Badger survey followed Surveying Badgers – An occasional publication of the Mammal Society, No. 9⁵³ and Surveying for Badgers: Good Practice Guidelines⁵⁴; and
 - Camera trapping did not follow any official guidance (see Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential) for more information on this survey and associated limitations).
- 8.3.24 In line with the Scoping Report, no dedicated pine marten, red squirrel *Sciurus vulgaris*, brown hare *Lepus europaeus* or hedgehog *Erinaceus europaeus* surveys were carried out. However, any sightings of these mammal species, or evidence of their presence (such as pine marten scats or squirrel-eaten cones), were noted if encountered incidentally during all fieldwork.
- 8.3.25 Similarly, observations of reptiles, other amphibians and important invertebrates were recorded if encountered during all fieldwork, but no targeted survey was carried out for these species.
- 8.3.26 The components of the scheme assessed in Sections 8.6 to 8.17 vary considerably in their scale and potential impacts and thus different sized survey areas were used as appropriate.
- 8.3.27 A summary of the ecological field surveys carried out to collect baseline data relevant to the Project is given below in Table 8-5.
- 8.3.28 Full details of survey methods and guidance followed for the most ecologically significant components of the scheme can be found in Volume 3, Appendices 8.1 – 8.7 for the New Build Overhead Line and CB and AA Routes, Appendices 8.8 – 8.12 for the Upgraded Overhead Lines and Appendices 8.13 and 8.14 for Cumbernauld Substation.

⁵¹ *Water Vole Conservation Handbook*. 3rd Edition. Wildlife Conservation Research Unit, University of Oxford. (2011) Strachan, R., Moorhouse, T. and Gelling, M.

⁵² *The Water Vole Mitigation Handbook*. Mammal Society Mitigation Guidance Series. The Mammal Society, London. (2016) Dean, M., Strachan, R., Gow, D. and Andrews, R.

⁵³ *Surveying Badgers – An occasional publication of the Mammal Society*, No. Mammal Society, London. (1989) Harris, S., Cresswell, P. and Jefferies, D.

⁵⁴ *Surveying for Badgers: Good Practice Guidelines*. Version 1. (2018) Scottish Badgers.

Table 8-5 Surveys undertaken

Survey Type	WB Line	CB Line	AA Line	Uprating Lines	Substations excluding Cumbernauld	Cumbernauld Substation	Access tracks	Vis Splays
Phase 1 habitat survey	Centreline +100m, tower compounds +100m, Site compound +100m	Compounds +50m	Compounds and centreline +50m	Tower compounds and Site compound +50m	All substation components +50m	Site +100m	All tracks centreline +50m	Locally covered to 10m
Invasive non-native plant species	Undertaken concurrently with Phase 1 habitat survey, thus following the same survey areas (noting this therefore covered a wider study area than the 30m study area detailed in the scoping report).							
NVC survey for GWDTE	Towers +250m; Site compound +100m	None	Compounds and centreline +250m	Tower compounds and Site compound +50m	All substation components +250m	Site +250m	All tracks centreline +100m	None
GLTA	Limit of Deviation and Site compound +10m	All works +10m	Compounds and underground cable route +30m; Centreline and scaffolding +10m	Tower compounds and Site compound +50m	All substation components +50m	Site +50m	All tracks centreline +10m	Locally covered to 10m

Survey Type	WB Line	CB Line	AA Line	Uprating Lines	Substations excluding Cumbernauld	Cumbernauld Substation	Access tracks	Vis Splays
Aerial Inspection surveys	Of trees identified with suitability for bats during the GLTA	No aerial surveys undertaken (avoidance of trees through micro-siting will be targeted)*			Of trees identified with suitability for bats during the GLTA	Of trees identified with suitability for bats during the GLTA	No aerial surveys undertaken (avoidance of trees through micro-siting will be targeted)*	
Emergency surveys	Of trees with PRF-M ⁵⁵ at risk of removal	None	None	None	None	None	None	None
Bat activity surveys	Proposed route corridor at the time of survey	None	None	None	None	None	None	See Limitations section
Otter	Limit of Deviation and Site compound +200m	Compounds +200m	Compounds and centreline +200m	Tower compounds and Site compound +200m	All substation components +200m	Site +200m	All tracks centreline +200m	See Limitations section
Water vole	Limit of Deviation and Site compound +50m	Compounds +50m	Compounds and centreline +50m	Tower compounds and Site compound +50m	All substation components +50m	Site +50m	All tracks centreline +50m	See Limitations section

⁵⁵ Potential Roost Feature - Moderate (for full details see Appendix 8.2)

Survey Type	WB Line	CB Line	AA Line	Uprating Lines	Substations excluding Cumbernauld	Cumbernauld Substation	Access tracks	Vis Splays
Badger	Limit of Deviation and Site compound +50m	Compounds +50m	Compounds and centreline +100m	Tower compounds and Site compound +50m	All substation components +50m	Site +100m	All tracks +50m	Locally covered to 10m
Pine marten	Undertaken concurrently with badger survey							
Great crested newt pond search	Centreline +250m	Centreline +250m	Centreline +250m	Centreline +250m	All substation components +250m	Site +250m	There were no additional ponds identified within 250m of new access tracks beyond the ponds identified with 250m of the centre lines	See Limitations section
Camera trapping	Of otter refuges - two on the Luggie Water and one on Walton Burn.	None	None	None	None	Of badger setts – WB.B.20 (main sett) and Sett WB.B.21	None	None

*Standard pre-construction surveys will be undertaken to ensure compliance with European Protected Species legislation

Assessment Methods

- 8.3.29 The assessment of impacts and effects on ecological features described in this chapter was conducted in accordance with the guidelines published by CIEEM¹³. In line with the guidance, the assessment focuses on ecological features of greatest conservation importance.
- 8.3.30 Table 8-6 sets out the valuation approach. The approach with respect to GWDTEs is set out separately in Table 8-7, to specifically align with SEPA guidelines.

Table 8-6 Approach to valuation

Importance level	Definition	Criteria
International	Greater than Scotland, worldwide	A site designated under international conventions or European directives meeting the criteria for a European site (SPA⁵⁶, pSPA⁵⁷, SAC⁵⁸, cSAC⁵⁹, pSAC⁶⁰, Ramsar site⁶¹, Biogenetic Reserve⁶²). Considerable extents of a habitat types listed in Annex I of the Habitats Directive, or smaller areas of such habitat that are essential to maintain the viability of that habitat to an international level. A regularly occurring significant population/number of any internationally important species i.e. those listed on Annex II of the Habitats Directive, Annex I of the Birds Directive or International Union for Conservation of Nature (IUCN) Red listed.
National	Scotland	Nationally designated sites (SSSI⁶³, National Nature Reserve (NNR)⁶⁴), or sites meeting the criteria for national designation. Notified species / habitats of a nationally designated site. Nationally important, viable areas of habitat listed in Annex I of the Habitats Directive which in good condition. Bogs must be >25ha in extent, as set-out in NatureScot guidance on priority peatland habitats⁶⁵. A regularly occurring significant population/number of any nationally important species i.e. listed on the Wildlife and Countryside Act 1981 (as amended). Species present in nationally important numbers (>1 % Scotland population).
Regional	The area encompassed by	Any internationally or nationally important habitat (as described above) that is either small or patchy in extent, of low quality or currently degraded but has the potential

⁵⁶ Special Protection Area classified under the EU Birds Directive for importance to birds.

⁵⁷ Potential Special Protection Area.

⁵⁸ Special Area of Conservation Area classified under the EU Habitats Directive for important habitat or non-bird species.

⁵⁹ Candidate Special Area of Conservation.

⁶⁰ Potential Special Area of Conservation.

⁶¹ Wetland of international importance designated under the Ramsar Convention.

⁶² Sites deemed representative examples of particular habitats in Europe.

⁶³ Site of Special Scientific Interest designated under UK law as being the best examples of the UK's flora, fauna, geological or physiographical features.

⁶⁴ National Nature Reserve designated under UK law as containing the best examples of natural or semi-natural ecosystems in Britain.

⁶⁵ <https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management>

Importance level	Definition	Criteria
	Natural Heritage Zone (NHZ) 17 ⁶⁶	for restoration (e.g. localised <i>H7140 Transition mires and quaking bogs</i>, <i>H7130 Degraded Blanket bog</i>). AWI ASNW⁶⁷ and ancient and veteran trees. Species present in regionally important numbers (>1 % of the regional population). Regularly occurring moderate to large populations/numbers of SBL/LBAP species.
County	The North Lanarkshire and Falkirk local authority areas	Viable areas of SBL Priority habitats. AWI LEPO woodland⁶⁸. A regularly occurring, viable population of an LBAP species which is scarce in the County area. Species present in important numbers (>1 % of the county population). Local Nature Reserves (LNR), LNCS e.g. Wildlife Sites (WS) and Sites of Importance for Nature Conservation (SINC), identified by the Local Authority. Areas identified of conservation interest by organisations such as the Scottish Wildlife Trust and other non-statutory designated sites for nature conservation.
Local	The area within 10km of the Project	Viable areas of habitat which are not SBL Priority habitat or Annex I but which enhance the local habitat resource, including those identified by the LBAP (e.g. hedges, broadleaved and mixed tree-lines, non-SBL marsh, non-SBL broadleaved or mixed woodland, non-SBL watercourses). Areas of SBL Priority habitat which are heavily degraded, such as bog which is not capable of recovery. A regularly occurring, substantial population of a species scarce in the local area or of local priority.
Site	The area encompassed by the Project	Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest (e.g. species-poor coniferous woodlands, species-poor grasslands, species-poor scrub, bracken, tall ruderal vegetation). Common and widespread species with limited legal protection.

⁶⁶ NatureScot has devised 21 'Natural Heritage Zones' (NHZ) covering the whole of Scotland which reflect biogeographical differences across the country. Assessment of the impacts on ecological features in this EIA has been carried out in the context of the West Central Belt NHZ (NHZ 17), within which the Project is located. Further information on NHZs can be found at Scottish Natural Heritage (2002a). Natural Heritage Futures. An Overview. <https://digital.nls.uk/pubs/e-monographs/2020/216666894.23.pdf>.

⁶⁷ Noting within NPF4 Ancient woodland is defined within the glossary as land that has maintained continuous woodland habitat since at least 1750, as such this relates to woodlands listed as category 1a and 2a on the AWI (This includes Plantation on Ancient Woodland Sites (PAWs)).

⁶⁸ Noting within NPF4 Ancient woodland is defined within the glossary as land that has maintained continuous woodland habitat since at least 1750, as such this relates to woodlands listed as category 1a and 2a on the AWI (This includes Plantation on Ancient Woodland Sites (PAWs)).

Importance level	Definition	Criteria
Less than Site	Areas smaller than that encompassed by the Project	No intrinsic nature conservation value associated with habitat or species. Generally, these are areas of hard standing or buildings with no nature conservation interest. Invasive non-native species which threaten native habitat or species.

- 8.3.31 With respect to GWDTEs, SEPA set out specific guidance regarding the valuation of these⁴⁶. In line with this, potential GWDTE habitats identified were assigned a GWDTE importance based on SEPA guidance, as shown below in Table 8-7.

Table 8-7 Assignment of GWDTE importance to habitat types.

Importance of GWDTE as assigned by SEPA	Criteria
High importance	As for International or National importance in Table 8-6.
Moderate importance	As for County or Regional importance in Table 8-6.
Low importance	As for Local importance in Table 8-6.
Unimportant	As for Site importance in Table 8-6.

- 8.3.32 In line with CIEEM guidelines, the terminology used within this chapter draws a clear distinction between the terms ‘impact’ and ‘effect’. Within this chapter, these terms are defined as follows:
- Impact – actions resulting in changes to an ecological feature (for example, demolition of a building which supports roosting bats); and
 - Effect – the outcome resulting from an impact acting upon the conservation status or structure and / or function of an ecological feature (for example, killing / injuring bats and reducing the availability of breeding habitat because of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned).
- 8.3.33 Impacts are assessed in view of the conservation status of the habitats and species under consideration. CIEEM states that, for habitats
- “Conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area.”¹³*
- 8.3.34 NatureScot defines the conservation status of a species as *“the sum of the influences acting on it which may affect its long-term distribution and abundance, within the geographical area of interest”⁶⁹*. Furthermore, a species’ conservation status is considered to be ‘favourable’ when⁶⁹:

⁶⁹ Guidance Note - Assessing the Significance of Impacts on Bird Populations from Onshore Wind Farms That Do Not Affect Protected Areas. March 2025. (2015) NatureScot <https://www.nature.scot/doc/guidance-note-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect>

- Population dynamics indicate that the species is maintaining itself on a long-term basis as a viable component of its habitats;
 - The natural range of the species is not being reduced, nor is it likely to be reduced for the foreseeable future; and
 - There is (and probably will continue to be) a sufficiently large habitat to maintain its population on a long-term basis.
- 8.3.35 Within the impact assessment, effects are first noted in terms of their ecological effect at the relevant geographical level (in line with CIEEM guidance), then for the purposes of this EIA, where effects predicted to be significant on an ecological feature at the County or greater geographic level are identified, these are noted to be 'Significant' in broader EIA terms, whereas those predicted to be significant only at the Local or less than Local levels, are considered to be 'Not Significant' in EIA terms.
- 8.3.36 Where effects are predicted to be significant at a local level, these effects would not result in an impact to integrity of habitats at a greater than a local level, and would not affect the population status of species beyond a local level and it is for these reasons that they are not considered significant in EIA terms.
- 8.3.37 Sites, habitats and species which are assessed to be of less than local importance are not considered in detail in this assessment.

Limitations and Assumptions

- 8.3.38 The aim of the desk study was to help characterise the baseline context of the Project and provide valuable background information that may not be captured by field survey alone. Information obtained during the desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean they do not occur in the study area. Likewise, the presence of records for a particular species does not automatically mean that these still occur within the area of interest or are relevant to the Project.
- 8.3.39 No local records centre currently supplies records for the part of the Project located within North Lanarkshire and the Glasgow Museums Biological Records Centre was closed for data requests at the time of writing this Chapter. This is not considered a significant limitation as data from the National Biodiversity Network (NBN) Atlas and other sources (e.g. Saving Scotland's Red Squirrels) was available and this, in addition to the results of the comprehensive field surveys, was considered sufficient for the assessment.
- 8.3.40 No surveys were undertaken within the existing substation platforms, but were viewed at distance from adjacent land. These areas are entirely composed of artificial habitats with little to no ecological value. In general, buildings in substations can offer potential habitat for roosting bats, however in all cases for the existing substations viewed during surveys, buildings were of relatively modern construction and were not considered to provide opportunities for these species. No surveys were undertaken within private gardens or residences, these areas will not be directly impacted and protected species are unlikely to be present due to the suboptimal habitats present. If these species are present then they will not be directly impacted by works and are unlikely to be disturbed, given the high levels of baseline disturbance in such areas.

- 8.3.41 Further limitations relating to specific survey methods are provided in Volume 3, Appendix 8.1 to Appendix 8.14. Further limitations relating to the impact assessment in relation to specific Project Components are detailed within the relevant sections below.

8.4 Embedded Mitigation Measures

- 8.4.1 Embedded mitigation measures are incorporated into the design of a development and aim to avoid or reduce adverse effects, including those on ecological features. Embedded mitigation is considered at the initial impact assessment stage, whereas mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage.

General Measures

- 8.4.2 A range of measures that are standard best practice for a development of this type, including those required to comply with environmental protection legislation (and, for breeding birds, nature conservation legislation) will be implemented. These are well-developed and have been successfully implemented on infrastructure projects across the country, and there is a high degree of confidence in their success. They can therefore be treated as embedded mitigation. These will include:
- An ECoW will be employed for the duration of the construction of the Project. The ECoW will advise on ecological matters and visit the Site as necessary, mark-out any required works exclusion zones, monitor implementation of ecological mitigation and compliance with nature conservation legislation and provide Toolbox Talks to personnel, where required;
 - All personnel involved in the construction of the Project will be made aware of relevant ecological features and the mitigation measures and working procedures to be adopted. This will be achieved as part of the induction process and through the delivery of Toolbox Talks, where required;
 - The works area will be restricted to within the footprint of the Project and retained habitats will not be accessed by personnel, vehicles or other equipment during the construction phase;
 - In line with NatureScot guidance, pre-works survey for protected and/or notable species (where required) will be carried out by the ECoW or other qualified ecologist, no more than three months before works commence (including facilitating works such as vegetation clearance), to check for any changes to the baseline conditions described in this EIA Report. The results will be reported and communicated to the appointed Principal Contractor and other relevant stakeholders, and additional avoidance / mitigation measures implemented, if required;
 - Following pre-works surveys the ECoW will provide advice on micro-siting to avoid ecological features of interest (for example standing water) where it is avoidance is likely to be possible;
 - The ECoW or other suitably qualified and experienced ecologist would carry out an updated survey for plant INNS prior to commencement of works and, if required (likely due to the presence of rhododendron *Rhododendron ponticum* and Japanese

knotweed *Reynoutria japonica*), a Biosecurity Management Plan (BMP) would be prepared and appropriate mitigation implemented to prevent the spread of INNS;

- A Construction Environment Management Plan (CEMP) will be prepared and submitted for approval by North Lanarkshire Council and Falkirk Council, in consultation with NatureScot and SEPA, where necessary, prior to commencement of construction. The CEMP will set out all environmental management measures and the roles and responsibilities of construction personnel. Environmental measures in the CEMP shall include:
- Pollution prevention – as a minimum, construction will adhere to SEPA Guidance for Pollution Prevention (GPP)/ Pollution Prevention Guidance (PPG), including:
 - Airbourne dust will be controlled via the use of dust suppression techniques (i.e. water used in crushing operations as per GPP/PPG, watering access tracks in dry weather);
 - Controls and contingency measures to manage run-off and sediment from construction areas;
 - Storage of oils, lubricants or chemicals in an appropriate secure container in a suitable storage area at least 10m from any watercourse, with spill kits at this location and across the Site; and
 - Refuelling and servicing of vehicles/plant in a designated bunded area with an impermeable base, situated at least 50m from any watercourse;
 - Water crossings – water crossings will be designed and installed to comply with all relevant legislation and SEPA River Crossings guidance⁷⁰;
 - Tree protection – works near or at any retained trees or woodland will follow guidance in British Standard 5837:2012⁷¹;
- Nesting bird mitigation – in compliance with legislation protecting active bird nests, works directly impacting vegetation that could be used by nesting birds (e.g trees, shrubs and rushy grassland areas) will be undertaken outside of the breeding season (taken as March to August, inclusive) as far as possible. Should vegetation clearance works be required during the breeding season, a pre-works search for active nests will be carried out by the ECoW or other suitably experienced ornithologist, no more than 72 hours in advance of clearance works taking place since nests can be quickly established. Where any active nests are identified, suitable species-specific exclusion zones will be established and maintained until the breeding attempt has concluded. All measures will be incorporated into a site-specific Bird Protection Plan which will be approved by North Lanarkshire Council and Falkirk Council, in consultation with NatureScot, prior to the commencement of construction works;
- Construction lighting – as far as possible, works will be carried out in daylight (to finish each day at 19:00 latest from March to September and 17:30 latest from October to February) to minimise the risk of disturbing protected and / or important nocturnal

⁷⁰ River Crossings. Engineering in the Water Environment: Good Practice Guide (20100 SEPA

⁷¹ British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations (2012) British Standards Institution

species (such as foraging / commuting bats and badger); any temporary artificial lighting required for construction works will be strongly directional and directed only on to the works area, and will be turned off when not required, to minimise light spill and adverse effects on nocturnal wildlife. It will follow Guidance Note GN08/23 Bats and Artificial Lighting at Night⁷²;

- Permanent lighting - Full operational lighting for maintenance/ emergencies will be temporary and sporadic. Lower-level permanent security/perimeter lighting will be operated throughout the hours of darkness and will be directional, downward-facing and shielded to minimise upward spill and horizontal glare, minimising adverse effects on nocturnal wildlife;
- General wildlife protection – if any excavations are made, they will be covered overnight or a means of escape for any animals that may enter provided (such as a suitably battered slope) and will be checked at the start of each working day to ensure no animals are trapped within them. Similarly, any open pipes will be capped or otherwise screened at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped; and
- Further measures to prevent the injury or mortality of animals which would be implemented include:
 - Where possible, pre-stressing whereby wildlife are encouraged to leave the area prior to works commencing (e.g. by having people walk over the area making noise); and
 - If and where necessary, phased vegetation clearance following a pattern to encourage wildlife to move out of the working area to alternative undisturbed habitats.

8.4.3 Note that there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot may be required to permit such works, and must be in place before works commence. Species Protection Plans (SPP) are required to support applications for such licenses, and will include appropriate mitigation measures. For the likely content of these SPPs for each component of the Scheme see the Proposed Additional Mitigation Measures in the below sections.

Effects scoped out of the assessment

8.4.4 The effects detailed in Table 8- have been scoped out of the assessment because potential effects are not considered likely to be significant based on the application of the embedded mitigation measures.

Table 8.8 Effects scoped out the assessment

Potential impacts and effects	Justification
Habitat degradation as a result of the creation of airborne particles (dust)	Changes in air quality during construction due to plant emissions or dust will be negligible. The measures set out within the CEMP will

⁷² Guidance Note GN08/23 Bats and Artificial Lighting at Night (2023) ILP and BCT

	control dust emissions. Any effects on habitats will be inconsequential and so this effect is scoped out.
Habitat degradation as a result of pollution incidents to watercourses	The embedded mitigation sets out that controls will be in place to prevent any contamination of watercourses during the construction phase. Chapter 9 concludes that through the adopted of embedded mitigation, along with specific additional measures discussed in Chapter 9 there will be no significant effects to the water environment. This chapter has considered this outcome with respect to designated sites and habitats downstream of the Site and have therefore scoped out effects from hydrological change on these receptors.
Permanent or temporary changes to hydrological conditions which may affect vegetation	Chapter 9 concludes that through the adopted of embedded mitigation, along with specific additional measures discussed in Chapter 9 there will be no significant effects to the water environment. This chapter has considered this outcome with respect to changes to hydrological conditions which may affect vegetation downstream of the Site and have therefore scoped out effects from hydrological change on these receptors.
Potential injury or mortality of species as a result of pollution incidents to watercourses	Chapter 9 concludes that through the adopted of embedded mitigation, along with specific additional measures discussed in Chapter 9 there will be no significant effects to the water environment. This chapter has considered this outcome with respect to species, and in the absence of significant effects to the water environment no effects on species through this type of impact are predicted.
Disturbance to and displacement of protected and notable species as a result of construction or operational lighting / Creation of barriers to animal movements as a result of artificial lighting.	With respect to permanent lighting, this will only be for maintenance/ emergencies will be temporary and sporadic. Any temporary artificial lighting required for construction works will be strongly directional and directed only on to the works area, and will be turned off when not required, to minimise light spill and adverse effects on nocturnal wildlife. It will follow Guidance Note GN08/23 Bats and Artificial Lighting at Night.
Potential injury or mortality of protected and notable species during construction as a result of entrapment	Any excavations will be covered overnight or a means of escape for provided, similarly, any open pipes will be capped or otherwise screened at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped.
Direct mortality of the eggs or chicks of breeding birds or indirect mortality due to disturbance	Standard nesting bird mitigation measures will be applied.
Impacts resulting from the spread of INNS	The ECoW or other suitably qualified ecologist will carry out an updated survey for plant INNS prior to commencement of works and, if required a BMP will be prepared and appropriate mitigation implemented to prevent the spread of INNS.

Ecological Effects scoped into the assessment

- 8.4.5 Following a review of the Project the following potential effects from construction have been scoped in:
- Permanent habitat loss (e.g. due to infrastructure such as permanent access tracks or other infrastructure);
 - Temporary habitat loss (e.g. due to temporary construction compounds, laydown areas);
 - Habitat degradation as a result of construction works (e.g., from temporary access tracks);
 - Indirect impacts to protected and/or notable faunal species (e.g. due to loss of habitats, disturbance from construction noise); and
 - Potential for injury or mortality of birds during operation (e.g. as a result of collision with overhead lines).

Ecological features scoped out from assessment

- 8.4.6 In addition to the effects considered above, the following features have been scoped out of the assessment.

SACs

- 8.4.7 In line with the Scoping Opinion, no likely significant effect is predicted on SACs as they are all over 2km from the Project and separated from the Project by roads and other infrastructure, with no hydrological connectivity. Note NatureScot's Scoping Response confirmed acceptance of this.

SSSIs

- 8.4.8 The following SSSIs which are within the 2km study area have been scoped out as they are separated from the Project by roads and other infrastructure, with no hydrological connectivity: Garrion Gill SSSI, North Bellstane Plantation SSSI, and Lady Bell's Moss SSSI.

Fisheries

- 8.4.9 In line with the Scoping Report, fish and aquatic invertebrates are scoped out. The watercourses in the vicinity of the Project are likely to be typical of this part of central Scotland, and the Project will not require significant in-channel works. There will be no severance of watercourses or disruption to fish passage, with the exception of two watercourse crossings, one on the Rowan Tree Burn on the AA line and one on the Glencryan between Towers WB021 and WB020. Any potential impacts on fish or aquatic invertebrates as a result of these temporary watercourse crossing can be reliably mitigated through standard good practice construction measures as set out in the embedded mitigation measures. As stated above there will no effects from waterborne pollution following the application of the embedded mitigation measures. For completeness, and as requested in the Scoping Option, the Marine Directorate EIA Checklist is provided in Volume 3, Appendix 8.15 Marine Directive MD-DESS Checklist.

Beaver

- 8.4.10 Beavers are now known to inhabit areas within the Rivers Forth, Tay and Earn, and there have been several notable translocations within these areas, including Argaty in Stirlingshire⁷³ and Loch Lomond⁷⁴. However, the current distribution of beaver *Castor fiber* in Scotland does not extend to the area within which the Site is located⁷⁵. The species is therefore considered likely absent, and no surveys were carried out for beaver. However, the field signs of this species are particularly obvious⁷⁶, and would likely have been noted during other surveys, if present.

Invasive non-native species

- 8.4.11 INNS listed on Schedule 9 of the WCA (although this Schedule no longer legally applies in Scotland, it provides a useful list of the core invasive species), those considered to be of EU concern under the Invasive Alien Species Regulation, and those listed in Annex B of NatureScot's Developing with Nature Guidance⁷⁷ were recorded where they were identified during the habitat survey. They are not included in the assessment due to their lack of conservation status. However, plant INNS are discussed in the Baseline Conditions and are mentioned in regards to embedded mitigation (where relevant) which would prevent their spread.
- 8.4.12 No surveys were undertaken for animal INNS, there is no mechanism by which animal INNS could be spread by the Project, and no mitigation in relation to animal INNS is proposed. Animal INNS are not discussed further, except where their presence in desk study information contributes to establishing the baseline for other species (e.g. American mink *Neovison vison*, grey squirrel *Sciurus carolinensis*).

8.5 Future Baseline Conditions

- 8.5.1 For all project components the future baseline considerations are considered to be the same. This section sets out a summary of this.

Baseline at the time of construction

- 8.5.2 Construction of the Works is anticipated to take place between January 2027 and February 2030, lasting for approximately 37 months. No other major land use changes are expected within the Site prior to this. In the absence of further development, major changes to the described baseline conditions are unlikely prior to construction. The habitats on Site are not likely to change significantly in the time up to the construction start date, though there may be minor changes such as change of management of agricultural land, felling of commercial forestry, encroachment of scrub or the death of species such as ash to disease. Possible other minor changes that might occur in the Site or adjacent area include the establishment of new protected/notable species refuges, or changes in activity levels at known refuges. However, any such changes are very unlikely to result in sufficient impact on ecological features to alter the conclusions of this assessment. The only exception to this could be as a result of the spread of beaver. Beaver

⁷³ NatureScot (2022). *Argaty Second Beaver Translocation*. February 2022. Available at: [Argaty second beaver translocation | NatureScot](#)

⁷⁴ NatureScot (2022). *Beaver Release at New Loch Lomond Site Approved*. December 2022. Available at: [Beaver release at new Loch Lomond site approved | NatureScot](#)

⁷⁵ Beaver Management (2025). *Beaver distribution*. Available at: [Beaver Distribution - Beaver Management](#)

⁷⁶ Róisín Campbell-Palmer et al. (2016). *The Eurasian Beaver Handbook*. Pealgic publishing.

⁷⁷ NatureScot (2022). *Developing with Nature Guidance*. December 2022. Available at: [Publications and documents | NatureScot](#)

distribution in Scotland is rapidly expanding due to a combination of translocation between catchments and natural dispersal. They are known to be in the Clyde catchment and suitable habitat in Woodend Loch may be colonised in future. Although impacts on beaver are not assessed independently, they mirror those identified and assessed in relation to otter (another European Protected Species (EPS)) and should beaver become present on prior to construction, the conclusion of the otter assessment would likely apply.

Baseline in the absence of the Works

- 8.5.3 For the purposes of considering the baseline in the absence of the Works, a nominal point 20 years in the future has been adopted. As discussed above, in the intervening period, it is possible that habitats may change due to changes in land management or, locally, due to scrub encroachment. Developments, most likely housing developments, may be built, most likely on existing agricultural land, or woodland may be planted. The distribution of protected/notable species refuges may change however the use of the Site by these species is unlikely to intensify given that habitat changes will not result in a significant amount of additional usable habitat for these species.
- 8.5.4 Increasing average temperatures and more frequent/intense extreme weather events (e.g. heatwaves, floods, and droughts) that are projected to occur as a result of climate change may alter vulnerable habitats (e.g. wetlands) and are likely to result in a shift in the distribution of animal and plant species (including INNS). Such changes are unlikely to be notable within the Site for the following reasons:
- The Project is situated in central Scotland, away from the extreme edges of many species distributions and unlikely to see a noticeable shift in the short-term; and
 - The majority of habitats are modified, and although management may change in response to changing climate, the land is likely to remain similar in nature and of poor ecological value.

8.6 Assessment of Effects, Mitigation and Residual Effects of the New Build Overhead Line

Introduction

- 8.6.2 The New Build Overhead Line and the area within which the works for this are located are hereafter referred to respectively as the “Works” and the “Site”, until Section 8.7 of this document. Full details of the Works are provided in Chapter 4.
- 8.6.3 The construction phase is projected to last 26 months, scheduled from October 2027 to November 2029.
- 8.6.4 Once operational, the New Build Overhead Line will be primarily monitored remotely, with occasional access for inspections, servicing, or repairs.

Methodology

- 8.6.5 General methods, assumptions and limitations relevant to this assessment are detailed above in Section 8.3. Specific assumptions and limitation relating to the assessment of the Works are detailed below.

- 8.6.6 The specific methods adopted for surveys in relation to the Works are detailed within Appendices 8.1 – 8.5.
- 8.6.7 Notably, the excavations required to install the foundations of the towers are likely to be of significant depth and therefore, as per SEPA guidance⁷⁹, GWDTE's have been considered to 250m from towers. GWDTE's have been considered to 100m from site compounds and proposed access tracks (where not on existing tracks).
- 8.6.8 Site specific assumptions are as follows:
- Pulling positions will not impact notable habitats and will not require clearance of woodland or scrub, as micro-siting will be possible to avoid these features;
 - All woodland/scrub habitats within the New Build Overhead Line Limit of Deviation corridor will be lost;
 - Permanent loss of non-woodland/scrub habitats will take place only within the footprints of new towers;
 - Habitats within the footprints of tower compounds, the site compound, scaffolding, pulling positions and proposed access tracks will be restored following the completion of Works (see below).

Site specific assumptions and limitations

- 8.6.9 Survey-specific limitations for protected species are described within the respective protected species appendices.
- 8.6.10 The areas of the visibility splays were not surveyed as their precise extent and location were not known at the time of the field surveys. Consequently, the assessment of these areas is based on a desk-based review and the assumption that vegetation clearance will be minimal. This is not a significant limitation, as the majority of habitats within the potential visibility splays appear to be of poor ecological value and are unlikely to support protected or notable species. Furthermore, the visibility splays are very narrow, and these areas will be inspected and the splays micro-sited prior to commencement of the works to ensure any localised ecological features are avoided or appropriately managed.
- 8.6.11 With respect to vegetation clearance around proposed access tracks and visibility splays, specific details on clearance extents required are unknown. In many instances the access tracks follow existing accesses, and although may require a level of upgrade, the vegetation clearance required is anticipated to be minimal, and as such the absence of this information is not considered to be a limitation to the assessment. As set out in the embedded mitigation measures (Section 8.4) an ECoW will advise on micro-sighting to avoid removal of trees with suitability for roosting bats and will advise on suitable buffer zones to avoid roost lost. The assessment therefore assumes that trees with features suitable for roosting bats will be retained where adjacent to proposed access tracks and within visibility splays. Disturbance to bats within 10m of Works (including felling) is considered within the assessment.
- 8.6.12 Access to specific locations within the survey area was not available:
- The Wheel Caravan Park;
 - Network Rail land; and

- Fields between the Luggie Water and a hedgerow to the north (running from Tannoch Stables to Palacerigg Country Park).
- 8.6.13 This is not considered to pose a significant limitation as in general, this land supports low value habitats which could be reliably surveyed from adjacent land and which were considered unlikely to support protected or notable species.
- 8.6.14 Survey specific limitations are described within the relevant appendix for that survey type.

Baseline Conditions

- 8.6.15 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment. Further details of the baseline conditions are provided in Appendices 8.1 - 8.7.

Statutory and Non-Statutory Designated Sites

- 8.6.16 Information on nature conservation sites is given in Table 8-, and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.
- 8.6.17 Note that the Site spans two local authority areas and LNCS are referred to as WS where designated by Falkirk Council and SINC's where designated by North Lanarkshire Council.
- 8.6.18 Unless stated, designated sites have no hydrological connectivity to the Site.

Table 8-9 Summary of Statutory Sites for Nature Conservation

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for regularly supporting nationally important numbers of migratory taiga bean geese. Partially underpinned by Slamannan Plateau SSSI, West Fannyside Moss SAC and West Fannyside Moss SSSI.	Overlaps the Site between Towers WB024 and WB025 at the location of a proposed access track and scaffolding. Located upstream of the Site via the Walton Burn.	Designated site importance is derived from designation.	International
Firth of Forth SPA/ Ramsar site	Designated for supporting Annex I species over winter and during passage; wintering migratory species; and in excess of 20,000 individual waterfowl over winter.	Located 7.8km east of the Site at the closest point, Tower WB053. Located approximately 15.7km downstream of the Site via the Rowan Tree Burn, Bonny Water and River Carron.	Designated site importance is derived from designation.	International
Slamannan Plateau SSSI	Designated for non-breeding taiga bean goose. Mostly coincident with Slamannan Plateau SPA.	See notes above for Slamannan Plateau SPA.	Designated site importance is derived from designation.	National
West Fannyside Moss SSSI	Designated for blanket bog and non-breeding taiga bean goose. Coincident with West Fannyside Moss SAC; forms part of Slamannan Plateau SPA.	Located 1.4km southeast of the New Build Overhead Line LINE Limit of Deviation (nearest Tower WB024) and 1.4km southeast of proposed access tracks.	Designated site importance is derived from designation.	National
Howierig Muir SSSI	Designated for lowland raised bog.	Located 0.4km east of the New Build Overhead Line Limit of Deviation corridor (nearest Tower WB047) and 25m east of proposed access tracks.	Designated site importance is derived from designation.	National

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located upstream of the Site via an unnamed minor tributary of the Rowan Tree Burn.		
Bruntrigg Moor (Palacerigg) SINC	Lowland raised bog, wet grassland, and heathland mosaic.	Overlaps the Site between Towers WB021 and WB023, inclusive.	Local authority designated site.	County
Cameron Burn: Cameron Glen SINC	Geological interest and habitats including riparian, wet and steep sloping woodland.	Overlaps the Site between Towers WB006 and WB007. Located on the Cameron Burn which is both crossed by the Site and partly downstream of it (though most of the SINC is located upstream of the Site).	Local authority designated site.	County
Cleuch SINC	Mixed broadleaved woodland and stream corridor with wet woodland and grassland.	Overlaps the Site between Towers WB012 and WB014, partially overlapping all associated temporary compounds. Located upstream of the Site via an unnamed tributary of the Luggie Water.	Local authority designated site.	County
Cullochrigg SINC	Peatland and woodland.	Overlaps the Site at Tower WB005 including approximately 0.3km of proposed access.	Local authority designated site.	County
East Fannyside Muir SINC	Blanket bog and, lowland raised bog. Partially overlaps Fannyside Lochs SSSI.	Overlaps the Site between Tower WB025 and WB027, partially overlapping all associated temporary compounds.	Local authority designated site.	County
Forest Wood SWT Reserve	Mixed plantation woodland with ancient trees, conifer plantations, and semi-natural broadleaf areas. Includes wet flushes and open glades.	Overlaps the Site at Towers WB021A, WB023, and WB024, at least partially overlapping all associated temporary compounds as well as approximately 0.87km of proposed access.	Nature conservation organisation designated site.	County
Forest Woods SINC	Mixed woodland with ancient trees and semi-natural habitats.	Overlaps the Site at Towers WB023 and WB024, at least partially overlapping both	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
	Concurrent with the eastern parcel of Forest Wood SWT Reserve.	temporary compounds as well as approximately 0.64km of proposed access.		
Glencryan Woods SINC	Mixed woodland with ponds. Concurrent with the western parcel of Forest Wood SWT Reserve.	Overlaps the Site at Tower WB021A, partially overlapping the associated temporary compound and approximately 0.2km of proposed access tracks.	Local authority designated site.	County
Graystone Knowe WS	Peatland and scrub.	Overlaps the Site at Towers WB031, WB032, and WB034, completely overlaps all associated temporary compounds as well as approximately 0.96km of proposed access. Located on the Walton Burn, overlapping and downstream of a proposed water crossing (and also upstream).	Local authority designated site.	County
Palacerigg Country Park (West) SINC	Mixed woodland, grassland, ponds and farmland mosaic.	Overlaps the Site between Towers WB019 and WB021, inclusive.	Local authority designated site.	County
Roughcastle WS	Blanket bog and wet modified bog habitat.	Overlaps the Site between Towers WB053 and WB054, including the temporary compounds scaffolding and approximately 0.37km of proposed access tracks. Located approximately 1.5km downstream of woodland removal between Towers WB045 and WB046 via the Rowan Tree Burn.	Local authority designated site.	County
Shank Burn East: Brackenhirst Plantation SINC	Mixed native/conifer riparian woodland.	Overlaps the Site near Tower WB002, 30m south-west of the associated temporary compound. Hydrologically connected where the Shank Burn crosses the Site between Towers WB001 and WB002.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
South Drum Claypit WS	Mosaic of wetland and grassland habitats including marsh and marshy grassland, developing scrub, basin mire and unimproved acid grassland, plus ponds and wet features.	Overlaps the Site between WB038 and WB040, at least partially overlapping all associated temporary compounds, as well as approximately 0.5km of proposed access.	Local authority designated site.	County
West Fannyside Moor SINC	Peatland, open water. Partially overlaps Slamannan Plateau SPA and SSSI.	Overlaps the Site near Tower WB025 where scaffolding is proposed.	Local authority designated site.	County
Wester Drum WS	Raised bog and marshy grassland habitat.	Overlaps the Site at Tower WB042. Works within this WS are the temporary compound around Tower WB042, proposed woodland removal between Towers WB041 and WB042, and approximately 230m of proposed access.	Local authority designated site.	County
Whinrigg SINC	Peatland and woodland.	Overlaps the Site between Towers WB006 and WB007 where woodland removal is proposed.	Local authority designated site.	County
Forth And Clyde Canal WS	Wide canal with shallow banks, supporting aquatic flora and fauna.	Overlaps the Site between Towers WB052 and WB053, is spanned by scaffolding, and is approximately 20m from the nearest proposed access.	Local authority designated site.	County
Luggie Water: Glenhove-Jockey's Well SINC	Geodiversity site. Habitat: riparian woodland, marshy margins and ponds.	Overlaps the Site between Towers WB016 and WB017 where woodland removal is proposed; 10m from the temporary compound around Tower WB016.	Local authority designated site.	County
Cameron Burn: Staylee Glen SINC	Woodland.	Overlaps a small part of the New Build Overhead Line Limit of Deviation between Towers WB007 and WB008. Runs adjacent to proposed access to Towers WB009-WB012 for approximately 275m.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located approximately 0.25km downstream of a proposed water crossing between Towers WB009 and WB010 via the Cameron Burn.		
Laverock Knowe Quarry SINC	Geodiversity site. Quarry landform adjacent to wetland/peatland/grassland habitat.	Located immediately adjacent to proposed access tracks and 0.6km south of Tower WB001.	Local authority designated site.	County
Cumbernauld Glen SWT Reserve	Ancient woodland with bluebells and meadow that attracts butterflies, including small pearl-bordered fritillary <i>Boloria selene</i> .	Located 50m north of the Site where it connects to Cumbernauld Substation, 150m north of proposed access and the temporary compound around Tower WB021C. On the opposite side of Forest Road to the Site. Located 1km downstream of the Site at Tower WB021A via the Red Burn (of which the Glencryan Burn is a tributary).	Nature conservation organisation designated site.	County
Shank Burn East: Glenmill Rd-Brakenhirst Rd SINC	Woodland.	Located 60m west of the proposed access to Tower WB002, 180m west of the associated temporary compound. Located on the Shank Burn, 0.27km downstream of where it crosses the Site between Towers WB001 and WB002.	Local authority designated site.	County
Tippetcraig WS	Mosaic of woodland, heathland and grassland habitats.	Located 0.11km east of the Site at Tower WB037.	Local authority designated site.	County
Cumbernauld Glen: Vault Glen (East) SINC	Ancient semi-natural woodland as well as geological interest. Within Cumbernauld Glen SWT Reserve.	Located 0.11km north-west of New Build Overhead Line Limit of Deviation corridor, 0.24km north-west of proposed access track and the temporary compound around Tower WB021C.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located 1km downstream of the Site at Tower WB021A via the Red Burn (of which the Glencryan Burn is a tributary).		
South Drum Moss WS	Mosaic of woodland, heathland, and grassland habitats.	Located 0.13km east of the Site at Towers WB039 and WB040.	Local authority designated site.	County
Palacerigg Country Park (East) SINC	Mixed woodland, grassland, ponds and farmland mosaic.	Located 0.14km south of the Site at Towers WB022-WB023.	Local authority designated site.	County
Garbethill Moor SINC	Peatland. Partly overlaps Garbethillmuir Moss WS.	Located 0.16km south-east of the temporary compound around Tower WB032. Located upstream of the Site via the Walton Burn.	Local authority designated site.	County
North Walton Burn WS	Peatland.	Located 0.17km north-west of proposed access to Towers WB031 and WB032 and at least 300m from associated temporary compounds.	Local authority designated site.	County
Lochgreen Moss WS	Lowland raised bog and wetland areas.	Located 0.26km north-west of the site compound and 0.3km west of the Site at Towers WB038 and WB039.	Local authority designated site.	County
Cumbernauld Glen: Crow Wood & Vault Glen (West) SINC	Ancient woodland and riparian habitats. Within Cumbernauld Glen SWT Reserve.	Located 0.28km north of the nearest proposed tower (WB021C) adjacent to Cumbernauld Substation and 83m north-west of proposed access tracks. Hydrologically connectivity is as described for Cumbernauld Glen SWT Reserve.	Local authority designated site.	County
Glenhead Wood South SINC	Mixed woodland with a small a stream running through the SINC, plus grassland/ and scrub margins.	Located 0.30km north-west of the Site at Tower WB027.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located upstream of the Site via a tributary of the Walton Burn.		
Douglas Glen SINC	Woodland - felled.	Located 0.43km west of the Site between Towers WB003-WB005. Located upstream of the Site via a tributary of the Shank Burn.	Local authority designated site.	County
Glencryan Meadow SINC	Grassland and mixed woodland.	Located 0.43km west of the temporary compound around Tower WB021B.	Local authority designated site.	County
Palacerigg Country Park (South) SINC	Mixed woodland, grassland, ponds and farmland mosaic.	Located 0.46km east of the Site at Towers WB018-WB019. Located upstream of the Site via a tributary of the Luggie Water.	Local authority designated site.	County
Luggie Water: Luggiebank-Glenhove SINC	Geodiversity site. Riparian woodland, marshy margins, and ponds. Partially overlaps Luggiebank Wood SWT Reserve.	Located 0.51km west the Site at Towers WB016-WB018. Hydrologically connected via the Luggie Water, approximately 0.82km downstream of where woodland removal is proposed.	Local authority designated site.	County
Dalmacoulter Quarry SINC	Mixed habitats including woodland, grassland, scrub, bog, ponds, and wetland.	Located 0.55km south of the proposed access to Tower WB001.	Local authority designated site.	County
Cameron Burn: Muirhead Glen SINC	Geodiversity site. Semi-natural woodland and other riparian habitats along the Cameron Burn.	Located 0.56km north-west of proposed access between Towers WB007-WB012. 0.83km west of the temporary compound around Tower WB016. Approximately 0.86km downstream of the Site at Tower WB010 via the Cameron Burn.	Local authority designated site.	County
Blackhill Moss WS	Mosaic of woodland, scrub and grassland habitats.	Located 0.60km west of proposed access tracks between Towers WB036-WB038.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Roughcraig Glen & Blackwalk Plantation SINC	Woodland.	Located 0.62km south-west of the proposed access to Tower WB001.	Local authority designated site.	County
Garbethillmuir Moss WS	Peatland and wet heath, with areas of blanket bog and acid grassland. Partly overlaps Garbethill Moor SINC.	Located 0.68km south of temporary compound around Tower WB035.	Local authority designated site.	County
Drumshangie Moss: Dykehead (North) SINC	Peatland.	Located 0.71km east of proposed access to Tower WB001. Located upstream of the Site via a tributary of the Shank Burn.	Local authority designated site.	County
Luggiebank Wood SWT Reserve	Woodland and amenity grassland. Partially overlaps Luggie Water: Luggiebank-Glenhove SINC.	Located 0.74km west of the Site at Towers WB016-WB018. Located approximately 1.14km downstream of proposed woodland removal via the Luggie Water.	Nature conservation organisation designated site.	County
Glenhead Wood North SINC	Mixed woodland and grassland.	Located 0.80km north-west of the temporary compound around Tower WB026. Located upstream of the Site via a tributary of the Walton Burn.	Local authority designated site.	County
Shank Burn (South) SINC	Wetland, woodland.	Located 0.82km north-west of the Site at Tower WB005. Located on the Shank Burn, approximately 3.75km downstream where it is crossed by the Site between Towers WB001 and WB002.	Local authority designated site.	County
Drumshangie Moss North SINC	Peatland.	Located 0.87km east of the temporary compound around Tower WB002.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located upstream of the Site via the Shank Burn.		
Colony Moor (Palacerigg) SINC	Peatland and acid grassland mosaic.	Located 0.98km east of the Site at Towers WB017-WB018. Located upstream of the Site via the Luggie Water.	Local authority designated site.	County
Drumshangie Moss: Dykehead (South) SINC	Peatland.	Located 0.99km east of proposed access to Tower WB001.	Local authority designated site.	County
North Bellstane Plantation SINC	Peatland.	Located 0.99km north of felling near Towers WB005 and WB006.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.6.19 Two areas listed on the AWI as ASNW will be crossed by the New Build Overhead Line between Towers WB016-WB017, and both are associated with the Luggie Water: Glenhove-Jockey's Well SINC. NPF4 defines Ancient woodland as "Land that has maintained continuous woodland habitat since at least 1750". The woodlands on Site are younger than this, being first recorded in 1860. However, where semi-natural woodlands exists and are present within these AWI parcels, and there is no field evidence specifically suggesting that they are not ancient (e.g. clear evidence of recent planting, a lack of native tree species, a lack of ancient woodland indicators) these woodland areas are considered to be of Regional importance.
- 8.6.20 Seven areas listed on the AWI as LEPO are present and will be crossed by the New Build Overhead Line, mainly in and adjacent to Roughcastle WS, and further south, associated with the Rowan Tree Burn and The Wheel Caravan Park and in and around the SINC/SWT Reserves associated with Palace Riggs. These areas are considered to be of County importance. This is because, although listed in the AWI, LEPO within the Site and nearby is widespread in the local area frequently encompasses woodland which is not otherwise notable and which exhibits a full or partial non-native canopy with a poor ground flora and as such is not considered to be of National value.
- 8.6.21 See Volume 3, Appendix 8.1 WB, CB, AA Habitat Results for further detail on AWI woodlands.
- 8.6.22 One tree was identified on the Ancient Tree Inventory (ATI) - a veteran beech *Fagus sylvatica* in Roughcastle WS, located within the New Build Overhead Line Limit of Deviation corridor between towers WB051-WB052 (OSGR NS84908001)⁷⁸. It is not within any AWI listed woodland, though it is in the vicinity of several areas of LEPO.
- 8.6.23 Veteran trees are ecologically valuable when compared to non-veteran trees because of features such as deadwood, signs of decay, holes and cavities which can be used by a range of species.
- 8.6.24 However, although the single tree identified from the ATI potentially provides some biodiversity benefits due to its size and maturity, it is not of a native species, and field survey, found it did not obviously exhibit the range of features expected from a veteran tree, it does not contribute to the more valuable semi-natural woodland habitats in the surrounding area and it does not have any suitability for roosting bats. Furthermore, this tree is one of many similar large and mature beech trees within Roughcastle WS, and in the wider Site.
- 8.6.25 Thus, for this single tree, Site level importance is considered sufficient.
- 8.6.26 AWI woodlands and the ancient tree are shown on Volume 2, Figure 8.2 Ancient Woodland, Peatland and Watercourses. AWI woodlands are also shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species alongside other notable habitats.

⁷⁸ It is noted that the general public can add trees onto the ATI database, and thus trees listed on it may not necessarily be veteran or ancient, as this has not been verified by an arboriculturist.

Habitat survey results

- 8.6.27 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results and Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species. Example photographs of habitats found during the surveys are shown on Plates 1 to 4. Full detail on the habitats recorded are provided in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results, with a summary of the habitats present provided below.
- 8.6.28 The survey area is dominated by a mosaic of damp habitats on flat or gently undulating ground, the majority of which is used for grazing. A further large proportion is open moorland (e.g. Plate 3) or associated habitats (e.g. Plate 2), or woodland (e.g. Plate 1 and Plate 4). The survey area mainly comprises damp semi-improved neutral grassland (16.55%) followed by Degraded Blanket Bog (11.40%) and non-notable marshy grassland (8.02%).
- 8.6.29 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-10, along with their status as Annex I, SBL Priority habitats and valuation of importance. Linear habitats are set out in Table 8-8.
- 8.6.30 Note that running water is mentioned in both tables, given that larger watercourses were mapped as area habitats and small watercourses as lines. Watercourses are discussed in more detail in Section 8.6.35.
- 8.6.31 Also present across the survey area were scattered trees and scrub. These are common and widespread, but do enhance the habitat resource within the Site. Thus they have been assigned Site level importance.
- 8.6.32 Many of the of the habitats identified during field survey qualify potential GWDTEs, and these are discussed in Section 8.6.33.



**Plate 1. LEPO/Lowland Mixed Deciduous
Woodland in Roughcastle WS**



**Plate 2. Annex I Transition mires and
quaking bogs in Wester Drum WS**



**Plate 3. Annex I Blanket bog in Graystone
Knowe WS**

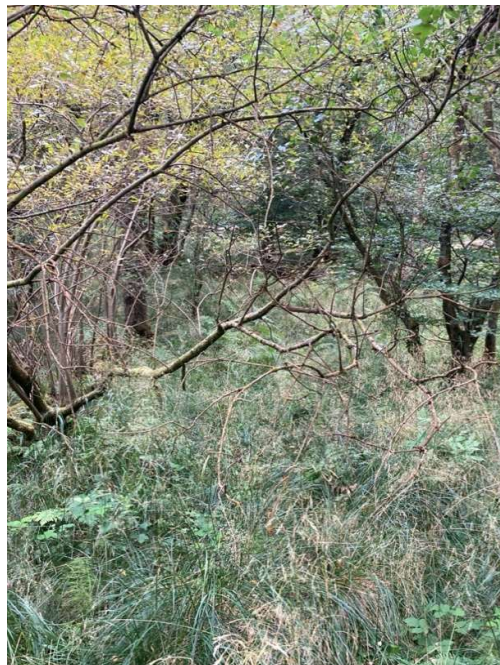


**Plate 4. ASNW/Wet Woodland in Luggie
Water Glenhove - Jockeys Well SINC**

Table 8-10 Summary of habitats within the survey area and valuation of importance

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	20.77	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	21.14	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	No	5.13	Enhances the local habitat resource.	Local
A1.1.2 - Broadleaved woodland - plantation	No	34.96	Enhances the local habitat resource.	Local
A1.2.1 - Coniferous woodland - semi-natural	No	1.29	Species-poor habitat with limited ecological value.	Site
A1.2.2 - Coniferous woodland - plantation	No	21.46	Species-poor habitat with limited ecological value.	Site
A1.3.1 - Mixed woodland - semi-natural	No	0.36	Enhances the local habitat resource.	Local
A1.3.2 - Mixed woodland - plantation	No	35.76	Enhances the local habitat resource.	Local
A2.1 - Scrub - dense/continuous	<u>Wet Woodland</u>	1.76	SBL Priority habitat.	County
A2.1 - Scrub - dense/continuous	No	12.40	Common and widespread habitat.	Site
A4.2 - Coniferous woodland - recently felled	No	1.05	Species-poor habitat with limited ecological value.	Site
B1.1 - Acid grassland - unimproved	No	6.60	Locally common habitat with limited ecological value.	Site

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
B1.2 - Acid grassland - semi-improved	No	0.88	Locally common habitat with limited ecological value.	Site
B2.2 - Neutral grassland - semi-improved	No	82.61	Common and widespread habitat.	Site
B4 - Improved grassland	No	39.19	Common, widespread and heavily modified habitat with limited ecological value.	Site
B5 - Marsh/marshy grassland	<u>Purple Moor-grass and Rush Pastures</u>	3.83	SBL Priority habitat.	County
B5 - Marsh/marshy grassland	<u>Lowland Fens</u>	0.29	SBL Priority habitat.	County
B5 - Marsh/marshy grassland	No	40.03	Enhances the local habitat resource.	Local
B6 - Poor semi-improved grassland	No	25.24	Common, widespread and heavily modified habitat with limited ecological value.	Site
C1.1 - Bracken - continuous	No	1.97	Common and widespread habitat.	Site
C3.1 - Other tall herb and fern - ruderal	No	9.75	Common and widespread habitat.	Site
D1.1 - Dry dwarf shrub heath - acid	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	0.46	Patchy areas of low-quality Annex I habitat.	Regional
D2 - Wet dwarf shrub heath	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	4.22	Patchy areas of low-quality Annex I habitat.	Regional
D5 - Dry heath/acid grassland	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	0.33	Patchy areas of low-quality Annex I habitat.	Regional

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
D6 - Wet heath/acid grassland	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	0.43	Patchy areas of low-quality Annex I habitat.	Regional
E1.6.1 - Blanket sphagnum bog	Intact <u>Blanket Bog (H7130 Blanket bog)</u>	8.53	Small area (<25ha) of Annex I habitat.	Regional
E1.7 - Wet modified bog	Degraded <u>Lowland Raised Bog (H7120 Degraded Raised bog)</u>	3.55	Degraded Annex I habitat.	Regional
E1.7 - Wet modified bog	Degraded <u>Blanket Bog (H7130 Degraded Blanket bog)</u>	56.89	Degraded Annex I habitat.	Regional
E2.1 - Flush and spring - acid/neutral flush	<u>Lowland Fens</u>	0.97	SBL Priority habitat.	County
E3 - Fen	<u>Lowland Fens</u>	1.66	SBL Priority habitat.	County
E3.1 - Fen - valley mire	<u>Lowland Fens</u>	1.89	SBL Priority habitat.	County
E3.2 - Fen - basin mire	<u>Lowland Fens (H7140 Transition mires and quaking bogs)</u>	0.30	Very small area of Annex I habitat.	Regional
F1 - Swamp	<u>Lowland Fens</u>	0.13	SBL Priority habitat.	County
G1 - Standing water	<u>Ponds</u>	0.36	SBL Priority habitat.	County
G1 - Standing water	None	1.44	Ponds which enhance the local habitat resource but which are not known to contain notable species, or are stocked with non-native fish. The canal.	Local

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
G1.1 - Standing water - eutrophic	None	0.25	Pond heavily polluted with waterfowl droppings, but which could be restored in future.	Site
G1.3 - Standing water – oligotrophic	Ponds	0.21	SBL Priority habitat.	County
J1.1 - Cultivated/disturbed land - arable	None	32.41	Heavily modified habitat with limited ecological value.	Site
J1.2 - Cultivated/disturbed land - amenity grassland	None	0.78	Heavily modified habitat with limited ecological value.	Site
J1.4 - Introduced shrub	None	0.01	Heavily modified habitat with limited ecological value.	Less than Site
J3.6 - Buildings	None	0.04	Artificial habitat with negligible ecological value.	Less than Site
J4 - Bare ground	None	1.02	Heavily modified habitat with limited ecological value.	Less than Site
Hardstanding	None	10.14	Artificial habitat with negligible ecological value.	Less than Site

Table 8-8 Summary of habitats within the survey area and valuation of importance (linear habitats)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total length within the survey area (km)	Rationale for Valuation	Importance level
Lines of broadleaved or mixed trees	No	1.19	Enhances the local habitat resource.	Local
Lines of coniferous trees	No	0.14	Non-native species, often in very poor condition (due to burning).	Site
J2.1.1 - Intact hedge - native species-rich	<u>Hedges</u>	0.48	Enhances the local habitat resource. Where SBL Priority habitat, this is due to the number of species present. However, these hedges are not appreciably different in value to non-n hedge and still overwhelmingly dominated by hawthorn.	Local
J2.1.2 - Intact hedge - species-poor	No	1.69		
J2.2.2 - Defunct hedge - species-poor	No	4.22		
J2.3.1 - Hedge with trees - native species-rich	<u>Hedges</u>	0.42		
J2.3.2 - Hedge with trees - species-poor	No	0.68		
G2 – Running Water	<u>Rivers:</u> No	5.96	See Section 8.6.35 below for watercourses.	

Groundwater Dependent Terrestrial Ecosystems

- 8.6.33 The NVC communities identified during the survey which are listed by SEPA guidance on GWDTE as potential GWDTE, are listed below in Table 8-9, along with the associated GWDTE importance as assigned using the method in Section 8.3. Full descriptions of these habitats are provided within Volume 3, Appendix 8.1 WB, CB, AA Habitat Results.
- 8.6.34 Details on the hydrological conditions of the Site are provided in Chapter 9.

Table 8-9 NVC communities of potential GWDTE present within the survey area.

NVC type	Subcommunities	Notable habitat type	GWDTE importance ⁷⁹	Importance Level
M5-Carex rostrata-Sphagnum squarrosum mire	n/a	<u>Lowland Fens (H7140 Transition mires and quaking bogs)</u>	Moderate importance	Regional
M6-Carex echinata-Sphagnum fallax/auriculatum mire	M6b-Carex nigra-Nardus stricta; M6c-Juncus effusus	<u>Lowland Fens</u>	Moderate importance	County
M15-Trichophorum germanicum-Erica tetralix wet heath	M15a-Carex panicea	<u>Lowland Heathland (H4010 Wet heaths; lowland, H4030 Dry heaths; lowland)</u>	Moderate importance	Regional
M23-Juncus acutiflorus-Galium palustre rush-pasture	M23a-Juncus acutiflorus-Galium palustre rush-pasture-Juncus acutiflorus	<u>Purple Moor-grass and Rush Pastures</u>	Moderate importance	County
M23-Juncus acutiflorus-Galium palustre rush-pasture	M23b-Juncus effusus	n/a	Low importance	Local
M25-Molinia caerulea-Potentilla erecta mire	M25c-Molinia caerulea-Potentilla erecta mire-Angelica sylvestris	<u>Purple Moor-grass and Rush Pastures</u>	Moderate importance	County
M25-Molinia caerulea-Potentilla erecta mire	M25a-Erica tetralix sub-community; M25b-Anthoxanthum odoratum	n/a	Low importance	Local
M27-Filipendula ulmaria-Angelica sylvestris mire	M27c-Juncus effusus-Holcus lanatus	<u>Lowland Fens</u>	Moderate importance	County
MG9-Holcus lanatus-Deschampsia cespitosa grassland	MG9b-Arrhenatherum elatius	n/a	Unimportant	Site

⁷⁹ Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems (2024) SEPA
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fi2cnnr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK>

NVC type	Subcommunities	Notable habitat type	GWDTE importance ⁷⁹	Importance Level
MG10-<i>Holcus lanatus</i>-<i>Juncus effusus</i>	MG10a typical	n/a	Unimportant	Site
W1-<i>Salix cinerea</i>-<i>Galium palustre</i> woodland	n/a	<u>Wet Woodland</u>	Moderate importance	County
W4-<i>Betula pubescens</i>-<i>Molinia caerulea</i> woodland	W4b- <i>Juncus effusus</i> ; W4c- <i>Sphagnum</i> spp.	<u>Wet Woodland</u>	Moderate importance	County
W7-<i>Alnus glutinosa</i>-<i>Fraxinus excelsior</i>-<i>Lysimachia nemorum</i>	W7a- <i>Urtica dioica</i> ; W7b- <i>Carex remota</i> - <i>Cirsium palustre</i> ; W7c- <i>Deschampsia cespitosa</i>	<u>Wet Woodland</u>	Moderate importance	County
W7-<i>Alnus glutinosa</i>-<i>Fraxinus excelsior</i>-<i>Lysimachia nemorum</i>	W7 poor; W7c <i>Deschampsia cespitosa</i> (poor examples)	n/a	Low importance	Local

Watercourses

- 8.6.35 Seven watercourses present within 1km of the Site are identified by SEPA's Water Classification Hub⁸⁰. A further four moderately sized watercourses are known to be present but were not classified by SEPA. These are summarised below in Table 8-10 and watercourses are shown on Volume 2, Figure 8.2 Nationally and Locally Designated Sites.
- 8.6.36 As presented in Table 8-10, some of the watercourses listed may qualify as Rivers SBL Priority habitat by meeting at least one of the criteria listed on the SBL Priority habitat description. The criterion probably met is supporting six or more of those species less dependent on water quality listed on Annex I of the UK BAP priority habitat description for rivers (e.g. European eel *Anguilla anguilla*, Atlantic salmon *Salmo salar*, brown/sea trout *Salmo trutta*, brook lamprey *Lampetra planeri*, otter and soprano pipistrelle *Pipistrellus pygmaeus*). Information on obstacles to fish migration, which would exclude Atlantic salmon (and potentially other species) from watercourses, and therefore greatly reduce the likelihood that a watercourse would qualify as an SBL Priority River is provided within the SEPA Obstacles to Fish Migration layer⁸¹. Where a watercourse may represent SBL Priority habitat it is valued at County importance as for other SBL Priority habitats. Otherwise, Local importance has been assigned, because these watercourses still enhance the local habitat resource.
- 8.6.37 The remaining watercourses are very minor burns (including the Skipperton Burn) or narrow ditches, many of which contained only a trickle of water at the time of survey. These are not SBL Priority habitat, are not of particular ecological value and are valued at Site level importance.

⁸⁰ <https://informatics.sepa.org.uk/WaterClassificationHub/> [Accessed December 2025]

⁸¹ <https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=1746> [Accessed December 2025]

Table 8-10 Details of watercourses

Watercourse name	SEPA Overall status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
River Carron Avon Burn to Bonny Water Confluences / Bonny Water confluence to Carron Estuary	Poor	Moderate	Approximately 0.8km downstream of the Site via the Bonny Water.	Possible SBL Priority <u>River</u>	County
Bonny Water	Moderate ecological potential	Moderate	Located 35m north of tower compound WB059 at Bonnybridge Substation.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Downstream of NS 84398 79528	Not identified by SEPA		Runs parallel to the New Build Overhead Line at approximately 30m distant between Towers WB058 and WB057.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Upstream of NS 84398 79528	Not identified by SEPA		Crossed by the New Build Overhead Line between Towers WB045 and WB046. The proposed access track between Towers WB047 and WB048 crosses the burn via an existing track.	Not SBL Priority habitat	Local
Forth and Clyde Canal Wyndford to Rough Castle / Rough Castle to Grahamston	Good ecological potential	High	Crossed by the New Build Overhead Line between Towers WB053 and WB054.	Not SBL Priority habitat	Local
Union Canal Falkirk Wheel to Greenbank	Good ecological potential	High	The proposed access track to Towers WB052 and WB053 from Lime Road follows an existing track beneath the canal.	Not SBL Priority habitat	Local

Watercourse name	SEPA Overall status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
Union Canal Greenbank to Kirk Bridge	Moderate ecological potential	Moderate			
Walton Burn	Not identified by SEPA		Crossed by the New Build Overhead Line and proposed access track (water crossing 8 – on an existing track) between Towers WB036 and WB037.	Possible SBL Priority <u>River</u>	County
Glencryan Burn	Moderate	High	Crossed by the New Build Overhead Line and proposed access track (water crossing 3) between Towers WB021 and WB020.	Not SBL Priority habitat	Local
Red Burn	Moderate ecological potential	Moderate	Approximately 1.37km downstream of the Site via the Glencryan Burn.	Possible SBL Priority <u>River</u>	County
Luggie Water (u/s Mollins Burn)	Moderate	Good	Crossed by the New Build Overhead Line between Towers WB053 and WB054.	Possible SBL Priority <u>River</u>	County
Cameron Burn	Not identified by SEPA		Crossed by the New Build Overhead Line between Towers WB007 and WB006.	Possible SBL Priority <u>River</u>	County
Shank Burn	Not identified by SEPA		Crossed by the New Build Overhead Line between Towers WB002 and WB001.	Possible SBL Priority <u>River</u>	County

Species

- 8.6.38 Table 8-11 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment. Further information is available in the appendices for each feature, where relevant.

Table 8-11 Summary of protected and notable species results and valuation.

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	<u>Desk study</u> The NBN Atlas returned three records of greater butterfly-orchid from Cumbernauld and the area surrounding Fannyside Loch. <u>Field survey</u> No notable plant species were identified during the surveys.	The Site is dominated by widespread and common habitats, or by degraded semi-natural habitats which are mainly on the edge of urban areas. There are more notable habitats which may be of greater botanical interest, but these are localised. The small number of desk study and lack of field survey records are consistent with this and Site level importance is considered appropriate.	Site
Bats	The below is a summary – please see Volume 3, Appendix 8.2 WB, CB, AA Bat Results for further detail and Volume 2, Figure 8.6 Bat Ground Level Tree Assessment / Preliminary Roost Assessment Results. <u>Desk study</u> The NBN Atlas returned 25 records of bats, relating to soprano pipistrelle <i>Pipistrellus pygmaeus</i>, common pipistrelle <i>P. pipistrellus</i>, and Daubenton's bats <i>Myotis daubentonii</i>. These records were concentrated near Bonnybridge and Greenbank, Cumbernauld Substation, and in the south near Airdrie.	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. The Zol comprises a mosaic of habitats providing varying degrees of suitability for foraging, commuting and roosting bats. High suitability habitats are restricted to certain locations and are not ubiquitous throughout the Site. Survey work highlighted the potential presence of seven species and given the location of the Site, the presence of further species is considered unlikely. Most of these seven species are common and widespread throughout the Scottish central lowlands,	County

Feature	Summary of baseline	Rationale for Valuation	Importance
	Of these records, two were maternity roosts: one of 32 Daubenton's bats, located near Bonnybridge Substation; and one of 31 soprano pipistrelles located near Palaceriggs Country Park. TWIC returned an additional 37 records of the same three species, plus one record of brown long-eared bat <i>Plecotus auritus</i>. The remaining records were <i>Pipistrelle</i> sp., <i>Myotis</i> sp. and unknown bats not identified to species level. Most of these records were between Bonnybridge and Greenbank. No records of maternity roosts were returned by TWIC. <u>Field survey</u> Habitat suitability across the Site is varied, ranging from High to Low. High suitability areas are generally associated with broadleaved woodlands and riparian corridors adjacent to large rivers such as the woodland around the Luggie Water. The majority of the Site comprises Low suitability areas primarily characterized by non-native conifer plantation, extensive agricultural land or peatland with minimal habitat connectivity. AECOM carried out bat activity surveys across the Site in 2022. These surveys confirmed the presence of soprano pipistrelle, common pipistrelle, Daubenton's bat, Leisler's bat <i>Nyctalus leisleri</i>, noctule <i>Nyctalus noctula</i>, and	although the <i>Nyctalus</i> species present show a more restricted distribution. Common and soprano pipistrelles, Daubenton's bat, brown long-eared bat and Natterer's bat are all considered widespread species throughout the Central Belt of Scotland. While they have differing habitat requirements, the suitable habitat on Site could support any of these species. The potential roost resource includes PRF- M trees which may be suitable for more important roosts, such as maternity roosts or hibernation roosts. The 26 PRF-M trees are thinly spread across the 19km long Site, and are concentrated in the locations described. Again, whilst species have differing roost requirements, the common species likely to be present based on desk study results could all use the PRFs identified. Noctule and Leisler's bat are less widespread but not considered rare. They too will utilise the same higher suitability habitats on Site but generally favour particular tree features (e.g. rot holes or woodpecker holes) and so are likely to be limited on Site by roost resource availability.	

Feature	Summary of baseline	Rationale for Valuation	Importance
	brown long-eared bats. The bat assemblage is unlikely to have changed since 2022 given no major habitat differences were recorded. Field surveys identified 105 trees suitable for roosting bats by a combination of GLTA and further inspections at height/by endoscope. These comprised: • 26 PRF-M trees; • 57 PRF-I trees; and, • 22 FAR trees (thus could be PRF-M, PRF-I or unsuitable). PRF trees were mostly concentrated in dense woodland, along road/field edges and along watercourses. The majority of PRF-M trees are clustered in seven main locations: • Roughcastle WS and adjacent area; • Drum Wood; • Along access tracks to WB047, near Greenrig Farm; • Cumbernauld Substation; • Palacerigg Country Park (West) SINC; • Luggie Water: Glenhove-Jockey's Well SINC; and,	The Core Sustenance Zone (CSZ)⁸² of all bat species likely to be present range from between 2 to 4 km, indicating that species which may roost on Site will also utilise suitable connected habitat well beyond the Site, of which there is much available. Given the above, whilst the Site is likely to support an assemblage of common and widespread species, plus possible uncommon <i>Nyctalus</i> species, these are likely not distributed evenly across the Site but instead are localised in the specified clusters. The limited habitat suitability and limited distribution of roost resource indicates that the bat assemblage of the Site would not be important beyond a Local scale. However, the possible roosts present include potentially important types such as maternity / hibernacula which, depending on the species and number of individuals present, could be important beyond Local level, possibly up to County/Regional scale. Therefore, on balance, and on a precautionary basis, a valuation of County importance is considered appropriate.	

⁸² Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)*. Bat Conservation Trust, London. <https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition>

Feature	Summary of baseline	Rationale for Valuation	Importance
	Cleuch SINC and adjacent area. Outside of these areas there are scattered lone /small groups of PRF-M trees. PRF-I trees are numerous and concentrated in similar locations.		
Otter	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results for further detail and Volume 2, Figure 8.7 Otter and Water Vole Survey Results. <u>Desk study</u> TWIC returned two records of otter, one from the Bonny Water (approximately 1.5km upstream of the Site), and one dead individual on the M876. No records were returned by the NBN Atlas. <u>Field survey</u> Suitable habitat for otter is present along the larger watercourses and waterbodies within and adjacent to the Site. Otter likely also use minor watercourses and ponds for commuting and foraging at times. A total of three otter layups (transient, non-breeding resting sites) are present within 50m of the Site: WB.O.01, on the Bonny Water; and,	Otter are European Protected Species and remain strictly protected under the Habitats Regulations. Otter are relatively widespread and common in Scotland (with a population estimated at 8000 individuals by NatureScot⁸³), including the Central Belt, and evidence found during the surveys confirms that they are present on most of the suitable watercourses within and adjacent to the Site. However, the Site as a whole is not especially suitable for otter and any suitable habitat present is localised and patchy as a result of the Sites linear shape which mainly crosses watercourses rather than following them. No holts (including natal holts) were recorded within 50m of the Site. Given the above, and that there are many hundreds of kilometres of suitable watercourse within the North Lanarkshire and Falkirk Council areas which are more suitable and likely support	Local

⁸³ <https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/otter>

Feature	Summary of baseline	Rationale for Valuation	Importance
	WB.O.03 and WB.O.04, both on the Luggie Water, within the Luggie Water: Glenhove-Jockey's Well SINC. No otter holts (including natal holts) are present within 200m of the Site. Spraints were identified on the Bonny Water, Rowan Tree Burn, Walton Burn, Glencryan Burn and Luggie Burn during the survey, confirming the use of these water courses by otter.	greater numbers of otter, County importance would be disproportionate. Thus, Local level importance is considered appropriate.	
Water vole	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results for further detail and Volume 2, Figure 8.7 Otter and Water Vole Survey Results. <u>Desk study</u> No records were returned by the NBN Atlas or by TWIC. However, The National Water Vole Database indicates that the Site is within two 10km grid squares where water voles are present, between Glenmavis and Cumbernauld Substation. TWIC returned a single record of American mink from the Bonnybridge area. American mink are an invasive species which prey on water vole, and which are partly responsible for the decline of water vole populations. The presence of	Water vole populations are scattered throughout NHZ 17, and this includes fossorial populations of water vole associated with the Greater Easterhouse area of Glasgow, potentially the highest density of the species in the UK⁸⁴, as well as numerous other populations. Given the small size of the occupied habitat at WB.WV.03 (60m in length, at most) it is unlikely that the number of water voles within the Site would approach 1% of the NHZ 17 population. Thus Regional importance is considered disproportionate. However, water vole have undergone a drastic population decline in recent years and the population at WB.WV.03 appears to be fairly isolated, given that very little evidence of water vole was found within the Site. Furthermore, the	County

⁸⁴ Stewart, R.A., Jarrett, C., Scott, C., White, S.A. and McCafferty, D.J. *Water vole (Arvicola amphibius) abundance in grassland habitats of Glasgow*. The Glasgow Naturalist (online 2018) Volume 27, Part 1, 10-19. https://www.glasgownaturalhistory.org.uk/gn27_1/Stewart_Glasgow_WaterVoles.pdf

Feature	Summary of baseline	Rationale for Valuation	Importance
	American mink does not preclude the presence of water vole, but does make it less likely that significant populations would persist. <u>Field survey</u> Locally the Site supports suitable habitat for water vole where there are open, slow moving channels or rush dominated vegetation. Water vole evidence was recorded in one location within 50m of the Site. This was a group of evidence, WB.WV.03, located on the Shank Burn, with the closest evidence 10m from tower compound WB002 and spanned by the New Build Overhead Line. Evidence comprised 77 burrows, six latrines (including those with fresh and recent droppings and trampled droppings), single droppings and feeding remains.	National Water Vole Database appears to show fewer areas of water vole presence in the North Lanarkshire and Falkirk council areas than around Glasgow. It cannot be ruled out that the population of water vole at WB.WV.03 constitutes more than 1% in the combined local authority areas of North Lanarkshire and Falkirk. Thus County level importance is considered appropriate.	
Badger	The below is a summary – please see Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential) for further detail and Volume 2, Figure 8.9 Badger Survey Results (Confidential). <u>Desk study</u> The desk study identified twelve records of badger; nine returned by the NBN Atlas and six returned by TWIC. These are distributed throughout the Site, with most around Cumbernauld Substation. <u>Field survey</u>	Badgers are a common species and not afforded protection for nature conservation purposes. Whilst the Site contains much suitable habitat for badger and a large number of setts are present, there is ample suitable habitat also present within the wider area and badger populations are likely to be distributed across the county. Thus, County importance would be disproportionate. However, many badger setts were identified and it is considered that the badger population	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	The Site and surrounding area contain habitats suitable for badger with much sloping woodland suitable for sett creation and grassland and scrub habitats for foraging. The Site is connected to ample suitable habitat in the wider area. 56 setts were identified during surveys, of which twelve are main setts (eleven active at the time of survey, one partially used at the time of survey). The remaining 44 setts are a mix of annexe, subsidiary, outlier and unknown sett types, of which 18 were active, 16 were partially-used and 10 were disused.	within the Site has the potential to be significant within the wider local context so Local level importance is considered appropriate.	
Pine marten	<u>Desk study</u> TWIC returned two records of pine marten, both of which were located within conifer plantation between South Drum and Loanfoot. The NBN Atlas did not return any records of pine marten. Pine marten are known to be present in North Lanarkshire as noted in the North Lanarkshire LBAP. <u>Field survey</u> The Site and wider area offer good habitat for pine marten as it has a high proportion of woodland cover with open areas for foraging (food items include small mammals, berries, beetles, birds, and bird's eggs). There are opportunities for den establishment scattered throughout the Site, e.g. amongst rock piles.	No pine marten refuges were identified within the Site and surrounding area, and the Site is therefore not considered to be of particular importance to the species. The population of pine marten associated with the Site is therefore unlikely to be significant in a local context. However, pine marten are known to be present from desk study information and a potential scat, and individual pine marten may use the Site for foraging or commuting at times.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	No confirmed den sites were found, however a single possible pine martin scat was identified near Cumbernauld Substation indicating that the species may use the Site and surrounding habitat at times.		
Red squirrel	<u>Desk study</u> The desk study identified 20 records of red squirrel: 15 returned by the NBN Atlas and five returned by TWIC. These records were restricted to the north of the Site, between Bonnybridge and Beam Road. Saving Scotland's Red Squirrels returned records only from Beam Road and further north. Records from the NBN Atlas and Saving Scotland's Red Squirrels indicate that grey squirrels are frequently recorded in urban areas within the Site and surrounding area. <u>Field survey</u> No dedicated surveys for red squirrel were carried out and no evidence of red squirrel was identified incidentally during the surveys. Suitable and varied woodland habitat is available for the species throughout the Site.	The Site lies on the southern edge of red squirrel range, where the red squirrel population of northern Scotland meets the grey squirrel population of the Central Belt. Due to competition, red squirrels are only likely to occur in low densities where they co-exist with grey squirrels. An indicative range of the species was established from desk study information, and red squirrels are considered unlikely to occur within the Site south of Beam Road. Given the above, red squirrel are only likely to occur in suitable woodland habitat along the northern 6km of the Site (approximately 32% of its total length). NHZ 17 encompasses part of Loch Lomond & The Trossachs National Park, a red squirrel stronghold, and the Site population is likely part of this much larger population. Thus Regional importance for the population on Site would be disproportionate. However, red squirrels are uncommon in the lowlands, particularly in urban areas where grey	County

Feature	Summary of baseline	Rationale for Valuation	Importance
		squirrels are present, which includes the vast majority of Falkirk and North Lanarkshire local authority areas. Indeed the population in the north of the Site identified by the desk study appears to be the only population in this area and due to it being on the southern edge of the range, County importance is considered more appropriate.	
Brown hare and hedgehog	<u>Desk study</u> The NBN Atlas returned two records of brown hare and five of hedgehog. TWIC returned five of hedgehog. Records were concentrated around Bonnybridge and Cumbernauld. <u>Field survey</u> It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Site. Brown hare may also occur in the grassland habitats within the Site.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17. Local level importance would be considered disproportionate, and Site level importance in considered sufficient.	Site
Great crested newt (GCN)	The below is a summary – please see Volume 3, Appendix 8.4 WB, CB and AA Great Crested Newt Results for detail and Volume 2, Figures 8.8a Great Crested Newt Habitat Suitability Assessment and eDNA Survey Results and Figure 8.8b Great Crested Newt Population Assessment Results. <u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for GCN, as determined by the ARG	Based on the results of the population assessment (and assuming that WB20 supports a Small population), the estimated number of GCN in the wider Drum WS area (and thus the entire Site) is approximately 50 individuals (though this is likely to be an underestimate given the limitations of trapping). GCN populations are scattered throughout NHZ 17, and the central belt contains the highest density of the species in Scotland. This includes	County

Feature	Summary of baseline	Rationale for Valuation	Importance
	UK Advice Note 5, and the species is known to be present within the central belt of Scotland. No records of GCN were received from NBN Atlas, TWIC or ARG/ARC UK Record Pool. <u>Field survey</u> Field survey for GCN comprised surveys in both 2022 and 2025. A desk-based review and fieldwork in 2025 identified 68 ponds within 250m of the overhead line centreline. A smaller subset of ponds had been identified prior to the 2022 surveys. Population Assessment in both years followed and was informed by a programme of HSI and eDNA survey which is detailed in Volume 3, Appendix 8.5 WB, CB, AA Badger Results. In summary: • GCN were confirmed present in 11 ponds; • 10 ponds were assessed as having a Small population size (WB07, WB10, WB11, WB12, WB29, WB04, WB21, WB24, WB25, WB26), and one as having a Medium population size (WB08);	the population at Gartcosh, the largest known population in Scotland, estimated at containing between 2,239 and 8,583 individuals^{85,86}. The estimated number of GCN in the wider Drum WS area population is between 2.2% and 0.5% of this. As a proportion of the GCN in NHZ 17 this would be smaller still, given that numerous additional populations are also present. Thus, given that the population within the Site likely approximates 1% or less of the number of GCN in NHZ 17 (even when allowing for the limitations of trapping in estimating population sizes), Regional importance is considered disproportionate. However, the wider Drum WS area population is significant for supporting a GCN population which is isolated in the wider landscape. It is possible (and likely, given the above discussion relating to NHZ 17) that this population constitutes more than 1% of the population within the combined North Lanarkshire Council and Falkirk Council local authority areas. Thus County level importance is considered appropriate.	

⁸⁵ Harper LR (2015) Evaluation of eDNA as a Rapid Biodiversity Monitoring Tool for Great Crested Newt (*Triturus cristatus*): a Scottish case study. MSc thesis, University of Glasgow, Glasgow.

⁸⁶ McInerny CJ and Minting PJ (2016) The Amphibians and Reptiles of Scotland. The Glasgow Natural History Society, Glasgow, Scotland.

Feature	Summary of baseline	Rationale for Valuation	Importance
	- Five had evidence of potential breeding (WB04, WB24, WB25, WB26, WB08), and four could not be ruled out as breeding ponds (WB21, WB07, WB10, WB12) (using the criteria described in Volume 3, Appendix 8.4 WB, CB, AA Great Crested Newt Results); - One pond (WB20) returned a positive eDNA result in 2025 but was not subject to population assessment. However, for reasons discussed in Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential), it can be reliably assumed that pond WB20 would support, at most, a small population of the species; - All ponds within which GCN are known to be present (and also WB20) are located within and adjacent to Wester Drum WS, South Drum Claypit WS and South Drum Moss WS (hereafter referred to as the “wider Drum WS area”), between Beam Road to the east and an unnamed road to the south, the area within which Towers WB038 to WB042 are located; - Ponds within the wider Drum WS area are separated by highly suitable terrestrial habitat and are arranged in clusters between which GCN could easily navigate. GCN associated with the above ponds are		

Feature	Summary of baseline	Rationale for Valuation	Importance
	likely use the entire area during their terrestrial phase, and these GCN are considered part of the same meta-population. As such, a Negative eDNA result from a suitable pond in this area in one year does not preclude its use by the species in other years. For example, WB21 returned a Negative eDNA result in 2025, but GCN were trapped here during population assessment in 2022. GCN are assumed to be absent from the remainder of the Site.		
Common reptiles and amphibians	<u>Desk study</u> The NBN Atlas returned numerous records of common frog <i>Rana temporaria</i>, common toad <i>Bufo bufo</i>, and common lizard <i>Zootoca vivipara</i> across the Site, with a particular concentration around Fannyside Loch. There was also a single record of palmate newt <i>Lissoriton helveticus</i> near Fannyside Loch. A single record of adder <i>Vipera berus</i> was returned from the 10km OS grid square located north-east of the Site. TWIC provided one record of palmate newt from Bonnybridge. The ARGUK Record Pool map showed a small number of records of smooth newt, palmate	Apart from GCN, reptiles and amphibians in Scotland are widespread, and there is abundant suitable habitat for these species in the areas immediately within and adjacent to the Site, as such Site importance is considered appropriate.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	newt, common toad, common frog and common lizard scattered throughout the Site. Neither NBN Atlas, TWIC or ARGUK returned records of slow worm. <u>Field survey</u> There is some suitable habitat present within the Site in the form of woodlands and associated grassland and scrub, which could be used by reptiles as well as foraging / commuting amphibians. However, the improved pastures present across much of the Site do not offer good habitat conditions for reptiles and amphibians. There are suitable water bodies which could support breeding populations of amphibians scattered across the Site; these are referred to above in relation to GCN.		
Terrestrial invertebrates	<u>Desk study</u> The Site is not located within, or near to, any Buglife Important Invertebrate Areas (IIAs). TWIC provided records for five notable terrestrial invertebrates, all of which are listed on the SBL, these were: small heath <i>Coenonympha pamphilus</i> small pearl-bordered fritillary <i>Boloria selene</i> (one record and five records respectively), both from open heathland/bog habitat within Drum Wood, and cinnabar moth <i>Tyria jacobaeae</i>	Notable invertebrates may be present across the Site, where habitats are not unsuitable. Vast amounts of habitat similar to that found on Site are present within the wider local area. Given that the Site is not located within, or near to, any Buglife IIAs, County level importance is considered disproportionate. However, taking a precautionary approach in the absence of specific field data, and given the	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	(three records, including one record of ten individuals), from High Bonnybridge and near to the Falkirk Wheel. Two were craneflies: <i>Tanyptera atrata</i> and <i>Tanyptera nigricornis</i> (one record each), both from Howierig Muir SSSI. The NBN Atlas also provided the same cranefly records and additional records of two mining bee species listed on the SBL: the nationally scarce⁸⁷ tormentil mining bee <i>Andrena tarsata</i> (one record, from Roughcastle WS), and the nationally rare northern mining bee <i>Andrena ruficrus</i> (four records, from Stenhouse Moor and Fannyside Loch). <u>Field survey</u> Specific invertebrate surveys were not completed but the likelihood of notable invertebrate assemblages being present can in part be inferred from the presence of notable habitats. Thus, notable invertebrates (including those not identified by the desk study) may occur where SBL Priority or other notable habitats are present, and it is possible notable invertebrates may use more widespread and common habitats such as non-notable woodland and non-notable marsh pasture. Heavily modified habitats in the Site (improved fields, built-up areas, which represent a large	presence of notable records in the desk study, a valuation of Local importance is given.	

⁸⁷ https://cdn.buglife.org.uk/2019/07/Tormentil_0.pdf

Feature	Summary of baseline	Rationale for Valuation	Importance
	proportion of the habitat present) are unlikely to support notable invertebrates.		
Breeding passerines	<u>Desk study</u> Notable passerine species records from the desk study with the potential to breed within or adjacent to Site (and not also recorded during the field survey) were spotted flycatcher and kingfisher. <u>Field survey</u> 19 breeding passerine species were recorded during AECOM surveys in 2022 comprising a total of 238 breeding territories or sites (including all confirmed, probable and possible territories/sites). Species recorded included 14 red listed BoCC including skylark, yellowhammer and tree sparrow. Species recorded can be broadly assigned as woodland/scrub specialists (bullfinch, greenfinch, redpoll, mistle thrush, siskin, song thrush and tree pipit), species associated with field margin habitats and wetland areas (yellowhammer, tree sparrow, sedge warbler, grasshopper warbler, linnet and reed bunting) and species associated with buildings/built up areas (house martin, house sparrow, starling and swallow). Skylark, associated with open grassland/agricultural fields, and cuckoo, a nest parasite, were also recorded.	The record of Kingfisher was returned from the River Carron, which lies approximately 500m north of the site, and no suitable breeding habitat for this species was recorded within the Site during the field surveys. The breeding passerine assemblage contains species which are common and widespread in North Lanarkshire and Falkirk, and the wider central belt of Scotland and as such these are valued at Site importance.	Site
Curlew	<u>Desk study</u> No records were returned from the desk study.	Curlew is a red listed BoCC and is listed as a priority species in the North Lanarkshire and Falkirk LBAPs. The Scottish population	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	<u>Field survey</u> 5 breeding territories were recorded across moorland habitat within 500m of the Site. Records included a cluster of three territories in the region of Drum Moss, south of Bonnybridge. Eight curlew flights were recorded during the non-breeding season VP surveys (encompassing 2019/20, 2021/22 and 2014/25) and 61 flights were recorded during the 2022 breeding season VP surveys. Of these flights, four during the 2022 breeding season were recorded at Potential Risk of Collision (PRC).	comprises 58,800 breeding pairs and 85,700 individuals in winter⁸⁸. The regional population, based on the West Central Belt Natural Heritage Zone (NHZ) estimate, is 2,303 breeding pairs⁸⁹, with the Scottish Ornithologists Club (SOC) describing the species as a 'fairly common breeding bird' in the region (the Site predominantly falls within the Clyde SOC region)⁹⁰. Based on the records from surveys the majority of flights corresponded birds breeding in the area. Five pairs recorded correspond to approximately 0.2% of the regional population. This population is considered of Local level importance.	
Oystercatcher	<u>Desk study</u> There were 22 records returned from the desk study, mostly from around St Helen's Loch and a pond southeast of Larbert (hereafter 'Larbert Pond'). <u>Field survey</u> A single oystercatcher territory was recorded within the existing Bonnybridge Substation. Twelve flights by oystercatcher were recorded during the 2022 breeding season, with four at PRC. No flights were recorded during any of the non-breeding season surveys.	Oystercatcher is an Amber listed BoCC. The Scottish population comprises 84,500-116,500 breeding pairs and 80,000-120,000 in winter⁸⁸. No regional population is available however the SOC describes the species as a 'common and widespread breeding bird' within the region. Based on the records from surveys the majority of flights corresponded to birds breeding in the area. One oystercatcher pair with corresponding low number of flights at PRC is considered to be at most of Site level importance.	Site

⁸⁸ Forrester, R.W., Andrews, I.J., and McInerney, C.J. eds. 2007. The Birds of Scotland. The Scottish Ornithologists' Club, Aberlady.

⁸⁹ Wilson, M. W., Austin, G. E., Gillings S. and Wernham, C. V. (2015). Natural Heritage Zone Bird Population Estimates. SWBSG Commissioned report number SWBSG_1504. pp72

⁹⁰ Scottish Ornithologists Club (2026). Online Scottish Bird Report. Available Online: <https://www.the-soc.org.uk/pages/online-scottish-bird-report>. Accessed on January 2026

Feature	Summary of baseline	Rationale for Valuation	Importance
Snipe	<u>Desk study</u> There were 60 records returned from the desk study, mostly from St Helen's Loch, Larbert Pond and southwest of Larbert around the River Carron floodplain. <u>Field survey</u> Two snipe territories were recorded overlapping the site within the Drum Moss area south of Bonnybridge. Twenty-eight snipe flights were recorded during the non-breeding season VP surveys with one flight recorded at PRC. Eight flights were recorded during the 2022 breeding season with none at PRC.	Snipe is an Amber listed BoCC and is listed as a priority species in the North Lanarkshire and Falkirk LBAPs. The Scottish population comprises 34,000 to 40,000 breeding pairs and 10,000 to 30,000 in winter⁸⁸. The regional population is estimated at 568 breeding pairs⁸⁹ and the SOC describes the species as a 'common and widespread resident' within the region⁹⁰. Based on the low number of territories and flights at PRC a valuation of Site level importance is considered appropriate.	Site
Goshawk	<u>Desk study</u> There were no records returned from the desk study. <u>Field survey</u> A probable breeding territory, based on multiple observations (including displaying birds), was identified within plantation woodland north of Fannyside Muir. The exact location of any nesting site is unknown but could potentially be within 200m of the Site. Three further possible territories could be present at Castlecary High Wood, Drum Wood and the plantation woodland around Greengairs but there is less evidence for these. All three woodland areas are	Goshawk is a schedule 1 listed species but is not listed as a conservation concern (Green listed BoCC). The Scottish population is estimated at 315 pairs with 16 breeding pairs recorded in the central Scotland region by the Scottish Raptor Monitoring Scheme⁹¹. Note that no estimate is provided by region and therefore 16 pairs is likely to be a slight underestimate. Assuming a worst-case scenario of four breeding pairs within the Zol this would correspond to 25% of the known regional pairs. Even assuming that this is an overestimate the population within the Zol is considered of Regional importance.	Regional

⁹¹ Peniche, G., Challis, A., Beckmann, B., Wilson, M., Eaton, M., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N. (2025). Scottish Raptor Monitoring Scheme Report 2023. BTO Scotland, Stirling.

Feature	Summary of baseline	Rationale for Valuation	Importance
	within 500m of the Site with Drum Wood partially overlapping at the northern end of the Site. Ten flights of goshawk, including unconfirmed goshawk or sparrowhawk, were recorded during the non-breeding season VPs with two flights at PRC. Five flights were recorded during the 2022 breeding season VP surveys with one at PRC.		
Barn owl	<u>Desk study</u> Two records were recovered from the desk study. One of an active nest on farmland to the south of Bonnybridge, and one other unspecified record from a similar area. <u>Field survey</u> One confirmed breeding site was recorded within a barn owl box approximately 90m from the Site. Two probable roost sites were also identified within farm buildings to the south of the nest box. The barn owl nest box is within the potential disturbance zone from the works (listed as 50-100m in research commissioned by NatureScot⁹²). One flight was recorded at dusk near Fannyside Lochs during the 2021/22 non-breeding season VP surveys.	Barn owl is a schedule 1 listed species but is not listed as a conservation concern (Green listed BoCC). The Scottish population is estimated at 500-1000⁸⁸ pairs with 120 breeding pairs recorded in the central Scotland region⁹¹. Note that no estimate is provided by region and therefore 120 pairs is likely to be a slight underestimate. One pair therefore corresponds 0.8% of the regional population. The population of barn owl within the Zol is at most of Local level importance.	Local
Hen harrier	<u>Desk study</u> One record of an adult male in the Fannyside Lochs area was recovered from the desk study.	Hen harrier is listed on Schedule 1 and Annex 1 and is a red listed BoCC. The regional breeding population is estimated at eight pairs⁸⁹.	Site

⁹² Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Feature	Summary of baseline	Rationale for Valuation	Importance
	<u>Field survey</u> No breeding sites were confirmed or suspected based on observations during the surveys. Twenty-nine and four flights were recorded during the non-breeding and breeding season respectively with one of the flights during the non-breeding season at PRC. The flights during the breeding season were recorded in March and early April which could have comprised individuals on migration or late wintering records. The majority of flights were recorded more than 500m east from the Site with concentrations around Fannyside Muir and Jawcraig. Only four of the 33 flights were recorded within or adjacent to the site, across the moorland within the Drum Moss area south of Bonnybridge.	The Site and surrounding area are of limited importance to hen harrier. No evidence of breeding was recorded, and records of wintering birds were primarily recorded distant from the Site to the east. Site level importance is considered appropriate.	
Peregrine falcon	<u>Desk study</u> Two records were recovered from the desk study to the south of Bonnybridge. <u>Field survey</u> No breeding sites were confirmed or suspected based on observations during the surveys. Seventeen and two flights were recorded during the non-breeding and breeding seasons respectively with six of the flights during the non-breeding seasons at PRC.	Peregrine falcon is listed on Schedule 1 and Annex 1 and is not currently a conservation concern (Green listed BoCC). The regional breeding population is estimated at 41 pairs⁸⁹. Flights indicate that the Site and surrounding area is used by peregrine in flight, most likely for hunting or commuting. A relatively low number of flights at PRC were recorded and the species is of lower risk of collision due to smaller body size and high degree of agility (in comparison to species such as geese and swans).	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
		Based on the above it is considered that the site is of limited value to peregrine falcon and as such Site level importance is appropriate.	
Other Schedule 1 Raptors	<u>Desk study</u> The only record received was a single record of Osprey from an area west of Falkirk. <u>Field survey</u> No breeding sites were confirmed or suspected of any other schedule 1 raptors based on observations during the surveys. A low number of flights were recorded for all species during the VP surveys, with only one osprey flight recorded at PRC.	As the Site and surrounding area is of limited importance to other Schedule 1 raptors a valuation of Site level importance is considered appropriate.	Site
Other raptors (non-schedule 1)	<u>Desk study</u> The desk study returned over 100 records of Buzzard, mostly from the Larbert Pond area, and 30 records of Kestrels from the Riggend and Larbert Pond areas. <u>Field survey</u> Two kestrel territories and at least one buzzard territory were recorded during the 2022 breeding bird surveys. The buzzard territory was identified overlapping the Site at the southern end of Boglea Plantation. Two active kestrel nest boxes were also identified overlapping the site west of Riggend and south of Forrest Plantation. Flights of both species were noted incidentally during VP surveys but as neither	Buzzard is of no conservation concern (Green listed BoCC) and kestrel is an Amber listed BoCC. The Scottish population estimate for buzzard and kestrel is 15,000 – 20,000⁸⁸ and 3,850⁸⁹ pairs respectively. No regional population estimates are available. Given the levels of activity recorded, it is considered that kestrel and buzzard are of Site level importance.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	was a Target Species detailed flight information was not recorded.		
Other owls (non-schedule 1)	<u>Desk study</u> The desk study returned 15 records of Tawny Owl from around Larbert Pond, Howierig and to the south of Cumbernauld. <u>Field survey</u> Three territories of tawny owl and one territory of long-eared owl were recorded during the 2022 breeding bird surveys or incidentally recorded during other ecology surveys. All four territories were recorded within 100m of the Site. Neither species were target species for the VP surveys, and are nocturnal, so no flights were recorded during the VP surveys.	Tawny owl is of no conservation concern (Green listed BoCC) and long-eared owl is an Amber listed BoCC. The Scottish population estimate for tawny owl and long-eared owl is 6,000 and 600 – 2,200 pairs respectively⁸⁸. Both species are difficult to survey, and therefore likely under recorded, and as such no regional population estimates are available. It is considered that the population of tawny owl and long-eared owl are of Site level importance	Site
Greylag goose	<u>Desk study</u> The desk study returned 60 records of Greylag Goose, most of which were from St Helen's Loch and High Bonnybridge. <u>Field survey</u> Greylag geese were recorded foraging and loafing on and around St Helens Loch during the goose foraging and roosting surveys. Eight observations were recorded in this area with a peak count of 275 birds recorded. Only one record, a flock of three birds to the south of St Helen's loch, was recorded within 500m of the Site. Sixty-two flights were recorded across the non-breeding and breeding season VPs surveys	Greylag goose is an Amber listed BoCC based on the proportion of the European wintering population present in the UK and its relatively localised distribution. The Scottish population of greylag goose comprises at least 25,000 native/naturalised birds present year-round with a further 85,000+ arriving from Iceland to overwinter⁸⁸. No regional population is available for the species. Only three birds were recorded foraging or roosting within 500m of the Site Due primarily to a relatively high number of flights at PRC, and proximity of the Site to a regularly used loch (and associated flight activity), greylag goose is of Local importance.	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	with 12 recorded at PRC. No breeding territories were recorded during surveys.		
Pink-footed goose	<u>Desk study</u> There were around 30 records of Pink-footed Goose recovered from the desk study, mostly from the St Helen's Loch and Larbert areas. As these records were recorded approximately 10km from the Firth of Forth SPA there are considered to be SPA birds. <u>Field survey</u> Pink-footed goose recorded around the southern end of the Site, greater than 20km from the Firth of Forth SPA, are considered to be part of the wider countryside population (and not associated with the Firth of Forth SPA). The majority of the Site is within 20km of the SPA, with only approximately 3km of the New Build Overhead Line beyond this distance. Two observations of foraging pink-footed goose were recorded within 500m of the Site in this area, comprised of flocks of 22 and 600 birds. There were also further records beyond 500m and up to 1km from the Site, which is the maximum Zol for disturbance/displacement impacts for this species⁸²). Numerous foraging flocks were recorded further west of the Site. A roost site of pink footed goose was identified approximately 2km west of the Site in this area, termed the 'Myvot/Hallbrae' roost site. No flights were recorded at the southern end of the Site, however coverage from the VP surveys was limited in this area. A similar high level of flight	Pink-footed goose is an Amber listed BoCC based on the proportion of the European wintering population present in the UK and its relatively localised distribution. The Scottish wintering population is estimated at approximately 200,000 individuals⁸⁸ with no regional estimate available. It is assumed that foraging records around the southern end of the Site roost at the Myvot/Hallbrae'. While a large flock was recorded within the Zol foraging birds were recorded on only two occasions with larger concentrations further west. Due primarily to the potential for a relatively high number of flights at PRC a valuation of Local importance is considered appropriate.	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	activity as the rest of the Site, with some flights at PRC (as detailed in Volume 3, Appendix 8.8 Habitats Regulations Appraisal), is therefore assumed in this area.		
Swans	<u>Desk study</u> The desk study returned 160 records of mute swan with the majority recorded from the St Helen's Loch and Larbert Pond areas. Only two records of whooper swan were returned, both from Larbert Pond. <u>Field survey</u> Mute swans were incidentally recorded on St Helen's Loch during the goose foraging and roost surveys and no observations of whooper swan were recorded. St Helen's Loch is beyond the Zol from the Site for disturbance / displacement impacts as it is located approximately 1km north of the Site. Thirteen flights of whooper swan and two flights of mute swan were recorded during the VP surveys with one of the whooper swan flights recorded at PRC.	Based on the limited records of the species using habitat within the Zol and the limited flight activity, including just one flight at PRC, swan species are considered to be at most of Site level importance.	Site
Mallard	<u>Desk study</u> The desk study returned approximately 300 records of mallard with the majority recorded in the Helen's Loch and Larbert Pond areas. <u>Field survey</u> No mallard breeding territories were recorded during the breeding bird surveys. Seventy-two	Mallard are an amber listed BoCC with a Scottish breeding population estimated between 17,000 and 43,000 pairs. Mallard is described as an 'abundant resident breeding bird' of the Clyde area by the SOC⁹⁰. Flight activity around Drum Moss could indicate that this area is regularly used by a small non-breeding population of mallard. It is considered	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	flights were recorded during the non-breeding seasons, with 15 at PRC, and 72 flights were recorded during the breeding season, with six at PRC. Mallard flight activity was concentrated around Fannyside Loch, approximately 1km southeast of the Site, and ponds associated with Drum Moss. The Site directly crosses Drum Moss. A concentration of breeding season flights at Fannyside Loch suggest breeding likely occurred in this area. Although as the Loch is distant from the Site it was not covered during the breeding bird surveys.	that a valuation of Site level importance is appropriate.	
Lapwing	<u>Desk study</u> The desk study returned 19 records from a variety of locations including areas around St Helen's Loch and the Forth & Clyde Canal. <u>Field survey</u> No lapwing breeding territories were recorded during the breeding bird surveys. Twenty-nine flights were recorded during the non-breeding seasons, with 2 at PRC, and 44 flights were recorded during the breeding season, with 3 at PRC. The majority of breeding season flights were concentrated within two agricultural areas approximately 400m and 2.5km south east of the New Build Overhead Line. While breeding may have occurred in these areas they were outside, or at most on the periphery, of the breeding bird survey area. Concentrations of non-breeding season flights also typically	Based on the survey results the Site and surrounding area is of limited importance to lapwing. A valuation of Site level importance is therefore considered appropriate.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	occurred over agricultural land distant to the Site.		
Other waders	<u>Desk study</u> The desk study returned a single record of greenshank from the River Carron area. <u>Field survey</u> No breeding territories for any of these wader species were recorded during the breeding bird surveys. A low number of flights were recorded for all species during the VP surveys, except for golden plover and redshank with 21 and 20 flights respectively, with none recorded at PRC. All redshank flight activity, much of which was indicative of breeding behaviour, was recorded around Fannyside Loch which was outside the breeding bird survey area (over 500m east of the Site). All golden plover flights, except one, were located over 500m from the Site with a concentration of activity in pasture fields approximately 2km southeast of the Site.	Based on the survey results the Site and surrounding area is of limited importance to golden plover, redshank, greenshank and whimbrel. A valuation of Site level importance is therefore considered appropriate.	Site
Other waterbirds and seabirds	<u>Desk study</u> A variety of other waterbirds and seabirds were found in the desk study, these were as follows: black-headed gull, common gull, lesser black-backed gull, great black-backed gull, teal, tufted duck, wigeon, gadwall, shoveler, goosander, grey heron, moorhen, coot, cormorant, long-tailed duck and barnacle goose. There were two main hotspots for these records which were St Helen's Loch and Larbert Pond.	The majority of species were very infrequently recorded which indicates that the site and surrounding area is of low importance for these species. St Helen's Loch, where a larger number and diversity of waterbirds congregate, is beyond the Zol from the Project. Grey heron, which was record more frequently, is not of conservation concern (Green listed BoCC).	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	<u>Field survey</u> No breeding territories for any of these waterbirds or seabird species were recorded during the breeding bird surveys. A low number of flights were recorded for all species during the VP surveys, except grey heron with 31 flights with three recorded at PRC. Low numbers of barnacle and brent geese were recorded on St Helen's Loch during the goose foraging and roosting surveys.	A valuation of Site level importance is therefore considered appropriate.	

Invasive non-native plant species

Desk study

- 8.6.39 The NBN Atlas returned a single record of INNS, Japanese knotweed from the Bonny Water (approximately 300m upstream of the Site) in 2021.
- 8.6.40 TWIC did not return any records of plant INNS.

Field survey

- 8.6.41 INNS are scattered throughout the Site, as shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species.
- 8.6.42 Of particular note are Japanese knotweed within Roughcastle WS, rhododendron scattered throughout much of Howierig Wood, Japanese knotweed east of Cumbernauld Substation, an extensive patch of salmonberry *Rubus spectabilis* at Palacerigg Country Park West SINC and scattered garden lady's mantle *Alchemilla mollis*, montbretia *Crocsmia x crocosmiiflora* and, locally, Japanese knotweed at Riggend.
- 8.6.43 Other species which were occasionally present were Himalayan balsam *Impatiens glandulifera*, Spanish bluebell, cotoneaster sp., Japanese rose, buddleia *Buddleja davidii*, Michaelmas daisy *Aster* sp., pampas grass *Cortaderia* sp., snowberry *Symphoricarpos albus*, white butterbur *Petasites albus*, yellow arcangel *Lamium galeobdolon* and lesser periwinkle *Vinca minor*.

INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

- 8.6.44 Relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of Site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-12. For scoped out features there are no likely significant effects in EIA terms.

Table 8-12 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this chapter
Howierig Muir SSSI	Howierig Muir SSSI is located 0.4km east of the New Build Overhead Line Limit of Deviation (nearest Tower WB047) and 25m east of proposed access tracks. The qualifying feature for this designation is <u>Lowland Raised Bog</u> habitat and as such is restricted to within the SSSI boundary, given its distance from the Works there is no risk of direct habitat loss. Furthermore this habitat is not groundwater dependent and therefore not at risk from changes to the local hydrology. Thus no possible impact pathways have been identified and this site has been excluded from further assessment.
LNCS and SWT Reserves which do not overlap the Site, are not hydrologically connected to the Site (or are located upstream) and are beyond the range of possible groundwater related impacts: • North Walton Burn WS; • Lochgreen Moss WS; • Glenhead Wood South SINC; • Douglas Glen SINC; • Glencryan Meadow SINC; • Palacerigg Country Park (South) SINC; • Dalnacoulter Quarry SINC; • Blackhill Moss WS; • Roughcraig Glen & Blackwalk Plantation SINC; • Garbethillmuir Moss WS; • Drumshangie Moss: Dykehead (North) SINC; • Glenhead Wood North SINC; • Drumshangie Moss North SINC; • Colony Moor (Palacerigg) SINC;	The listed LNCS / SWT Reserves do not overlap the Site and are therefore not at risk from direct habitat loss, and there is therefore no risk of direct harm to associated protected/notable species, and they are located beyond the distance within which groundwater related impacts would be expected to occur. Thus no possible impact pathways have been identified and these Sites are excluded from further assessment.

Feature	Rationale for exclusion from further assessment in this chapter
• Drumshangie Moss: Dykehead (South) SINC; and • North Bellstane Plantation SINC.	
Laverock Knowe Quarry SINC	Laverock Knowe Quarry SINC does not overlap the Site and therefore is not at risk from direct habitat loss. Groundwater related impacts are mainly considered in relation to habitats which are considered to be groundwater dependent terrestrial ecosystems. Laverock Knowe Quarry SINC is predominantly designated for geological interest and not for habitats, and it is not anticipated that any groundwater related impacts would compromise the integrity of the designation. Laverock Knowe Quarry SINC is not designated for its wildlife assemblage and, regardless, it does not overlap the Site and there is therefore no risk of direct harm to associated protected/notable species. Thus no possible impact pathways have been identified and these Sites are excluded from further assessment.
Ancient or veteran trees	Valued at Site level importance. Noting, as described above, one tree was identified on the ATI, a beech. Although the single tree identified from the ATI potentially provides some biodiversity benefits due to its size and maturity, it is not of a native species, and field survey, found it did not obviously exhibit the range of features expected from a veteran tree, it does not contribute to the more valuable semi-natural woodland habitats in the surrounding area and it does not have any suitability for roosting bats. It is noted that the general public can add trees onto the ATI database, and thus trees listed on it may not necessarily be veteran or ancient, as this has not been verified by an arboriculturist.
Scattered trees and scrub, lines of coniferous trees, coniferous woodland, non-notable scrub, acid grassland, neutral grassland, improved grassland, poor semi-improved grassland, bracken, tall ruderal vegetation, eutrophic standing water, amenity grassland and arable.	Valued at Site level importance.
Minor watercourses and ditches	Valued at Site level importance.

Feature	Rationale for exclusion from further assessment in this chapter
Introduced shrub, buildings, bare ground and hardstanding.	Valued at less than Site level importance.
Notable plant species	Valued at Site level importance.
Pine marten	Valued at Site level importance.
Brown hare and hedgehog	Valued at Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Birds Snipe, hen harrier, peregrine falcon, Other Schedule 1 Raptors, Other raptors (non-Schedule 1), Other owls (non-Schedule 1), swans, mallard, lapwing, Other waders and Other waterbirds and seabirds	Valued at Site level importance.

Design and Embedded Mitigation Measures

- 8.6.45 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant. Design mitigation relating to the Site includes the following:
- The New Build Overhead Line was designed to avoid crossing the Slamannan Plateau SPA/SSSI (except in one location – between WB024 and WB025) and was therefore routed to the north;
 - Proposed access tracks near WB002 were rerouted to prevent negative impacts to a known water vole population on the Shank Burn (WV03); and
 - Where the New Build Overhead Line crosses the Luggie Water, a route has been selected which minimises the loss of AWI ASNW.
- 8.6.46 Chapter 3 Evolution of Design and Alternatives provides more information on the evolution of the design.
- 8.6.47 Note that there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot will be required to permit such works, and must be in place before works commence. SPPs are required to support applications for such licenses, and will include appropriate mitigation measures. For the likely content of these SPPs see the below section on Proposed Additional Mitigation Measures.

Important ecological features

- 8.6.48 The following are important ecological features (IEFs) relevant to the assessment:
- SPAs and SSSIs which overlap the Site:
 - Slamannan Plateau SPA; and
 - Slamannan Plateau SSSI;
 - SPAs, Ramsar sites and SSSIs which don't overlap the Site but are within range of impacts on qualifying features:
 - Firth of Forth SPA/Ramsar site; and
 - West Fannyside Moss SSSI;
 - LNCS and SWT Reserves which overlap the Site;
 - Bruntrigg Moor (Palacerigg) SINC;
 - Cameron Burn: Staylee Glen SINC;
 - Cleuch SINC;
 - Cullochrigg SINC;
 - East Fannyside Muir SINC;
 - Forest Wood SWT Reserve;

- Forest Woods SINC;
- Glencryan Woods SINC;
- Graystone Knowe WS;
- Palacerigg Country Park (West) SINC;
- Roughcastle WS;
- Shank Burn East: Brakenhirst Plantation SINC;
- South Drum Claypit WS;
- West Fannyside Moor SINC;
- Wester Drum WS;
- Whinrigg SINC;
- Forth and Clyde Canal WS;
- Luggie Water: Glenhove-Jockey's Well SINC; and
- Cameron Burn: Cameron Glen SINC;
- LNCS and SWT Reserves which do not overlap the Site but which are within the range of possible groundwater related impacts;
 - Cumbernauld Glen SWT Reserve;
 - Shank Burn East: Glenmill Rd-Brakenhirst Rd SINC;
 - Tippetcraig WS;
 - Cumbernauld Glen: Vault Glen (East) SINC;
 - South Drum Moss WS;
 - Palacerigg Country Park (East) SINC;
 - Garbethill Moor SINC; and,
 - Cumbernauld Glen: Crow Wood & Vault Glen (West) SINC;
- LNCS and SWT Reserves which do not overlap the Site, are not within the range of possible groundwater related impacts but are located downstream of the Site:
 - Luggie Water: Luggiebank-Glenhove SINC;
 - Cameron Burn: Muirhead Glen SINC;
 - Luggiebank Wood SWT Reserve; and,
 - Shank Burn (South) SINC;
- Woodland listed on the AWI;
 - ASNW; and
 - LEPO;
- Annex I and SBL habitats;

- Lowland Heathland, H4030 Dry heaths; lowland;
- Lowland Heathland, H4010 Wet heaths; lowland;
- Intact Blanket Bog, H7130 Blanket bog;
- Degraded Lowland Raised Bog, H7120 Degraded Raised bog;
- Degraded Blanket Bog, H7130 Degraded Blanket bog;
- Annex I Lowland Fens, H7140 Transition mires and quaking bogs;
- Lowland Mixed Deciduous Woodland;
- Wet Woodland;
- Purple Moor-grass and Rush Pastures;
- Non-Annex I Lowland Fens;
- Ponds;
- Hedges; and
- Possible SBL Priority Rivers;
- Other habitats which enhance the local habitat resource;
 - Lines of broadleaved or mixed trees;
 - Non-SBL hedges;
 - Non-SBL broadleaved and mixed woodland;
 - Non-SBL marsh/marshy grassland;
 - Non-SBL standing water; and
 - Non-SBL watercourses (excluding very minor watercourses/ditches);
- GWDTEs;
- Bats;
- Otter;
- Water vole;
- Badger;
- Red squirrel;
- GCN;
- Terrestrial invertebrates; and
- Bird species;
 - Curlew;
 - Goshawk;
 - Barn owl;
 - Greylag goose; and

- Pink-footed goose.

Assessment of Effects

- 8.6.49 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed above and in Section 8.4, and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.6.50 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following Construction phase impacts on IEFs can be scoped out and are not considered further (in addition to those scoped out in Table 8-125 above):
- Habitat change to potential GWDTEs as a result of changes in hydrology. Impacts to potential GWDTEs are discussed in Chapter 9, which concluded that there would be no significant effects on potential GWDTEs following the implementation of embedded mitigation. GWDTEs are not discussed further;
 - Loss of ponds. No Ponds will be permanently or temporarily lost. Three Ponds are within 50m of the Works. These are two Ponds notable for possessing breeding GCN within and near Tower WB039; and an oligotrophic Pond on the edge of a proposed access track near Tower WB023. Direct impacts to these ponds would be avoided by Works by micro-siting the tower / track. Impacts to GCN are considered separately.
- 8.6.51 The following construction phase impacts cannot be fully scoped out following implementation of embedded mitigation:
- Direct habitat loss (permanent and temporary);
 - Direct loss of bat roosts;
 - Disturbance to roosting bats (other than from lighting);
 - Loss/fragmentation of refuges/habitats of importance to protected and notable species;
 - Mortality of species from collision risk with construction traffic; and
 - Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration.
- 8.6.52 Following a review of the potential impact pathways and implementation of embedded mitigation the only remaining operational impacts are mortality of birds due to collision with the overhead line. The undergrounding of the nearby AA route is also considered when assessing the risk of bird collision associated with the New Build Overhead Line.
- 8.6.53 Possible impacts and effects from the construction phase and operations phase are described in Table 8-13 and Table 8-1, respectively.

Table 8-13 Assessment of Construction Phase Effects

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Slamannan Plateau SPA (International)	Temporary disturbance /displacement	Details of effects on the SPA are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). As shown on Volume 2, Figure 8.14 Bean Goose Foraging Roosting Activity the core areas used by foraging and roosting bean goose were to the east of the Site. The works have the potential to disturb and displace bean goose within the disturbance zone of the works, determined to be 500m based on guidance in Goodship & Furness⁹³. Notably, no foraging or roosting bean goose were recorded within 500m of the Site during AECOM surveys. Two areas within the SPA, within 500m of the Site, were shown to be used by bean goose in data provided by the BGAG: Moorland southwest of Tower 29 – Foraging flocks were recorded on two occasions in 2024/25 only, with a mean count of 133 birds (Volume 2, Figure 8.34 Bean Goose 2024-2025). Records of GPS tagged birds in this field were concentrated around Fannyside Moor Roost site at the southern end of the field approximately 900m to the south of the Site. The roost site would therefore not be impacted by the Project. Records of foraging birds are provided at the field scale and therefore detailed location information beyond this is unavailable. All habitat to the north of the roost site in this field is heath and therefore unsuitable foraging habitat for bean geese (the species favours grassland and pasture). As such the records within this field likely comprise loafing birds in or around the Fannyside Moor roost site, 900m south of the site. Therefore, the works are unlikely to impact birds using this area.	Negligible (Not Significant)

⁹³ Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Field approximately 400m south of access track to CB Tower 22 - Foraging flocks were recorded in this field on two occasions in winter 2020/21 with a mean count of 45 birds (Volume 2, Figure 8.31 Bean Goose 2020-2021). The only records of GPS tagged birds in this field were recorded during the same winter with records comprising four separate birds recorded during January 2021. No use of this field was recorded during winters 2021/22, 2022/23, 2023/24 or 2024/25 indicating this area is not a regular key foraging area. Even if this was a regular foraging area, which it is not, works associated with the CB route would only affect foraging geese for a maximum of four months (the construction program for the CB route). An additional two areas used by bean geese within 500m of the Site, outside the SPA, were identified as follows: Field approximately 180m north of WB Tower 33 - Four GPS tagged birds were recorded within the field across relatively short time periods. Tag ID 215345 and WHIT182 were recorded on a single day (05 January 2025 and 18 January 2022 respectively), Tag ID WHIT242 across 6 days in November 2021, and Tag WHIT27 across three days in November 2021. No birds were recorded in this field during the foraging distribution surveys or during AECOM surveys. As such, this field is not considered a core foraging area used frequently between years. Due to the proximity of works it is assumed that bean geese could be dissuaded from foraging within this field during the removal of the CB route and construction of the WB route in this area. This would encompass periods within both the 2027/28 and 2028/29 wintering periods. Field between WB Towers 35 and 36 - A single GPS tagged bird (Tag 215345) was recorded in this field with multiple GPS fixes across four days in early January 2025. No birds were recorded in this field during foraging distribution surveys or during AECOM surveys. This area was evidently used infrequently by foraging geese and is not considered an important foraging area for the population. Due	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		to their proximity, it is assumed that works could prevent bean geese from foraging within this field during the removal of the CB route and construction of the WB route in this area. This would encompass periods within both the 2027/28 and 2028/29 wintering periods. All of the above areas were used infrequently by bean geese in comparison to areas more distant to the Site. None of these areas, within 500m of the Site, are considered as core foraging areas based on the data collected between 2020/21 and 2024/25 or were even important foraging areas within years. Consequently, there could only be a temporary effect, which based on the data recorded is considered negligible. Project	
Slamannan Plateau SPA (International)	Permanent and temporary habitat loss	There will be no permanent loss of habitat from the SPA. Neither of the areas where the Site overlaps the SPA were used by bean geese based on data gathered during AECOM surveys and provided by the BGAG. These areas of the SPA are therefore not considered important to maintaining the conservation status of the species. Additionally, all impacts to habitats in these areas would be temporary with reinstated habitats following the removal of the CB Route likely increasing the area of habitat available in the SPA (due to the removal of Tower CB22). Areas of potentially FLL within 250m of the Site were identified from BGAG tracking data north of Towers 33 and between Towers 35 and 36 of the New Build Overhead Line. The field used by bean goose north of Tower 33 is approximately 140m north of the Site and therefore habitats won't be directly affected, and grazing pasture is unlikely to be ground water dependant. As such, this area of habitat would be unaffected by the Project. The access track for the New Build Overhead Line directly crosses the field between Towers 35 and 36 which was used by GPS tagged bird 215345 across 5 days in early January 2025 (Volume 3, Appendix 8.7 Bean Goose Group Data and Volume 2, Figure 8.35 Bean Goose 2024-2025). Habitats under the access tracks would therefore be temporarily unavailable to the birds, including post	None

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		construction as habitats would likely become degraded under the access tracks. As habitats comprise grazing pasture recovery would likely be relatively quick i.e. across a single growing season. While some GPS fixes of tagged bird 21534 overlapped the Site, the majority of records within this field were scattered throughout the southern end of the field which suggests no one area is particularly favoured. A small area of the field under Tower 36 foundations would be permanently lost, however no birds were recorded in this area and the area lost would comprise a very small proportion of this field. Consequently, there would be no effect on bean geese as a result of this impact pathway.	
Firth of Forth SPA / Ramsar site (International)	Temporary disturbance /displacement	Details of effects on the SPA/Ramsar site are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). The only qualifying species with potential for connectivity to the Project is pink-footed goose. Foraging birds were recorded relatively infrequently within 1km of the Site with only two records within 500m of the Site. Records beyond 500m of the Site, up to a maximum of 1km, were typically recorded in fields screened from the Site by woodland or urban areas and therefore disturbance/displacement from these areas would be unlikely. There are extensive alternative foraging resources available to the birds and the species naturally redistributes in response to agricultural practices. While minor temporary disturbance/ displacement effects may occur during the construction phase, which are considered to be negligible, no adverse effects on the integrity of the SPA/Ramsar site Project are anticipated, due to the short term and temporary nature of the effect, and the suitability of foraging resources within the wider area.	Negligible (Not Significant)
Firth of Forth SPA / Ramsar site (International)	Permanent and temporary habitat loss	There will be no permanent loss of habitat from the SPA. Pink footed geese were recorded foraging or roosting within two broad areas in proximity to the Site; at the northern end of the New Build Overhead Line west of Bonnybridge and at the southern end south of Cumbernauld. As the southern	None

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		area is more than 20km from the SPA it is reasonable to assume that these birds are not connected to the SPA but rather part of the wider countryside population. The concentration of records at the northern end is approximately 8-9km from the SPA and therefore could potentially be connected to the SPA (these birds are assumed to be associated with the Skinflats roost site). None of the records at the northern end New Build Overhead Line overlapped with the Site, with the closest records approximately 160m from the Site. Additionally, a flock of 100 unidentified geese, which were likely pink-footed goose, were recorded foraging in a field approximately 30m from the site. Pink-footed goose foraging habitat is predominately pasture and arable fields, which are not ground water dependant and therefore not subject to impacts from excavations associated with the Project. Additionally, the ZG Uprating Route, at the northern end of the Project, overlaps with habitats that have the potential to support foraging pink-footed geese. The habitats lost due to construction associated with the Denny North Substation, primarily scrub and heath, are not used by foraging pink-footed goose. These project elements, both within 20km of the SPA, were not encompassed by the AECOM surveys. The potential loss of foraging habitat would be mainly temporary, associated with access tracks and temporary compounds; although would include minimal areas of permanent loss associated within the footprints for the new towers. Access tracks would be removed post works and habitats reinstated. As the habitat is grazing pasture, reinstatement would occur quickly, likely across a single growing season. There are extensive areas of alternative foraging habitat available to the birds within 20km of the SPA roost site and changes in agricultural rotations regularly modify such habitat with habitat availability changing between years, further necessitating shifts in foraging distribution between years. It is therefore considered that there would be no measurable	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		effect on pink-footed goose that could result in adverse effects on the integrity of the SPA as a result of habitat loss.	
Slamannan Plateau SSSI (National)	Permanent and temporary habitat loss and disturbance/displacement	The Slamannan Plateau SSSI, along with the West Fannyside Moss SSSI detailed below, is an underlying SSSI of the Slamannan Plateau SPA with both sites designated for supporting bean goose. The SSSI is situated wholly within the SPA. As such the conclusions with respect to the SPA and these impacts are also applicable to this SSSI.	Negligible (Not Significant)
West Fannyside Moss SSSI (National)	Temporary disturbance/displacement	West Fannyside Moss SSSI, along with the Slamannan Plateau SSSI detailed above, is an underlying SSSI of the Slamannan Plateau SPA with both sites designated for supporting bean goose. The SSSI is situated wholly within the SPA. As such the conclusions with respect to the SPA above is also applicable to this SSSI.	Negligible (Not Significant)
West Fannyside Moss SSSI (National)	Permanent and temporary habitat loss	This SSSI is located over 1.4km from the closest work and as such there will be no permanent or temporary habitat loss.	None
All LNCS and SWT Reserves (County)	Permanent habitat loss - non-woodland/scrub areas	LNCS and SWT reserves have been grouped here and considered collectively given the small scale of direct habitat loss associated with each site. Losses have been reviewed in relation to the total areas of each LNCS and SWT separately to understand the scale of the habitat losses in the context of the wider sites Non-woodland/scrub habitats within LNCS and SWT Reserves will be permanently lost within the footprints of the 62 proposed towers. Some of these habitats are notable, however, the actual permanent loss at each tower will be 64m² (the footprint of each tower foot is 4mx4m = 16m², with 4 feet per tower) and so any such loss is small particularly when compared to the total areas of retained habitat within each LNCS and SWT Reserves. The maximum proportion of loss which would take place is in Wester Drum WS and South Drum Claypit WS, where the losses would be less than 0.1% of the total area of each of these LNCSSs, and are not considered significant. Habitat	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		losses of non-woodland/scrub habitats within the other LNCS and SWT Reserves, would all constitute losses less than 0.1% of each locally designated site. Given the small scale of these losses, this is considered to be a negligible Not Significant effect.	
All LNCS and SWT Reserves (County)	Temporary habitat loss - non-woodland/scrub areas	Non-woodland/scrub habitats within LNCS and SWT Reserves will be temporarily lost where there are tower compounds, proposed access tracks, scaffolding and pulling positions within the designations. Some of these habitats are notable, however, this loss is expected to be temporary, until the habitats regenerate, and minor (limited to the footprints of proposed new access tracks, compounds, scaffolding and pulling positions), especially when compared to the total areas of the LNCS and SWT Reserves, many of which are very large. The habitats are expected to regenerate into habitats which are already present within the designations. This temporary loss is therefore not expected to have any long-term negative impact on the integrity of these destinations and as such effects are assessed as being negligible and Not Significant.	Negligible (Not Significant)
Roughcastle WS (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within Roughcastle WS for the New Build Overhead Line Limit of Deviation is 1.45ha, 1.9% of the total area of the designation. Of this, 1.26ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat. The remainder is non-SBL semi-natural broadleaved woodland, broadleaved plantation and scrub. The vast majority of woodland within Roughcastle WS will be retained, including most of that which is SBL Priority habitat, which is present as a large block to the west of the Site. The part of Roughcastle WS within the New Build Overhead Line Limit of Deviation is already crossed by the Limit of Deviation s of several smaller overhead lines, within which marshy grassland, scrub and bracken have established. It is assumed that these habitats would colonise any felled areas within the New Build Overhead Line Limit of Deviation.	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		However, felling in the New Build Overhead Line Limit of Deviation will result in the bisection of existing continuous woodland within Roughcastle WS, isolating the eastern part of the designation from the large central block of woodland. This impact will be reduced by the likely colonisation of this area by habitats which are already present within the designation, as mentioned above. A significant effect at County level (the level of importance assigned to LNCSs), is considered disproportionate for this loss, which is minor in view of the area of the total area of the WS which is unaffected, and the extent of loss of habitat from with the WS will not reduce the value of the WS and is not considered to have an impact at County level due to the extent of the site which will be retained. Overall, it is considered that a significant likely effect at a Local level will occur.	
Cleuch SINC (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within Cleuch SINC for the proposed Limit of Deviation is 1.37ha, 23.8% of the total area of the designation. Of this, 0.01ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat and 0.03ha is <u>Wet Woodland</u> SBL Priority habitat. The remainder is non-SBL broadleaved semi-natural woodland, broadleaved plantation, coniferous plantation and scrub. However, of the 1.37ha of loss: • 0.42ha is non-notable scrub, mainly gorse, which can be reliably assumed to regenerate to its current state in the long term; • 0.22ha is non-native beech plantation, of which many of the trees show signs of disease; • 0.19ha is coniferous plantation which is of low ecological value; and, • 0.01ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat dominated by dying ash <i>Fraxinus excelsior</i> (presumably suffering from ash	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		dieback) and is therefore in poor health and would be unlikely to persist in the long-term (even in the absence of works). The habitats which would replace the lost woodlands listed above, likely non-notable neutral grassland, marshy grassland or scrub, have the potential to be of equal or greater ecological value than those lost. The loss of the other woodland habitats, considered of greater ecological value or more resilient than that above, amounts to 0.54ha (0.03ha <u>Wet Woodland</u> and 0.51ha non-notable semi-natural broadleaved woodland), 9.3% of the total area of the designation. Again, this could be expected to be replaced by neutral grassland, marshy grassland or scrub in the long-term. This change, when combined with the other woodland and scrub loss, is expected to negatively alter the character of Cleuch SINC. However, a Significant effect at County level (the level of importance assigned to LNCSSs), is considered disproportionate, as the extent of loss will impact less than 10% of notable habitat within the SINC, and other habitats are likely to develop in the Limit of Deviation corridor. Overall, it is considered that a significant effect at Local level will occur.	
South Drum Claypit WS and Wester Drum WS (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within South Drum Claypit WS for the New Build Overhead Line Limit of Deviation is 1.48ha, 6.7% of the total area of the designation. Of this, the majority of this area comprises non-notable scrub, with only a small area (0.14ha) of <u>Wet Woodland</u> SBL Priority habitat. The total loss of woodland and scrub habitat within Wester Drum WS is 0.41ha, 5.6% of the total area of the designation. All of this is <u>Wet Woodland</u> SBL Priority habitat. The area of <u>Wet Woodland</u> which will be lost is a large proportion of the area of this habitat within these designations - 19.2% for South Drum Claypit WS and	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		16.9% for Wester Drum WS. This is likely an underestimate of the amount of <u>Wet Woodland</u> present, given that habitats in these areas are patchy, including many small groups of willows <i>Salix</i> sp. which have been considered as scattered scrub (and therefore not included in areas habitat calculations) due to their size, when functionally they are very similar to the <u>Wet Woodland</u>. The woodland which will be lost also includes thin strips with adjacent habitats encroaching on both sides, rather than a self-contained woodland block. These designations contain a range of damp habitats, the vast majority of which will not be permanently impacted by the Works, and in the long term it is expected that the felled areas will become similar to the adjacent acid and marshy grassland habitats. The loss of these woodlands is also not considered likely to have a lasting impact on species associated with these designations, because that there is ample retained scrub for nesting birds and other species to use. The non-notable scrub is mainly gorse and is anticipated to return to its current state in the long term. Given the above, it is not expected that the character of the designations will be significantly altered. Furthermore, the <u>Wet Woodland</u> in this area is willow scrub, and not full height trees. It is therefore possible that some of this habitat can be retained, given that, due to its lower height, the safety clearances required for the New Build Overhead Line can likely be maintained, although for the purposes of the assessment loss is assumed. Based on the above, the loss of this woodland from these sites is considered to have an impact at the Site level only.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Palacerigg Country Park (West) SINC (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within Palacerigg Country Park (West) SINC for the New Build Overhead Line Limit of Deviation is 2.33ha, 3.7% of the total area of the designation. Of this, 0.09ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat and 0.11ha is <u>Wet Woodland</u> SBL Priority habitat. The remainder is non-notable broadleaved plantation, mixed plantation and scrub. The greatest proportion of woodland lost at Palacerigg Country Park (West) SINC is of mixed plantation (1.57ha), with localised patches of broadleaved plantation occurring within this (0.37ha). As a whole, this habitat is dominated by non-native conifers, has a poor-quality ground flora and is locally infested with non-native salmonberry. Losses of <u>Lowland Mixed Deciduous Woodland</u> and <u>Wet Woodland</u> are very localised, mainly where only the edges of these habitat patches overlap the New Build Overhead Line Limit of Deviation. Where woodland/scrub loss occurs it is anticipated that damp or marshy neutral grassland or scrub would establish in the long-term. Given the poor quality and limited extent of the woodlands which will be lost, and that the designation already supports a mix of habitats including the grasslands/marsh which will likely establish on the felled woodland, it is not anticipated that the character of Palacerigg Country Park (West) SINC will be materially altered. Based on the above, the loss of this woodland and scrub from these sites is considered to have an impact at the Site level only.	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Luggie Water: Glenhove-Jockey's Well SINC (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within Luggie Water: Glenhove-Jockey's Well SINC for the New Build Overhead Line Limit of Deviation is 0.81ha, 5.6% of the total area of the designation. Of this, 0.16ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat and 0.36ha is <u>Wet Woodland</u> SBL Priority habitat. The remainder is non-notable semi-natural broadleaved woodland, broadleaved plantation and scrub. The New Build Overhead Line will mainly follow a Limit of Deviation associated with an existing wooden pole 33kV overhead line and, although some notable woodland (including some which is AWI ASNW, separately assessed below) will be lost, the vast majority of the woodland within Luggie Water: Glenhove-Jockey's Well SINC will be retained. Furthermore, in the long-term it is expected that scrub (e.g. hazel, holly) and woodland ground flora (potentially containing some species of ancient woodlands from the retained seedbank) will establish beneath the New Build Overhead Line, maintaining connectivity between the two halves of the designation. Given this the character of Luggie Water: Glenhove-Jockey's Well SINC will not be materially altered as a result of works. Based on the above, the loss of this woodland and scrub from these sites is considered to have an impact at the Site level only.	Significant adverse effect at a Site level (Not Significant)
Cameron Burn: Cameron Glen SINC (County)	Permanent habitat loss – woodland/scrub	The total loss of woodland and scrub habitat within Cameron Burn: Cameron Glen SINC for the New Build Overhead Line Limit of Deviation is 0.57ha, 3.9% of the total area of the designation. Of this, 0.37ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat. The remainder is non-notable semi-natural broadleaved woodland and scrub. The area of woodland which will be lost is minor when compared to the size of the designation as a whole. Some <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat will be lost, but this is on the edge of the SINC where the mature trees overhang the adjacent field, and will include a strip of improved grassland	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		(where no woodland ground flora was recorded). The main block of <u>Lowland Mixed Deciduous Woodland</u> within the SINC will be retained. The small patch of non-notable semi-natural broadleaved woodland is also on the edge of the New Build Overhead Line Limit of Deviation, and the main block of this will be retained. The scrub which will be lost is mainly gorse with scattered hawthorn and immature birches <i>Betula</i> sp., and can be reliably expected to return to its current state (or similar – without the birches) in the long-term. The New Build Overhead Line Limit of Deviation though this SINC mainly follows an existing gap in woodland cover, and the character of Cameron Burn: Cameron Glen SINC is not expected to change dramatically as a result of the works. Based on the above, the loss of this woodland and scrub from these sites is considered to have an impact at the Site level only.	
Cullochrigg SINC and Whinrigg SINC (County)	Permanent habitat loss – woodland/scrub	Cullochrigg SINC and Whinrigg SINC are adjacent to one another, encompassing a woodland/bog which has been bisected by the A73. The total loss of woodland and scrub habitat within Cullochrigg SINC for the New Build Overhead Line Limit of Deviation is 2.66ha, 26.3% of the total area of the designation. The total loss of woodland and scrub habitat within Whinrigg SINC is 1.15ha, 51.4% of the total area of the designation. All of this is <u>Wet Woodland</u> SBL Priority habitat. However, this <u>Wet Woodland</u> is located on deep peat (as evidenced by the plant assemblage found during the habitat surveys). This woodland has likely	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		established on degraded bog, and is potentially having a drying effect, degrading the bog further.	
		The loss of this woodland will not impact the bog habitats, and may, in the long-term, have a positive impact on the bog (and the SINC) by reducing drying. Furthermore, a large proportion of the <u>Wet Woodland</u> within Cullochrigg SINC will be retained, maintaining some habitat diversity. This loss will not significantly alter the character of Cullochrigg SINC given that bog habitats are already present immediately north of the New Build Overhead Line Limit of Deviation. The character of Whinrigg SINC will be materially altered but, as mentioned, this is likely to have a positive impact on the bog habitats within the SINC, which should take precedence over <u>Wet Woodland</u> . Therefore, whilst the loss of the <u>Wet Woodland</u> is acknowledged, it is considered to have an impact at the Site level only.	
Graystone Knowe WS, Glencryan Woods SINC and Forest Wood SWT Reserve	Permanent habitat loss – woodland/scrub	Permanent habitat loss will take place within these designations where woodland and scrub will be removed to facilitate the proposed Limit of Deviation.	Significant adverse effect at a Site level (Not Significant)
Shank Burn East: Brakenhirst Plantation SINC and Cameron Burn: Staylee Glen SINC		For Graystone Knowe WS, Glencryan Woods SINC and Forest Wood SWT Reserve, this loss is limited to very minor areas of non-notable woodland, the majority of which is low quality broadleaved plantation or mixed/coniferous woodland dominated by non-native species. The areas lost amount to 0.2%, 1.9% and 0.7% of these designations, respectively.	
Bruntrigg Moor (Palacerigg) SINC, East Fannyside Muir SINC and Forest Woods SINC		For Shank Burn East: Brakenhirst Plantation SINC and Cameron Burn: Staylee Glen SINC, tree and scrub loss will likely be limited to some minor lopping, or the loss of one or two trees at most. This is insignificant given that the trees will likely be retained. In the event that any trees are lost, this will be of a small proportion of the trees which are present in the wider area within the designations.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
(County)		For Bruntrigg Moor (Palacerigg) SINC, East Fannyside Muir SINC and Forest Woods SINC, loss will be limited to that of scattered trees. These are predominantly non-native conifers or stunted birches which have established on the degraded bog, and their loss will potentially reduce drying and improve the condition of the bog immediately around the trees. None of these losses are considered to negatively impact the integrity of the designations listed and as such this is not likely to have a significant effect on the SINC, and considered to have an impact at the Site level only.	
Forth and Clyde Canal WS and West Fannyside Moor SINC (County)	Permanent habitat loss – woodland/scrub	The Forth and Clyde Canal WS encompasses only the canal itself, and not adjacent habitats. This WS will be over-sailed by the New Build Overhead Line, and retained in its current state. Where West Fannyside Moor SINC intersects the New Build Overhead Line Limit of Deviation there are no trees or scrub, therefore there is no possible impact from felling.	None
AWI ASNW (National)	Permanent habitat loss	A total of 0.42ha woodland of ASNW (as identified by the AWI), will be lost to the Project within the Limit of Deviation corridor. This ASNW is all located along the Luggie Water. The total area of ASNW located along the Luggie Water (beyond the Site) is 5.39ha, and the area to be lost is approximately 8% of this. However, ASNW is present within the wider local area, with the total area within 10km amounting to 573.32ha. The amount lost has been calculated as 0.07% of this.	Significant adverse effect at County level (Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Ancient woodland is defined by NPF4 as “<i>Land which has maintained continuous woodland habitat since at least 1750</i>”⁹⁴. The woodland which would be lost was first recorded in 1860, and thus is potentially not of the oldest and most valuable type of ancient woodland and under the NPF4 definition is not considered ancient woodland. The retained ASNW is generally similar to that which will be lost, being located along watercourses. Furthermore, the AWI mapping is not always precise⁹⁵, and in this case the AWI patches along the Luggie Water include areas which are not true ASNW because they are immature plantation or non-native beechwood (confirmed by habitat survey), both of which have a low-quality ground flora, or, very locally, a thin strip of unwooded bracken/grassland beneath an existing wooden pole 33kV overhead line. The AWI mapping also encompass parts of adjacent fields within the New Build Overhead Line Limit of Deviation, those these are not relevant here as they will not be lost, given that there are no trees to fell and no other works taking place. The actual loss of true ASNW is therefore likely to be less than 0.42ha – estimated at 0.28ha based on the survey data (the total area of <u>Wet Woodland</u> and <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat, the area most likely to qualify as true ASNW which overlap the AWI ASNW areas and will be lost). The felling of this woodland will result in some fragmentation of ASNW south of the Luggie Water. However, fragmentation has already occurred due to the presence of an existing wooden pole 33kV overhead line, and this will not be greatly exacerbated given that the Site follows this existing line.	

⁹⁴ <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf> [Accessed 25/02/2026]

⁹⁵ NatureScot guidance on AWI notes that the AWI is a provisional guide to the location of ancient woodland, and when evaluating woods it is important to examine the site on the ground looking for archaeological, biological and other indicators of antiquity and of its current biodiversity value - <https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi>

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		In addition, although canopy loss will be permanent, the ground flora (including the ancient woodland seedbank, where present) is expected to be largely retained. It is expected that area will naturally regenerate with shorter scrubby species, such as hazel or holly (already present in the adjacent retained woodland), and that the habitat will return to at least partially resemble woodland again in time. Given the above, a significant effect at National level (the level of importance assigned to ASNW) is considered disproportionate. However, all ASNW is valuable, and overall, given an area will be subject to permanent loss, this is Significant at County level.	
AWI LEPO (County)	Permanent habitat loss	A total of 8.14ha of LEPO (as identified by the AWI), which is confirmed to be woodland/scrub, will be lost to the Works. This woodland type is common in the wider local area, and the 10.66ha to be lost constitutes only 0.4% of that available within 10km of the Site (based on the detail on the AWI). Within the Site this woodland is of lower importance than the ASNW, and includes areas of sparse woodland cover on bog habitats (not ecologically desirable), immature native broadleaved plantation, mixed plantation with a high proportion of non-native species and existing un-wooded Limit of Deviation s. Only 1.04ha of the LEPO to be felled was considered to qualify as SBL Priority habitat (<u>Lowland Mixed Deciduous Woodland</u> or <u>Wet Woodland</u>). The rest is mainly poor, of the types described above. The 0.31ha of LEPO that will potentially be lost as part of the management felling comprises species poor immature broadleaved and mixed plantations.	Significant adverse effect at County level (Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Given the above, whilst the survey data recorded only a small area of priority habitat within the area of LEPO, given the area of the loss this is considered to be a significant effect at County level. As mentioned above, the AWI mapping is not always precise Error! Bookmark not defined., and a further 0.5ha of non-woodland/scrub habitat which is recorded on the AWI as LEPO will be temporarily lost to e.g. access tracks etc. Given that this is not true LEPO woodland (being grassland, heathland and other non-woodland/scrub habitats), this is not considered further. It is possible that woodland in these locations could recover should a viable seedbank be present in the soil. It is noted that in these locations, given the temporary nature of the works, any potential seedbank in the soil would be retained.	
<u>Lowland Mixed Deciduous Woodland</u> (County)	Permanent habitat loss	6.54ha (31% of the total area of <u>Lowland Mixed Deciduous Woodland</u> identified within the survey area) would be permanently lost to the Works. Details of the effect on <u>Lowland Mixed Deciduous Woodland</u>, with reference to specific locations are described below: • Small areas of <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10) along the Rowan Tree Burn would be lost to the New Build Overhead Line Limit of Deviation between WB057 - WB056 and around WB056; • A strip of <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10 and W16), mainly associated Roughcastle WS, between WB053 - WB050 would be lost to the New Build Overhead Line Limit of Deviation (including scaffolding over the Forth and Clyde Canal and railway lines) and, locally, to Proposed Access Tracks. The overhead line would bisect a large expanse of woodland, most of which is notable woodland. Proposed access tracks partially utilise existing tracks (minimising potential impacts by design); • Narrow strips of <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10 and W16) between WB050 – WB042 and near WB021 would be lost to the New	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Build Overhead Line Limit of Deviation and, locally, to the Proposed Access Tracks; • <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10a) along with the Luggie Water, between WB017 and WB016. This is partly AWI ASNW (discussed above) and is in a mosaic with <u>Wet Woodland</u> and non-notable wooded habitats. This is likely the most valuable area of woodland within the survey area. This woodland would be felled in part to accommodate the New Build Overhead Line corridor, which would likely naturally regenerate to scrub habitat comprised of woodland species (see ASNW, above). The location of the proposed overhead line span was designed to minimise ecological impacts, following an existing wooden pole 33kV overhead line; • A thin strip of <u>Lowland Mixed Deciduous Woodland</u> (no NVC type) (a small part of which is associated with Cleuch SINC) would be lost to accommodate the New Build Overhead Line corridor between WB012 and WB011; and, • A thin strip of <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10) associated with Cameron Burn: Cameron Glen would be lost to accommodate the New Build Overhead Line corridor near to WB007; This habitat type is a source of much nature conservation value within the Site, but is nevertheless widespread throughout the Scottish central lowlands. <u>Lowland Mixed Deciduous Woodland</u> is considered permanently lost in all locations where loss will occur. However, in the medium term (10-15 years) there is expected to be some regeneration of fast growing species of trees/shrub to a reasonable height, particularly in areas where ongoing management is not required e.g. Proposed Access Tracks outside of the New Build Overhead Line Limit of Deviation. Given the scale over which the overhead line extends, and that overall the total area of permanent loss of 6.54ha of is spread across many small fragments,	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		which form parts of larger woodland areas, it is considered that the loss of these areas would have an effect at Local level, as the much of the wider woodland resource remains, and thus the extent of woodland removal will not have an effect at County level.	
<u>Wet Woodland</u> (County)	Permanent habitat loss	6.75ha (29.5% of the total area of <u>Wet Woodland</u> (comprising semi-natural woodland and scrub) identified within the survey area) would be permanently lost to the Works. Details of the effect on <u>Wet Woodland</u>, with reference to specific locations are described below: • <u>Wet Woodland</u> (NVC type W7) would be lost to accommodate the track to WB051 and WB052. This will be minimal given that this partially utilises existing tracks; • A thin strip of <u>Wet Woodland</u> (NVC type W7) along the Rowan Tree Burn would be lost to accommodate the Limit of Deviation corridor near WB045; • Small patches of <u>Wet Woodland</u> (NVC type W1 and W4, including much <u>Wet Woodland</u> scrub) associated with South Drum Claypit WS and Wester Drum WS, between WB043 and WB038 would be lost to the New Build Overhead Line corridor and, locally, to tracks and Tower Compounds at WB042 and WB039. In practice this woodland and scrub is likely to persist as a form of non-notable scrub akin to <u>Wet Woodland</u> following construction, between periodic woodland maintenance felling operations, although a worst-case loss is assumed; • <u>Wet Woodland</u> (NVC type W4) would be lost within the New Build Overhead Line corridor between WB028 and WB027. This woodland is on deep peat and has likely arisen from birch <i>Betula</i> spp. encroachment on wet modified bog. Felling this woodland would therefore change the habitat to a form of non-notable mire (e.g. M25a), which would be maintained by felling	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		maintenance in the operational phase in the long-term and the removal would likely benefit to the bog habitat; • Small slivers of <u>Wet Woodlands</u> (NVC type W7c and W7b) at WB021b and WB020 would be lost to the New Build Overhead Line corridor and, potentially, an access track (though this follows an existing track so loss will be limited). These <u>Wet Woodlands</u> are within an area in which the woodlands are largely non-notable; • <u>Wet Woodland</u> (NVC type W7b), of which some is AWI ASNW, is associated with the Luggie Water, in a mosaic with other woodland types, between WB017 and WB016. These woodlands, in their current form, would be lost to accommodate the New Build Overhead Line corridor; • A small fragment of Wet Woodland (NVC type W7) associated with Cleuch SINC would be lost between WB012 and WB013 to accommodate the New Build Overhead Line corridor; • <u>Wet Woodland</u> (NVC type W4) in a small, isolated parcel would be largely lost within the New Build Overhead Line corridor and tower location near WB008; and, • <u>Wet Woodland</u> (NVC type W4) would be lost, in a large swathe, within the New Build Overhead Line corridor (and associated proposed access track and scaffolding areas) from WB007 to WB004. This woodland is on deep peat and has likely arisen from birch encroachment on degraded <u>Blanket Bog</u>. Felling this woodland (and subsequent management) would therefore change the habitat to a form of non-notable mire (e.g. M25a). A positive effect is possible for the adjacent degraded <u>Blanket Bog</u> (e.g. within Cullochrigg SINC), as the loss of this woodland could improve the hydrological condition of the bog, by reducing evapotranspiration (discussed further for degraded <u>Blanket Bog</u>). This habitat type is a source of nature conservation value within the in the Site, but is nevertheless widespread throughout the Scottish central lowlands.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		<u>Wet Woodland</u> is considered permanently lost in all locations where loss will occur. However, in the medium term (10-15 years) there is expected to be some regeneration of fast-growing species of trees/shrub (e.g. willow, birch - frequently present in <u>Wet Woodland</u>) to a reasonable height, particularly in areas where ongoing management is not required e.g. Proposed Access Tracks outside of the New Build Overhead Line Limit of Deviation. Given the scale over which the overhead line extends, and that overall the total area of permanent loss of 6.75ha of is spread across many small fragments, which form parts of larger woodland and scrub areas, it is considered that the loss of these areas would have an effect at Local level, as the much of the wider woodland resource remains, and thus the extent of woodland removal will not have an effect at County level.	
Non-SBL broadleaved and mixed woodland (Local)	Permanent habitat loss	21.92ha (28.8% of the total area of non-notable broadleaved and mixed woodland (comprising broadleaved semi-natural woodland and broadleaved and mixed plantations) identified within the survey area) would be permanently lost. Non-notable woodland is frequent across the Site, with the most significant losses occurring to the New Build Overhead Line (and associated access tracks, tower compounds etc) at: • WB053 - WB047, locally associated with Roughcastle WS; • WB046 – WB053; • WB037 – WB036; • Around WB033; • WB030 – WB028; • WB021 – Cumbernauld Substation; • WB021 – WB019;	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		- WB017 – WB016, associated with Luggie Water: Glenhove-Jockey's Well SINC; - WB014 – WB012, associated with Cleuch SINC; - immature plantation between WB012 – WB008; - around WB007; and, - small fragments from WB003 – the proposed connection with the XX route. The losses of this woodland type are sizable but a Local effect would be disproportionate given the low quality of the woodlands involved, which are of low naturalness and are mostly dominated by tree species outside of their natural range e.g. beech, with a locally high proportion of conifers and, in some places, frequent invasive non-native plant species. Overall, it is considered that a significant effect at Site level will occur.	
Broadleaved and mixed tree-lines (Local)	Permanent habitat loss	A 0.14km length of broadleaved tree-line would be permanently lost. This will take place mainly within the New Build Overhead Line corridor. Losses to other components such as access tracks will be very localised. The main losses will occur at: - WB022 – WB021, a line of mature beech trees; - WB012, a line of semi-mature lime trees; and, - WB014, a line of mature beech trees. Given the size of the Site as a whole, these losses are minor. Furthermore, the main tree species involved (beech, lime) are not native to the area and are not of particular value to the biodiversity of the surrounding habitats, though they may provide a resource to local wildlife. Overall, it is considered that a significant effect at Site level will occur.	Significant adverse effect at a Site level (Not Significant)
Hedgerows and non-notable hedges (Local)	Temporary habitat loss	A total of 0.17km of SBL Priority <u>Hedgerows</u> (all of which contain mature trees) and 0.46km of non-notable hedges (0.12km of which contain mature trees) have the potential to be lost where they are within the New Build Overhead Line	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Limit of Deviation , within compounds or will be crossed by proposed access tracks. Loss is considered temporary as reinstatement of any hedges lost will occur following the Works. <u>Hedgerows</u> and non-SBL hedges will be lost at the following locations: • WB057 – WB053 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes non-SBL hedges only; • WB047 – WB046 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes SBL Priority <u>Hedgerows</u> and non-SBL hedges, both locally with mature trees; • WB043 – WB042 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes non-SBL hedges only; • WB038 – WB037 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes SBL Priority <u>Hedgerows</u> and non-SBL hedges; • WB029 - within the New Build Overhead Line Limit of Deviation and tower compound. Includes non-SBL hedges only; • WB019 – WB018 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes non-SBL hedges only, locally with mature trees; <u>and</u>, • WB015 – WB014, WB011 – WB010, WB008 – WB007, WB004 – WB003 - within the New Build Overhead Line Limit of Deviation and along associated access tracks. Includes non-SBL hedges only. For the purposes of this assessment, it has been assumed that all hedges will be lost where they are present within the New Build Overhead Line corridor, or within the footprint of proposed access tracks or compounds etc. However, the	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		actual loss is likely to be less than that stated, given that the hedgerows within the New Build Overhead Line corridor can likely be over sailed (where they do not contain mature trees), that hedges within compounds can likely be avoided by micro-siting in many cases and that hedges within the footprint of access tracks will more likely run alongside them in reality. Loss of taller trees within the hedges is considered permanent, given the time it would take for these to return to their current condition, and because those beneath the overhead line will be subject to ongoing management. However, hedges with trees (and other hedges) will be reinstated as hedges without trees, and the reinstated hedges will be native and species-rich, and frequently of superior biodiversity value than those lost. Given the small scale of loss, particularly in the context of the wider landscape where hedgerows are present, that the loss is likely to be smaller still than that calculated, and that reinstatement will likely improve biodiversity in the long-term, the loss of hedges is considered to be of negligible effect only.	
Intact Blanket bog (H7130) (Regional)	Permanent and temporary habitat loss	0.44ha (0.05% of the total area of Intact <u>Blanket Bog</u> identified within the survey area) would be lost. This loss is considered temporary, given that it takes place within proposed access tracks/tower compounds. Within this there would be a very small amount of permanent loss, within and around Towers WB032 and WB031, in addition to temporary losses from proposed access tracks. The permanent loss at each individual tower would only be at the tower feet, which will measure 4m x 4m, each, thus total area lost would be, at most, 0.007ha per tower. The area of permanent loss is a fraction of the Intact <u>Blanket Bog</u> in the area, which is 12.34ha in total within the same system of homogenous bog. Tower compounds and proposed access tracks would be temporary and reinstated following construction. Peat would be excavated and the accompanying vegetation removed. Removed peat and associated vegetation	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		would be stored and reinstated (in the same soil horizons as originally) after completion of these works and removal of temporary Works. The details with respect to this will be set out in a Peat Management Plan (see Chapter 10 Ground Conditions). Vegetation along access tracks would likely recover relatively quickly after the works where protective mats were used and over the medium term where stone tracks were constructed. Overall temporary impacts from tracks and compounds would be minor with no significant long-term change. However, permanent loss (in view also of SBL and Annex I status, and the relative scarcity of Intact <u>Blanket Bog</u> in the local area) would be at worst of Local significance, given the small area to be lost.	
Intact <u>Blanket bog</u> (H7130) (Regional)	Indirect impacts to habitat quality	As discussed above, there are two locations where towers are to be installed in Intact <u>Blanket Bog</u> , at WB032 and WB031. The installation of concrete tower bases would likely impact the pH of the peat immediately surrounding the towers. However, this is anticipated to be highly localised and of minor intensity, and as such any indirect impacts arising are considered likely to be negligible. Hydrological impacts and effects to peat are addressed in Chapter 9: Water Environment	Negligible (Not significant)
Degraded <u>Lowland Raised bog</u> (H7120) / <u>Degraded Blanket bog</u> (H7130) (Regional)	Permanent and temporary habitat loss	3.66ha (6.1% of the total combined area of Degraded bog (<u>Lowland Raised Bog</u> and <u>Blanket Bog</u>) identified within the survey area) would be lost. This loss is mainly temporary, given that it takes place within proposed access tracks/tower compounds. Degraded bogs are a common feature within the local area, occurring in large swathes across the landscape. Degraded <u>Blanket Bog</u> (NVC types M20*, M25a*, M17*, M18a-M20*) would be temporarily lost within and around the following tower compounds and their associated proposed access tracks: WB035 to WB033; WB031; WB028 to WB022; WB021A; and, for the tracks (only) around WB021. Tower compound WB005 encroaches the very edge of a Degraded <u>Blanket Bog</u> area, however, it is	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		likely that Works could be micro-sited to avoid the habitat (see Section 8.4). As detailed above, the permanent loss at each individual tower would only be at the tower feet, which will measure 4m x 4m, each, thus total area lost would be, at most, 0.007ha per tower. Tower compounds and proposed access tracks would be temporary and reinstated following construction. Peat would be handled, stored and re-instated appropriately, as set out in a Peat Management Plan. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). The presence of <u>Wet Woodland</u> south of Cullochrigg SINC is likely to exert a negative influence that currently acts to prevent local bog habitats being greater than poor condition. Therefore, the proposed felling of this woodland could have a positive effect on the Degraded <u>Blanket Bog</u> here. Overall temporary impacts from tracks and compounds would be minor with no significant long-term effects. However, permanent loss, in view of SBL and Annex I status and considering the area of loss, would be at worst of Local significance, given the small area affected.	
<u>Lowland Heathland (H4010 and H4030) (including with acid grassland mosaic) (Regional)</u>	Temporary habitat loss	0.22ha (4.04% of the total area of <u>Lowland Heathland</u> (comprising wet and dry heath and wet and dry heath/acid grassland mosaic) identified within the survey area) would be temporary lost within proposed access tracks/tower compounds. No permanent loss is anticipated given that the towers themselves do not sit within this habitat. <u>Lowland Heathland</u> is a fairly uncommon and often fragmented, feature of lowland Scotland.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Details with reference to temporary loss at specific locations are as follows: - Dry heath (NVC type H12c, in mosaic with acid grassland U4e) near WB040 is on a hillock over which is a proposed access track. A temporary loss is assumed, however the ECoW will provide advice on micro-siting (see Section 8.4), and it is possible the track can be micro-sited to avoid this habitat; - Wet heath (NVC type M15/M15b) would be temporarily lost to tower compounds WB039 and WB038 and their associated access tracks. However, it is possible that the Works within the tower compounds of both could be micro-sited to avoid this habitat (see Section 8.4); and, - Wet heath (NVC type M15) between WB033 and WB031, and near WB011 would be temporarily lost to proposed access tracks. Habitat loss due to tower compounds and proposed access tracks would be temporary and habitats reinstated following construction. Peat would be handled, stored and re-instated appropriately. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). Overall temporary impacts from tracks and compounds would be minor and negligible with no significant long-term effects likely.	
<u>Transition mires and quaking bogs (H7140)</u> (Regional)	Permanent and temporary habitat loss	0.16ha (53.33% of the total area of <u>Transition mires and quaking bogs</u> identified within the survey area) would be lost at tower location WB042, within Wester Drum WS. This loss is mainly temporary, given that it takes place within proposed access tracks/tower compounds. Permanent loss will be single tower in this location, the feet of which will measure 4m x 4m, each, thus total area lost would be, at most, 0.007ha for this single tower (2.33% of that identified within the survey area).	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		The habitat has high conservation value and is localised within the UK⁹⁶. Assuming a worst-case scenario, where Tower WB042 will be placed within the transition mire, the permanent and temporary loss of this habitat would still only be of Local significance, given the small area effected. However, as mentioned in the embedded mitigation, the ECoW will provide advice on micro-siting, and at least partial avoidance of this habitat may be possible.	
<u>Lowland Fens (excluding <i>Transition mires and quaking bogs</i> (H7140))</u> (County)	Temporary habitat loss	0.10ha (2.03% of the total area of non-Annex I <u>Lowland Fens</u> (comprising some of the Marshy Grassland, Flush and Spring – acid/neutral flush, Fen, Fen – valley mire and Swamp) identified within the survey area) would be temporarily lost (e.g. to proposed access tracks/tower compounds). No permanent loss is anticipated given that the towers themselves do not sit within this habitat. Details with reference to specific locations as follows: - WB041 - A fragment of <u>Lowland Fen</u> (NVC type M6c) associated with open water within Wester Drum WS, would be temporarily lost to a proposed access track; - WB039 - A small area of <u>Lowland Fen</u> (NVC type M6b) associated with South Drum Claypit WS, would be temporarily lost as it located within the tower compound and a proposed access track. The access track largely avoid the large extents of <u>Lowland Fen</u> (and <u>Ponds</u>) in this area; and, - WB033-WB032, WB031-WB030 – Large expanses of <u>Lowland Fen</u> (NVC type M6) would be bisected by proposed access tracks, with localised temporary loss. This habitat is species-poor and largely degraded as a	Significant adverse effect at a Site level (Not significant)

⁹⁶ <https://sac.jncc.gov.uk/habitat/H7140/>

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		result of pre-existing drainage grips. The track is sited away from the much higher value pristine Blanket bog downslope. In practice, it is likely that at least some of these habitats would be avoided by proposed access tracks through micro-siting (see Section 8.48.3); they may also be avoided for practical reasons where they are on the edge of tower compounds or where only slightly impinged on by towers. Given the small area affected and that the affected vegetation is mostly species-poor, the losses to <u>Lowland Fen</u> are of less than Local significance, and Site level significance is considered appropriate.	
<u>Purple Moor-grass and Rush Pastures</u> (County)	Permanent and temporary habitat loss	0.43ha (0.11% of the total area of <u>Purple Moor-grass and Rush Pastures</u> identified within the survey area) would be lost. This loss is mainly temporary, given that it takes place within proposed access tracks/tower compounds. Details with reference to specific locations as follows: - WB032 - <u>Purple Moor-grass and Rush Pastures</u> (NVC type M23a) would be temporarily lost to the WB032 tower compound and its associated proposed access track; - WB021 - <u>Purple Moor-grass and Rush Pastures</u> (NVC types M23a and M25c) would be temporarily lost to the WB021 tower compound and associated proposed access tracks. There would also be permanent loss from the tower feet in this location, which will measure 4m x 4m, each, thus total area lost would be, at most, 0.007ha for this single tower; and, - WB014 – a small area of <u>Purple Moor-grass and Rush Pastures</u> (NVC types M23a) at the very edge of a larger area would be temporarily lost to the WB014 tower compound and associated access track. However, it is possible that the tower and track could be micro-sited to avoid this habitat (see Section 8.4). <u>Purple Moor-grass and Rush Pastures</u> is locally scarce (and in the Scottish central lowlands in general) as much of the original area of this habitat has been	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		lost to agriculture. The habitat (of notable SBL priority status) has some conservation value, due to being moderately floristically diverse.	
		Permanent losses are relatively minor compared to the total area of this habitat in the area (0.18% of that identified within the survey area). Where temporary losses are anticipated, reinstated turves are likely to recover relatively quickly, given this, these effects are considered negligible.	
Non-notable marsh/marshy grassland (Local)	Permanent and temporary habitat loss	2.12ha (5.3% of the total area of non-notable marsh/marshy grassland identified within the survey area) would be lost. This loss is mainly temporary, given that it takes place within proposed access tracks/tower compounds. Non-notable wetlands would be temporarily loss to accommodate tracks and compounds in and around: WB053-WB052, WB043-WB038, WB037-WB036, WB035-WB032, WB030, WB029-WB028, WB023-WB022, WB021, WB021-Cumbernauld Substation, WB020-WB018, WB017, WB016, WB014-WB012, WB010-WB009, WB005-WB004. Permanent loss to towers would be localised, taking place at: WB052, WB041, WB037, WB033, WB023, WB021 and WB016, with the loss at each of these not exceeding 0.007ha. Non-notable marsh/marshy grassland are wetlands/damp habitats with little intrinsic nature conservation value, and are common and widespread in the Scottish central lowlands. The examples within the Site are generally species-poor. The relatively small losses of these habitats are minor in that context, and as such the effect of these losses is considered negligible.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Possible SBL Priority Rivers (County)	Temporary habitat loss	No stretches of watercourse will be lost as a result of the Works, although temporary impacts may occur where watercourses are to be crossed. No changes to watercourse lengths are proposed and impacts due to watercourse pollution are scoped out. There is only one proposed crossing - the Walton Burn will be crossed by a proposed access track between WB031 and WB030 and would likely be bridged or culverted with a bottomless culvert. The construction phase is projected to last 26 months, and the use of the water crossing on the Walton Burn is expected to last for significantly less than this; the width of the crossing lost would be a small fraction of the total length of watercourses in the area; and, the habitat would be restored and as such effects are considered negligible. Other than the Walton Burn, no habitat loss on other SBL Priority Rivers is anticipated because pre-existing water crossings will be used.	Negligible (Not significant)
Non-SBL watercourses (excluding very minor watercourses/ditches) (Local)	Temporary habitat loss	No stretches of watercourse will be lost as a result of the Works, although temporary impacts may occur where watercourses are to be crossed. No changes to watercourse lengths are proposed and impacts due to watercourse pollution are scoped out. Details with reference to specific locations as follows: - A non-notable tributary of the Rowan Tree Burn is crossed by a proposed access track. This watercourse would likely be bridged or a bottomless culvert would be installed; - A non-notable tributary of the Luggie Water is within tower compound WB014, and would most likely be avoided by micro-siting (see Section 8.4) for practical reasons. This watercourse would be crossed by proposed	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		access tracks and would likely be bridged or a bottomless culvert would be installed. The Glencryan Burn would be crossed by a proposed access track between Towers WB021 and WB020 and would likely be bridged or culverted with a bottomless culvert; and, The Glencryan Burn would be subject to temporary habitat loss during the construction phase; the width of the crossing lost would be a small fraction of the total length of watercourses in the area; and, the habitat would be restored. Given that all impacts will be minor and temporary, effects are considered negligible.	
Roosting bats (County)	Permanent loss of bat roosts	The below is based on the survey information available and, given that the bat roosts are unconfirmed and the transient nature of roosts, is a precautionary estimate of the possible losses which could occur. Based on current survey data, 67 trees with suitability for roosting bats will be felled for the New Build Overhead Line Limit of Deviation. These comprise 17 PRF-M trees, 35 PRF-I trees and 15 FAR trees. A further three trees (one PRF-M and two PRF-I) are within the footprint of proposed access tracks. However, as set out in the Assumptions, trees with suitability for roosting bats outside of the New Build Overhead Line Limit of Deviation but which are within the footprint of access tracks or vis-splays will be retained. These are discussed as for disturbance.	Significant adverse effect at County level (Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		A further single PRF-M tree is within the New Build Overhead Line Limit of Deviation but will be lost to the Cumbernauld Substation extension⁹⁷, prior to construction of the New Build Overhead Line. It is not discussed further. The number of actual bat roosts which will be lost is likely to be a small proportion of those which have suitability (given that bats are unlikely to roost in every potential feature, and that further survey will likely find that some FAR features are not suitable) and will represent a small proportion of those which are present within the local area. However, the species which are potentially utilising each PRF are unknown, and, as a precaution, it is considered possible that the more uncommon <i>Nyctalus</i> species could have notable maternity or hibernation roosts within any of the PRF-M trees. In the unlikely event that this was the case, there is the potential for a roost/roosts of County importance to be lost, and the effect of this would be significant at County level.	
Roosting bats (County)	Disturbance to roosting bats	The below is based on the survey information available and, given that the bat roosts are unconfirmed, is a precautionary estimate of the possible impacts which could occur. Based on current survey data, 32 trees with suitability for roosting bats are at risk of disturbance, where they are within 10m of Works (felling, proposed access, scaffolding, tower compounds) but will not be lost. These comprise the following: seven PRF-M trees, 18 PRF-I trees and seven FAR trees. The number of actual bat roosts presence is likely to be a small proportion of those which have suitability (given that bats are unlikely to roost in every potential feature, and that further survey will likely find that some FAR features	Significant adverse effect at County level (Not Significant)

⁹⁷ AECOM (2026). Cumbernauld Substation Extension Environmental Impacts Assessment Report: Chapter 8 – Biodiversity.

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		are not suitable) and will represent a small proportion of those which are present within the local area. Bats are particularly vulnerable to disturbance during breeding and hibernation. Disturbance may cause a decline in breeding success, and bats awoken during hibernation may struggle to survive the winter. The species which are potentially utilising each PRF are unknown, and, as a precaution, it is considered possible that the more uncommon <i>Nyctalus</i> species could have notable maternity or hibernation roosts within any of the PRF-M trees. These roosts have the potential to be important in a County context. Disturbance of such roosts has the potential to cause a decline in the breeding success/survival of associated bats, and, in the unlikely event that this was the case, this effect would be of County Significance. In reality, the small number of PRF-M trees (seven) are unlikely to all support such notable roosts, and the number of bat roosts which will be disturbed is likely to be a very small proportion of those which are present within the local area, in use by more common species. Furthermore, these trees will be disturbed only by felling for the New Build Overhead Line Limit of Deviation and by access tracks. In many cases, existing access tracks are being used. Works to upgrade these will be minor and vehicular movements during construction would not be dissimilar to baseline use of the tracks (e.g. by farm vehicles). In addition, the effect would be temporary - for the duration of the Works at each particular location (of shorter duration than the full Works, anticipated to be 26 months), and would likely disrupt, at most, one full breeding and hibernation season at any one location. In the case of felling, any disturbance created by this activity would be very short term, until the adjacent trees were felled.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Foraging and commuting bats (County)	Permanent and temporary loss of foraging habitat	However, following a precautionary approach and in the absence of detailed surveys data and specific detailed on which potential roost features maybe disturbed, a County level impact is considered possible. This does not negate legal requirements in relation to bats, which are discussed below in Table 8-15.	Significant adverse effect at a Site level (Not Significant)
		A total of 39.33 of broadleaved and mixed woodland and scrub would be permanently lost to the Works, along with 6.28ha of wetland and 0.73ha grassland which would be temporarily lost, all of which could be used by foraging bats.	
		The permanently lost woodland/scrub represents approximately 30% of that present within the survey area, but is a small proportion of that available in the wider local area, for example in retained parts of Roughcastle WS, Howierig Wood, Drum Wood, around Palacerigg Country Park, along the Luggie Water and in Cameron Burn: Cameron Glen SINC. The lost woodland/scrub is not significant in this context and is small in the context of the local area, and, as discussed above, given that woodlands will be bisected, rather than fully lost, commuting routes and woodland edges along which bats will forage will be retained (or new edges created). In addition, the felled areas will regenerate to other habitats in time e.g. grassland, heathland, and these habitats themselves have value for foraging bats.	
		The areas of other suitable habitats which will be temporarily lost (to access tracks, compounds etc) are small in relation to the areas of these habitats found within the survey area, and more so when compared to the local area. In addition, similarly to the woodland above, following works it is expected that the lost habitats will regenerate into habitats similar to those which were lost, and will be able to be used by foraging bats again.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Furthermore, some of this habitat loss will take place between Towers WB032 and WB026, along a distance of 2.2km. There are no known bat roosts in the immediate vicinity of this area, and the surrounding blocks of woodland are unlikely to support numerous/notable roosts, given that they are mainly non-native conifer plantation, immature native plantation or scrubby willows. The habitat lost may have an effect on foraging/commuting bats at a Site level.	
Foraging and commuting bats (County)	Permanent fragmentation of commuting routes	The existing woodland edges are likely to be used as commuting routes by bats. Given that these edges will be retained (including where felling will occur for the New Build Overhead Line Limit of Deviation), it is not anticipated that there will be a perceptible impact on bats as a result of the shortening/ fragmentation of commuting routes. Indeed, where woodland is bisected by the New Build Overhead Line Limit of Deviation, new commuting and foraging routes may be created along the new woodland edges as such effects are considered to be negligible.	Negligible (Not significant)
Otter	Temporary habitat loss and habitat fragmentation – Water crossings	Otters are largely active within watercourse channels and riparian habitats. In channel works associated with watercourse crossings are highly localised and spread out across the Site. Habitat loss to facilitate the Works would be minor (along 4m of bank) and temporary (for the duration of the Works at each particular location (of shorter duration than the full Works, anticipated to be 26 months)), given that the habitats will be reinstated. Given the large size and linear shape of the Site, it is assumed that it likely spans the territories of several otters, with only a small proportion of the territory of any one otter being within the Site itself. Any possible impact is likely to be at a minute scale in comparison to the size of an otter territory and the retained alternative suitable habitat which is available immediately adjacent to the Site and in the wider area.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Furthermore, as per Section 8.4, all temporary water crossings will be designed in line with SEPA guidance to allow for passage of aquatic species, including otter. Any fragmentation of commuting routes along watercourses where crossings are proposed are unlikely to cause any fragmentation. Considering the size of otter territories, the Works are highly unlikely to affect any individual otters ability to survive and would certainly not affect the conservation status of the species. As there will be no permanent loss of watercourse habitat and only short term fragmentation at watercourse crossing locations, effects are considered negligible.	
Otter (Local)	Permanent habitat loss – Riparian habitat	Permanent habitat loss will occur where riparian woodland will be felled along suitable watercourses within the 80m wide New Build Overhead Line Limit of Deviation. The main locations of this are along the Forth and Clyde Canal, the Rowan Tree Burn and associated tributaries, an unnamed minor watercourse in Palacerigg Country Park (West) SINC, Luggie Water and Cameron Burn. This felling will be highly localised and spread out. Again, any possible impact is at a minute scale in comparison to the size of an otter territory and the retained alternative suitable habitat. Furthermore, although woodland habitat will be permanently lost, the watercourses themselves will be retained and scrub or other suitable habitat will likely colonise the felled areas in time, providing alternative habitat for otter. It is also noted that although woodland will be lost along the Luggie Water, this watercourse is located in a very steep valley and will continue to be sheltered from adjacent land by the topography, and it is anticipated that otter will continue to commute along this watercourse. Overall effects from habitat loss on otter are considered negligible.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Otter (Local)	Temporary disturbance to commuting/ foraging otter	As discussed above, otters are most active within watercourse channels between dusk and dawn. Works at multiple locations are in close proximity to watercourses which are suitable for otter, and may disturb/displace otters using these watercourses. Any disturbance to commuting routes along watercourses where crossings are proposed would be during active works which are largely during daylight hours (when otters are less likely to be active). Any possible impact would be temporary, for the duration of the Works at each particular location (of shorter duration than the full Works, anticipated to be 26 months). Any possible impact would be at a minute scale in comparison to the size of an otter territory and alternative suitable habitat. Therefore, if affected, individuals are most likely to be displaced into alternative suitable habitat within their territories, and this impact would be temporary and effects are considered negligible.	Negligible (Not significant)
Otter (Local)	Temporary disturbance to otter refuges	Disturbance to otter refuges is considered possible within 200m of a natal holt and 30m of a non-natal holt or layup. Three non-natal resting sites are within 50m of the Site. However, only one of these is within 30m of works and is therefore at risk of disturbance; WB.O.04, located approximately 22m from proposed felling. Individual otters have large numbers of holts and layups within their territories (for example, one study found that males and females used 37 and 23 holts respectively⁹⁸) and it is not anticipated that the disturbance to one resting site would have an impact on an individual otters ability to survive, given the large number of alternative refuges likely within each otters territory, including several known along the Luggie Water.	Negligible (Not significant)

⁹⁸ Harris, S. and Yalden, D.W. (2008). Mammals of the British Isles: Handbook (4th Edition). The Mammal Society, Southampton.

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Furthermore, any possible impact from disturbance would be temporary, for the duration of the Works in the vicinity of Towers WB017 and WB016 (likely of shorter duration than the 10 month timeframe given for the construction of Towers WB001 - WB021C, November 2027 to September 2028). Overall effects from disturbance on otter refuges are considered to be negligible. This does not negate legal requirements in relation to otter, which are discussed below in Table 8-15.	
Otter (Local)	Permanent mortality of otter	Otter mortality could potentially be caused by machinery where it is in use during construction, this would be a permanent impact, although the loss of a single otter is unlikely to effect the local conservation status of the species. However, this impact is not expected to occur given that otter are highly mobile and able to move away from such machinery. Furthermore, otter mortality while using resting sites will be prevented given none are to be destroyed and only one was identified within 30m that maybe disturbed. Any further injury or mortality will be prevented by embedded mitigation.	Negligible (Not significant)
Water vole (County)	Permanent and temporary loss/disturbance of water vole burrows	No burrows will be destroyed by Works. Disturbance to water vole burrows would only be likely to occur if works took place within 10m. It is anticipated that Works will take place 10m or more from water vole burrows and therefore no disturbance is anticipated. Based on this no effects are anticipated. This does not negate legal requirements in relation to water vole, which are discussed below in Table 8-15.	None
Water vole (County)	Permanent and temporary habitat loss	No loss of water vole habitat is anticipated. WV03 is within the Site, but the New Build Overhead Line over-sails it, and no grassland (the preferred habitat of water vole) within tower location WV03 is expected to be lost. Grassland habitat 10m or more away within the footprint of Tower WB002 will be temporarily lost but, as mentioned above, water vole generally stay close to their burrows and are unlikely to use this. One or two of trees adjacent to WV03 may be lost to allow passage of the New Build Overhead Line, however water vole prefer more	None

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		open habitats and tree loss may have a slight positive effect on water vole given that additional open grassland may become available following tree felling.	
Water vole (County)	Permanent mortality of water vole	In the absence of mitigation, mortality of water voles could occur if individual water voles associated with WV03 were to travel into the footprint of tower compound WB002, located between 10m and 11m away. This is unlikely given that water voles stay fairly close to their burrows, but cannot be ruled out given the continuous grassy habitat from the bankside into tower compound WB002. In the unlikely event that this occurred, it would most likely result in the mortality of a single or small number of water voles. Any possible impact would be temporary, for the duration of the Works at Tower WB002 (likely of shorter duration than the 10 month timeframe given for the construction of Towers WB001 - WB021C), and it is expected that the local retained population could recruit replacement individuals through breeding in the relatively short-term, and the ability of the population to survive would not be affected. This does not negate legal requirements in relation to water vole, which are discussed below in Table 8-15.	Negligible (Not significant)
Badger (Local)	Permanent habitat loss / fragmentation – Woodland and scrub	A total of 39.33ha of broadleaved and mixed woodland and scrub will be permanently lost to the Works, much of which is potentially suitable for badger foraging, commuting and sett building. However, this amount is small given the extent of woodland and scrub habitats in the wider area, within, for example, retained parts of Roughcastle WS, Glencryan Woods SINC, Luggie Water: Glenhove-Jockey's Well SINC and Cameron Burn: Cameron Glen SINC. Furthermore, this habitat loss is spread along the 19km linear Site, and will be split between multiple badger clans, lessening the impact on any single clan. In addition, in most cases habitats which can be used by badger (scrub, bracken,	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		grassland) is expected to establish in felled areas in the long-term, and any minor habitat fragmentation will therefore be temporary. Given these effects on badger from habitat loss and fragmentation are considered negligible.	
Badger (Local)	Temporary habitat loss and habitat fragmentation – Excluding woodland and scrub	Loss of all non-woodland/scrub habitats, and all habitats outside of the New Build Overhead Line Limit of Deviation which are suitable for badger will occur within the footprints of compounds, access tracks, scaffolding and pulling positions. Any loss of this habitat would be temporary, for the duration of the Works at each particular location (of shorter duration than the full Works, anticipated to be 26 months), and habitats will be restored following this. Given the above, the temporary loss of this habitat is not anticipated to have a significant effect on the badgers associated with the Site, or on their ability to survive and breed and effects are considered negligible.	Negligible (Not significant)
Badger (Local)	Permanent sett loss	Two setts, WB.B.20 and WB.B.21 are expected to be lost as part of the related Cumbernauld Substation extension, due to be constructed prior to the New Build Overhead Line. There is therefore no possibility of impacts on them from the New Build Overhead Line, given that the setts will no longer exist at the time of construction. An artificial sett is proposed to compensate for this loss, however it will be sufficiently distant so as not to be damaged/disturbed by the Works. The loss of these setts is detailed within the Disturbance of setts section below in relation to Cumbernauld Substation. No further setts are expected to be lost as a result of the Works, and therefore no effects are possible.	None

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Badger (Local)	Temporary disturbance of setts	This does not negate legal requirements in relation to badger, which are discussed below in Table 8-15. Badger setts are considered at risk of disturbance where they are present: • Within 30m of built/installed components including tower compounds, site compounds, pulling positions and proposed access tracks⁹⁹; and/or; • Within 20m of tree felling¹⁰⁰. A total of 34 badger setts, of which eight are likely main setts, will be subject to possible disturbance from one or both of the above sources (see Table 8-1). For all setts, disturbance will be temporary, for the duration of the Works in the vicinity of each sett (of shorter duration than the full Works, anticipated to be 26 months). Given the above, and the narrow, linear layout of the Site, it is unlikely that the Works would cause simultaneous disturbance of all setts within the territory of a single badger clan, and for all main setts (except WB.B.09, WB.B.13 and WB.B.25), there are known alternative non-outlier main, subsidiary, annex or unclassified setts located close-by (within ~500m) which will not be disturbed and which could be used by badgers, should disturbance result in temporarily abandonment of the main sett. For main setts WB.B.09 and WB.B.13, which are close to one-another, the two known alternative setts are within the New Build Overhead Line Limit of Deviation. However, in reality, disturbance any of these four setts is likely to be	Negligible (Not significant)

⁹⁹ <https://www.nature.scot/doc/standing-advice-planning-consultations-badgers>

¹⁰⁰ <https://www.nature.scot/professional-advice/protected-areas-and-species/licensing/species-licensing-z-guide/badgers/badgers-licences-land-management>

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		minimal, given that they are on a steep slope covered in gorse, and the New Build Overhead Line will most likely over sail this area. For WB.B.25, disturbance will result from the felling of a single tree and so will be temporary and minor. Given the above, and that badgers are widespread and common in the central belt of Scotland, temporary disturbance of setts is not anticipated to have a significant effect on the badgers associated with the Site, or on their ability to survive and breed and effects are assessed as negligible. This does not negate legal requirements in relation to badger, which are discussed below in Table 8-15.	
Badger (Local)	Mortality of badger	Badger mortality could potentially be caused by machinery where it is in use during construction. However, this is not expected to occur given that badger are highly mobile and able to move away from such machinery. Furthermore, badger mortality while within setts will be prevented given that setts are being disturbed only, and not destroyed. Any further injury or mortality will be prevented by embedded mitigation. This does not negate legal requirements in relation to badger, which are discussed below in Table 8-15.	Negligible (Not significant)
Red Squirrel (County)	Permanent habitat loss	Red squirrel habitat loss will take place where woodland will be felled for the New Build Overhead Line Limit of Deviation in locations where red squirrels are considered to be present based on desk study information (north of Beam Road). This loss is estimated at 12.5ha, and includes broadleaved, mixed and coniferous woodland. There may be further minor losses to facilitate new proposed access tracks.	Significant adverse effect at Local level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Red squirrels generally occur at densities of between 0.5-1.5 individuals/ha¹⁰¹, and this loss would therefore be expected to impact between six and nineteen red squirrels (rounded to the nearest individual). The actual number of red squirrels which could potentially be impacted is likely to be at the lower end of this range, given that the woodland which will be felled is not all of an optimum type for red squirrel, and locally includes wet woodland dominated by birch and willow which is not suitable. In addition, grey squirrels are ubiquitous in the central belt and their presence reduces the density at which red squirrel occur. In particular, grey squirrels can more readily exploit acorns as a food source than red squirrels¹⁰², and much of the woodland within Roughcastle WS and Howierig Wood contains a high proportion of oaks. Given the above, a very small number of red squirrels are likely to be impacted by habitat/drey loss. Extensive woodland which is well-connected to, and similar to, that which will be lost will be retained in Drum Wood, Canada Wood, Roughcastle WS and Howierig Wood, and amounts to approximately 400ha (within the wider vicinity of the Site, roughly between Beam Road to the south, the Canal to the north, the railway to the west and urban areas between). The amount lost is approximately 3% of this. An effect of County significance (the importance level assigned to this red squirrel population) would be disproportionate, given that the county-wide population is unlikely to experience any measurable effects. The amount of habitat loss is unlikely to approach 1% of that available in the local area. However, much of the local habitat is isolated within a landscape dominated by	

¹⁰¹ Harris, S., & Yalden, D. (2008). Mammals of the British Isles: handbook. Mammal Society.

¹⁰² Lurz, P.W.W., Garson, P.J., and Rushton, S.P. 1995. The Ecology of Squirrels in Spruce Dominated Plantations: Implications for Forest Management. Forest Ecology and Management 79 (79-90).

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		urban and agricultural land, and would be difficult for red squirrel to colonise. It is therefore possible that this loss will have an impact on the local squirrel population, and as such it is considered that an effect of Local significance will occur.	
Red Squirrel (County)	Permanent habitat fragmentation	Red squirrel habitat fragmentation will take place where woodland will be felled for the New Build Overhead Line Limit of Deviation in locations where red squirrels are considered to be present (north of Beam Road). The New Build Overhead Line Limit of Deviation, which is 80m wide, will bisect red squirrel habitat in Roughcastle WS and Howierig Wood. Habitat fragmentation may have a negative effect on red squirrels by preventing movement between woodlands, possibly reducing genetic mixing between populations and, when squirrels do attempt to cross, making them more vulnerable to predators. However, studies found that squirrels will commute over unforested land. One study found that, although habitat fragmentation may impact the movement patterns of individual red squirrels, the dispersal of juvenile red squirrels was not significantly restricted by a fragmented environment¹⁰³. Another study tracked a red squirrel over 5.25km of mixed habitat, including open ground¹⁰⁴. It can therefore be assumed that the New Build Overhead Line Limit of Deviation, which is much narrower than this, will not constitute an impassible barrier to red squirrel.	Significant adverse effect at a Site level (Not significant)

¹⁰³ Hämäläinen S, Fey K, Selonen V. (2019). *The effect of landscape structure on dispersal distances of the Eurasian red squirrel*. Ecol Evol. 9(3):1173-1181.

¹⁰⁴ De Raad, L., Lurz, P. and Kortland, K. (2021). *Managing forests for the future: Balancing timber production with the conservation of Eurasian red squirrels* (Sciurus vulgaris). Forest Ecology and Management: Volume 493.

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		In addition, the New Build Overhead Line Limit of Deviation is not expected to remain as bare, open ground. It is anticipated that scrub, heathland and grassland habitats will colonise the felled areas and these will provide some cover from predators for red squirrel crossing the New Build Overhead Line Limit of Deviation. However, impact on the movements of the small number of red squirrels which inhabit the Site cannot be ruled out, and thus a significant effect at Site level is appropriate.	
Red Squirrel (County)	Permanent loss of/ Temporary disturbance to dreys	Loss of red squirrel dreys will occur where dreys are present within areas which will be felled. Disturbance to red squirrel dreys may occur where Works take place within 50m of dreys during the breeding season (February to September inclusive), or within 5m or one tree's distance of a potential drey location (whichever is less) during the non-breeding season. The number of dreys which will be lost/disturbed is not known, though none were incidentally noted during other surveys. However, as discussed above for habitat loss, between six and nineteen red squirrels are likely to be impacted (likely the lower end of this range). Any possible impact from disturbance would be temporary, for the duration of the Works (likely of shorter duration than the 11 month timeframe given for the construction of WB022 - WB059, December 2028 to November 2029). The impact of lost/disturbance is dependent on the timing of Works. In a worst-case scenario, Works would take place within the red squirrel breeding season (February to September inclusive) and active breeding dreys would be lost/disturbed. This timing is however unlikely, as vegetation clearance in the main will be undertaken outside of the bird nesting season, which covers the same period.	Significant adverse effect at Local level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
GCN (County)	Permanent habitat loss	The active breeding dreys of six to nineteen red squirrels (as estimated above) likely represent a very small proportion of those present within the County, given that, as discussed, there is much additional suitable habitat which is likely to support breeding dreys. Furthermore, the works will take place over a single breeding season, and especially given that red squirrels are known to breed twice in a single season, it is considered that the population will recover in the short term. This does not negate legal requirements in relation to red squirrel, which are discussed below in Table 8-15.	Negligible (Not significant)
		GCN have the potential to use all terrestrial habitat and many of the ponds within the wider Drum WS area. The species is considered absent from the rest of the Site.	
		Permanent GCN habitat loss for the New Build Overhead Line Limit of Deviation will total approximately ~3ha (~1.2ha woodland and ~1.8ha scrub) from within the wider Drum WS area. This is unlikely to significantly impact the GCN population because this is a small proportion, ~3%, of the total available suitable terrestrial habitat in this area (estimated at ~110ha), much of which is similar to that which will be lost; and, as although scrub and woodland will be lost, alternative suitable habitats (marshy grassland, heathland and potentially lower height scrubby habitats) will colonise areas felled for the New Build Overhead Line Limit of Deviation , and will likely continue to be used by GCN. Other permanent GCN habitat loss will take place within the footprints of the proposed towers. This loss will be small, totalling 0.03ha (four towers at approximately 0.007ha per tower), <0.1% of the total available suitable terrestrial habitat in this area, and will not have any detectable impact on GCN.	

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		No ponds within the wider Drum WS area will be permanently lost to the Works. The impact on GCN from permanent habitat loss is therefore considered to be Negligible.	
GCN (County)	Temporary habitat loss	Temporary GCN habitat loss will take place to all habitats (excluding where it is considered to be permanently lost – see above) within tower compounds, scaffolding, pulling positions and proposed access tracks and will amount to approximately ~2ha, ~2% of the total available suitable terrestrial habitat in this area. This is unlikely to have any effect on the GCN population because abundant available suitable terrestrial habitat in this area will be retained and as the GCN population in this area is small, estimated at 50 individuals, and the wider Drum WS area is therefore unlikely to be at carrying-capacity for the species; and also as this loss will be temporary, until the habitats are restored. Adult GCN spend much of the spring/summer in ponds which will be overwhelmingly unaffected by Works (but see below for a possible exception) and thus the effect of temporary habitat loss will be less still during these seasons. All ponds except one will be unaffected. WG14, will potentially be partly lost to tower compound WB039. However, this pond returned a Negative eDNA result in both 2022 and 2025 and is therefore unlikely to be of any particular importance to GCN, if it supports the species at any time it is highly likely that tower compound WB039 will be micro-sited away from pond WB14 for practical reasons (see Section 8.4); and as discussed above, the habitats within tower compounds will be restored/regenerate in time.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		Given the above, impact on GCN from temporary habitat loss is considered to be Negligible.	
GCN (County)	Temporary habitat fragmentation	Permanent loss of GCN habitat (excluding where alternative suitable habitat is likely to regenerate in felled areas) is restricted to within the footprints of proposed towers. No habitat fragmentation will be caused by this because suitable habitat will be retained around the towers, allowing continued movement of GCN. However, temporary habitat loss within tower compounds, scaffolding, pulling positions and proposed access tracks, will effectively bisect the wider Drum WS area, dividing the terrestrial habitat and also the ponds. The ponds confirmed (or assumed) to support GCN in 2022 and/or 2025 will be split northwest (WB20, WB21, WB12, WB10, WB11, WB08, WB07) and southeast (WB04, WB24, WB25, WB29). It can be assumed that these Works components will act as at least a partial barrier to GCN movement. This fragmentation will impact both the availability of suitable terrestrial habitat and access to ponds. Adult GCN mainly use terrestrial habitat within 250m of ponds. GCN associated with ponds close to the Works will be most at risk from habitat fragmentation given that a significant proportion of the habitat within 250m of these ponds will be located on the opposite side of a barrier formed by the above Works components, and will not be accessible. In particular, WB21 will be subject to a barrier from Works to the east and from pond WB22 (which is stocked with perch and is therefore inhospitable to GCN) to the west. In addition, this fragmentation will potentially prevent GCN from accessing ponds. This could cause fewer adults to be present in breeding ponds, resulting in the production of fewer young during the breeding season, and could also	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		reduce genetic diversity by preventing the mixing of adults associated with different ponds. Pond WB04 in particular will be further isolated during works given that the nearest neighbouring ponds known to support GCN will be on the opposite side of the proposed access track, and that the nearest pond known to support GCN which is on the same side of Works is 0.8km away. In a worst case scenario, it would be expected that some GCN mortality would occur due to reduced access to resources, and that there would be reduced recruitment from GCN breeding on Site. This impact will be temporary, for the duration of works in this area (likely of shorter duration than the 11 month timeframe given for the construction of WB022 - WB059), and will likely only impact a single GCN breeding season. The GCN Conservation Handbook¹⁰⁵ states that GCN are relatively long-lived (up to fourteen years in the wild) and as such populations can survive several years without successful breeding. Following completion of works it is expected that barrier will be removed and that the local retained population will recruit replacement individuals through breeding, especially given that, as stated above, GCN are long-lived and that individuals which survive the fragmentation are likely to have the capacity to breed several more times. Despite this, a significant proportion of the GCN within the wider Drum WS area have the potential to be impacted, and this equates to a significant proportion of the GCN present within the Site (given that it is the only location where they occur) and thus Site level significance is considered appropriate.	
GCN (County)	Mortality of GCN during preparatory works	In the absence of mitigation, it is possible that mortality to GCN could occur where they come into contact with machinery or personnel during tree and scrub clearance and ground preparations for/installation of proposed access tracks, tower compounds, scaffolding and pulling positions.	Significant adverse effect at a Site level (Not Significant)

¹⁰⁵ https://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		These works will be localised, limited to 5.18ha (2.97ha felling and 2.21ha temporary works), 5% of the 110ha available suitable GCN habitat. Assuming an even distribution of GCN across this habitat, it can be estimated that mortality to 5% of the GCN population in the wider Drum WS area could occur as a result of these works. This would be a one-off event, taking place at the start of the construction period (Winter 2028/2029) during the time when GCN are overwintering in refugia, which is scattered throughout the suitable terrestrial habitat. Following completion of works it is expected that the local retained population would recruit replacement individuals through breeding, The loss of 5% of the GCN population, even in the short term, is significant. An effect of County significance (the importance level assigned to this GCN population) would be disproportionate, given that the population is expected to recover. However, 5% of the GCN population within the wider Drum WS area equates to 5% of the GCN present within the Site (given that it is the only location where they occur) and thus Site level significance is considered appropriate. This does not negate legal requirements in relation to GCN, which are discussed below in Table 8-15.	
GCN (County)	Mortality of GCN during construction	GCN could travel into Works areas during construction and mortality could occur where they come into contact with machinery or personnel. This effect is likely to be exacerbated given that the Works will probably separate some GCN from suitable terrestrial habitat or ponds and that they will be more willing to attempt to cross proposed access tracks etc. However, this is unlikely given that: GCN mostly travel over land at night, when works will not be taking place;	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		- there will be at least some alternative available habitat on both sides of the Works such that crossing is not essential for foraging; - the proposed access tracks, the main location where mortality could take place, will be made of crushed stone, a habitat not routinely used by GCN, and GCN are unlikely to spend any significant amount of time on the tracks; - the movement of traffic in this area is expected to be minimal, restricted to that which is necessary for the Works on Towers WB038-WB042 only, given that there are no site compounds in this area; and, - this risk will be temporary, for the duration of works in this area (likely of shorter duration than the 11 month timeframe given for the construction of WB022 - WB059). Given how unlikely it is that mortality would occur in this way, and the resulting small numbers of individuals that would be impacted, this is considered a negligible effect. This does not negate legal requirements in relation to GCN, which are discussed below in Table 8-15.	
Terrestrial Invertebrates (Local)	Permanent and Temporary habitat loss	Several of the habitats which will be lost have the potential to support notable invertebrates. The loss of certain habitats (e.g. Blanket bog, Wet Woodland, Lowland Mixed Deciduous Woodland) was found to be Significant at Local level (see above). Species of notable terrestrial invertebrates are generally habitat specific, and cannot readily make use of alternative habitats. Therefore, as a precaution, it cannot be ruled out that the effect of habitat loss on terrestrial invertebrates would be of a similar scale.	Significant adverse effect at Local level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Curlew (Local)	Permanent and Temporary Habitat Loss	The five curlew territories identified within 500m of the Site were primarily associated with bog, heath and fen habitats, with three territories recorded in the Drum Moss area. As detailed in the habitat assessments above, a negligible extent of these habitats would be permanently lost under the tower footprints and temporarily lost under construction areas. Consequently, it is considered unlikely that habitat loss would affect breeding curlew and thus effects are considered negligible.	Negligible (Not significant)
	Temporary disturbance and displacement	The works have the potential to disturb and displace breeding curlew, including foraging birds, to a maximum distance of 300m from the works. Embedded mitigation will prevent the abandonment of active breeding attempts due to disturbance, however works may displace breeding curlew from suitable breeding and foraging habitat. While some territory centre points are beyond 300m from the Site these points are estimates only and do not necessarily correspond to nest sites. As such, as a precaution, it is assumed that nest sites for all territories could be located within the disturbance zone. While there is alternative habitat beyond the 300m disturbance zone some areas, e.g. Drum Moss, encompass relatively small areas. Consequently, it is considered that the works may temporarily affect the breeding success of up to five pairs of breeding curlew for a maximum of two breeding seasons and thus have a significant effect at Local level.	Significant adverse effect at Local level (Not Significant)
Goshawk (Regional)	Temporary disturbance and displacement	Embedded mitigation will eliminate the potential of disturbance to nesting goshawk or dependant young, which would be an offence under the Wildlife and Countryside Act. It is assumed that four breeding pairs are in woodland within 500m of a site. As the potential disturbance zone for this species could extend to 500m from source⁹² breeding goshawk could be displaced from potential nest sites if works commence prior to the early breeding period e.g. February/March. Goshawk, however, typically build new nest sites each year and each breeding woodland extends beyond 500m from the Site, and therefore outside the disturbance	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		zone. There is therefore available nesting habitat in these woodlands if nesting birds are displaced from areas in proximity to the Site. Works would be temporary for a maximum of two breeding seasons (2028 and 2029) with high intensity works (e.g. construction of individual towers) limited to relatively short periods. It is therefore considered unlikely that disturbance and displacement from the works would affect the breeding success of goshawk and thus effects are considered negligible.	
Goshawk (Regional)	Permanent habitat Loss	Of the potential goshawk nesting woodlands identified, the Site only directly crosses the plantation woodland north of Fannyside Muir. As the New Build Overhead Line passes through the existing Limit of Deviation of the CB Route minimal felling would be required to facilitate the New Build Overhead Line Limit of Deviation. Felling across the wider Site would also be small scale (associated with the New Build Overhead Line Limit of Deviation) and would be unlikely to affect the density of prey species such as woodpigeon and corvids. As such habitat loss would have negligible effects on goshawk.	Negligible (Not significant)
Barn owl (Local)	Temporary disturbance and displacement	Embedded mitigation would protect barn owl nesting within the identified barn owl box from disturbance. Works, however, could potentially prevent the species from occupying the nest box due to displacement. As the species is relatively specialist in respect to breeding sites, and this barn owl box has been occupied for a number of years, displacement may affect breeding success of this pair during the construction phase, which could span two breeding seasons in this area. As barn owl are nocturnal disturbance/displacement of hunting birds would be minimal as works would largely be undertaken during daylight hours. It is therefore considered that there would be a temporary effect on barn owl of Local significance.	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Barn owl (Local)	Temporary habitat Loss	No barn owl breeding sites or potential barn owl breeding sites (e.g. farm buildings or trees with large cavities) would be lost as a result of the works. Loss of foraging habitat would be temporary and associated with small discrete areas (e.g. tower sites) or narrow linear access tracks. As much of this habitat loss in proximity to the barn owl nest box is pasture fields, and therefore low value hunting habitat, it is unlikely that habitat loss would affect the breeding success of this nesting pair and thus effects are considered negligible.	Negligible (Not significant)
Greylag goose (Local)	Temporary disturbance and displacement	The majority of greylag goose roosting and foraging records were recorded on or adjacent to St Helen's loch, which at approximately 1km from the Site is beyond the disturbance zone listed for this species (listed as 200m to 600m from source) ⁹² . Consequently, effects are considered negligible.	Negligible (Not significant)
	Temporary habitat Loss	No foraging geese were recorded overlapping areas of habitat loss associated with the Project. While potential foraging habitat would be lost within agricultural fields the extent of this loss is negligible.	Negligible (Not significant)
Pink-footed goose (not associated with the Firth of Forth SPA) (Local)	Temporary disturbance and displacement	Only two of the numerous records of foraging and roosting pink-footed goose were recorded in fields potentially subject to disturbance or displacement from the Works. Records at the southwestern end of the site indicate that geese move between a large number of fields, potentially including areas outwith the surveyed area. As such birds would be potentially temporarily displaced from a small part of a much wider foraging range. Consequently, effects are considered negligible.	Negligible (Not significant)
	Temporary habitat Loss	No foraging geese were recorded overlapping areas of habitat loss associated with the Project. Additionally, the extent of habitat loss is negligible and majority of habitat lost within the southern section of the Site is associated with scrub/woodland and therefore not suitable habitat for pink-footed goose. Consequently, effects are considered negligible.	Negligible (Not significant)

Table 8-17 Source of disturbance to badger at each badger sett

Sett reference	Sett Type	Sett activity level	Source of disturbance to sett		
			Works associated with tower compounds, site compounds and pulling positions	Works associated with proposed access tracks	Felling
WB.B.02	Outlier	Active	No	Yes	No
WB.B.03	Outlier	Partially used	No	No	Yes
WB.B.04	Outlier	Partially used	No	Yes	No
WB.B.05	Annexe	Partially used	No	Yes	Yes
WB.B.06	Main	Partially used	Yes	Yes	Yes
WB.B.07	Main	Active	No	No	Yes
WB.B.08	Outlier	Active	No	No	Yes
WB.B.09	Main	Active	Yes	Yes	Yes
WB.B.10	Other	Active	Yes	Yes	Yes
WB.B.11	Other	Active	Yes	Yes	Yes
WB.B.12	Other	Disused	Yes	Yes	Yes
WB.B.13	Main	Active	No	No	Yes
WB.B.16	Main	Active	Yes	Yes	No
WB.B.18	Other	Active	No	No	Yes
WB.B.20	Main	Active	See Section 8.17 - Cumbernauld Substation		
WB.B.21	Outlier	Partially used	See Section 8.17 - Cumbernauld Substation		
WB.B.22	Outlier	Partially used	Yes	No	Yes
WB.B.25	Main	Active	Yes	No	Yes
WB.B.29	Main	Active	No	No	Yes

Sett reference	Sett Type	Sett activity level	Source of disturbance to sett		
			Works associated with tower compounds, site compounds and pulling positions	Works associated with proposed access tracks	Felling
WB.B.30	Outlier	Disused	No	No	Yes
WB.B.31	Outlier	Disused	No	No	Yes
WB.B.32	Outlier	Partially used	No	No	Yes
WB.B.35	Outlier	Active	Yes	Yes	Yes
WB.B.36	Outlier	Partially used	Yes	Yes	Yes
WB.B.38	Subsidiary	Disused	No	No	Yes
WB.B.39	Outlier	Disused	No	Yes	Yes
WB.B.41	Outlier	Disused	No	No	Yes
WB.B.42	Outlier	Active	No	No	Yes
WB.B.43	Outlier	Active	Yes	Yes	Yes
WB.B.44	Main	Active	No	Yes	Yes
WB.B.45	Outlier	Partially used	No	Yes	Yes
WB.B.46	Annexe	Active	No	Yes	Yes
WB.B.47	Outlier	Partially used	No	Yes	No
WB.B.51	Subsidiary	Active	No	No	Yes
WB.B.52	Outlier	Active	Yes	No	Yes
WB.B.54	Outlier	Disused	No	Yes	Yes
License type required to permit disturbance where 'Yes'?			Standard badger license		Standard Forestry Operations Licence 2021

Table 8-14 Assessment of Operational Phase Effects

Feature	Potential Impacts	Details of ecological effect	Assessment
Slamannan Plateau SPA (International)	Collision mortality	Details of effects on the SPA are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Of the 97 bean goose flights recorded during the AECOM VP surveys only one, during 2024/25, was recorded at PRC. An additional single flight, attributed to either pink-footed goose or bean goose, was recorded at PRC during 2019/20. A low level of flight activity over the New Build Overhead Line would be anticipated as key roost sites and foraging areas are to the east of the overhead line. In comparison to the existing baseline the New Build Overhead Line will follow the route of the CB route until tower 38 when it deviates to the north, avoiding the SPA. The CB route in this area, which crosses the SPA, will be removed. No bean geese were recorded using this area of the SPA since 2020/21. The route of the New Build Overhead Line directly north of Tower 38 passes through a field used by bean geese in early January 2025 (based on tag data). As detailed above use of this area was very low, although habitats are suitable for foraging geese. The New Build Overhead Line would be a taller than the CB route (a range of approximately 46m to 63m in height compared to 30m) although both overhead lines comprise dual circuit conductors and an earth wire. This increase in height would not result in a material difference in the collision risk of the respective infrastructure. Bean geese are known to fly at relatively low heights, with the majority of flights recorded during AECOM VP surveys below 70m and numerous flights also recorded entirely below 10m (e.g. 15 of the 42 flights recorded during 2019/20 were entirely below 10m). As a precautionary measure, whilst risk of collision is only considered low, line markers are proposed on the earth wire along sections of the New Build Overhead Line. It is considered that this measure, as well as the removal of the CB route within the SPA would result in a decrease in the collision risk with respect to the baseline. Consequently, there could be a permanent minor positive effect on bean goose as a result of this impact pathway, even taking a precautionary approach, effects are assessed as negligible.	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
Firth of Forth SPA/Ramsar site (International)	Collision mortality	Details of effects on the SPA are included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Of the 360 pink-footed goose flights recorded during VP surveys, 72 were at PRC with the majority recorded at the northern end of the New Build Overhead Line. The New Build Overhead Line would replace the CB route in this area, which will be dismantled as part of the Project, and the AA route in the area would also be undergrounded. There would therefore be a net decrease in the length of high voltage overhead line in the area and a reduction in the potential for collision. Consequently, there would be negligible effects on pink-footed goose as a result of this impact pathway.	Negligible (Not Significant)
Slamannan Plateau SSSI (National)	Collision mortality	The Slamannan Plateau SSSI, along with the West Fannyside Moss SSSI detailed below, is an underlying SSSI of the Slamannan Plateau SPA with both sites designated for supporting bean goose. As such the conclusions with respect to the SPA above is also applicable to this SSSI.	Negligible (Not Significant)
West Fannyside Moss SSSI (National)	Collision mortality	West Fannyside Moss SSSI, along with the Slamannan Plateau SSSI detailed above, is an underlying SSSI of the Slamannan Plateau SPA with both sites designated for supporting bean goose. As such the conclusions with respect to the SPA above is also applicable to this SSSI.	Negligible (Not Significant)
Curlew (Local)	Collision mortality	Of the four flights recorded at PRC, two were recorded in the Drum Moss area and two southwest of Fannyside Loch. The New Build Overhead Line south of Tower WB035 will replace the CB Route along a similar alignment. While the New Build Overhead Line will be a taller structure (on average 46.6m in height), compared to the existing CB overhead line (on average 45m in height), collision risk will be broadly similar to the existing baseline. North of Tower WB035 the New Build Overhead Line deviates north of the CB Route and passes through the Drum Moss area. While there are two existing SP Distribution plc overhead lines in this area these lines are significantly smaller than the New Build Overhead Line. The New Build Overhead Line would therefore be a novel structure in this area. Curlew, particularly recently fledged juveniles, are susceptible to collision with ¹⁰⁶ s ² . While quantitative data is limited the	Significant adverse effect at Local level (Not Significant)

¹⁰⁶ EirGrid (2016). EirGrid Evidence Based Environmental Studies Study 5: Birds. Literature review and evidence-based field study on the effects of high voltage transmission lines on birds

Feature	Potential Impacts	Details of ecological effect	Assessment
		frequency of collisions is likely low. Flight activity in the Drum Moss area was likely associated with the three breeding pairs recorded in the area. Collision mortality of curlew, particularly fledged juveniles, cannot be ruled out although the occurrence of this impact would likely be very infrequent (less than one bird a year). As mortality may affect recruitment of breeding birds to Drum Moss this is considered, at worst, to be of Local significance.	
Goshawk (Regional)	Collision mortality	Two of the three goshawk flights at PRC were recorded north of Tower 35, across the area where the New Build Overhead Line deviates from the CB Route. Both flights at PRC in this area were close to/within woodland either side of Drum Moss. With the removal of the CB Route the total length of overhead line within and adjacent to these woodland areas would decrease, with the majority of the New Build Overhead Line crossing open habitat associated with Drum Moss. Therefore, in relation to goshawk it is not anticipated that the risk of collision mortality would increase with respect to the existing baseline conditions.	None
Barn owl (Local)	Collision mortality	A barn owl nest site was recorded approximately 90m from the New Build Overhead Line. No flights of barn owl were recorded but the species can be assumed to hunt around the nest site in this area. Barn owl typically hunt by flying relatively low to the ground, typically below 5m above ground level ¹⁰⁷ . As the lowest conductor level would typically be greater than 10m above ground level such flight activity would have a low risk of collision. Conductors are also thicker and more visible than the thinner earth wire, located at the top of the towers. As such it is considered that barn owl would have a negligible risk of collision mortality with the New Build Overhead Line.	Negligible (Not Significant)
Greylag goose (Local)	Collision mortality	As detailed in the species assessments above the risk of collision mortality only warrants more detailed analysis north of Tower WB035. Eight flights in this area were identified at PRC with most of these flights recorded in an area south/southeast of St Helen's loch. The New Build Overhead Line is approximately 1km south of St Helen's loch and therefore birds flying too/from the loch would likely be at commuting height, rather than descending/ascending too/from the loch. Flights on approach and departure from regular used waterbodies would	Negligible (Not Significant)

¹⁰⁷ The Barn Owl Trust (undated). Barn owls and major roads: results and recommendations from a 15-year research project.

Feature	Potential Impacts	Details of ecological effect	Assessment
		likely place birds at greater risk of collision as flight heights would be lower. Additionally, the methodology for assigning flights at PRC is precautionary so it is unlikely that all the flights recorded were at potential collision height, 10m to 70m above ground level, as they crossed the New Build Overhead Line ¹⁰⁸ . The removal of the CB Route and Undergrounding sections of the AA would also result in a net decrease of high voltage overhead-lines in this area. As such it is considered that greylag goose would have a negligible risk of collision mortality with the New Build Overhead Line.	
Pink-footed goose (not associated with the Firth of Forth SPA (Local)	Collision mortality	Flight activity of pink-footed goose not associated with the Firth of Forth SPA would largely be restricted to the southern end of the New Build Overhead Line (as records within 20km of the SPA are assumed to be SPA birds). As the New Build Overhead Line would follow the routes of the existing CB Route, which would be removed, collision risk is not expected to deviate significantly from existing baseline conditions. As such it is considered that pink-footed goose would have a negligible risk of collision mortality with the New Build Overhead Line.	Negligible (Not Significant)

¹⁰⁸ All flights with time recorded at heights of 10m to 70m above ground level and which also crossed the New Build Overhead Line, plus 100m either side, were assigned as at PRC.

Summary of Significant Effects

- 8.6.54 The following significant adverse effects (Significant at County level or higher, and therefore Significant in EIA terms) have been identified:
- Permanent loss of areas of woodland classified as ASNW (Significant at County level);
 - Permanent loss of areas of woodland classified as LEPO (Significant at County level);
 - Permanent loss of bat roosts (Significant at County level); and,
 - Temporary disturbance to bat roosts (Significant at County level).
- 8.6.55 There are there are no other likely significant effects (Significant at County level or higher, and therefore Significant in EIA terms) for the New Build Overhead Line.

Proposed Additional Mitigation Measures

Ancient woodland

- 8.6.56 It is not possible to mitigate for ancient woodland loss as this is considered to be an irreplaceable habitat. Off-site planting will be required to compensate for woodland removal. It is proposed that the compensation area would as a minimum match to area to be removed. The final details of the compensation area, including hectarage, will be agreed in consultation with the relevant authorities.
- 8.6.57 The design of the woodland planting will consider the following criteria:
- Tree species selection appropriate to soil and site conditions;
 - Tree spacing and predicted top heights reflective of windblow risk;
 - Combinations of conifer and broadleaf species to reflect the woodland types affected by the Project;
 - Planting to integrate with neighbouring habitats, which may include incorporating hedgerows and shelterbelts; and,
 - Woodland design to reflect the UK Forestry Standard, including the incorporation of open space habitat.

Habitats

- 8.6.58 No likely significant effects on habitats, other than those listed above, are associated with the New Build Overhead Line are significant and as such there are no specific mitigation measures required. However the following measures will be undertaken in line with best practice:
- Following removal of any temporary culverts for access across small watercourses, an appropriate seed mix will be sown on any short bare sections of bank, should these be present and if necessary stabilising coir matting installed, as advised by the ECoW, to stabilise any bare watercourse bank;
 - Following removal of laydown or other works/access substrates across the Lowland Raised Bog and Blanket Bog areas, the ECoW will monitor to check for any bare peat, and if this exists it will be seeded with an appropriate seed mix including a high proportion of hare's-tail cottongrass *Eriophorum vaginatum* and common cottongrass

Eriophorum angustifolium, as well as common heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix* and purple moor-grass *Molinia caerulea*. These species are appropriate for the areas of bog likely to be affected and (especially the common cottongrass) will help to quickly colonise and stabilise any exposed bare peat;

- In raised bog and blanket bog areas where peat excavation cannot be avoided, turves won and peat horizons excavated would be stored separately. Excavated peat would be stored in bunds as a temporary measure during the construction period with the reinstatement/restoration of the peat conducted immediately after the works are completed (e.g. within 6-12 month period). Excavated peat would be stored in such a way as not to cause pollution from surface run-off from erosion. Turves would be stored separately, upright and wetted in dry weather (if needs be) to maintain live vegetation, then returned to a peatland surface following careful landscaping of temporarily stored peat, placed back in reverse order from which it was excavated. Following replacement of turves, monitoring will be carried out by the ECoW, with interventions (such as reseedling) conducted, if deemed necessary, to ensure successful revegetation;
- Where SBL Priority woodland or non-notable broadleaved/mixed woodland is removed for the overhead line Limit of Deviation, it is likely to regenerate into scrubby vegetation with a woodland ground flora (where this currently exists) following completion of the works and removal of any laydown. This regeneration will be monitored by the ECoW, and in the unlikely event that it is found to be failing after 5 years, then this will be rectified by planting appropriate shrub species that will not exceed permitted height for Limit of Deviation vegetation;
- Any other areas of vegetation impacted by the works will be inspected by the ECoW post-works, and any significant bare ground that does not show signs of rapid regeneration will be sown with a seed mix appropriate to the relevant habitat;
- On completion of works at applicable locations where small extents of hedgerow/tree line are lost, hedgerows (with trees if replacing tree loss and where tree planting is appropriate) will be planted to fill the created gaps. These hedgerows will be species-rich rather than species-poor. Planted hedgerow species (including trees) will be native to the region and sourced to be of as local origin as possible.

Species

- 8.6.59 As mentioned above, one Significant effect was identified; loss of bat roosts.
- 8.6.60 There are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot are required to permit such works, and must be in place before works commence. Until such as time as licences are obtained, appropriate works exclusion zones would be implemented around any relevant protected species features identified during the surveys listed in Table 8-15, and any pre-works surveys that take place. SPPs are required to support applications for licenses, and will include appropriate mitigation measures. For the Works, the required licenses, and the likely content of associated SPPs, are set out in Table 8-15. Additional details are set out in the embedded mitigation measures in 8.4.3.

- 8.6.61 No effect on water vole is anticipated; however further additional mitigation is proposed to ensure a continued lack of such effects.
- 8.6.62 While not required to mitigate significant effects, further additional mitigation is proposed for barn owl, curlew and the Slamannan Plateau SPA, and by extension Slamannan Plateau SSSI and West Fannyside Moss SSSI. Mitigation for the Slamannan Plateau SPA is included in Volume 3, Appendix 8.8 Habitats Regulations Appraisal, and is included here for completeness.

Table 8-15 Additional Mitigation

Feature	Additional mitigation required
Slamannan Plateau SPA/SSSI and West Fannyside Moss SSSI	The installation of Bird Flight Diverters (BFDs) on overhead lines is recommended by NatureScot as a mitigation measure to reduce the potential for collision. Based on the distribution of taiga bean goose the risk of collision with the New Build Overhead Line is low. However, to further reduce this risk, BFDs are proposed between identified foraging areas to the west of the overhead line, albeit infrequently used, and roost sites to the east of the overhead line. As such, BFDs will be installed on the earth wire of the New Build Overhead Line between towers WB030 and WB038 (see Volume 2, Figure 8.36 Location of Bird Flight Divertors on the New Build Overhead Line Earth Wire). BDFs will be installed during construction at a minimum of 5m intervals along the earth wire in this section and will be monitored and maintained throughout the lifespan of the Project. The type and specification will be determined by the principal contractor and agreed in advance of construction with the Energy Consents Unit and NatureScot. Earth wires are considered a greater risk of collision than conductors as they are thinner and are positioned above the more visible conductors.
Bats	In-line with BCT Guidance, further bat surveys are required to confirm presence/likely absence of bats and characterise roosts. These surveys would be undertaken at least 3 months in advance of Works to inform licensing. An additional pre-works check of any trees with suitability for roosting bats would be required immediately prior to felling to ensure no bats were present. Following these surveys, the number of bat licenses required to permit destruction/possible disturbance can be confirmed (currently loss of 67 trees and possible disturbance of 32 trees with suitability to supporting roosting bats). It is likely that the numbers of confirmed roost presence, will be lower than these numbers. The Bat SPP will specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works/lighting, details on works methods such as soft-felling, and provision of compensatory roosts in the form of bat boxes. In addition, roost features known to be used by less common species which may be lost should be reused where practical, for example by isolating felled branches containing such features and attaching to nearby retained trees. To compensate for the loss of the 67 trees with bat roost potential, bat boxes will be provided at a suitable ratio, once the final numbers of confirmed roosts which will be lost are known. The details in terms of locations and specifications for bat boxes will be set out within the Ecological Enhancement Plan, to be agreed with the North Lanarkshire and Falkirk Local Authorities. A variety of box types will also be used, including those suitable for breeding and hibernation.
Otter	A Protected Species licence for otter will be required to permit the disturbance of one otter resting site, WB.O.04. No additional resting sites will be disturbed given that

Feature	Additional mitigation required
	they are more than 30m from the Works (or more than 200m where they are possible natal holts). An Otter SPP which be prepared to accompany the license application will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods. The exact content of the SPP would be updated by the results of pre-works surveys, which will also confirm the current status of the resting site and licensing requirements (noting features can change overtime, particularly after flood events).
Badger	A Protected Species licence for badger will be required to permit the destruction of two badger setts (WB.B.20 and WB.B.21) are discussed within the Cumbernauld assessment Section 8.17. These are excluded from the below. No additional badger licenses to permit destruction of setts are required for the Works. A Protected Species licence for badger will be required to permit the disturbance of 34 badger setts (see Table 8-1). Of these: • four setts will require works be undertaken under ONLY a standard badger license to permit disturbance which may occur within 30m of proposed access tracks and/or tower compounds, the site compound and pulling positions; • 13 setts will require works be undertaken under ONLY the Standard Forestry Operations Licence 2021, which permits disturbance to badger setts caused by felling; and, • 17 setts are within both 30m of proposed access tracks and/or tower compounds, the site compound and pulling positions AND within 20m of felling, and are thus relevant to BOTH license types. Badger SPPs will be produced to accompany the applications for the standard badger license and the Standard Forestry Operations Licence 2021, with content tailored appropriately to each licence type. However, both SPPS will specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and detailed works methods. The exact content of the SPPs would be updated by the results of pre-works surveys.
Water vole	No water vole licensing will be required given that no water vole burrows are expected to be damaged/destroyed/obstructed. However, water vole burrows are located 10m from tower compound WB002. A pre-work survey will be undertaken to confirm any changes to the baseline. To ensure the continued avoidance of harm to water vole and water vole burrows (and thus avoid the need for water vole licensing), a Water Vole SPP will be adhered to, outlining the following precautions: • The ECoW will mark-out a minimum 10m works exclusion zone around water vole burrows (and other water vole evidence if necessary), which will be adhered to during construction; and, • De-vegetation within the footprint of compound WB002 (and outside of the above works exclusion zone) will be undertaken prior to the arrival of any vehicles to make the area unsuitable for water vole and thus avoid individuals straying into the WB002 works area. This will be undertaken by hand-held strimmer (or other lightweight equipment) under supervision of the ECoW.

Feature	Additional mitigation required
	If a 10m works exclusion zone cannot be maintained then a water vole license from NatureScot to allow disturbance of burrows is likely to be required ¹⁰⁹ .
Red squirrel	Red squirrel licensing is likely to be required to permit the loss of and disturbance of red squirrels dreys. A pre-work survey will be undertaken to confirm the presence of any dreys, and monitoring maybe required to confirm the species using the drey, given the presence of grey squirrels within the area as well. This will occur where tree felling (or other Works) occur within the range of red squirrel (taken to be north of Beam Road) In the event that the pre-construction surveys identify a requirement for a Protected Species licence for red squirrel, a Red Squirrel SPP which will accompany the license application will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods. The exact content of the SPP would be updated by the results of pre-works surveys and of ongoing monitoring throughout the Works. Timing in particular is critical given that disturbance to red squirrel dreys is possible within 50m of dreys during the breeding season (February to September inclusive), as opposed to within 5m/one trees distance in the non-breeding season. NatureScot state that there is a presumption against licensing disturbance/damage/destruction of active breeding dreys. As in general vegetation removal will be undertaken outwith this period this is unlikely to be a consideration.
GCN	GCN are assumed to use all suitable terrestrial habitat within the wider Drum WS area, and any works in this area have the potential to harm the species. A Protected Species licence for GCN will be required to permit possible harm to the animals themselves (death/injury/disturbance) and to their resting sites (destruction/damage/obstruction) in this area. No ponds which were confirmed as supporting GCN are expected to be impacted and this license will apply to terrestrial habitat only. The GCN SPP will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods (including hand searching and phased vegetation clearance to exclude the species from certain areas, and phased removal by hand of any refugia). In addition, where practical, GCN underpasses should be installed beneath access tracks to allow the species to cross. The baseline for GCN is unlikely to change in the interim, and the results of the GCN surveys detailed in Volume 3, Appendix 8.4 WB, CB, AA Great Crested Newt Results will be used to inform the content of SPPs.
Curlew	To further reduce an already low risk of collision mortality for curlew in the Drum Moss area BFDs will be installed on the earth wire of the New Build Overhead Line as it crosses Drum Moss. BFDs will be installed between Towers WB038 and WB044 following the specification detailed for Slamannan Plateau SPA above (see Volume 2, Figure 8.36 Location of Bird Flight Divertors on the New Build Overhead Line Earth Wire).

¹⁰⁹ <https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20water%20vole.pdf>

Feature	Additional mitigation required
Barn owl	To minimise the potential that nesting barn owl will be displaced or disturbed by the works no works will be undertaken at the WB Tower site directly north of the barn owl nest box, and within 100m of the nest box, between March and May (inclusive) (see Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential) Annex D for location of barn owl nest box). After May it is considered likely that if the barn owl box is unoccupied it will remain unoccupied for the rest of the breeding season. Restrictions may extend beyond May, to as late as August, if breeding barn owl are present (as confirmed by the ECoW) to avoid the potential of disturbance. If works cannot be restricted as above the barn owl box will be relocated prior to the works. The Barn owl nest box will be relocated to a minimum of 100m from the Works Site. A suitable area could be the field boundary trees directly to the east which would be approximately 150m from the WB Tower sites. The above measures will be confirmed within the Breeding Bird Protection Plan (which will be approved by Falkirk/North Lanarkshire Council and NatureScot prior to construction). In particular, Falkirk Council ecologists, who are monitoring the barn owl box, will be consulted for comment on any proposed relocation.

Residual Effects

- 8.6.63 As mentioned above, likely Significant effects of County level (i.e. Significant in EIA terms) were identified, being loss of ASNW, loss of LEPO and loss and disturbance to bat roosts. No other Significant effects were identified.
- 8.6.64 As set-out above, additional mitigation has been stipulated as required due to best practice, because of legal requirements or to further reduce non-significant effects.
- 8.6.65 As it is not possible to mitigate for the loss of ancient woodland there remains a Significant effect at County level due to the loss of ASNW and LEPO as listed on the AWI remains.
- 8.6.66 Following the implementation of embedded mitigation, the impact of loss of bat roosts on roosting bats and disturbance to bat roosts is considered to have, at most, an effect of Local significance, which is not significant in EIA terms.

Monitoring

- 8.6.67 Monitoring will be required where it is a required as condition of protected species licensing, or where necessary to determine the success of habitat regeneration.

Biodiversity enhancement

- 8.6.68 In compliance with the requirements of policy 3 of NPF4, the Works will include a range of measures which are positive for biodiversity.
- 8.6.69 The Applicant is committed to delivering measurable biodiversity improvements to achieve at least 10% BNG on projects.
- 8.6.70 A separate report is provided which sets out the BNG assessment, see AECOM (2026) Denny to Wishaw Overhead Line BNG Assessment.
- 8.6.71 Further details with respect to biodiversity enhancements are set out in Section 8.16.

Other Measures

- 8.6.72 Japanese knotweed in the vicinity of Cumbernauld Substation (OSGR NS 77544 74168) will be subject to a five-year treatment plan commencing in August-October 2026, as stipulated in the existing BMP¹¹⁰, with the aim of eradicating this patch. For the duration of treatment the Japanese knotweed will be fenced so as to be inaccessible to the public, with signage to alert personnel to its presence.
- 8.6.73 In order to provide features for other species, particularly to compensate for the loss of woodland, the following are committed to:
- Pine marten den boxes;
 - Red squirrel boxes;
 - Bird boxes of 25mm; and
 - Bird boxes of 32mm.
- 8.6.74 The precise locations and specifications of these boxes will be detailed in an Ecological Enhancement plan. This document will be prepared and the enhancements delivered prior to energising of the line. SPEN will work with local landowners to agree suitable locations to install these boxes.
- 8.6.75 Bird Flight Divertors will be installed on the sections of the existing SP Distribution plc overhead lines within the Drum Moss area. The precise locations, specifications and maintenance regime for the BFDs will be detailed in the Ecological Enhancement plan.

8.7 Assessment of Effects, Mitigation and Residual Effects of the Uprated Overhead Lines

Introduction

- 8.7.2 This section concerns assessment of impacts on ecological features, including designated nature conservation sites, habitats and important species in relation to the Uprated Overhead Lines.
- 8.7.3 This section is specifically supported by the following appendices in Volume 3:
- Appendix 8.1 WB, CB, AA Habitat Results;
 - Appendix 8.9 Uprated Lines Bat Results;
 - Appendix 8.10 Uprated Lines Otter and Water Vole Results;
 - Appendix 8.11 Uprated Lines Great Crested Newt Results; and
 - Appendix 8.12 Uprated Lines Badger Results (Confidential).
- 8.7.4 Within this section the Uprated Overhead Lines are hereafter referred to as the “Works”, and the “Site” for the area in which the Works are located, until Section 8.8 of this document. Full details of the Works are provided in Chapter 4 Project Description.
- 8.7.5 The construction phase relating to the Works is projected to last 14 months, scheduled from October 2027 to November 2028.

¹¹⁰ Morgan Sindall (2025). DWNO-MORG-XE-ZZZZOVERHEAD LINE-EP-KE-0001 Invasive Species Management Plan. For SPEN.

- 8.7.6 Full details with respect to the Works are provided in Chapter 4.

Methodology

- 8.7.7 Methods, assumptions and limitations relevant to this assessment are detailed in Sections 8.3.
- 8.7.8 The specific methods in relation to protected and notable species adopted for the Works are detailed within Volume 3, Appendices 8.9 – 8.12. Habitat survey methods follow those as set out in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results (noting this section details the results of the habitat surveys in relation to the Uprating, these are not detailed within Volume 3, Appendix 8.1 WB, CB, AA Habitat Results).
- 8.7.9 The exception to the survey methods, as set out in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results, relates to the survey buffers used in relation to GWDTEs. As the Works are unlikely to cause significant hydrological disturbance, because (with few exceptions beside substations) new towers are not required, a 50m GWDTE study area has generally been applied to which SEPA agreed in their consultation response (see Table 8.3). However, where excavations are locally required beside substations to install foundations for new towers (either permanent or temporary), which are likely to be of significant depth, GWDTEs have been considered to 250m as per SEPA guidance. The new towers comprise DN096A, DN096B, XX019A, XX019B, XX020A, XX021A, XX048A, XR001A and XR001T. Note that the two new towers proposed within the ZD Route (ZD096A and ZD096B) are discussed in Section 8.12.

Site specific assumptions and limitations

- 8.7.10 With respect to vegetation clearance around proposed access tracks and visibility splays, specific details on clearance extents required are unknown. In many instances the Proposed Tracks follow existing accesses, and although these may require a level of upgrade, the vegetation clearance required will be minimal. As set out in the embedded mitigation measures, an ECoW will advise on micro-siting to avoid removal of trees with suitability for roosting bats and will advise on suitable buffer zones to avoid roost lost. The assessment therefore assumes that trees with features suitable for roosting bats will be retained where adjacent to access tracks and within visibility splays will be retained. Disturbance to bats within 10m of the central access lines is considered within the assessment.
- 8.7.11 Survey-specific limitations for protected species are described within the respective protected species appendices.
- 8.7.12 The areas of the visibility splays were not surveyed as their precise extent and location were not known at the time of the field surveys. Consequently, the assessment of these areas is based on a desk-based review and the assumption that vegetation clearance will be minimal. This is not a significant limitation, as the majority of habitats within the potential visibility splays appear to be of poor ecological value and are unlikely to support protected or notable species. Furthermore, the visibility splays are very narrow, and these areas will be inspected and the splays micro-sited upon initiation of the works to ensure any localised ecological features are avoided or appropriately managed.

Baseline Conditions

- 8.7.1 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment. Further details of the Baseline Conditions are provided in Appendices 8.8-8.12.

Statutory and Non-Statutory Designated Sites

- 8.7.2 Summary information on designated nature conservation sites is given in Table 8-20. Their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-20 Summary of Designated Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for regularly supporting nationally important numbers of migratory taiga bean geese.	4.0km south of overhead line, 4.0km south of towers and 4.0km south of proposed access of the ZG Route. 5.2km north of overhead line, 5.4km north of tower XX020 and 5.1km north of proposed access of the XX Route. There is no direct hydrological connectivity between the SPA and the Site.	Designated site importance is derived from designation.	International
Firth of Forth SPA	Designated for assemblages of non-breeding and passage birds.	7.6km northeast of overhead line, 7.4km northeast of tower ZG0013 and 7.1km north of proposed access of the ZG Route. Located approximately 13.9km downstream of the Site, following River Carron.	Designated site importance is derived from designation.	International
First of Forth Ramsar site	Qualifies under criterion 2 for its red-throated diver <i>Gavia stellate</i> and golden plover <i>Pluvialis apricaria</i> and criterion 5 supporting large populations of waterfowl, and criterion 6 for a varied assemblage of non-breeding waders and waterfowl.	7.3km northeast of overhead line, 7.4km northeast of tower ZG001 and 7.0km north of proposed access of the ZG Route. Located approximately 13.9km downstream of the Site, following River Carron.	Designated site importance is derived from designation.	International
Clyde Valley Woods SAC	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	470m south of the existing tower XR BR2, and the proposed access track and bellmouth at this location	Designated site importance is derived from designation.	International
Woodend Loch SSSI	Annex I base rich loch with well-developed littoral(shore) vegetation	Intersects tower compound XX001 and pulling area and is also adjacent to the proposed access track for the XX Route.	Designated site importance is derived from designation.	National

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Bishop Loch SSSI	Annex I base rich loch	0.8km west of the overhead line, 1km west of tower compound XX001B and 0.7km west of proposed access of the XX Route. No direct hydrological connection between the SSSI and the Site.	Designated site importance is derived from designation.	National
Perchy Pond LNR	Ponds, wetlands, wildflower meadows, woodland	Site intersects towers of XR043 and XR042, proposed access, and overhead line of the XR Route.	Local authority designated site.	County
Gartcosh Nature Reserve LNR	Ponds, wetlands, woodland, restored habitats	41m north of overhead line, 91m north of tower XX005, 75m north of proposed access of the XX Route. No direct hydrological connection.	Local authority designated site.	County
Commonhead Moss LNR	Raised bog, wet heath, bog pools	0.6km southwest of overhead line, 0.7km southwest of tower XX001 and 0.4km southeast of proposed access of the XX Route. No direct hydrological connection.	Local authority designated site.	County
Bishop Loch LNR	Reedbeds, marsh, swamp, grassland, woodland	0.6km west of overhead line, 0.8km west tower XX001 and 0.5km west of proposed access of the XX Route. No direct hydrological connection.	Local authority designated site.	County
Clyde Valley Woodlands LNR	Ancient woodlands in the Clyde Valley	2km southeast of the overhead line and 2km southeast of proposed access of the XR Route.	Local authority designated site.	County
Roughcraig Glen and Blackwalk Plantation SINC	Broadleaved woodland and watercourse.	Intersects with the overhead line, tower XX024 and proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Dalmacoulter Quarry SINC	Ancient semi-natural woodland	Intersects with the overhead line, towers XX023- XX024 and proposed access of the XX Route. Downstream of the Site of the XX Route. Tower XX024 is 20m from the source of a small burn on the northern border of Airdrie that runs through the LNCS.	Local authority designated site.	County
Laverock Knowe Quarry SINC	Quarry habitat adjacent to wetland, peatland and grassland.	Intersects with overhead line, tower XX021 and proposed access of the XX Route.	Local authority designated site.	County
Torwood Mire WS	Raised bog and woodland habitats	Intersects overhead line, tower ZG001 and proposed access of the ZG Route. Downstream of the Site of the ZG Route.	Local authority designated site.	County
Airdrie Hill Reservoir SINC	Wetland, marsh, grassland mosaic habitats	Site intersects overhead line and proposed access of the XX Route; 27m north of tower XX029.	Local authority designated site.	County
Burnhead Quarry SINC	Pioneer grasslands, scrub, quarry microhabitats	Site intersects overhead line, tower XX030 and proposed access of the XX Route.	Local authority designated site.	County
Cameron Glen (East) SINC	Mixed woodland, wet woodland, stream habitats	Site intersects overhead line, tower XX035 and proposed access of the XX Route.	Local authority designated site.	County
Clattering Burn Glen (West): Darnhead Farm-Gartness SINC	Scrub and scattered trees along a watercourse.	Site intersects overhead line, tower XX039 and proposed access of the XX Route.	Local authority designated site.	County
Gartcloss Marsh SINC	Raised bog, lowland mire system	Site intersects overhead line, tower XX003 and proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
North Calder Water: Moffat Mills-Dunrobin SINC	River corridor, riparian woodland, wet meadows	Site intersects overhead line, tower XX036 and proposed access of the XX Route.	Local authority designated site.	County
North Calder Water: Moffat Mills-Plains SINC	River corridor, riparian woodland, wet meadows	Site intersects overhead line, tower XX032 and proposed access of the XX Route.	Local authority designated site.	County
Shotts Burn & Chapelhall Meadow SINC	Scrub and woodland along a watercourse and wetland.	Site intersects overhead line and proposed access of the XX Route; 113m north of tower XX041.	Local authority designated site.	County
Auchter Water SINC	Small watercourse, no further info	Site intersects towers of XR034 and XR033 and overhead line of the XR Route; 4.0m from proposed access.	Local authority designated site.	County
Brownhill Bog SINC	Bog with surrounding woodland and wetland.	Site intersects the area of proposed double scaffolding and the overhead line of the XR Route; 8m from proposed access track, 75m east of XR007 tower compound and 0.8km east of XR site compound (between towers XR003 and XR004).	Local authority designated site.	County
Greenhead Moss SINC	Restored bog and wetland habitats	Site intersects the towers of XR041, proposed access, and overhead line of the XR Route.	Local authority designated site.	County
Kingshill Wetlands & Plantations SINC	Meadows, woodland, ponds, diverse invertebrates	Site intersects the towers of XR027 and XR028 and overhead line of the XR Route; 6.5m from proposed access.	Local authority designated site.	County
Morningside Railway (West) SINC	Route near wildlife corridor, scrub, grassland and deciduous woodland	Site intersects the tower of XR032 and overhead line of the XR Route; 19.6m west of proposed access.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
South Calder Water: Bonkle-Newmill SINC	Riparian woodland.	Site intersects the tower of XR023 and overhead line of the XR Route; 60.1m from proposed access. Downstream of the Site.	Local authority designated site.	County
Morningside Railway (East) SINC	Route near wildlife corridor, scrub, grassland and deciduous woodland	7.7m east of the tower of XR031, 52.9m east of proposed access, 23.8m east of overhead line of the XR Route.	Local authority designated site.	County
South Torwood WS	Wetland habitat	9m west of overhead line, 72m west of tower ZG004 and 63m west of proposed access of the ZG Route.	Local authority designated site.	County
Calkers Wood SINC	Ancient or semi-natural woodland, oak, ash, birch	38.8m west of towers of XR028 and XR029, 93.5m west of proposed access, site intersects overhead line of the XR Route.	Local authority designated site.	County
Fairy Glen (Shotts Burn Glen) SINC	Mixed riparian woodland, wetland, upland grassland	0.1km west of overhead line, 0.2km west of tower XX042 and 0.1km west of proposed access of the XX Route.	Local authority designated site.	County
Hartwood Plantation (North) SINC	Conifer-dominated plantation, mixed broadleaf areas	0.1km east of overhead line, 0.2km east of tower of XR018-XR021 and 0.1km east of proposed access of the XR Route.	Local authority designated site.	County
Hartwood Plantation (South) SINC	Birch and Scots pine plantation woodland	0.2km east of overhead line, 0.3km east of tower XR021 and 0.2km east of proposed access of the XR Route.	Local authority designated site.	County
North Foulburn Bog & Strip SINC	Bog and flush wetland habitats	0.2km north of overhead line, 0.3km north of tower XR017-XR018 and 0.2km north of proposed access of the XR Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Hot Water Pond SINC	Small standing waterbody, aquatic/amphibian life	0.2km north of overhead line, 0.2km north of tower XR039 and 0.2km north of proposed access of the XR Route.	Local authority designated site.	County
Brucefield Strip SINC	Semi-ancient woodland, heath, wet meadow mosaic	0.2km west of overhead line, 0.2km west of tower XR024 and 0.0km west of proposed access of the XR Route.	Local authority designated site.	County
Newmill Wood SINC	Woodland.	0.2km east of overhead line, 0.2km east of tower XR022 and 0.2km east of proposed access of the XR Route.	Local authority designated site.	County
Gartverrie Woodland SINC	Mixed woodland.	0.2km south of overhead line, 0.2km south of tower and 0.1km south of proposed access of the XX Route.	Local authority designated site.	County
Knowehead Marsh SINC	Marsh, grassland, wetland features	0.2km east of overhead line, 0.2km east of tower XX038 and 0.2km east of proposed access of the XX Route.	Local authority designated site.	County
Drumshangie Moss: Dykehead (South) SINC	Annex I lowland raised bog and moorland	0.3km north of overhead line, 0.3km north of tower XX025 and 0.3km north of proposed access of the XX Route.	Local authority designated site.	County
Clattering Burn (East) SINC	SINC. Riparian corridor, wet woodland, aquatic habitat	0.3km east of overhead line, 0.4km east of tower XX039 and 0.3km east of proposed access of the XX Route.	Local authority designated site.	County
Gartsherrie Wood SINC	Broadleaved woodland.	0.3km south of overhead line, 0.3km south of tower XX009 and 0.2km south of proposed access of the XX Route.	Local authority designated site.	County
Gartverrie Wetland SINC	Wetland/pond, wetland corridor/landform interest	0.3km south of overhead line, 0.3km south of tower XX011 and 0.2km south of proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Downstream of the Site, 0.4km from proposed access between towers XX011 and XX012.		
South Landridge Wetland SINC	Wetland.	0.3km north of overhead line, 0.4km north of tower XR007 and 0.3km north of proposed access of the XR Route.	Local authority designated site.	County
Cathburn Moss SINC	Active and degraded raised bog, wet heath, bog pools	0.3km west of overhead line, 0.3km west of tower XR029 and 0.3km west of proposed access of the XR Route.	Local authority designated site.	County
Wallacebank Wood SWT Reserve	Ancient semi-natural woodlands	0.4km northeast of proposed access of the ZG Route.	Nature conservation organisation designated site.	County
South Calder Water: Allanton Mill-Mill Road SINC	Riverine habitat, wet woodland, grassland	0.4km south of overhead line, 0.5km south of tower XR022 and 0.4km south of proposed access of the XR Route.	Local authority designated site.	County
Cambusnethan Woods SINC	Mature broadleaf woodland, streams, bluebells	0.4km southwest of overhead line, 0.4km southwest of towers west and 0.3km south of proposed access of the XR Route.	Local authority designated site.	County
Eastmuir Plantation SINC	Woodland supporting diverse plant and bird species	0.4km north of overhead line, 0.4km north of tower XR040 and 0.1 km north of proposed access of the XR Route.	Local authority designated site.	County
Dales Wood WS	Woodland	0.5km northwest of overhead line, 0.6km northwest of tower ZG001 and 0.1km northwest of proposed access of the ZG Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Forth and Clyde Canal WS	No information available	0.5km south of overhead line, 0.6km south of towers ZG013 and 0.5km south of proposed access of the ZG Route.	Local authority designated site.	County
Lochend Loch SINC	Urban loch, fringe woodland, reed/loch margin habitat	0.5km south of overhead line, 0.6km south of tower XX001 and 0.5km south of proposed access of the XX Route.	Local authority designated site.	County
Lochwood SINC	No information available	0.5km west of overhead line, 0.6km west of tower XX001 and 0.2km west of proposed access of the XX Route.	Local authority designated site.	County
Easter Moffat Peatland & Grassland SINC	Lowland raised bog remnants, wet grassland	0.5km east of overhead line, 0.5km east of tower XX035 and 0.2km east of proposed access of the XX Route.	Local authority designated site.	County
Shank Burn East: Brackenhurst Plantation SINC	Mixed woodland and riparian habitat	0.6km north of overhead line, 0.6km north of tower XX021 and 0.5km north of proposed access of the XX Route.	Local authority designated site.	County
Gartcosh Road Mire SINC	Mire, fen, ponds, wet woodland	0.6km southwest of overhead line, 0.7km southwest of tower XX001 and 0.5km southwest of proposed access of the XX Route.	Local authority designated site.	County
Springbank Quarry SINC	No information available	0.6km east of overhead line, 0.7km east of tower XR003 and 0.5km east of proposed access of the XX Route.	Local authority designated site.	County
Easter Moffat Golf Course (West) SINC	Parkland grassland, woodland, mature trees	0.6km east of the overhead line, 0.8km east of tower XX033 and 0.5km east of proposed access of the XX Route.	Local authority designated site.	County
Legbrannock Burn East: Manse View SINC	No information available	0.6km south of overhead line, 0.7km south of tower XR001 and 0.5km south of proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		0.4km south of overhead line, 0.5km south of towers and 0.3km south of proposed access of the XR Route.		
		Downstream of the Site, 0.4km from overhead line between towers XR003 and XR004.		
Roughcastle WS	Annex I blanket bog and wet bog	0.7km south of overhead line, 0.7km south of tower ZG013 and 0.6km south of proposed access of the ZG Route.	Local authority designated site.	County
Drumshangie Moss: Dykehead (North) SINC	Annex I lowland raised bog and moorland	0.7m north of overhead line, 0.8km north of tower XX022 and 0.4km north of proposed access of the XX Route.	Local authority designated site.	County
Shank Burn East: Glenmill Rd – Brakenhirst Rd SINC	No information available.	0.7km north of overhead line, 0.7 north of tower XX019 and 0.6km north of proposed access of the XX Route.	Local authority designated site.	County
Legbrannock Burn East: Burnside Road SINC	Streamside woodland and grassland habitat.	0.7km south of overhead line, 0.7km south of tower XR001 and 0.8km south of proposed access of the XR Route.	Local authority designated site.	County
		Downstream of the Site.		
Gartverrie SINC	Disused quarry habitat and deciduous woodland	0.7km north of overhead line, 0.8km north of tower XX012 and 0.7km north of proposed access of proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Shott's Burn: Monkland Bridge – Sauchenbog Bridge SINC	No information available	0.7km west of overhead line, 0.8km west of tower XX037 and 0.7km west of proposed access of the XX Route.	Local authority designated site.	County
Garrion Gill & Horsely Brae SINC	Semi-natural gorge woodland, ancient flora	0.7km south of overhead line, 0.7km south of towers XR041-XR044 and 0.5km south of proposed access of the XR Route.	Local authority designated site.	County
Murdostoun Estate: Easterhouse Wood SINC	Mature mixed woodland, broadleaf species	0.7km west of overhead line, 0.7km west of tower XR023 and 0.5km south of proposed access of the XR Route.	Local authority designated site.	County
Drumshangie Moss North SINC	Annex I lowland raised bog and moorland	0.8km northeast of proposed access of the XX Route.	Local authority designated site.	County
Torwood Glen WS	Wooded river corridor habitat	0.8km northeast of overhead line, 0.8km northeast of tower ZG001 and 0.5km northeast proposed access of the ZG Route.	Local authority designated site.	County
Bothlin Burn SINC	Woodland, riparian and wetland corridor habitats.	0.8km northwest of overhead line, 1km northwest of tower XX001 and 0.7km northwest of proposed access of the XX Route.	Local authority designated site.	County
Drumpellier Moss & Birchwood SINC	Raised bog remnants and wet birch woodland	0.8km south of overhead line, 0.8km south of towers XX001 and 0.7km south of proposed access of the XX Route.	Local authority designated site.	County
Drumpellier Woods LNCS	Woodland, heath, grassland and loch margin habitats.	0.9km south, 0.9km south of tower XX001 and 0.9km south of proposed access of the XX Route.	Local authority designated site.	County
Garnqueen Loch SINC	Loch with reedbeds, wet woodland and planted woodland	0.8km north of overhead line, 0.9km north of tower XX007 and 0.9km north of proposed access of the XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Witch Wood SINC	Semi-natural deciduous woodland.	0.8km south of overhead line, 0.8km south of tower XX007 and 0.4km south of proposed access of the XX Route.	Local authority designated site.	County
South Calder Water: Murdostoun Estate SINC	No information available	0.9km west of overhead line, 1.0km west of tower XR025 and 0.7km west of proposed access of the XR Route.	Local authority designated site.	County
Hill Glen SINC	No information available	0.9km south of overhead line, 0.9km south of tower XR014 and 0.6km south of proposed access of the XR Route.	Local authority designated site.	County
		Downstream of the Site, 0.6km from the proposed access connected to tower XR015.		
Murdostoun: Muiredge Wood SINC	No information available	0.9km west of overhead line, 0.9km west of tower XR023 and 0.6km south of proposed access of the XR Route.	Local authority designated site.	County
Murdostoun Estate: Bolt Strip SINC	No information available	0.8km west of overhead line, 0.9km west of tower XR023 and 0.7km west of proposed access of the XR Route.	Local authority designated site.	County
Windyedge Wetlands SINC	No information available	0.8km south of overhead line, 0.9km south of tower XR007 and 0.8km south of proposed access of the XR Route.	Local authority designated site.	County
Omoa Wetlands SINC	No information available	0.8km south of overhead line, 0.8km south of towers XR004-XR006, 0.4km south of proposed access and 0.9km south of site compounds of the XR Route.	Local authority designated site.	County
Glenboig Wood Inchneuk Moss (East) SINC	Wetland, bog and woodland habitats	1km north of overhead line, 1km north of tower XX007 and 1km north of proposed access of XX Route.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
North Calder Water: Calderbank-Monkland Bridge SINC	River corridor with riparian woodland and wetlands	1km west of overhead line, 1km west of tower XX042 and 0.9km west of proposed access of the XX Route.	Local authority designated site.	County
Quarter Bing WS	Woodland habitat of local conservation value	1km west of overhead line, 1km west of the tower of ZG001 and 1km west of proposed access of the ZG Route.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.7.3 Within 1km of the Site there are 78 parcels of listed on the AWI, of which 19 are ASNW, 54 are LEPO, and five are ‘Roy’ woodland identified from the Roy military map (but not 1st Edition OS mapping).
- 8.7.4 Only eight of these, all LEPO (and identified as of 1860 origin in the AWI, i.e. on 1st Edition OS mapping but apparently not the 1750 Roy map), would be crossed by the overhead line (although using existing cut corridors since this part of the Development involves uprating only). These eight areas of LEPO are as follows (from north to south):
- ZG Route:
 - Between towers ZG002-ZG003 – Wood ID 32188, Tor Wood. Field survey found those parts within 50m of the Development to comprise commercial non-native conifer plantation, poor mixed plantation with Sitka spruce *Picea sitchensis* dominant, and small amounts of broadleaved plantation primarily of birch with acid grasses and occasional bilberry *Vaccinium myrtillus* / heather *Calluna vulgaris*;
 - XX Route:
 - Between towers XX023-XX024 – Wood ID 30477, associated with Blackwalk Plantation. Field survey found those parts with 50m of the Development to be mainly mixed plantation associated with a golf course (of variable composition with much beech *Fagus sylvatica* and Scots pine *Pinus sylvestris* and often sparse flora), and a very small amount of poor quality broadleaved semi-natural woodland (including willow *Salix* sp., alder *Alnus glutinosa*, hazel *Corylus avellana* and hawthorn *Crataegus monogyna* with much bare leaf litter and scattered nettle *Urtica dioica* / ground elder *Aegopodium podagraria*);

- Between towers XX035-XX036 – Wood ID 30491, associated with Cameron Glen (East). Field survey found those parts with 50m of the Development to be scrubby broadleaved semi-natural woodland of goat willow *Salix caprea*, hawthorn and birch, with abundant nettle and creeping buttercup *Ranunculus repens*, and rare basic indicators (herb-robert *Geranium robertianum* and wood avens *Geum urbanum*). Currently over-sailed by the existing overhead line;
 - XR Route:
 - Between towers XR016-XR017 – Wood ID 31786. Field survey found those parts within 50m of the Development to be mainly broadleaved and mixed plantation of uniform birch with Scots pine frequent in the latter (poor beneath, mainly leaf litter and broad buckler-fern *Dryopteris dilatata*), and a cut strip in the Limit of Deviation for the existing overhead line of broadleaved semi-natural woodland comprising very dense regenerating birch;
 - Between towers XR018-XR021 – Wood ID 31785, associated with Hartwood Plantation (North and South). However, field survey found that the only existing woodland within this AWI parcel that is also within 50m of the Development is a small amount of broadleaved semi-natural woodland and broadleaved plantation just north of tower XR020. The semi-natural patch is Wet Woodland dominated by birch with some standing water and predominantly wetland flora of tufted hair-grass *Deschampsia cespitosa*, soft-rush *Juncus effusus* and *Sphagnum fallax* (NVC type W4). The plantation patch is dominated by beech on an acid grassland type flora; and
 - Between towers XR022-XR023 – Wood ID 31791, associated with South Calder Water: Bonkle-Newmill LNCS. Field survey found those parts with 50m of the Development to be mixed plantation of mainly beech, Scots pine and sycamore (with an unremarkable flora of neutral grasses, creeping buttercup and nettle) and broadleaved semi-natural woodland of variable composition but including much beech and birch (and including limited wet flora such as soft-rush and angelica *Angelica sylvestris*, and with an existing cut area of shorter regenerating trees in the existing Limit of Deviation).
- 8.7.5 The above ancient woodland is all classified on the AWI as LEPO rather than ASNW. It was found during field survey to mainly comprise plantation of limited note and small amounts of lower quality semi-natural woodland (as described above), neither exhibiting notable flora or clear ancient characteristics. Therefore, in this case Regional or higher importance is considered disproportionate, and County importance most appropriate.
- 8.7.6 No ancient or veteran trees were identified by the ATI and as such these are considered absent and are valued at less than Site importance.

Habitat survey results

- 8.7.7 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results and Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species.
- 8.7.8 A summary of the areas of Phase 1 habitats relevant to the Works is provided in 20, along with their status as Annex I, SBL Priority habitats and valuation of importance. Also present across the survey area were scattered trees and scrub. These are common and widespread, but do enhance the habitat resource within the Site. Thus they have been assigned Site level importance and are not specifically detailed within Table 8.21.
- 8.7.9 Linear habitats are set out in Table 8.21 Further details with respect to the habitats recorded is provided in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results.

Table 8-16 Summary of habitats within the survey area and valuation of importance (see Table 8.22 regarding watercourses)

Phase 1 Habitat	Notable habitat (SBL or Annex I)	Potential GWDTE	Total area within the survey area (ha)	Rationale for Valuation	Importance level
A1.1.1 – Broadleaved woodland – semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	No	7.31	<u>SBL Priority habitat.</u>	County
A1.1.1 – Broadleaved woodland – semi-natural	<u>Wet Woodland</u>	Yes	4.16	<u>SBL Priority habitat.</u>	County
A1.1.1 - Broadleaved woodland - semi-natural	No	Rarely	16.27	Enhances the local habitat resource.	Local
A1.1.2 - Broadleaved woodland - plantation	No	No	19.34	Enhances the local habitat resource.	Local
A1.2.2 - Coniferous woodland - plantation	No	No	3.56	Species-poor habitat with limited ecological value.	Site
A1.3.2 - Mixed woodland - plantation	No	No	10.94	Enhances the local habitat resource.	Local

Phase 1 Habitat	Notable habitat (SBL or Annex I)	Potential GWDTE	Total area within the survey area (ha)	Rationale for Valuation	Importance level
A2.1 - Scrub - dense/continuous	<u>Wet Woodland</u>	Yes	1.11	SBL Priority habitat.	County
A2.1 - Scrub - dense/continuous	No	No	15.97	Species-poor habitat with limited ecological value.	Site
B1.2 - Acid grassland - semi-improved	No	No	2.10	Locally common habitat with limited ecological value.	Site
B2.2 - Neutral grassland - semi-improved	No	Partially (MG9/ MG10 forms only)	130.91	Common and widespread habitat.	Site
B3.2 Calcareous grassland – semi-improved	No	No	0.27	The only such recorded grassland occurs at one location in very small quantity, a very poor example that is disturbed and only identified as calcareous through presence of one common species (birds-foot trefoil), with otherwise common species and likely to succeed to coarse neutral grassland/scrub.	Site
B4 / B6 Improved grassland / Poor semi-improved	No	No	175.18	Common, widespread and heavily modified habitats with limited ecological value.	Site
B5 Marshy grassland	<u>Purple Moor-grass and Rush Pastures</u>	Yes	0.79	Most often species-poor soft-rush that does <i>not</i> constitute priority habitat, but more locally more diverse soft-rush that <i>does</i> constitute <u>Purple Moor-grass and Rush Pastures</u> . Also locally meadowsweet that constitutes <u>Lowland Fen</u> , but ruderal and poor. All these forms are widespread in the region but the more diverse forms are local in	Local
	<u>Lowland Fens</u> (M27 only)	Yes	1.62		
	None	Yes	28.42		

Phase 1 Habitat	Notable habitat (SBL or Annex I)	Potential GWDTE	Total area within the survey area (ha)	Rationale for Valuation	Importance level
				the landscape, and appreciably enrich local biodiversity.	
C1.1 - Bracken - continuous	None	No	0.59	Common and widespread habitat.	Site
C3.1 - Other tall herb and fern - ruderal	None	No	8.81	Common and widespread habitat.	Site
D1.1 / D2 Dry acid / wet heath	<u>Lowland Heathland (H4030 Dry heaths; lowland, H4010 Wet heaths; lowland)</u>	Partially (wet heath only)	1.81	Patchy areas of low-quality Annex I habitat. They species-poor, isolated, small and generally in unfavourable condition with scrub/tree encroachment and/or physical disturbance.	Regional
E1.7 Wet modified bog	<u>Degraded Lowland Raised Bog (H7120 Degraded Raised bog)</u>	No	5.89	Modified bog at the northern end of ZG route is considered a remnant raised bog fragment, but heavily degraded, although still with some <i>Sphagnum medium</i> . Elsewhere, it is also. Key factors listed by NatureScot in assessing level of importance of bog do not apply (including that Valued as Regional as an Annex 1 habitat, although significantly degraded and considered fragments of blanket bog and not form part of bog expanses of 25ha or support priority bog species.	Regional
E1.7 Wet modified bog	<u>Degraded Blanket Bog (H7130 Degraded Blanket bog)</u>	No	1.09		
E2.1 / E3 Acid/neutral flush / fen	<u>Lowland Fens</u>	Yes	0.53	Occurrences of this vegetation (all allied to NVC type M6) comprise a few extremely small patches, and one larger extent, all but	County

Phase 1 Habitat	Notable habitat (SBL or Annex I)	Potential GWDTE	Total area within the survey area (ha)	Rationale for Valuation	Importance level
				one small patch degraded, often significantly so. SBL Priority habitat.	
F1 Swamp	None; <u>Lowland Fens</u> ; and, very locally, <u>Lowland Raised Bog (H7120)</u> .	No	1.74	SBL Priority habitat.	County
G1 Standing water	No	No	1.62	Waterbodies which enhance the local habitat resource but which are not known to contain notable species, or are stocked with non-native fish.	Local
G1.1 - Standing water - eutrophic	<u>Eutrophic Standing Waters</u>	No	0.69	SBL Priority habitat. Woodend Loch.	County
J1.1 - Cultivated/disturbed land - arable	None	No	30.38	Heavily modified habitat with limited ecological value.	Site
J1.2 - Cultivated/disturbed land - amenity grassland	None	No	3.24	Heavily modified habitat with limited ecological value.	Site
J1.3 - Cultivated/disturbed land - ephemeral/short perennial	None	No	1.27	Heavily modified habitat with limited ecological value.	Site
J1.4 - Introduced shrub	None	No	0.40	Heavily modified habitat with limited ecological value.	Less than Site
J3.6 - Buildings	None	No	15.07	Heavily modified habitat with limited ecological value.	Less than Site

Phase 1 Habitat	Notable habitat (SBL or Annex I)	Potential GWDTE	Total area within the survey area (ha)	Rationale for Valuation	Importance level
J4 - Bare ground	None	No	14.75	Heavily modified habitat with limited ecological value.	Less than Site
Hardstanding	None	No	34.42	Heavily modified habitat with limited ecological value.	Less than Site

Table 8-17 Summary of habitats within the survey area and valuation of importance (linear habitats)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total length within the survey area (km)	Rationale for Valuation	Importance level
I1.1.2 Basic inland cliff	<i>H8120 Calcareous and calcshist scree of the montane to alpine levels (Thlaspietea rotundifolii)</i>	0.02	Small vertical basic cliff with brittle bladder-fern, likely to be very local in the surrounding area, but given small size not of county importance.	Local
Lines of broadleaved or mixed trees	No	2.81	Enhances the local habitat resource.	Local
J2.1.1 - Intact hedge - native species-rich	<u>Hedges</u>	0.32	Enhances the local habitat resource. Where SBL Priority habitat, this is due to the number of species present. However, these <u>Hedgerows</u> are not appreciably different in value to non-SBL hedges and still overwhelmingly dominated by hawthorn.	Local
J2.1.2 - Intact hedge - species-poor	No	3.68		
J2.2.1 - Defunct hedge - native species-rich	No	0.13		
J2.2.2 - Defunct hedge - species-poor	No	8.33		
J2.3.2 - Hedge with trees - species-poor	No	1.85		
G2 – Running Water	<u>Rivers;</u> No	5.62	See Section 8.7.10 below for watercourses.	

Watercourses

8.7.10 Multiple watercourses are located within 1km of the Site. These are described in Table 8.23 and in further detail below under the relevant route sections.

8.7.11 Across all routes, multiple unnamed small watercourses and drainage ditches intersect the Site.

- 8.7.12 Four ditches with marginal vegetation were recorded, which are generally of little note, often with soft-rush dominant or one case heavily-shaded with dumped rubbish. Similar and better marginal vegetation occurs at or around several of the scattered standing waters described above. Several other ditches that are very small, shallow, turbid and/or with no notable vegetation are also scattered through the area, and four dry ditches without aquatic species.

Table 8-18 Watercourses identified within 1km of the Site and their SEPA Status.

Watercourse name	SEPA Overall Status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
Tor Burn (tributary of the Pow Burn and part of the Forth Estuary Coastal catchment)	Moderate ecological potential	Moderate	Located 1km north of ZG001 tower compound.	Possible SBL priority habitat	County
River Carron (River Carron catchment)	Poor	Moderate	Crosses the Site immediately north of the ZG011 tower compound.	Possible SBL priority habitat	County
Bonny Water (tributary of River Carron)	Moderate ecological potential	Moderate	Crosses the Site between the ZG012 and ZG013 tower compounds.	Possible SBL priority habitat	County
Little Denny Burn (tributary of River Carron)	Not identified by SEPA		Approximately 0.76km upstream from ZG011 tower compound.	Possible SBL priority habitat	County
Rowan Tree Burn (tributary of Bonny Water)			Approximately 0.3km upstream from the Site, between ZG012 and ZG013.	Possible SBL priority habitat	County
Chapel Burn (tributary of River Carron)			Crosses the Site via a culvert under the proposed access track located here NS 83643 83382.	Not SBL priority habitat	Local

Watercourse name	SEPA Overall Status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
Forth and Clyde Canal	Moderate ecological potential	High	Located 680m south of ZG013 compound.	Not SBL priority habitat	Local
Bothlin Burn (tributary of the Luggie Water)	Not identified by SEPA but Luggie Water has been classified as: Moderate ecological potential	Moderate	Its unnamed tributaries cross the Site south of the XX04 tower compound.	Not SBL priority habitat	Local
Gartverie Burn (tributary of the Monkland Canal)	Not identified by SEPA but Monkland Canal has been classified as: Good ecological potential	High	Crosses the Site between tower compounds XX011 and XX012	Not SBL priority habitat	Local
North Burn (tributary of Gartverie Burn)	Not identified by SEPA		Located 0.84km south of a scaffold between XX011 and XX012 following Gartverie Burn.	Not SBL priority habitat	Local
Gartsherrie Burn (tributary of Gartverie Burn)	Not identified by SEPA		Crosses the Site adjacent to XX024 tower compound	Not SBL priority habitat	Local
North Calder Water (River Clyde catchment)	Poor	Moderate	Cross the Site between XX032 and XX036.	Not SBL priority habitat	Local

Watercourse name	SEPA Overall Status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
Shotts Burn (tributary of North Calder Water)	Not identified by SEPA		Crosses the Site between XX041 and XX042.	Not SBL priority habitat	Local
Clattering Burn (tributary of Shotts Burn)	Not identified by SEPA		Located 210m east of the Site, upstream following Shotts Burn.	Not SBL priority habitat	Local
XR Route					
Leabrannock Burn (tributary of the North Calder Water)	Poor ecological potential	Poor	Crosses the Site between XR003 and XR004 tower compounds.	Not SBL priority habitat	Local
South Calder Water (River Clyde catchment)	Poor	Moderate	Crosses the Site between XR022 and XR023 tower compounds.	Not SBL priority habitat	Local
Tillan Burn (tributary of South Calder Water)	Poor	Moderate	Crosses the Site between XR007 and XR008 tower compounds.	Not SBL priority habitat	Local
Auchter Water (tributary of South Calder Water)	Poor	Good	Intersects the Site twice: once between XR030 and XR031, and again between XR034 and XR035	Not SBL priority habitat	Local
Garrion Burn (tributary of River Clyde)	Poor	Moderate	Located 0.6km south of XR-B32 bellmouth.	Possible SBL priority habitat	County

Watercourse name	SEPA Overall Status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
Gawthraapple Burn (tributary of River Clyde)	Not identified by SEPA		Located 0.4km southwest of XR050 tower compound.	Possible SBL priority habitat	County

Species

- 8.7.13 Table 8-19 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment. More detailed information is available in Table 8-20.
- 8.7.14 Table 8-19 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment. More detailed information is available in Table 8-20.

Table 8-19 Summary of protected and notable species results and valuation

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	Desk study The desk study did not return any notable plant records within 1km of the Site. Field survey No notable plants were found during the field surveys for the upgrading area.	The Site is dominated by widespread and common habitats, or by degraded semi-natural habitats which are mainly on the edge of urban areas. There are more notable habitats which may be of greater botanical interest, but these are localised. The small number of desk study and field survey records are consistent with this, and Site level importance is considered appropriate.	Site
Bats	The below is a summary – please see Volume 3, Appendix 8.9 Upgraded Lines Bat Results for further detail. Desk study The NBN Atlas returned 561 records of bats within 1km of the Site. Of these 316 were common pipistrelle, 178 were soprano pipistrelle, 19 were Daubenton's bat, four were unidentified Myotis sp., three brown long-eared bat, two were Leisler's bat, two were Natterer's bat, and 37 were unidentified bats. TWIC data search also returned 23 records of bats, of which there are ten records of soprano pipistrelle, five records of common pipistrelle, four records of an unidentified pipistrelle bat, one records of Daubenton's bat and three of unidentified bats, all located south, east and north of the ZG Route.	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. The Zol comprise a mosaic of habitats providing varying degrees of suitability for foraging, commuting and roosting bats. High suitability habitats are restricted to certain locations and are not ubiquitous throughout the Site. Desk study has highlighted the potential presence of seven species and given the location of the Site the presence of further species is considered unlikely. Most of these seven species are common and widespread through the Scottish lowlands, although the	County

Feature	Summary of baseline	Rationale for Valuation	Importance
	Field survey Habitat suitability across the Site is varied, ranging from High to Low. High suitability areas are generally associated with broadleaved woodlands and riparian corridors adjacent to large rivers such as the woodland around River Carron. The majority of the Site comprises Low suitability areas primarily characterized by extensive agricultural land with minimal to no habitat connectivity. Field surveys recorded the following: 41 PRF-M trees; 44 PRF-I trees; and 5 FAR trees. PRF trees were mostly concentrated along watercourses, waterbodies, field edges and road verges. The majority of PRF-M trees are present clustered at five main locations - M876 / Stirling Road, River Carron area, Airdrie Golf Club, Wester Moffat Hospital and Allanton. Outside of these areas there are only few scattered PRF-M or PRF-I trees. There were also two exposed cliff features (XX.BF.01 and XX.BF.02) located within the XX Route. Both of these were classified as having Moderate suitability for roosting bats, including potential for hibernacula.	Nyctalus species present show a more restricted distribution. Common and soprano pipistrelles, Daubenton's bat, brown long-eared bat and Natterer's bat are all considered widespread species throughout the Central Belt of Scotland. While they have differing habitat requirements, the suitable habitat on Site could support any of these species. The potential roost resource includes PRF- M trees which may be suitable for more important roosts, such as maternity roosts, and the two cliff features present in particular represent traditional hibernation-type roosts. These features could also be used for mating behaviour typical of Myotis species. The PRF-M trees are thinly spread across the Zol, represented by 41 features across 35km and are concentrated in only six distinct locations, although multiple other minor PRF-I roost features exist. Again, whilst species have differing roost requirements, the common species	

Feature	Summary of baseline	Rationale for Valuation	Importance
	Additionally, AECOM carried out bat activity surveys across the New Build Overhead Line corridor (situated between the ZG and XX Routes) in 2022. While the surveyed area does not coincide precisely with the Site, the data remains representative of the general habitats found within the Site and the general bat assemblage likely to be present in the area. These surveys confirmed the presence of soprano pipistrelle, common pipistrelle, Daubenton's bat, Leisler's bat, noctule, and brown long-eared bats. The bat assemblage is unlikely to have changed since 2022 given no major habitat differences were recorded.	likely to be present based on desk study results could all use the PRF identified. Noctule and Leisler's bat are less widespread but not considered rare. They too will utilise the same higher suitability habitats on Site but generally favour particular tree features (e.g. rot holes or woodpecker holes) and so are likely to be limited on Site by roost resource availability. The Core Sustenance Zone (CSZ)¹¹¹ of all bat species likely to be present range from between 2 to 4 km, indicating that species which may roost on Site will also utilise suitable connected habitat well beyond the Site, of which there is much available. Given the above, whilst the Site could support an assemblage of multiple common and widespread species, plus possible uncommon <i>Nyctalus</i> species, these are likely not distributed evenly across the Site but instead are localised in six areas. The limited habitat suitability and limited distribution of	

¹¹¹ Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)*. Bat Conservation Trust, London. <https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition>

Feature	Summary of baseline	Rationale for Valuation	Importance
		roost resource indicates that the bat assemblage of the Site would not be important beyond a Local scale. However, the possible roosts present include potentially important types such as maternity / hibernacula which, depending on the species and number of individuals present, could be important beyond Local level, possibly up to County/Regional scale. Therefore, on balance, and on a precautionary basis, a valuation of County importance is considered appropriate.	
Otter	The below is a summary – please see Volume 3, Appendix 8.10 Uprated Lines Otter and Water Vole Results for further detail. <u>Desk study</u> No records of otter were returned by the NBN Atlas within 1km of the Site. TWIC returned two records of otter, both of which were roadkill. <u>Field survey</u> Suitable habitat for the species is present along the Auchter Water, River Carron, North Calder Water and South Calder Water. Otter are likely also use minor watercourses and ponds for commuting and foraging at times.	Otter are European Protected Species and remain strictly protected under the Habitats Regulations. Otter are relatively widespread in Scotland, including the Central Belt, and evidence found during the surveys confirms that they are present on most of the suitable named watercourses within and adjacent to the Site. Overall, the Site provides limited habitat suitability for otter. Only three refuges were identified, located at distances of 56m, 115m and 183m from the Site;	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	The fieldwork identified three otter refuges within 200m of the Site: • One holt (XR.O.02) on Auchter Water; • One lay-up (ZG.O.01) on Auchter Water; and • One lay-up (XR.O.01) on River Carron. There were also 27 spraints associated with waterbodies across the Site such as River Carron, Auchter Water, North Calder Water, South Calder Water, Shotts Burn, Clattering Burn, Tillian Burn and Woodend Loch.	however, none was considered viable to be a natal holt. Suitable habitat is localised and fragmented within the Site, a result of its linear shape which mainly crosses watercourses rather than following them. Given the above, and that there are many hundreds of kilometres of suitable watercourse within the North Lanarkshire and Falkirk Council areas which are more suitable and likely support greater numbers of otter, County importance would be disproportionate. Thus, Local level importance is considered appropriate.	
Water vole	The below is a summary – please see Volume 3, Appendix 8.10 Uprated Lines Otter and Water Vole Results for further detail. <u>Desk study</u> The NBN Atlas returned no records of water vole within 1km of the Site. National Water Vole Database Project⁹ indicates that there is a single 10km grid square (NS96) which overlaps with the Site, located around Shotts.	Water vole populations are scattered throughout NHZ 17, and this includes fossorial populations of water vole associated with the great Easterhouse area of Glasgow, potentially the highest density of the species in the UK¹¹², as well as numerous other populations. In lowland areas, however, populations are typically scarcer and more confined to localised environments, where they remain highly vulnerable to local extinction through predation by American mink. However, given the small size of the occupied habitat at	County

¹¹² Stewart, R.A., Jarrett, C., Scott, C., White, S.A. and McCafferty, D.J. *Water vole (Arvicola amphibius) abundance in grassland habitats of Glasgow*. The Glasgow Naturalist (online 2018) Volume 27, Part 1, 10-19. https://www.glasgownaturalhistory.org.uk/gn27_1/Stewart_Glasgow_WaterVoles.pdf

Feature	Summary of baseline	Rationale for Valuation	Importance
	Additionally, the NBN Atlas returned three records of American mink from the River Clyde. <u>Field survey</u> Locally the Site supports suitable habitat for water vole where there are open, slow moving channels or rush dominated vegetation. Evidence of water vole presence was confirmed at a single location (XX.WV.01), comprising three burrows and eight latrines, situated approximately 63m from the Site boundary. An additional area of suitable habitat was identified (XX.WV.02) containing two further burrows; however, in the absence of diagnostic field signs such as droppings, these features could not be definitively attributed to water vole and may instead be occupied by other species, such as rat.	XX.WV.01 (around 240m in length) it is extremely unlikely that the number of water voles within the Site would approach 1% of the NHZ 17 population. Thus, regional importance is considered disproportionate. However, water vole have undergone a drastic population decline in recent years and the population at XX.WV.01 appears to be fairly isolated, given that very little evidence of water vole was found within the Site. Furthermore, the National Water Vole Database appears to show fewer areas of water vole presence in the North Lanarkshire areas than around Glasgow, thus given the species rarity and potential isolated nature of the population recorded, it is assessed to be of County level importance is considered appropriate	
Badger	The below is a summary – please see Volume 3, Appendix 8.12 Uprated Lines Badger Results (Confidential) for further detail. <u>Desk study</u> Seven records of badger were returned by the NBN Atlas. Three were located within Roughcastle WS, one within farmland on a central stretch of the ZG Route, two within the residential area of Wishaw and one on the River Carron. <u>Field survey</u>	Badgers are a common species and not afforded protection for nature conservation purposes. Whilst present within the Site, there is ample suitable habitat also present within the wider area. County importance would be disproportionate; however a large number of badger setts were identified,	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	Across the surveyed area, suitable foraging habitat for badger was present and comprised of neutral grasslands, cropland, and native woodlands. These habitats are considered optimal as they are likely to support higher densities of earthworms, an important component of a badger's diet³. Optimal habitat was interspersed between anthropogenic areas typical of the Scottish Lowlands, including urban and peri-urban residential areas, transport infrastructure and agricultural land use. A total of 19 well-used or partially-used setts were identified. Of those identified, two setts were classified as main setts, two as annexes, 15 as outliers. As of 26th November 2025, both main setts and nine outliers were classified as well-used, and two annexes and six outliers were classified as partially used.	and it is considered that the badger population within the Site has the potential to be significant within the wider local context. Thus, Local level importance is considered appropriate.	
Pine marten	<u>Desk study</u> No records of pine marten were returned by the NBN Atlas within 1km of the Site. Pine marten is listed within the Falkirk Council and North Lanarkshire Council Biodiversity Action Plans. <u>Field survey</u> The Site and wider area offer good habitat for pine marten as it has a high proportion of woodland cover with open areas for suitable foraging. There are opportunities for den establishment scattered throughout the Site, e.g. a former quarry. This area consists of a large boulder pile where the complex arrangement of rocks has created internal voids and cavities of sufficient size and depth to support pine marten denning, but no evidence of current or recent occupation was recorded.	No positive pine marten refuges were identified within the Site and surrounding area. Although the Site lies within the species' range, there is limited optimal habitat available locally, and pine marten are likely present only at low densities. No evidence was found within the ZG, XX and XR Route. Given the lack of dens and the scarcity of evidence, the Site is not considered to be of particular importance to the species. The population associated with the Site is therefore unlikely to be significant in a local context. Thus, Site level importance is considered appropriate.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
Red squirrel	The field surveys did not identify any evidence from pine marten. A single artificial den box was found at OSGR NS 78858 65775, located 10.23m south of XX033 compound area. <u>Desk study</u> 63 records of red squirrel were returned from the NBN Atlas. All were within close proximity of the ZG Route, with the greatest concentration within woodland south of Torwood Glen WS. Saving Scotland's Red Squirrels returned 24 records of red squirrels, all of which were within 1km of the ZG Route, primarily in the woodland of Torwood Glen Wildlife Site, with one outlier at Bonnybridge Golf Course. Additionally, the NBN Atlas returned 181 records of grey squirrel across the ZG Route and 354 records of grey squirrel across the XX and XR Routes. <u>Field survey</u> No dedicated surveys for red squirrel were carried out but a single potential squirrel drey was recorded at OSGR NS 83620 82912, located 12.8m north of the proposed access track. The drey was noted in an oak tree at the junction of a lateral branch and the main trunk, constructed of dense twigs and leaves.	The Site lies within a transition zone for red squirrel and grey squirrel population range, with the ZG route being within the range of red squirrel, whereas XX and XR Routes are primarily associated with grey squirrels, they also still remain within the peripheral range of the red squirrel, representing the overlap zone between the two populations. The desk study information reflects this and indicates the highest concentration of red squirrels is across the ZG Route. Also, an indicative range of the species was established from desk study information, and red squirrels are considered unlikely to occur within the Site south of Drum Wood / Beam Road. Due to competition, red squirrels are likely to occur in low densities where they co-exist with grey squirrels across the XX and XR Routes. NHZ17 encompasses part of Loch Lomond & The Trossachs National Park, where red squirrels are locally common, and thus Regional importance for the	County.

Feature	Summary of baseline	Rationale for Valuation	Importance
		population on Site would be disproportionate. However, red squirrels are uncommon in the lowlands, particularly in urban areas where grey squirrels are present, which includes the vast majority of Falkirk and North Lanarkshire local authority areas. Indeed, the population in the north of the Site identified by the desk study appears to be the only population in this area. Thus, County importance is considered more appropriate	
Brown hare and hedgehog	<u>Desk study</u> The NBN Atlas returned four records of brown hare and four records of hedgehog within 1km of the Site. All four of the brown hares were located east of Wildmanbridge and two of the hedgehog sightings were in farmland north of Glenboig, with the other two in residential areas within Wishaw and Airdrie. <u>Field survey</u> No dedicated surveys were carried out for brown hare or hedgehog. There were two incidental sightings of brown hares at OSGR NS 83090 83483 and NS 79215 64378. It can be reasonably assumed, as both are common and widespread, that hedgehog and brown hare will utilise much of the available grassland, broadleaved woodland and scrub habitat on Site.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17. Local level importance would be considered disproportionate, given the prevalence of suitable habitat in the wider area and Site level importance in considered sufficient.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
Great crested newt	The below is a summary – please see Volume 3, Appendix 8.11 Uprated Lines Great Crested Newt Results. for further details. <u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for great crested newt (GCN), as determined by the ARG UK Advice Note 5, and the species is known to be present within the central belt of Scotland. A total of 8 records were of received from NBN Atlas and ARG / ARC UK Record Pool. From NBN, three records of GCN were located on the periphery of Gartcosh LNR. From ARG / ARC UK Record Pool five records were returned. Three are located within Gartcosh LNR, two on the northeastern periphery of Coatbridge, and one within Monkland Canal (East) SINC. Great Crested Newt are also listed as key priority species in the Falkirk Council and North Lanarkshire Council Biodiversity Action Plans. <u>Field survey</u> 78 confirmed waterbodies are present within the Zol of the Site. 25 were scoped out of further survey due to the presence of significant dispersal barriers separating them from the Site / any possible impacts. Habitat Suitability Index and eDNA sampling HSI assessments were conducted for 53 waterbodies.	GCN populations are scattered throughout NHZ 17, and the central belt contains the highest density of the species in Scotland. Although suitable habitat is present within the Sitenone of these ponds tested positive for GCN via the eDNA sampling. Therefore, GCN is considered absent from the Site.	Less than Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	The HSI screening classified fourteen waterbodies as 'Poor', ten as 'Below Average', seventeen as 'Average', seven as 'Good' and five as 'Excellent'. In total, 46 ponds were scoped in for eDNA sampling. All eDNA analysis returned negative results, with zero positive replicates recorded across all samples (0/12). These results indicate a likely absence of great crested newts within the surveyed areas.		
Common reptiles and amphibians	<u>Desk study</u> The NBN Atlas returned six records of common toad and one record of common lizard. Toad records were located across the length of the XX Route; the single lizard record was within Kingshill LNCS. <u>Field survey</u> There is suitable habitat present within the Site in the form of woodlands and associated grassland and scrub, which could be used by reptiles as well as foraging / commuting amphibians. However, the improved pastures present across much of the Site do not offer good habitat conditions for reptiles and amphibians. There are suitable water bodies which could support breeding populations of amphibians scattered across the Site; these are referred to above in relation to great crested newt.	Reptiles and amphibians in Scotland are widespread and are likely to be present within suitable habitats across the Site, but it is unlikely that significant numbers are present.	Site.
Common breeding birds	<u>Desk study</u> Records of nine notable species - black-headed gull <i>Chroicocephalus ridibundus</i>, house sparrow <i>Passer domesticus</i>, yellowhammer <i>Emberiza citrinella</i>, reed bunting <i>Emberiza schoeniclus</i>, lapwing <i>Vanellus vanellus</i>,	The birds which are likely to breed on Site are common and widespread within rural and semi-urban parts of Falkirk, South Lanarkshire and the wider central belt.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
	herring gull <i>Larus argentatus</i>, kestrel <i>Falco tinnunculus</i>, starling <i>Sturnus vulgaris</i> and song thrush <i>Turdus philomelos</i> - were identified from the NBN Atlas. <u>Field survey</u> Ornithology field surveys were not undertaken however notes on observations/suitability were taken during other ecology surveys. There is suitable nesting habitat for general breeding birds within all vegetated parts of the Site and adjacent areas.		
Breeding Schedule 1 birds	<u>Desk study</u> Records of kingfisher <i>Alcedo atthis</i>, peregrine falcon <i>Falco peregrinus</i> and little ringed plover <i>Charadrius dubius</i> were identified from the NBN Atlas. <u>Field survey</u> The habitats on Site are unsuitable for nesting kingfisher, peregrine and little ringed plover. One tree was identified with a cavity suitable for barn owl and pellets were found below the cavity entrance. This tree is located less than 5m from the proposed access track of the ZG line. One building was identified with potential suitability for barn owl nesting, located 80m north of Tower XX010.	There is potentially suitable habitat for barn owl to breed adjacent to the Site with two potential breeding sites identified. Other Schedule 1 birds are unlikely to breed within or adjacent to the Site. Barn owl is a Schedule 1 listed species but is not listed as a conservation concern (Green listed BoCC). The Scottish population is estimated at 500-1000¹¹³ pairs with 120 breeding pairs recorded in the central Scotland region¹¹⁴. Note that no estimate is provided by region and therefore 120 pairs is likely to be a slight underestimate. two pairs therefore corresponds approximately 1.7% of the regional population.	Local

¹¹³ Forrester, R.W., Andrews, I.J., and McInerney, C.J. eds. 2007. The Birds of Scotland. The Scottish Ornithologists' Club, Aberlady.

¹¹⁴ Peniche, G., Challis, A., Beckmann, B., Wilson, M., Eaton, M., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N. (2025). Scottish Raptor Monitoring Scheme Report 2023. BTO Scotland, Stirling.

Feature	Summary of baseline	Rationale for Valuation	Importance
Wintering birds (not including bean goose and pink-footed goose)	<u>Desk study</u> Records of goldeneye <i>Bucephala clangula</i>, pochard <i>Aythya ferina</i>, whooper swan <i>Cygnus cygnus</i>, black-tailed godwit <i>Limosa limosa</i> and redwing <i>Turdus iliacus</i> were identified from the NBN Atlas. <u>Field survey</u> Habitats of greater importance for wintering birds on or adjacent to Site comprise Woodend Loch (which is a SSSI notified for habitats) and waterbodies in the vicinity of Tower XX008. Records of waterbirds obtained from NBN Atlas were likely recorded in these areas.	The population of barn owl within the ZOI is at most of local level importance. Woodend Loch and adjacent waterbodies potentially support a diverse assemblage of wintering waterbirds, including the Annex I listed whooper swan. It is considered that a valuation of local importance is appropriate.	Local
Terrestrial invertebrates	<u>Desk study</u> NBN Atlas returned 75 records of small pearl-bordered fritillary <i>Boloria selene</i> within 1km of the Site. All records were found within one of three locations and reported as part of the UK Butterfly and Monitoring Scheme; in woodland and grassland surrounding Lochend Loch, within the woodland of Kingshill LNCS and at Greenhead Moss Community Nature Park. The Site is not located within, or near to, any Buglife Important Invertebrate Areas (IIA). <u>Field survey</u> Heavily modified habitats in the Site (farmland, built-up areas) are unlikely to support notable invertebrates, and these habitats are ubiquitous in the area, and as such any	In Scotland, the small pearl-bordered fritillary is relatively widespread and inhabits in damp grasslands, moorlands and woodland clearings, which contain marsh violet <i>Viola palustris</i> or common dog-violet <i>Viola riviniana</i>, essential for larval food resources¹¹⁵. The desk study records identified three main locations where the butterfly was recorded, with the Site specifically intersecting the Greenhead Moss Community Nature Park between tower compounds XR041 and XR043. While	Local

¹¹⁵ Butterfly Conservation, Available at: <https://butterfly-conservation.org/butterflies/small-pearl-bordered-fritillary>

Feature	Summary of baseline	Rationale for Valuation	Importance
	invertebrates present within the Sites are likely to be present across the landscape.	much of the terrestrial habitat across the wider Site is common and not floristically rich, the edges of the semi-natural broadleaved woodland, marshy grassland, and semi-improved neutral grassland between towers XR041 and XR043 are likely to support small pearl-bordered fritillary. Despite the likely presence of this notable butterfly, the wider invertebrate assemblage is expected to be typical of the region. The habitats recorded within the Site, including the heavily degraded bog and heath, are widespread across the Central Belt as such, invertebrate assemblages within the Site are not likely to be notable. However, while within the SBL list, the small pearl-bordered fritillary remains relatively common and widespread across Scotland and NHZ 17. Therefore, Local importance is considered appropriate.	

Invasive non-native plant species

Desk Study

- 8.7.15 The NBN Atlas returned 28 records of Japanese knotweed, six records of Himalayan balsam, five records of giant hogweed *Heracleum mantegazzianum*, single record of snowberry *Symphoricarpos albus*, single record of cotoneaster *Cotoneaster sp.*, all scattered across the XX and XR Routes.

Field Survey

- 8.7.16 INNS are scattered throughout the Site (refer to Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species). Of particular are Himalayan balsam along the banks of Bonny Water and River Carron, Japanese knotweed scattered along the banks of River Carron, Bonny Water, and north of A89 road, giant hogweed south of A775 road, around 10m away from the proposed access track. Rhododendron *Rhododendron ponticum* within woodlands in particular at OSGR NS 83679 83416, adjacent to Allantan Road, north of B905, around OSGR NS 83939 82040, south of M876 and adjacent to ZG008 tower compound, within and east of ZG009 tower compound.
- 8.7.17 Other species, which were scattered across the Site include cherry laurel *Prunus laurocerasus*, cotoneaster, garden lady's mantle *Alchemilla mollis*, montbretia *Crocsmia x crocosmiiflora*, Japanese rose *Rosa rugosa*, firethorn *Pyracantha sp.*, Pampas grass *Cortaderia sp.*, Michaelmas daisy *Aster sp.*, snowberry and yellow archangel *Lamiastrum galeobdolon*.
- 8.7.18 INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

- 8.7.19 As set out in Section 8.7.22, relevant ecological features are those considered to be Local value or higher and that have potential to be affected by the Works, features assessed to be of Site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features that have been scoped out are summarised below in Table 8-20. For scoped out features there are no likely significant effects in EIA terms.

Table 8-20 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment
Clyde Valley Woods SAC	Located 470m from the site, with no hydrological connectivity and separated by a railway line. Therefore, considering the distance of the SAC from the Site, no direct habitat loss will take place and there is no possibility for further impacts on this SAC as the result of the works. Furthermore, the qualifying feature for this SAC are non-mobile habitat features and as such are restricted to the boundaries of the relevant designation. Therefore, no possible impact pathways have been identified and Clyde Valley Wood SAC is excluded from further assessment
Bishop Loch SSSI.	Bishop Loch SSSI is located 0.8km west of the overhead line and approximately 1km west of XX01B tower compound and is further separated by the M73 motorway. Therefore, considering the distance of the SSSI from the Site, no direct habitat loss will take place and there is no possibility for further impacts on this SSSI as the result of the works, including from airborne pollution, which the SSSI is already heavily exposed to from the motorway and which, regardless will be dealt with by the embedded mitigation. Furthermore, the qualifying feature for this SSSI are non-mobile habitat features and as such are restricted to the boundaries of the relevant designation. Therefore, no possible impact pathways have been identified and Bishop Loch SSSI is excluded from further assessment
LNR, SINC, LNCS and SWT Reserves which do not overlap the Site, are not hydrologically connected to the Site (or are located upstream) and beyond the range of possible groundwater related impacts (250m away from proposed new towers and 50m from all other works) include: Gartcosh Nature Reserve LNR, Commonhead Moss LNR, Bishop Loch LNR, Clyde Valley Woodlands LNR, Fairy Glen (Shotts Burn Glen) SINC, Hartwood Plantation (North) SINC, North Foulburn Bog & Strip SINC, Hot Water Pond SINC, Brucefield Strip SINC; Newmill Wood SINC, Clattering Burn Glen (West): Gartness Farm-Shot SINC, Gartverrie	The listed LNR / SINC / LNCS / SWT Reserves do not overlap the Site and are therefore not at risk from direct habitat loss and are located beyond the distance within which groundwater related impacts would be expected to occur. The majority of these sites are mostly distant and are not hydrologically connected to the Site, being located upstream (such that no pollutants would be expected to reach the designated site via watercourses). For sites with hydrological connections, any risk of impacts waterborne pollution will be dealt with by embedded mitigation.

Feature	Rationale for exclusion from further assessment
Woodland SINC, Knowehead Marsh SINC, Drumshangie Moss: Dykehead (South) SINC, Clattering Burn (East) SINC, Gartsherrie Wood SINC, South Landridge Wetland SINC, Cathburn Moss SINC, Wallacebank Wood Scottish Wildlife Trust (SWT) Reserve, South Calder Water: Allanton Mill-Mill Road SINC, Cambusnethan Woods SINC, Eastmuir Plantation SINC, Dales Wood WS, Forth and Clyde Canal WS, Lochend Loch SINC, Lochwood SINC, Easter Moffat Peatland & Grassland SINC, Shank Burn East: Brackenhurst Plantation SINC, Gartcosh Road Mire SINC, Springbank Quarry SINC, Easter Moffat Golf Course (West) SINC, Roughcastle WS, Drumshangie Moss: Dykehead (North) SINC, Shank Burn East: Glenmill Rd – Brakenhirst Rd SINC, Gartverrie SINC, Shott's Burn: Monkland Bridge – Sauchenbog Bridge SINC, Garrion Gill & Horsely Brae SINC, Murdostoun Estate: Easterhouse Wood SINC, Drumshangie Moss North SINC, Torwood Glen WS, Bothlin Burn SINC, Drumpellier Moss & Birchwood SINC, Drumpellier Woods LNCS, Garnqueen Loch SINC, Witch Wood SINC, South Calder Water: Murdostoun Estate SINC, Murdostoun: Muiredge Wood SINC, Murdostoun Estate: Bolt Strip SINC, Windyedge Wetlands SINC, Omoa Wetlands SINC, Glenboig Wood Inchneuk Moss (East) SINC, North Calder Water: Calderbank- Monkland Bridge SINC and Quarter Bing WS. As above but which ARE hydrologically connected (downstream) of the Site: Gartverrie Wetland SINC, Legbrannock Burn East: Manse View SINC, Legbrannock Burn East: Burnside Road SINC, Hill Glen SINC	Harm to protected/notable species associated with the LNR / SINC / LNCS / SWT Reserves (where they are mobile and able to access the Site for foraging/commuting) will also be prevented by the implementation of embedded mitigation (nesting bird mitigation, general wildlife protection). Therefore, no possible impact pathways have been identified and these Sites are excluded from further assessment.
Ancient / Veteran Trees	Valued at Less than Site level importance. (No ancient or veteran trees present)
Scattered trees and scrub, lines of coniferous trees, coniferous woodland, non-notable scrub, neutral grassland, calcareous grassland, improved grassland, poor semi-improved grassland, semi-improved acid grassland, bracken, tall ruderal vegetation, heathland, arable, amenity grassland and ephemeral vegetation.	Valued at Less than Site level importance. Note that these include some potential GWDTE (in this case wet heath, acid flush and MG9/MG10 damp neutral grassland); however in this case the wet heath is

Feature	Rationale for exclusion from further assessment
	significantly degraded and/or very small, and MG9/MG10 is species-poor and of negligible ecological note).
Introduced shrub, buildings, bare ground and hardstanding.	Valued at Less than Site level importance.
Terrestrial habitats of higher than Site importance where it is certain there will not be any impact: I1.1.2 Basic inland cliff (<i>H8120</i>) E2.1/ E3 Acid/neutral flush/ fen D1.1/ D2 Dry acid/ wet heath	The one recorded instance of basic inland cliff is short and small, it would be impractical and unsafe to carry out works in the immediate vicinity of this feature, and the nearest works (the edge of tower compound XX030) are over 10m from it. There is consequently no likelihood of any impact on this resilient rock feature. No habitat loss from lowland fen or dry acid/ wet heath habitats.
Minor watercourses and ditches	Valued at Site level importance.
Notable plant species	Valued at Site level importance.
Pine marten	Valued at Site level importance.
Brown hare and hedgehog	Valued at Site level importance.
Great Crested Newt	Valued at less than Site level importance.
Common reptiles and amphibians	Valued at Site level importance.

- 8.7.20 Table 8-21 details the predicted effects and significance of potential impacts on those ecological features not excluded from further assessment in Table 8-20.

Design and Embedded Mitigation Measures

- 8.7.21 The design mitigation and embedded measures are detailed in Section 8.4, the assessment has account for these measures.

Important ecological features

- 8.7.22 The following are IEFs relevant to the assessment are as follows:

- SPA/Ramsar site:
 - Firth of Forth SPA/Ramsar site
- SSSI:
 - Woodend Loch SSSI;
- LNR:
 - Perchy Pond LNR;
- SINC/LNCS/WS
 - Roughcraig Glen and Blackwalk Plantation SINC;
 - Dalmacoulter Quarry SINC;
 - Laverock Knowe Quarry SINC;
 - Torwood Mire WS;
 - Airdrie Hill Reservoir SINC;
 - Burnhead Quarry SINC;
 - Cameron Glen (East) SINC;
 - Clattering Burn Glen (West): Darnhead Farm-Gartness SINC;
 - Gartcloss Marsh SINC;
 - North Calder Water: Moffat Mills-Dunrobin SINC;
 - North Calder Water: Moffat Mills-Plains SINC;
 - Shotts Burn & Chapelhall Meadow SINC;
 - Auchter Water SINC;
 - Brownhill Bog SINC;
 - Greenhead Moss SINC;
 - Kingshill Wetlands & Plantations SINC;
 - Morningside Railway (West) SINC;
 - South Calder Water: Bonkle-Newmill SINC;
 - Morningside Railway (East) SINC;

- South Torwood WS;
- Calkers Wood SINC;
- AWI LEPO
- Annex I and SBL Priority habitats:
 - Degraded Lowland Raised Bog, *H7120 Degraded Raised bog*;
 - Degraded Blanket Bog, *H7130 Degraded Blanket bog*;
 - Lowland Mixed Deciduous Woodland;
 - Wet Woodland;
 - Purple Moor-grass and Rush Pastures;
 - Eutrophic Standing Water and
 - Swamp.
- Other habitats which enhance the local habitat resource
 - Lines of broadleaved or mixed trees;
 - Non-SBL hedges;
 - Non-SBL broadleaved and mixed woodland;
 - Non-SBL semi-improved acid grassland;
 - Non-SBL marsh/marshy grassland;
 - Non-SBL standing water; and
 - Non-SBL watercourses (excluding very minor watercourses/ditches);
- GWDTEs (included within the relevant habitat types above);
- Bats;
- Otter;
- Water vole;
- Badger;
- Red squirrel;
- Terrestrial invertebrates;
- Breeding Schedule 1 birds; and
- Wintering birds.

Assessment of effects

- 8.7.23 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures (Section 8.4) and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).

8.7.24 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts on IEFs can be scoped out and are not considered further (in addition to those scoped out in Table 8-12 above):

- Habitat change to potential GWDTEs as a result of changes in hydrology. Impacts to potential GWDTEs are discussed in Chapter 9, which concluded that there would be no significant effects on potential GWDTEs following the implementation of embedded mitigation. GWDTEs are not discussed further;
- Loss of ponds or other water bodies. Direct impacts to water bodies would be avoided by Works by micro-siting the compounds/tracks.

8.7.25 The following construction phase impacts cannot be fully scoped out following implementation of embedded mitigation:

- Direct habitat loss (permanent and temporary);
- Direct loss of bat roosts;
- Disturbance to roosting bats (other than from lighting);
- Loss/fragmentation of refuges/habitats of importance to protected and notable species;
- Mortality of species from collision risk with construction traffic; and
- Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration.

8.7.26 Following a review of the potential impact pathways and implementation of embedded mitigation the only remaining likely operational impact is mortality of birds due to collision with the overhead lone infrastructure.

8.7.27 Likely impacts and effects from the construction phase are described in Table 8-21.

Table 8-21 Construction phase impacts and effects

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
Firth of Forth SPA/Ramsar site (International)	Temporary disturbance/displacement	Details of effects on the SPA are included in detail in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). There will be no permanent loss of habitat from the SPA. Of the qualifying species of the SPA/Ramsar site, pink-footed goose could potentially use habitat on or adjacent to the ZG Route for foraging (the XX and XR routes are more than 20km from the SPA). There are extensive alternative foraging resources available to the birds and the species naturally redistributes in response to agricultural practices. While minor temporary disturbance/ displacement effects may occur during the construction phase, which are considered to be negligible, no adverse effects on the integrity of the SPA/Ramsar site are anticipated, due to the short term and temporary nature of the effect, and the suitability of foraging resources within the wider area. Consequently, there could only be a temporary effect, which based on the data recorded is considered negligible.	Negligible (Not Significant)
Woodend Loch SSSI (National)	Permanent habitat loss	In total, 0.024ha of woodland, scrub, and grassland habitat will be permanently lost, equating to approximately 0.08% of the 28.5ha Woodend Loch SSSI. This loss is restricted to a small section of woodland on the periphery of the designation along the loch banks. Additionally, working areas will be micro-sited, likely reducing the final footprint of tree loss further. Additionally, tree and scrub impacts will be primarily limited to minor lopping along the proposed access track. This is insignificant given that the trees will likely be retained. Given that this represents an extremely small proportion of the trees present within the wider area, it is not expected that the character of the designation will be significantly altered and effects are considered negligible.	Negligible (Not Significant)
Perchy Pond LNR (County)	Permanent and temporary habitat loss	In total, 0.04ha of habitat will be temporarily lost to accommodate the tower compounds, comprising 0.029ha of semi-improved neutral grassland and 0.011ha of scrub. Both habitats are considered widespread and non-notable within the wider area. The affected grassland within XR042 tower compound comprises mostly false oat grass, bent grass and cock's foot and the one within XR043 tower compound comprises mostly meadowsweet and tufted hairgrass. Both areas of grassland are expected to recover mostly, if not entirely, following the completion of works, rendering any long-term loss negligible.	Negligible (Not Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		The scrub consists primarily of gorse, with occasional hawthorn and grey willow. This assemblage is anticipated to return to its current state in the long-term through natural regeneration. Furthermore, this vegetation is within the existing Limit of Deviation and is already subject to periodic maintenance. Access routes will utilize temporary trackway matting to protect the underlying ground. Vegetation under these routes is expected to recover successfully upon the removal of the matting at the end of the construction phase. Given the small scale of the footprint and the high potential for habitat reinstatement, the level of change is considered very low, resulting in a negligible to slight effect at most.	
Greenhead Moss SINC (County)	Permanent and temporary habitat loss	In total, 0.24ha of habitat will be lost within the 100ha SINC for XR041 tower compound, representing a negligible 0.24% of the total designation. This loss comprises 0.12ha of semi-improved neutral grassland (characterized by false oat-grass, bent-grass, and cock's-foot), 0.06ha of semi-natural broadleaved woodland (birch and grey willow), 0.02ha of scrub (grey willow and blackthorn), and 0.04ha of mixed plantation woodland containing ash, sycamore, larch, and oak. While the woodland components hold higher ecological value than the widespread and common grassland, they are not considered notable examples of their type. In areas where felling is required, natural regeneration is anticipated post-construction. Although the natural re-establishment of trees and shrubs to a functional height will likely take 10–15 years—categorizing the loss as medium-term—the overall impact is mitigated by the fact that vegetation within the existing Limit of Deviation is already subject to periodic maintenance. In terms of access tracks, impacts are expected to be negligible as mentioned above for Perchy Pond LNR.	Negligible (Not Significant)
Laverock knowe quarry SINC (County)	Permanent and Temporary habitat loss	In total, 0.22ha of semi-natural broadleaved woodland, dominated by birch with occasional rowan, willow, and gorse, will be lost within the SINC for tower compound XX021(XX). This equates to approximately 5.4% of the total 4.09ha of woody habitat (comprising 3.49ha of woodland and 0.6ha of scrub) within the designation. Minor additional losses may also occur to facilitate the temporary access tracks too. Natural regeneration is anticipated following the completion of works. While the re-	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		establishment of trees and shrubs to a functional height will likely take 10–15 years, classifying the loss as medium-term, the overall impact is mitigated by the site's baseline conditions. Furthermore, this woodland is not classified as SBL priority habitats, as they are considered to be of lower ecological quality for the reasons detailed in Table 8-12. Given the high potential for recovery and the maintenance of current management practices, the long-term character of the SINC will not be significantly altered. Furthermore, the vegetation is within the existing Limit of Deviation and is already subject to periodic maintenance. Effects are therefore considered negligible.	
Cameron Glen SINC, Kingshill Wetlands & Plantations SINC, North Calder Water: Moffat Mills-Plains SINC, Dalmacoulter Quarry SINC (County)	Permanent habitat loss	Within these sites, only small sections of plantation or non-notable semi-natural broadleaved woodland are within the proposed tower compounds. Consequently, any required felling or vegetation clearance will be minimal when considered against the expansive woodland cover present within the wider landscape of each designation. Given that the core areas of these woodland blocks will remain undisturbed and the footprint of loss is confined to the peripheral edges of the compounds, the structural and functional integrity of the woodlands will be maintained. The scale of this loss is considered negligible relative to the total canopy cover available. Furthermore, the vegetation is within the existing Limit of Deviation and is already subject to periodic maintenance.	Negligible (Not Significant)
All other LNCS and SWT Reserves (County)	Permanent and temporary habitat loss	Habitats within the LNCS and SWT Reserves will be temporarily lost where there are tower compounds, scaffolding and pulling positions within the designations. Woodland and scrub will be permanently lost this loss is estimated to be extremely minor and less than 1% of the total area of woodland and / or scrub within these LNCS/ SWT Reserves. Therefore, the vast majority of these habitats will be retained and this loss is not expected to have any long-term negative impact on the integrity of these destinations. For areas of scrub and woodland, as these habitats are within the existing Limit of Deviation they are already subject to periodic maintenance. The non-wooded habitats are likely to naturally regenerate within two years and extremely minor are small in area especially when compared to the total areas of the LNCS and SWT Reserves, many of	Negligible (Not Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		which are very large, this loss is not expected to have any long-term negative impact on the integrity of these destinations. Also notably, these locations will have been subject to disturbance in the past when the current towers were constructed, so the habitats located within the Site have previously been disturbed and reestablished to the current baseline, therefore there can be confidence that once the new towers are constructed the habitats will return to baseline conditions and effects are considered negligible.	
AWI LEPO woodland (County)	Permanent habitat loss	There will be only very minor loss of AWI LEPO woodland, 0.26ha. Where works are proposed within AWI LEPO parcels, they are very largely situated in the existing maintained Limit of Deviation for the existing overhead line, or (for access routes) also on existing cleared Limit of Deviation or existing tracks etc. Works between ZG002 and ZG003 fall within an area listed on the AWI as LEPO, although it is noted that the actual works area fall largely within existing non-woodland habitat. The tower compound for XR016 is within LEPO woodland but within the existing periodically-cut Limit of Deviation. Scrubby regenerating woody vegetation in this compound will require at least partial removal to replace the tower foundations, however the same woody vegetation would likely regenerate after the works (where within the Limit of Deviation, it would be subject to periodic cutting, but this is the same as baseline). It is likely in practice that works for this tower would remain within the existing periodically-cut Limit of Deviation, but if they marginally exceeded it very other few trees would require removal, and would likely also regenerate after the works over the medium-term (10-15 years to appreciable height). At XR023, there may be very minor loss of vegetation for access visibility splay, which is extremely narrow here and likely to involve lopping, and would not involve significant tree removal. No other tower compounds or other works directly impinge on existing woodland within AWI LEPO parcels. Access for XX023 superficially appears to result in loss of mixed plantation within an AWI LEPO parcel, however this is due to minor mapping inaccuracies, and the access here would likely follow an existing bare ground track. Overall effects are therefore considered significant at Site level.	Significant adverse effect at a Site level (Not Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
<u>Lowland Mixed Deciduous Woodland</u> (County)	Permanent habitat loss	Over the entire uprating works extent (including access), only 0.07ha of <u>Lowland Mixed Deciduous Woodland</u> falls within the Site. This represents a very small area in comparison to that which was recorded during the field surveys, within the 50m survey corridor, which recorded 7.31ha. This habitat type whilst local in the landscape, is nevertheless widespread through the Scottish central lowlands. In practice, of the 0.07ha present within the Site, it is likely that some of this will be avoided, as thus the area affected would be smaller (e.g. where access just clips the edge of woodland and would likely be taken beside it). Where felled, this would be for temporary tower compounds/access, although where vegetation is removed tree/shrub regeneration to reasonable height would likely take 10-15 years (and where within the existing Limit of Deviation, the vegetation would be subject to periodic cutting, but this is no different to the baseline situation), thus losses would likely be medium-term and effects are considered negligible.	Negligible (Not Significant)
<u>Wet Woodland</u> (County)	Permanent habitat loss	Over the entire uprating works extent (including access), 0.27ha of <u>Wet Woodland</u> (comprising woodland and scrub) falls within the Site. This represents a very small area in comparison to that which was recorded during the field surveys, within the 50m survey corridor, which recorded 5.27ha. In practice, of the 0.27ha present within the Site, it is likely that some of this will be avoided, as thus the area affected would be smaller. Where felled, this would be for temporary compounds/access, and regeneration is likely after the works, although where vegetation is removed tree/shrub regeneration to reasonable height would likely take 10-15 years thus losses would likely be medium-term (where within the existing Limit of Deviation, the vegetation would be subject to periodic cutting, but this is no different to the baseline situation), and effects are considered negligible.	Negligible (Not significant)
<u>Non-SBL broadleaved and mixed woodland</u> (Local)	Permanent habitat loss	1.48ha non-SBL broadleaved and mixed woodland (comprising non-SBL broadleaved semi-natural woodland and broadleaved and mixed plantations) would be permanently lost. This is a small proportion, 3.2%, of the area of these habitats identified within the survey area, and a smaller proportion still of the amount within the wider area. In practice, some apparently affected woodland will likely be avoided (e.g. where access just clips the edge of woodland and would likely be taken beside it, as north of tower XR034), thus the affected area will likely be even smaller. Where felled, this would be for temporary compounds/access, and, though the loss of trees is considered permanent, regeneration of scrubby vegetation is likely after the works (except at very narrow visibility splays). Where vegetation is removed tree/shrub regeneration to reasonable height would likely take 10-15 years thus losses would likely be medium-term (where within the existing Limit	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		of Deviation, the vegetation would be subject to periodic cutting, but this is no different to the baseline situation). Given the small areas involved, that these woodland types are extremely common and widespread in the Central Belt of Scotland, and that scrubby habitat, dissimilar in its ecological value (given that many of these woodlands are themselves immature and relatively species poor), is likely to regenerate in the areas concerned, these losses are considered negligible.	
Broadleaved and mixed tree-lines (Local)	Permanent habitat loss	0.04km of broadleaved and mixed tree-line would be permanently lost. This is an extremely small proportion of the tree-lines in the wider area, and within the Site (which spans a significant length of the central belt). In reality, the amount lost is likely to be smaller still, given that some trees are expected to be avoided by micro-siting, and that some tree-lines run along the edges of roads or fields, and access tracks will run alongside, not through, them. Furthermore, these tree-lines generally include abundant non-native species (sycamore and beech), and so are not of particular ecological value. Therefore these is anticipated to be a negligible effect.	Negligible (Not significant)
Non-notable hedges (Local)	Temporary habitat loss	A total of 0.32km of non-SBL hedges (0.05km of which contains mature trees) have the potential to be lost where they are within compounds or crossed by access tracks. This is a small proportion of a hedges present within the survey area (2.23%), within compounds or will be crossed by proposed access tracks. Loss is considered temporary as reinstatement of hedges will occur following the Works. Loss of taller trees within the hedges is considered permanent, given the time it would take for these to return to their current condition, and because those beneath the overhead line will be subject to ongoing management. However, hedges with trees (and other hedges) will be reinstated as hedges without trees, and the reinstated hedges will be native and species-rich, and frequently of superior biodiversity value than those lost. The majority of hedges comprise species-poor mostly of hawthorn or beech. Given the small scale of loss, particularly in the context of the wider landscape where hedgerows are present, that the loss is likely to be smaller still than that calculated, that the hedgerows are not of special ecological value and that reinstatement will likely improve biodiversity in the long-term, the loss of hedges is considered to be of negligible effect only.	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		No SBL Priority <u>Hedgerows</u> will be lost.	
B1.2 Acid grassland - semi-improved (Local)	Temporary habitat loss	Within the Site there is 0.03ha of semi-improved acid grassland, this represents a very small area in comparison to that which was recorded during the field surveys, within the 50m survey corridor, which recorded 2.10ha. Within the Site, this habitat is mostly located within access routes, where protective matting will be used, as such the vegetation is likely to recover following removal of the matting. Affected grassland at tower compounds amounts to 0.03ha, which (particularly as an essentially dry habitat that would be viable even if there was local increased drying at any improved tower foundations) would be likely to mostly or entirely recover post-works. Loss, if any, would therefore be slight at worst and considered negligible.	Negligible (Not Significant)
<u>Purple Moor-grass & Rush Pasture</u> and non-SBL Marshy grassland (Local)	Temporary habitat loss	Within the Site there is 0.22ha of <u>Purple Moor-grass and Rush Pasture</u>, this represents a small area in comparison to that which was recorded during the field surveys, within the 50m survey corridor, which recorded 0.79ha. Loss of <u>Purple Moor-grass and Rush Pasture</u> would primarily occur at tower XX004 (also at ZD096A at Denny Substation – separately assessed in Section 8.10); habitat here includes at least some of NVC type M23a, although not especially damp and of moderate diversity only. The vegetation here extends moderately beyond the 50m survey area around XX004. Reinstated turves at tower compounds are likely to recover relatively quickly although where new foundations increased concrete may result in a slight reduction in extent. A very small amount (~0.02ha) lies along access between XR019 and XR020, and this is overall of higher quality, but the impacted strip is at the very edge of a larger habitat parcel of this habitat type, where it is liable to be transitional and less diverse, and this would likely recover relatively quickly after removal of the protective access matting. B5 marsh/marshy grassland, not sufficiently diverse to class as <u>Purple Moor-grass and Rush Pasture</u> is much more common with 2.11ha within the Site, compared to 28.42ha within survey area, and it is also common in the wider landscape, most notably around XX003. This vegetation is mainly lower-diversity M23b dominated by soft-rush, sometimes in mosaic with species-poor MG9. It is directly impacted at numerous tower compounds and sections of access. It is not particularly wet and will likely recover relatively quickly following removal of protective matting along the relevant sections of access routes post-works. Reinstated turves at tower compounds will likely also recover relatively quickly, however where foundations of towers are improved and this results in concrete at or near the surface, there may be a slight reduction in extent.	Significant adverse effect at a Site level (Not Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
Given that by far the majority of <u>Purple Moor-grass and Rush Pasture</u> and other rushy vegetation will be unaffected and most is likely to recover where impacted, the effect is of less than Local significance.			
Degraded Lowland Raised Bog (H7120) / Degraded Blanket Bog (H7130) (County)	Temporary habitat loss	The very local occurrences of <u>Lowland Raised Bog/Blanket Bog</u> are all heavily modified (degraded). Temporary tower compounds and access tracks (the latter using protective matting) occupy 0.71ha; this is mostly at the north end of ZG route by Denny Substation, at tower XR027. This represents a very small area in comparison to that which was recorded during the field surveys, within the 50m survey corridor, which recorded 6.99ha, which based on aerial imagery, the relevant degraded bog areas appears to extend to over 14ha. Where access passes through these degraded bog areas, there would not be excavation of peat but rather use of protective matting as a form of temporary floating track. At the few relevant tower compounds (ZG001, ZG002 and XR027), peat would be excavated and the accompanying vegetation removed. A Peat Management Plan will be produced which will include methods for how to remove the peat and associated vegetation and store it, to allow reinstatement (in original sequence) after completion of these works and removal of the laydown areas. If these towers are found to require foundation improvements that result in new concrete at surface level or shortly below, there may be slight reduction in reinstated bog vegetation; however, most peat/vegetation would be reinstated. Vegetation along access tracks will likely recover relatively quickly after the works, upon removal of the protective mats; if any bare peat results, there may be slight loss of bog vegetation to colonising soft-rush (already common here). Both ZG001 and ZG002 are located in parts of the degraded raised bog remnant that include occasional moderately-notable bog species (<i>Sphagnum medium</i> and <i>Polytrichum strictum</i>), and if foundations are expanded there may also be slight reduction in extent of these more notable bog species. However, given that these bog areas are heavily degraded and isolated fragments, and the majority will not be impacted, overall impact will be minor with no significant long-term change, and deemed (in view also of SBL and Annex I status, and presence of the above moderately-notable bog species) to be at worst of Local significance.	Significant adverse effect at Local level (Not significant)
Lowland Fens and non-SBL swamp (Local)	Temporary habitat loss	This habitat here comprises acid flush, and common forms of lowland swamp and marsh. The acid flush is directly impacted only for access between towers XR017 and XR018, where it is degraded with overwhelmingly dominant soft-rush and a limited range of other species including frequent <i>Polytrichum commune</i> and local <i>Sphagnum fallax</i>. Swamp/marsh will be temporarily lost at eight locations: • XX004 - moderately diverse but ruderal wet rushy vegetation;	Significant adverse effect at a Site level (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		- XR050 - relatively poor bulrush / soft-rush swamp; - XR006 - XR007 - relatively poor bulrush swamp is crossed by access; - XR003 and XR007 - species-poor reed canary-grass relatively species-poor; - XR045 - ruderal meadowsweet; - XX029 - water horsetail swamp; and - XX048 - bulrush/bottle sedge swamp amongst disturbed ground. Elsewhere, direct impacts are at the edges of tower compounds and are slight. The total directly impacted area of <u>Lowland Fen</u> and non-SBL swamp is 0.1 ha. This is very small area in comparison to that recorded in the survey area (is small 3.86ha) and some such vegetation extends beyond 50m. In practice, it is likely that at least some of the more swampy patches would be avoided for access, by minor micro-siting of access routes to pass around them; they may also be avoided for practical reasons where the edge of tower compounds only slightly impinges on swamp. Given the small total impacted extent and that the affected vegetation is mostly species-poor, the temporary losses to <u>Lowland Fen</u> are of less than Local significance.	
Possible SBL Priority Rivers (County) and non-SBL watercourses (excluding very minor watercourses/ ditches) (Local)	Temporary habitat loss	The larger rivers that will be crossed by the Upgrading Overhead lines works, such as the River Carron and Bonny Water, are already crossed by the existing overhead line. No access will be taken across the larger watercourses and the upgrading works would not require any works directly within them. Although there might need to be some vegetation removal on the banks this would be expected to regrow in due course (to the height allowable in the Limit of Deviation, the same as at baseline) and the affected lengths are extremely narrow compared to the total lengths of these watercourses. Of the smaller watercourses, the Chapel Burn is already culverted at the proposed access crossing. Short temporary culverts (removed post-works) on small watercourses may be required for access between XX011/XX012, XR003/XR004, XR007/XR008 and XR034/XX035. The tower compounds for XX024 and XR031 slightly impinge on small watercourses, but in practice they would likely be avoided for reasons of practicality. Scaffolding north of XX042 is to protect a road and would not in practice be constructed in the small watercourse just to the north.	Negligible (Not Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		Other small watercourses are sufficiently distant from works that impacts are improbable. Impacts on watercourses will therefore all be very minor, temporary and are considered negligible.	
Roosting bats	Loss of bat roosts	A total of nine trees with the potential to support roosting bats are expected to be felled as a result of the Works, two of these were assigned precautionary PRF-M (ZG.BT.27 and ZG.BT.33), four were assigned precautionary PRF-I (ZG.BT.28, XX.BT.04, XX.BT.17 and XX.BT.18) and three could not be categorised further and were listed as FAR (ZG.BT.29, ZG.BT.30 and ZG.BT.32) during the GLTA. All of these trees are located within tower compounds. The felling or lopping of these trees will be avoided where possible through micro-siting especially when the trees are located at the periphery of compounds.. Trees adjacent to proposed access tracks and visibility splays may require lopping which may result in the loss of bat roosts. However, the loss of bat roosts from the proposed access track and visibility splays will most likely be avoided by micro-siting as described in the embedded mitigation and loss is considered unlikely. Thus, those PRF trees will only subject to disturbance (see section below). The nine trees at risk of felling may support roosts of common and widespread species such as common pipistrelle, soprano pipistrelle, Daubenton's bat and Natterer's bat, and the presence of rarer <i>Nyctalus</i> species cannot be discounted. Only two of these trees are likely to support a roost of value (e.g. maternity or hibernacula) although the three FAR features are also be precautionarily included, with the remaining four only likely to support small non-breeding daytime roosts or transitional roosts. Therefore, it is possible that Works could result in the loss of five roosts of common species and/or species of a more restricted distribution, following the precautionary principle and assuming a worse case, the effect from bat roost lost is assessed to be significant at a County scale..	Significant adverse effect at County level (Significant)
	Disturbance to roosting bats	In total, 44 trees with the potential to support roosting bats will be retained, but are present within 10m of the Works, the distance at which significant disturbance from works is considered possible. Of those, there are 29 PRF-M trees, 14 PRF-I trees and one FAR tree. (Note the two cliff features which represent traditional hibernation-type roosts and could be used for mating behaviour are located beyond the disturbance distance considered possible).	Significant adverse effect at County level (Significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		Disturbance via noise/vibration caused by Works could therefore cause the disturbance of/effective obstruction of bat roosts, including 29 which may be of higher value (maternity only – noise/vibration is not considered likely to disturb bats in torpor unless extremely close) and whilst roosts are most likely to be of common and widespread species, roosts of rarer species may also be affected. Following the precautionary principle and assuming a worse case, the effect from disturbance to bat roosts is assessed to be significant at a County scale.	
Foraging and commuting bats	Direct loss of foraging habitat	Given that only very small areas of habitat will be subject to temporary removal, for the construction of new towers, there is unlikely to be any impact on the local foraging habitat resource and thus effects are considered negligible.	Negligible (Not significant)
	Fragmentation of commuting routes	The existing Limit of Deviation s are likely to be used as commuting routes by bats. These will remain suitable for use, as while some habitat may be removed the corridor itself will be maintained in much the same location. Thus, it is not anticipated that there will be a perceptible impact on bats as a result of the shortening/fragmentation of commuting routes and thus effects are considered negligible.	Negligible (Not significant)
Otter	Temporary direct habitat loss and habitat fragmentation – water crossings and scaffolding	Watercourse crossings and scaffolding: In-channel works associated with water crossings are highly localised and spread out, and small areas of habitat removal maybe required at scaffolding locations where water courses are to be spanned. Habitat loss to facilitate these works would be extremely minor and temporary, habitats are likely to naturally reinstate following the works. Given the scale of the Site, it is assumed that it likely spans the territories of several otters, with only a small proportion of the territory of any one otter being within the Site itself, furthermore extensive alternative suitable habitat is available immediately adjacent to the Site and in the wider area. Furthermore, as per embedded mitigation, all temporary water crossings will be designed in line with SEPA guidance to allow for passage of aquatic species, including otter. Any watercourse crossings will be small scale and would be passible by otter. Any fragmentation would only likely arise as during the hours of construction which will be largely during daylight hours (when otters are less likely to be active). Any possible impact would be temporary, for the duration of the Works at each particular location (which will of a shorter duration than that for the full Works, anticipated to be 14 months).	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		Considering the size of otter territories and the abundance of suitable habitat beyond the Site, the Works are highly unlikely to have any impact to the local otter population or individual otters and thus effects are considered negligible.	
Otter	Disturbance of commuting/ foraging otter	As discussed above, otters are most active within watercourse channels between dusk and dawn. Works at multiple locations are in close proximity to watercourses which are suitable for otter and may disturb/displace otters using these watercourses. However, any disturbance from construction activities is likely to be limited to daylight hours. Any possible impact would be temporary, for the duration of the Works at each particular location (which will be of shorter duration than that for the full Works, anticipated to be 14 months). Any possible impact would be at a minute scale in comparison to the size of an otter territory and alternative suitable habitat. Therefore, if affected, individuals are most likely to be displaced into alternative suitable habitat within their territories, and this impact would be temporary and thus effects are considered negligible.	Negligible (Not significant)
Otter	Disturbance of otter resting sites	Disturbance to otter resting sites is considered possible within 200m of a natal holt and 30m of a non-natal holt or layup. A single non-natal holt and two lay-ups were identified, however, they are all located at more than 30m from the Site and so disturbance to these is not anticipated.	None
Otter	Mortality of otter	Otter could potentially be killed by machinery where it is in use during construction. However, this is not expected to occur given that otter are highly mobile and able to move away from such machinery. Furthermore, otter mortality while within refuges will be prevented given that refuges are not being destroyed and thus effects are considered negligible.. Any further injury or mortality will be prevent by embedded mitigation.	Negligible (Not significant)
Water vole	Direct mortality	A single confirmed water vole territory (WV.XX.01) is located between tower compounds XX07 and XX08. There is no risk of water voles entering the XX08 compound due to the presence of a significant dispersal barrier in the form of a railway line, although the water vole territory is 63m away. Potential mortality is limited to the risk of an individual from the WV.XX.01 territory traveling into the footprint of compound XX07. However, this compound is situated approximately 180m from the territory. As water voles typically maintain much smaller home ranges and remain in close proximity to their burrows this travel distance is considered highly unlikely.	None

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
Water vole	Loss / disturbance of water vole burrows	No burrows will be destroyed by the Works. Disturbance to water vole burrows would only be likely to occur if works took place within 10m. No Works will take place within 10m from water vole burrows and therefore no disturbance is anticipated.	None
Water vole	Permanent and temporary direct habitat loss	No loss of water vole habitat is anticipated. The only confirmed water vole area (WV.XX.01) is located approximately 180m away from XX07 tower compound and 63m away from tower compound XX08 and is separated from the compound location by a railway.	None
Badger	Temporary direct habitat loss and habitat fragmentation	A total of 2.88ha broadleaved and mixed woodland and scrub will be temporary lost to the works (tower and site compounds), much of which is potentially suitable for badger foraging, commuting and sett building. There will be additional more minor losses to facilitate new proposed access tracks, however the majority of the access tracks are through open habitats. In the context of the wider landscape, the extent of woodland and scrub habitats within the Site is small, and the total areas, represent smaller areas of habitat spread along the 35km linear Site. Ample suitable habitat is present in the wider area. In addition, in most cases habitats which can be used by badger (scrub, bracken, grassland) is expected to naturally reinstate following construction and thus any habitat removal. Given the above, the loss of this habitat is not anticipated to have a significant effect on the badgers associated with the Site, or on their ability to survive and breed and thus effects are considered negligible.	Negligible (Not significant)
Badger	Loss of sett	In total, three outlier badger setts are expected to be lost to facilitate the uprating works. Sett ZG.BS.03, located within a pulling area, consists of three burrows, only one of which was found to be active during recent surveys. Sett XR.B.03 comprises three active burrows situated toward the periphery of XR023 tower compound, while Sett XR.B.09 consists of two active burrows located adjacent to a scaffolding area above the A73 road. Badger sett XR.B.09 is likely to be retained but disturbed (see section below). To minimize the requirement for sett destruction, micro-siting will be explored by the Ecological Clerk of Works (ECoW) to determine if the destruction of these setts can be avoided. Pre-construction monitoring, potentially including the use of camera traps, will be undertaken to confirm the current	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		status of these setts and to identify any new setts that may have been established within the disturbance zone of the proposed works. While the final activity status of these setts will be confirmed closer to the start of works, this assessment assumes a worst-case scenario involving the loss of all three outlier setts. Given that these are outlier setts and are typically used sporadically and not as primary breeding sites, their loss is unlikely to significantly affect the local badger population. However, as badgers and their setts are legally protected, a license for disturbance, exclusion, and destruction of all three setts will be required from NatureScot. It is considered unlikely that a replacement sett would be mandated for an outlier sett, but all works must adhere to the conditions set out in the protected species license. Overall effects are considered negligible.	
Badger	Disturbance of setts	Badger setts are considered at risk of disturbance where they are within 30m of built / installed components including tower compounds, site compounds, pulling positions and proposed access tracks. A total of nine badger setts, of which two are likely main setts, two are likely annexe setts and five are outlier setts will be subject to possible disturbance from one or both of the above sources. For all setts, disturbance will be temporary, for the duration of the Works in the vicinity of each sett (of shorter duration than that for the full Works, anticipated to be 14 months). Given the narrow, linear layout of the Site, it is unlikely that the Works would cause simultaneous disturbance of all setts within the territory of a single badger clan. Given the above, and that badgers are widespread and common in the central belt of Scotland, temporary disturbance of setts is not anticipated to have a significant effect on the badgers associated with the Site, or on their ability to survive and breed and thus effects are considered negligible.	Negligible (Not significant)
Badger	Mortality of badger	Badger could potentially be killed by machinery where it is in use during construction. However, this is not expected to occur given that badger are highly mobile and able to move away from such machinery. Furthermore, badger mortality while within refuges will be prevented given that refuges are being	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		disturbed only, and not destroyed and thus effects are considered negligible. Any further injury or mortality will be prevented by embedded mitigation.	
Red Squirrel	Temporary habitat loss - felling	Red squirrel habitat loss will take place where woodland will be felled for the tower compounds in locations where red squirrels are considered to be present (ZG Route). This loss is estimated at 0.05ha and includes broadleaved and mixed woodland. Red squirrels generally occur at densities of between 0.5-1.5 individuals/ha¹¹⁶, and this loss would therefore be expected to impact maximum a single individual (calculated at between 0.025 and 0.075 individuals). Given the very small scale of the footprint, the impact on the local red squirrel population is considered negligible.	Negligible (Not significant)
Red Squirrel	Habitat fragmentation	Within the ZG Route, a total of 0.05ha of woodland habitat will be lost to accommodate the tower compounds. While habitat fragmentation can theoretically impact red squirrels by restricting movement, reducing genetic exchange, and increasing predation risk during ground crossings, such effects are not anticipated here as the area to be lost is minimal and will not result in fragmentation as the area will remain passable. The loss of 0.05ha represents a small fraction of the woodland cover available in the wider area. Given the abundance of suitable habitat in the wider areas, the ability of red squirrels to navigate the landscape will not be compromised. The works will not create a functional barrier to dispersal, and the ecological connectivity will remain intact and thus effects are considered negligible.	Negligible (Not significant)
Red Squirrel	Loss and disturbance of dreys	Loss of red squirrel dreys will occur where dreys are present within areas which will be felled. Disturbance to red squirrel dreys may occur where Works take place within 50m of dreys during the breeding season (February to September inclusive), or within 5m or one tree's distance of a potential drey location (whichever is less) during the non-breeding season.	Negligible (Not significant)

¹¹⁶ Harris, S., & Yalden, D. (2008). Mammals of the British Isles: handbook. Mammal Society.

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		The number of dreys which will be lost/disturbed is not known. However, as discussed above for habitat loss, maximum a single individual will be impacted. Any possible impact from disturbance would be temporary, for the duration of the Works and thus effects are considered negligible.	
Terrestrial invertebrates	Permanent and Temporary habitat loss	The wider invertebrate assemblage is expected to be typical of the region, as the habitats recorded, including heavily degraded bog and heath, are widespread across the Central Belt. While notable invertebrates may be present within habitats such as woodland, heathland, bog, many of these species have highly specific micro-habitat requirements and are unlikely to be common across the site. Consequently, any populations of notable invertebrates are likely to be small within the site footprint. Given that vast amounts of similar habitat are present within the wider local area, the localized loss of vegetation is expected to have a negligible impact on the invertebrate population. Regarding the Small Pearl-bordered Fritillary, a total of 0.24ha of habitat will be lost within the Greenhead SINC where this species was recorded (NBN Atlas). However, this habitat loss is likely to be temporary as natural regeneration is anticipated following the completion of works (Refer to Greenhead SINC above). Also, although the presence of violets within these specific areas indicates some degree of suitability for the species, there is an abundance of similar habitat available throughout the wider SINC and the surrounding landscape and thus effects are considered negligible.	Negligible (Not significant)
Breeding Schedule 1 birds	Temporary Disturbance / Displacement	An evaluation of the potential for displacement from breeding sites, if works commenced prior to the breeding season and continue through the early months (e.g. February to April) is provided below. Barn owl are fairly tolerant of human disturbance, as evidenced by their presence breeding within active farm buildings. Farm buildings with barn owl breeding potential were identified approximately 80m north of the Site. The farm building is part of a larger farm complex and would be subject to regular activity, including movement of large plant. At a distance of 80m the farm building with breeding suitability is at the higher end of the published disturbance distance (50m to 100m) and activity associated with uprating works would not involve activities that would emit significant noise / vibration, e.g. excavation, piling etc. As such it is considered unlikely that barn owl would be displaced from nesting in this building during the works.	Negligible (Not significant)

Feature (importance)	Potential impact	Details of ecological effect	Assessment of significance
		The only section of the Site within 100m of the potential barn owl tree breeding site is an access route, which comprises a section of an existing wind farm access track. It is highly unlikely that upgrades to this track would be required to facilitate access for the Project. As such works in this area would be limited to construction traffic. It is considered unlikely that irregular passage of construction traffic, along an existing track, would displace breeding barn owl and thus effects are considered negligible.	
	Temporary habitat Loss	No potential breeding sites would be lost as a result of the works. The majority of temporary working areas are located within grazing pasture which is a low value habitat for hunting barn owl and thus effects are considered negligible.	Negligible (Not significant)
Wintering birds (not including bean goose and pink-footed goose)	Temporary Disturbance / Displacement	Works associated with Towers XX001A and XX002 could potentially disturb or displace waterbirds from Woodend Loch. Tower XX001A compound will be approximately 40m from open water areas of the Loch. The loch in this area, however, is fringed by mixed woodland and therefore personnel and plant at ground level would be screened from birds on the water. Waterbirds associated with urban wetlands, such as Woodend Loch, are typically habituated to human activity and would not be expected to be displaced. Activities at these towers would be short term, of no more than approximately 6 weeks duration.	Negligible (Not significant)
		Waterbirds using the waterbody adjacent to Towers XX007 would perhaps be more susceptible to disturbance/displacement as there is less screening vegetation. However, a farm track and mainline railway line pass directly adjacent and therefore birds would be habituated to a degree of background disturbance. As a worst-case, waterbirds could be displaced from this waterbody for a short period (approximately 6 weeks) during works on adjacent towers and thus effects are considered negligible.	
	Habitat Loss	No habitat associated with Woodend Loch, including fringing habitat, would be lost.	No effects

Table 8-227 Source of disturbance to badger at each sett

Sett reference	Sett Type	Sett activity level	Source of disturbance to sett			
			Works associated with tower compounds, site compounds and pulling positions	Works associated with proposed access tracks	Works associated with visibility splays	Works associated with scaffolding
ZG.BS.01	Outlier	Active	Yes	No	No	No
ZG.BS.02	Main	Active	Yes	Yes	No	No
ZG.BS.03*	Outlier	Partially used	Yes	No	No	No
ZG.BS.04	Outlier	Partially used	Yes	No	No	No
ZG.BS.05	Annexe	Partially used	No	Yes	No	No
XX.B.02	Outlier	Partially used	Yes	No	No	No
XR.B.01	Annexe	Partially used	No	Yes	No	No
XR.B.03*	Outlier	Active	Yes	Yes	Yes	No
XR.B.04	Outlier	Active	Yes	Yes	No	No
XR.B.07	Main	Active	No	No	Yes	No
XR.B.09	Outlier	Active	Yes	Yes	No	Yes
*Setts are likely to be destroyed						

Summary of Significant Effects

- 8.7.28 The following significant adverse effects (Significant at County level or higher, and therefore Significant in EIA terms) have been identified:
- Permanent loss of bat roosts (Significant at County level); and,
 - Temporary disturbance to bat roosts (Significant at County level).
- 8.7.29 There are there are no other likely significant effects (Significant at County level or higher, and therefore Significant in EIA terms) for the Uprated Overhead Lines.

Proposed Additional Mitigation Measures

Habitats

- 8.7.30 No habitat effects associated with the Uprating Overhead Line works are significant and as such there are no specific mitigation measures required. However, the additional measures as set out above for the New Line in Section 8.6.60 will be followed in accordance with best practice.

Species

- 8.7.31 A Significant effect at the County level regarding the loss of and/or disturbance to valuable bat roosts may occur, this is Significant in EIA terms. In the absence of detailed roost survey data this assessment is a reasonable worst case scenario. To confirm the actual impact on bat roosts, and to ensure appropriate mitigation is implemented, a suite of bat roost surveys will be completed to determine the presence or likely absence of roosts within all trees which will be affected by Works. These may focus on PRF-M trees, i.e. those with the potential to support an important roost. These should follow best practice BCT guidance which may require up to three survey visits spread across the bat active season. These may take the form of aerial inspection surveys and/or dusk emergence surveys. If a roost is present further roost characterisation surveys may also be required. Based on the results of these surveys, specific appropriate and proportionate mitigation can be designed and incorporated into a SPP.
- 8.7.32 Pre-work surveys completed by the ECoW are likely sufficient to avoid unacceptable impacts to roost features assessed as PRF-I, however additional mitigation in the form of sufficient compensation for loss of the potential cumulative roost resource should be implemented (i.e. provision of an appropriate number of bat boxes).
- 8.7.33 Additionally, there are legal requirements relating to works which have the potential to impact certain protected species, in this instance, primarily badgers. Protected species licenses from NatureScot are required to permit such works and must be in place before works commence. Until such as time as licences are obtained, appropriate works exclusion zones would be implemented around any relevant protected species features identified , and any extra full surveys (i.e. for bats) and/or pre-works surveys that take place. SPPs are required to support applications for licenses and will include appropriate mitigation measures. For the Works, the required licenses, and the likely content of associated SPPs, are set out in Table 8-2388. Additional details are set out in the embedded mitigation measures in 8.4.3.

Table 8-238 Summary of Additional Mitigation

Feature	Additional mitigation required
Bats	In-line with BCT Guidance, further bat surveys are required to confirm presence/likely absence of bats and characterise roosts. Following these surveys, the number of bat licenses required to permit destruction/possible disturbance can be confirmed. Based on current survey results, it is estimated that bat licenses will be required to permit (at most) the destruction of nine bat roosts and possible disturbance of 46 bat roosts as a result of the works. The Bat SPP will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works/lighting, details on works methods such as soft-felling, and provision of compensatory roosts in the form of bat boxes. In addition, roost features known to be used by less common species which will be lost should be reused where practical, for example by isolating felled branches containing such features and attaching to nearby retained trees. The further surveys mentioned above are separate to pre-works surveys, which will also inform the exact content of the SPP.

Feature	Additional mitigation required
Badger	Badger licenses will be required to permit the disturbance and destruction of two badger setts, both of which are outliers. Badger licenses are also required to permit the disturbance of nine badger setts (See Table 8-1). Disturbance is considered up to 30mn from the Works. 30m is sufficient to avoid disturbance given that no blasting or piling works are currently planned. No additional setts will be disturbed given that they are more than 30m from the Works. It is considered unlikely that a replacement sett would be mandated for an outlier sett, but all works must adhere to the conditions set out in the protected species license.
Red squirrel	Red squirrel licensing is likely to be required to permit the loss of and disturbance of red squirrels dreys.

Residual Effects

- 8.7.34 As mentioned above, two likely effects at County level (i.e. Significant in EIA terms) were identified; loss of and disturbance to bat roosts.
- 8.7.35 Through the application of the mitigation above it is anticipated that these effects will be reduced to being Significant at Local level or lower (depending on pre-construction survey outcomes).
- 8.7.36 No other likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation, there will therefore be no other likely Significant residual effects.
- 8.7.37 As set-out above, additional mitigation has been stipulated as required due to best practice or because of legal requirements.

Monitoring

- 8.7.38 Monitoring will be required where it is a required as condition of protected species licensing, or where necessary to determine the success of habitat regeneration.
- 8.7.39 Monitoring post-works by the ECoW of habitats damaged/removed during works will take place as set out under Table 8.28 above, to check for sufficient regeneration of vegetation and to implement sowing of suitable seed mixes or planting where required. Where vegetation is sown or planted, this will also be monitored to ensure correct establishment and to rectify any establishment issues if found.

Biodiversity Enhancements

- 8.7.40 In compliance with the requirements of policy 3 of NPF4, the Works will include a range of measures which are positive for biodiversity.
- 8.7.41 The Applicant is committed to delivering measurable biodiversity improvements to achieve at least 10% BNG on projects.
- 8.7.42 A separate report is provided which sets out the BNG assessment, see AECOM (2026) Denny to Wishaw Overhead Line BNG Assessment.
- 8.7.43 Further details with respect to biodiversity enhancements are set out in Section 8.16.

Other measures

- 8.7.44 The following additional measures will be implemented as part of the Works, to provide enhancement:
- As noted above, replacement short sections of hedgerow / tree line will be species-rich as opposed to species-poor (by far the majority of impacted hedgerows are species-poor), using woody species native to the region, thereby providing enhancement. Trees will be included in the replacement hedgerow sections where the original hedgerow section contained trees, and will be native to the region, and any lost tree line sections will be replaced by species-rich hedgerow with trees, also providing enhancement;

8.8 Assessment of Effects, Mitigation and Residual Effects of the CB Route Removal Works

Introduction

- 8.8.2 The CB Route Removal works and the area within which the works for this are located are hereafter referred to respectively as the “Works” and the “Site”, until Section 8.9 of this document. Full details of the Works are provided in Chapter 4 Project Description.
- 8.8.3 Ancillary works (e.g. access tracks and scaffolding) which will be used primarily for the construction of the New Build Overhead Line are assessed in Section 8.6 and are not considered further here. Similarly, the temporary compound at Tower CB017 will also be used during the construction of Tower WB033, and so any associated impacts are considered in the assessment of the New Build Overhead Line in Section 8.6.
- 8.8.4 The construction phase is projected to last 4 months, scheduled from September to December 2028.

Methodology

- 8.8.5 General methods, assumptions and limitations relevant to this assessment are detailed above in Section 8.3. Specific assumptions and limitation relating to the assessment of the Works are detailed below.
- 8.8.6 The specific methods adopted for surveys in relation to the Works are detailed within Appendices 8.1 – 8.5.
- 8.8.7 GWDTE are scoped out of the assessment, due to the highly localised nature of the Works, which are within previously disturbed ground, and resulting in limited predicted impacts on groundwater levels and flows (see Chapter 9).
- 8.8.8 As the CB Works relate to the removal of the existing overhead line, operational effects on birds are scoped out. Construction effects are considered.

Site specific assumptions and limitations

- 8.8.9 Habitats within the footprints of tower compounds, scaffolding, pulling positions and proposed access tracks, are likely to naturally regenerate following completion of the works. Total habitat losses have been calculated, although the assessment also discussed the potential for natural regeneration.

- 8.8.10 With respect to vegetation clearance around proposed access tracks and visibility splays, specific details on clearance extents required are unknown. In many instances the Proposed Tracks follow existing accesses, and although may require a level of upgrade, the vegetation clearance required will be minimal and as such the absence of this detail is not considered to be a limitation to the assessment. As set out in the embedded mitigation measures an ECoW will advise on micro-sighting to avoid removal of trees with suitability for roosting bats and will advise on suitable buffer zones to avoid roost lost. The assessment therefore assumes that trees with features suitable for roosting bats will be retained where adjacent to proposed access tracks and within visibility splays. Disturbance to bats within 10m of Works is considered within the assessment.
- 8.8.11 Access for surveys was not available between Towers CB024-CB029. Aerial imagery, Street View and adjacent habitat survey data have been used to extrapolate results as far as possible, and the assessment has been undertaken on the basis that this habitat assignment is based on desk based information. Aerial imagery shows that this habitat is likely to be largely similar to the adjacent habitats which were subject to survey and as such this is not considered to pose a significant constraint to the assessment.
- 8.8.12 Survey specific limitations are described within the relevant appendix for that survey type.

Baseline Conditions

- 8.8.13 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment. Further details of the baseline conditions are provided in Appendices 8.1 - 8.5.

Statutory and Non-Statutory Designated Sites

- 8.8.14 Information on nature conservation sites is given in **Error! Reference source not found.**, and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.
- 8.8.15 Note that the Site spans two local authority areas and LNCS are referred to as WS where designated by Falkirk Council and SINC, where designated by North Lanarkshire Council.
- 8.8.16 Unless stated, designated sites have no hydrological connectivity to the Site.

Table 8-249 Summary of Statutory Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for regularly supporting nationally important numbers of migratory taiga bean geese. Partially underpinned by Slamannan Plateau SSSI, West Fannyside Moss SAC and West Fannyside Moss SSSI.	Intersects the Site around Tower CB022 and between Towers CB007 and CB008. 150m south of Tower CB016. Located upstream of the Site via the Walton Burn.	Designated site importance is derived from designation.	International
Firth of Forth SPA and Ramsar site	Designated for supporting Annex I species over winter and during passage; wintering migratory species; and in excess of 20,000 individual waterfowl over winter.	Located 8.4km north of the Site. Intervening land comprises Falkirk town. Located 9.2km downstream of the Site via Rowan Tree Burn, and 9.1km downstream via the Forth and Clyde Canal, both of which discharge into the River Carron.	Designated site importance is derived from designation.	International
Slamannan Plateau SSSI	Designated for non-breeding taiga bean goose. Mostly coincident with Slamannan Plateau SPA.	See notes above for Slamannan Plateau SPA.	Designated site importance is derived from designation.	National
West Fannyside Moss SSSI	Designated for blanket bog and non-breeding taiga bean goose. Coincident with West Fannyside Moss SAC; forms part of Slamannan Plateau SPA.	Located 1.5km south of Tower CB009, within Slamannan Plateau SPA. Intervening land comprises mainly peatland. Also located 7.4km south of the Site. Intervening land comprises mainly peatland, forestry, and pastoral fields.	Designated site importance is derived from designation.	National
Howierig Muir SSSI	Designated for lowland raised bog.	Located 0.5km east of Tower CB030. Intervening land comprises pastoral fields and marshy grassland.	Designated site importance is derived from designation.	National

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located upstream of the Site via an unnamed minor tributary of the Rowan Tree Burn.		
Bonnyfield Nature Park LNR / Bonnyfield Quarry WS	Comprises re-established habitats on the former Bonnyfield sand and gravel quarry. Supports a range of plants and animals including six-spot burnet moths <i>Zygaena filipendulae</i> .	0.8km west of access to Towers CB034-CB037. Separated from the Site by the Bonny Water and the Forth and Clyde Canal. Intervening land comprises Bonnybridge town.	Local authority designated site.	County
Blackhill Moss WS	A mix of woodland and peatland habitats.	Approximately 890m northwest of the Site. Intervening habitats comprise farmland and plantation woodland.	Local authority designated site.	County
Bruntrigg Moor (Palacerigg) SINC	Lowland raised bog and wet grassland mosaic.	Intersects the Site at Towers CB003-CB005, immediately north of Palacerigg Country Park.	Local authority designated site.	County
Cumbernauld Glen SWT Reserve	Ancient woodland with bluebells and meadow that attracts butterflies, including small pearl-bordered fritillary <i>Boloria selene</i> .	50m northwest of Tower CB001. On the opposite side of Forest Road to the Site.	SWT Reserve	County
Cumbernauld Glen: Crow Wood & Vault Glen (West) SINC	Ancient oak, ash and birch woodland, riparian corridors along Red Burn, wet flushes, and meadow areas. Within Cumbernauld Glen SWT Reserve.	Approximately 235m north of Tower CB001.	Local authority designated site.	County
Cumbernauld Glen: Vault Glen (East) SINC	Ancient woodland along Red Burn gorge, riparian features and wet flushes. Within Cumbernauld Glen SWT Reserve.	Approximately 160m north of Tower CB001.	Local authority designated site.	County
East Fannyside Muir SINC	Blanket bog and, lowland raised bog. Partially overlaps Fannyside Lochs SSSI.	Intersects the Site at Towers CB008-CB011.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Forest Wood SWT Reserve	Mixed plantation woodland with ancient trees, conifer plantations, and semi-natural broadleaf areas. Includes wet flushes and open glades.	Intersects the Site between Towers CB003-CB008.	SWT Reserve	County
Forest Woods SINC	Mixed woodland with ancient trees and semi-natural habitats. Concurrent with the eastern parcel of Forest Wood SWT Reserve.	Intersects the Site between Towers CB003-CB008.	Local authority designated site.	County
Forth And Clyde Canal WS	Wide canal with shallow banks, supporting aquatic flora and fauna.	Intersects the Site between Tower CB037 and access to scaffolding to the south.	Local authority designated site.	County
Garbethill Moor SINC	Peatland. Partly overlaps Garbethillmuir Moss WS.	Approximately 800m southeast of the Site at Tower CB016. Located upstream of the Site via the Walton Burn.	Local authority designated site.	County
Garbethillmuir Moss WS	Peatland and wet heath, with areas of blanket bog and acid grassland. Partly overlaps Garbethill Moor SINC.	Approximately 580m south of the Site where access is proposed for Tower CB024. Intervening land primarily comprises agricultural fields.	Local authority designated site.	County
Glencryan Meadow SINC	Grassland and mixed woodland.	Approximately 650m southwest of the Site at Towers CB001-CB003. Intervening land largely comprises Glencryan Woods SINC.	Local authority designated site.	County
Glencryan Woods SINC	Mixed woodland with ponds. Concurrent with the western parcel of Forest Wood SWT Reserve.	Adjacent to Works around Tower CB003.	Local authority designated site.	County
Glenhead Wood North SINC	Mixed woodland and grassland.	Approximately 830m northwest of Works around Tower CB010. Intervening land comprises woodland within Glenhead Wood South SINC.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		Located upstream of the Site via a tributary of the Walton Burn.		
Glenhead Wood South SINC	Mixed woodland with a small a stream running through the SINC, plus grassland/ and scrub margins.	Approximately 330m northwest of Works around Tower CB010. Intervening land comprises contiguous woodland. Located upstream of the Site via a tributary of the Walton Burn.	Local authority designated site.	County
Graystone Knowe WS	Peatland and scrub.	Intersects the Site between Towers CB015- CB018. Located on the Walton Burn, overlapping and downstream of the Site (and also upstream).	Local authority designated site.	County
Lochgreen Moss WS	Lowland raised bog and wetland areas.	Approximately 650m northwest of Works around Towers CB020 and CB021.	Local authority designated site.	County
North Walton Burn WS	Peatland.	Approximately 300m northwest of Works around Towers CB015 and CB016.	Local authority designated site.	County
Palacerigg Country Park (East) SINC	Mixed woodland, grassland, ponds and farmland mosaic.	Approximately 230m south of the Site at Tower CB005. Intervening land comprises Bruntrigg Moor (Palacerigg) SINC.	Local authority designated site.	County
Palacerigg Country Park (West) SINC	Mixed woodland, grassland, ponds and farmland mosaic.	Approximately 35m and 75m south of Towers CB003 and CB004.	Local authority designated site.	County
Roughcastle WS	Blanket bog and wet modified bog habitat.	Intersects the Site at Towers CB035 and CB036.	Local authority designated site.	County
South Drum Claypit WS	Mosaic of wetland and grassland habitats including marsh and marshy grassland,	Approximately 270m northeast of the access to Tower CB023.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
	developing scrub, basin mire and unimproved acid grassland, plus ponds and wet features.			
South Drum Moss WS	Designated by Falkirk council but no further information is available.	Approximately 270m northeast of the Site at Towers CB023 and CB024.	Local authority designated site.	County
Wester Drum WS	Raised bog and marshy grassland habitat.	Approximately 800m north of the Site at Towers CB04 and CB025 and CB026.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.8.17 LEPO is present within the Site at Towers CB003, CB005, CB006, CB028, CB036, and between Towers CB024 and CB025. A further ten parcels of LEPO are located within 1km of the Site.
- 8.8.18 Although listed in the AWI, LEPO within the Site and nearby is widespread in the area and is not as important as ASNW because the woodland recorded here typically contained a full or partial non-native canopy with a poor ground flora, thus not showing features typically associated with ancient woodland. LEPO is therefore of County importance.
- 8.8.19 Nine parcels of ASNW are present within 1km of the Site. As no ASNW is present within the Site itself, the Site is valued to be of Less than Site importance for ASNW.
- 8.8.20 See Volume 3, Appendix 8.1 WB, CB, AA Habitat Results for further detail on AWI woodlands.
- 8.8.21 AWI woodlands are shown on Volume 2, Figure 8.2 Nationally and Locally Designated Sites. AWI woodlands are also shown on Volume 2, Figure 8.5 Potential Groundwater Dependant Terrestrial Ecosystems alongside other notable habitats.
- 8.8.22 No ancient or veteran trees were identified by the ATI and as such these are considered absent and are valued at less than Site importance.

Habitat survey results

- 8.8.23 Habitats recorded during field survey are shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species and Figure 8.5 Potential Groundwater Dependant Terrestrial Ecosystems.
- 8.8.24 Example photographs of habitats found during the surveys are shown on Plates 5 to 8.
- 8.8.25 The survey area is characterised by agricultural fields, with blocks and parcels of notable woodland, including some listed on the AWI, with some areas of peatland habitats and wetlands. Woodlands are common and include Lowland Mixed Deciduous Woodland, associated with Roughcastle WS and AWI LEPO woodland. Wet Woodland is also present, e.g. along the Rowan Tree Burn. Non-notable woodlands are also a common feature of the survey area (including broadleaved and mixed types). Scattered trees, scrub habitats, Hedgerow and non-notable hedgerows occur infrequently. Blanket Bog (H7130) is largely degraded save for one intact area. Degraded Lowland Raised Bog (H7120) is extensive within moorland areas from 120m to 170m above sea level (ASL) in the southern areas of the Site, associated with blocks of coniferous plantation woodland. Acid grassland, both unimproved and semi-improved, is found in isolated patches. Marshy grassland occurs mainly as non-notable types but includes Purple Moor-grass and Rush Pastures and Lowland Fens. Watercourses include sizable watercourses such as the Rowan Tree Burn and the Walton Burn, as well as smaller watercourses. In some areas, such as North of the Forth and Clyde Canal and south of Roughcastle WS and south of High Bonnybridge, the habitats are dominated by arable fields or agricultural fields of little to no conservation value.
- 8.8.26 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-3030, along with their status as Annex I, SBL Priority habitats and valuation of importance. Linear habitats are set out in Table 8-2511.

- 8.8.27 Also present were scattered trees and scrub which were present across the survey area. These are common and widespread, but do enhance the habitat resource within the Site. Thus they have been assigned Site level importance.
- 8.8.28 Further detail on the habitats recorded are provided in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results.

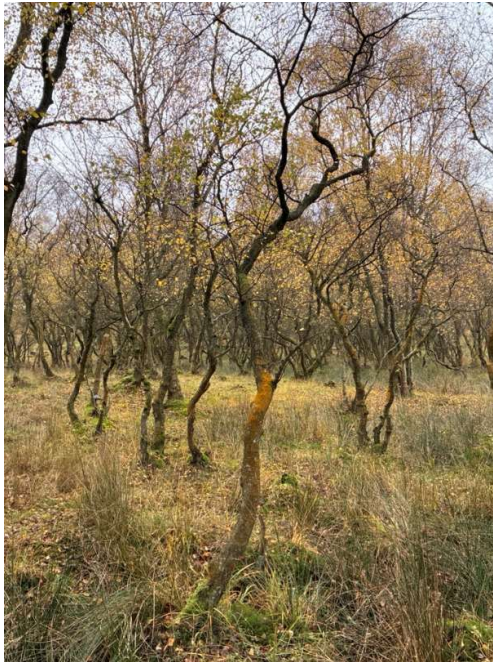


Plate 5. Wet Woodland in Roughcastle WS



Plate 6. Annex I Degraded blanket bog adjacent to tower CB026



Plate 7. Damp neutral grassland adjacent to CB022



Plate 8. Annex I Degraded blanket bog in West Fannyside Moor SINC

Table 8-30 Summary of habitats within the survey area and valuation of importance

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	1.72	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	9.13	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	No	0.74	Enhances the local habitat resource.	Local
A1.1.2 - Broadleaved woodland - plantation	No	12.88	Enhances the local habitat resource.	Local
A1.2.1 - Coniferous woodland - semi-natural	No	0.32	Species-poor habitat with limited ecological value.	Site
A1.2.2 - Coniferous woodland - plantation	No	9.72	Species-poor habitat with limited ecological value.	Site
A1.3.2 - Mixed woodland - plantation	No	1.93	Enhances the local habitat resource.	Local
A2.1 - Scrub - dense/continuous	<u>Wet Woodland</u>	0.21	SBL Priority habitat.	County
A2.1 - Scrub - dense/continuous	No	3.25	Common and widespread habitat.	Site
B1.1 - Acid grassland - unimproved	No	4.42	Locally common habitat with limited ecological value.	Site
B1.2 - Acid grassland - semi-improved	No	0.33	Locally common habitat with limited ecological value.	Site
B2.2 - Neutral grassland - semi-improved	No	17.19	Common and widespread habitat.	Site
B4 - Improved grassland	No	49.11	Common, widespread and heavily modified habitat with limited ecological value.	Site
B5 - Marsh/marshy grassland	<u>Purple Moor-grass and Rush Pastures</u>	0.35	SBL Priority habitat.	County

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
B5 - Marsh/marshy grassland	<u>Lowland Fens</u>	0.14	SBL Priority habitat.	County
B5 - Marsh/marshy grassland	No	17.12	Enhances the local habitat resource.	Local
B6 - Poor semi-improved grassland	No	5.75	Common, widespread and heavily modified habitat with limited ecological value.	Site
C1.1 - Bracken - continuous	No	1.40	Common and widespread habitat.	Site
C3.1 - Other tall herb and fern - ruderal	No	0.94	Common and widespread habitat.	Site
D1.1 - Dry dwarf shrub heath - acid	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	0.13	Patchy areas of low-quality Annex I habitat.	Regional
D2 - Wet dwarf shrub heath	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	2.68	Patchy areas of low-quality Annex I habitat.	Regional
D6 - Wet heath/acid grassland	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	0.63	Patchy areas of low-quality Annex I habitat.	Regional
E1.6.1 - Blanket sphagnum bog	Intact <u>Blanket Bog (H7130 Blanket bog)</u>	4.87	Small area (<25ha) of Annex I habitat.	Regional
E1.7 - Wet modified bog	Degraded <u>Lowland Raised Bog (H7120 Degraded Raised bog)</u>	<0.01	Degraded Annex I habitat.	Regional
E1.7 - Wet modified bog	Degraded <u>Blanket Bog (H7130 Degraded Blanket bog)</u>	35.04	Degraded Annex I habitat.	Regional
E1.7 - Wet modified bog	None	0.16	Very degraded peatland not capable of regeneration.	Site

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
E2.1 - Flush and spring - acid/neutral flush	<u>Lowland Fens</u>	0.66	SBL Priority habitat.	County
E3 - Fen	<u>Lowland Fens</u>	0.31	SBL Priority habitat.	County
E3.1 - Fen - valley mire	<u>Lowland Fens</u>	0.47	SBL Priority habitat.	County
G1 - Standing water	<u>Ponds</u>	0.03	SBL Priority habitat.	County
G1 - Standing water	None	0.47	Ponds which enhance the local habitat resource but which are not known to contain notable species, or are stocked with non-native fish. The canal.	Local
G1.3 - Standing water - oligotrophic	<u>Ponds</u>	0.08	SBL Priority habitat.	County
J1.1 - Cultivated/disturbed land - arable	None	7.36	Heavily modified habitat with limited ecological value.	Site
J1.2 - Cultivated/disturbed land - amenity grassland	None	0.10	Heavily modified habitat with limited ecological value.	Site
J3.6 - Buildings	None	0.24	Artificial habitat with negligible ecological value.	Less than Site
J4 - Bare ground	None	1.06	Heavily modified habitat with limited ecological value.	Less than Site
Hardstanding	None	7.64	Artificial habitat with negligible ecological value.	Less than Site

Table 8-251 Summary of habitats within the survey area and valuation of importance (linear habitats)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total length within the survey area (km)	Rationale for Valuation	Importance level
Lines of broadleaved or mixed trees	No	2.24	Enhances the local habitat resource.	Local
Lines of coniferous trees	No	0.21	Non-native species, often in very poor condition (due to burning).	Site
J2.1.2 - Intact hedge - species-poor	No	0.74	Enhances the local habitat resource.	Local
J2.2.2 - Defunct hedge - species-poor	No	0.84	Where SBL Priority habitat, this is due to the number of species present. However, these hedges are not appreciably different in value to non-SBL hedge and still overwhelmingly dominated by hawthorn.	Local
J2.3.1 - Hedge with trees - native species-rich	<u>Hedgerows</u>	0.17		
J2.3.2 - Hedge with trees - species-poor	No	0.16		

Watercourses

- 8.8.29 Five watercourses present within 1km of the Site are identified by SEPA's Water Classification Hub¹¹⁷. A further two moderately sized watercourses are known to be present but were not classified by SEPA. These are summarised below in Table 8-2622.
- 8.8.30 As presented in Table 8-2622, some of the watercourses listed may qualify as Rivers SBL Priority habitat by meeting at least one of the criteria listed on the SBL Priority habitat description. Where a watercourse may represent SBL Priority habitat it is valued at County importance as for other SBL Priority habitats. Otherwise, Local importance has been assigned, because these watercourses still enhance the local habitat resource.
- 8.8.31 The remaining watercourses are very minor burns or narrow ditches, many of which only contained a trickle of water at the time of survey. These are not SBL Priority habitat, are not of particular ecological value and are valued at Site level importance.

¹¹⁷ <https://informatics.sepa.org.uk/WaterClassificationHub/> [Accessed December 2025]

Table 8-262 Details of watercourses

Watercourse name	SEPA Overall status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
River Carron Avon Burn to Bonny Water Confluences / Bonny Water confluence to Carron Estuary	Poor	Moderate	Approximately 1.9km downstream of the Site via the Rowan Tree Burn and Bonny Water.	Possible SBL Priority <u>River</u>	County
Bonny Water	Moderate ecological potential	Moderate	Approximately 0.9km downstream of the Site via the Rowan Tree Burn.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Downstream of NS 84398 79528	Not identified by SEPA		Crossed by proposed access for the Works immediately north of the Forth and Clyde Canal.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Upstream of NS 84398 79528	Not identified by SEPA		Approximately 18m from the Proposed Access Track, at closest. Over-sailed by the existing overhead line between CB030 and CB031.	Not SBL Priority habitat	Local
Forth and Clyde Canal Wyndford to Rough Castle / Rough Castle to Grahamston	Good ecological potential	High	Over-sailed by the existing overhead line between Towers CB036 and CB037, and the location of Proposed Scaffolding.	Not SBL Priority habitat	Local
Walton Burn	Not identified by SEPA		Crossed by the existing overhead line between Towers CB014 and CB015.	Possible SBL Priority <u>River</u>	County
Glencryran Burn	Moderate	High	Approximately 0.4km from the Proposed Access Track, at closest, near to Cumbernauld Substation.	Not SBL Priority habitat	Local
Red Burn	Moderate ecological potential	Moderate	Approximately 1.5km north of the Site, on the opposite side of Forest Road.	Possible SBL Priority <u>River</u>	County

Species

8.8.32 Table 8-2733 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment.

Table 8-273 Summary of protected and notable species results and valuation.

Feature	Summary of baseline	Rationale for Valuation	Importance Level
Notable plant species	<u>Desk study</u> A single record of a notable plant species was received from NBN Atlas - greater butterfly orchid from approximately 17m south of the Site at Tower CB005. <u>Field survey</u> No notable plant species were identified during the surveys.	The Site is dominated by widespread and common habitats, or by degraded semi-natural habitats which are mainly on the edge of urban areas. There are more notable habitats which may be of greater botanical interest, but these are localised. The small number of desk study and lack of field survey records are consistent with this and Site level importance is considered appropriate.	Site
Bats	The below is a summary – please see Volume 3, Appendix 8.2 WB, CB, AA Bat Results for further detail and Volume 2, Figure 8.6 Bat Ground Level Tree Assessment / Preliminary Roost Assessment Results. <u>Desk study</u> NBN Atlas returned 23 records of bats, relating to common pipistrelle, soprano pipistrelle, Daubenton's bat and unknown bat species. These records were concentrated near Bonnybridge, Greenbank and Cumbernauld Substation. One of these was a Daubenton's bat maternity roost of 32 individuals, located near Bonnybridge.	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. The ZoI comprises a mosaic of habitats providing varying degrees of suitability for foraging, commuting and roosting bats. High suitability habitats are localised and are not ubiquitous throughout the Site. Desk study has highlighted the potential presence of seven species and given the location of the Site, the presence of further species is considered unlikely. Most of these seven species are common and widespread throughout the Scottish lowlands, although the <i>Nyctalus</i> species present show a more restricted distribution. Common and soprano pipistrelles, Daubenton's bat, brown long-eared bat and Natterer's bat are all considered widespread species	County

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	<u>Field survey</u> Habitat suitability across the Site is varied, ranging from High to Low. High suitability areas are generally associated with broadleaved woodlands and riparian corridors such as that along the Rowan Tree Burn. The majority of the Site comprises Low suitability areas primarily characterized by non-native conifer plantation, extensive agricultural land or peatland with minimal habitat connectivity. The 2022 bat activity surveys for the New Build Overhead Line Site confirmed the presence of soprano pipistrelle, common pipistrelle, Daubenton's bat, Leisler's bat, noctule, and brown long-eared bats. Given the proximity of study area used for the activity surveys and the Site, it is considered likely that a similar assemblage would be present here. The bat assemblage is unlikely to have changed since 2022 given no major habitat differences were recorded. GLTA identified 42 trees with potential to support roosting bats. These comprise: • nine PRF-M trees; • 23 PRF-I trees; and, • ten FAR trees. PRF trees were mostly concentrated in woodland, along road/field edges and along watercourses.	throughout the Central Belt of Scotland. While they have differing habitat requirements, the suitable habitat on Site could support any of these species. The potential roost resource includes PRF- M trees which may be suitable for more important roosts, such as maternity roosts or hibernation roosts. The PRF-M trees are spread across the Site. Again, whilst species have differing roost requirements, the common species likely to be present based on desk study results could all use the PRFs identified. Noctule and Leisler's bat are less widespread but not considered rare. They too will utilise the same higher suitability habitats on Site but generally favour particular tree features (e.g. rot holes or woodpecker holes) and so are likely to be limited on Site by roost resource availability. The Core Sustenance Zone (CSZ) of all bat species likely to be present range from between 2 to 4 km, indicating that species which may roost on Site will also utilise suitable connected habitat well beyond the Site, of which there is much available. Given the above, whilst the Site is likely to support an assemblage of common and widespread species, plus possible uncommon Nyctalus species, and these are likely not distributed evenly across the Site but instead are localised in the specified clusters.	

Feature	Summary of baseline	Rationale for Valuation	Importance Level
		The limited habitat suitability and limited distribution of roost resource indicates that the bat assemblage of the Site would not be important beyond a Local scale. However, the possible roosts present include potentially important types such as maternity / hibernacula which, depending on the species and number of individuals present, could be important beyond Local level, possibly up to County scale. Therefore, on balance, and on a precautionary basis, a valuation of County importance is considered appropriate.	
Otter	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results for further detail and Volume 2, Figure 8.7 Otter and Water Vole Survey Results. <u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> Suitable habitat for the species is present along the larger watercourses and waterbodies within and adjacent to the Site. Otter likely also use minor watercourses and ponds for commuting and foraging at times. No otter holts or layups are present within 200m of the Site.	Otter are European Protected Species and remain strictly protected under the Habitats Regulations. Otter are relatively widespread and common in Scotland (with a population estimated at 8000 individuals by NatureScot¹¹⁸), including the Central Belt, and evidence found during the surveys confirms that they are present on most of the suitable watercourses within and adjacent to the Site. However, the Site as a whole is not especially suitable for otter and any suitable habitat present is localised and patchy as a result of the Sites linear shape which mainly crosses watercourses rather than following them. No otter holts or layups were found during survey. Given the above, and that there are many hundreds of kilometres of suitable watercourse within the North Lanarkshire and Falkirk Council areas which are more suitable and likely support greater	Local

¹¹⁸ <https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/otter>

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	Spraints were identified on the Bonny Water, Rowan Tree Burn, Walton Burn and Glencryan Burn during the survey, confirming the use of these water courses by otter.	numbers of otter, County importance would be disproportionate. Thus, Local level importance is considered appropriate.	
Water vole	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results for further detail and Volume 2, Figure 8.7 Otter and Water Vole Survey Results. <u>Desk study</u> No records received from NBN Atlas. The National Water Vole Database notes water vole presence within 10km grid square (OSGR NS77) which overlaps the south of the Site between Towers CB001 and CB011. <u>Field survey</u> Suitable watercourses and waterbodies within the survey area comprise small streams typically through improved grassland or wetland habitats. These habitats are suboptimal for water vole as there is often short vegetation which lacks opportunities to shelter from predators, and no evidence of the species was identified during field surveys.	The desk study identified presence of water vole within OSGR NS77, however, as water vole are known to be present elsewhere within this area (e.g. Luggiebank Wood SWT reserve), this is not strongly indicative of their presence within the Site. No evidence of the species was identified within the survey area during field surveys and water vole is considered absent.	Less than Site
Badger	The below is a summary – please see Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential) for further detail and Volume 2, Figure 8.9 Badger Survey Results (Confidential).	Badgers are a common species and not afforded protection for nature conservation purposes. Whilst present within the Site, there is ample suitable habitat also present within the wider area.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	<u>Desk study</u> Eleven records were received from NBN Atlas from across the three 10km grid squares overlapping the Site (OSGR NS77, NS87, and NS88). <u>Field survey</u> The Site and surrounding area contain habitats suitable for sett creation and foraging (e.g. scrub, woodland, and neutral grasslands) with less suitable habitat associated with the peatland around Fannyside Muir. There is ample additional suitable habitat in the wider area. Badger evidence was recorded throughout the surveyed area, with three setts recorded within 50m of the Site (CB.B.01, WB.B.16 and WB.B.21).	The three setts located within 50m are unlikely to be significant in a local context, given the large numbers of setts known to be present from surveys for other elements of the Project. Thus Site importance is considered appropriate.	
Pine marten	<u>Desk study</u> One record received from NBN Atlas within the 10km grid square (OSGR NS77) which overlaps the south of the Site between Towers CB001 and CB011. Pine martens are known to be present in North Lanarkshire as noted in the North Lanarkshire LBAP. <u>Field survey</u> The Site and wider area offer good habitat for pine marten as it has a high proportion of woodland cover with open areas for foraging. Foraging opportunities are from small mammals, berries, beetles, birds, and bird's eggs. There are	No pine marten refuges were identified within the Site and surrounding area, and the Site is therefore not considered to be of particular importance to the species. The population of pine marten associated with the Site is therefore unlikely to be significant in a local context. However, pine marten are known to be present from desk study information and a potential scat, and individual pine marten may use the Site for foraging or commuting at times.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	opportunities for den establishment scattered particularly in the north of the Site, e.g. amongst rock piles. No confirmed den sites were found, however a single possible pine martin scat was identified near Cumbernauld Substation indicating that the species may use the surrounding habitat (and potentially the Site) at times.		
Red squirrel	<u>Desk study</u> Records from the NBN Atlas and Saving Scotland's Red Squirrels indicate that red squirrels are present within the Site and surrounding area only from Bonnybridge northwards. <u>Field survey</u> No evidence of red squirrel was incidentally recorded during field surveys. Areas of suitable woodland habitat are scattered across the length of the Site.	The Site lies on the southern edge of red squirrel range, where the red squirrel population of northern Scotland meets the grey squirrel population of the Central Belt. Due to competition, red squirrels are only likely to occur in low densities where they co-exist with grey squirrels. An indicative range of the species was established from desk study information, and red squirrels are considered unlikely to occur within the Site south of Beam Road. Given the above, red squirrel are only likely to occur in suitable woodland habitat along the northern 4.3km of the Site (approximately 39% of its total length). NHZ 17 encompasses part of Loch Lomond & The Trossachs National Park, a red squirrel stronghold, and the Site population is likely part of this much larger population. Thus Regional importance for the population on Site would be disproportionate. However, red squirrels are uncommon in the lowlands, particularly in urban areas where grey squirrels are present, which includes the	County

Feature	Summary of baseline	Rationale for Valuation	Importance Level
		vast majority of Falkirk and North Lanarkshire local authority areas. Indeed the population in the north of the Site identified by the desk study appears to be the only population in this area. Thus County importance is considered more appropriate.	
Brown hare and hedgehog	<u>Desk study</u> The NBN Atlas returned two records of brown hare from approximately 625m east of the Site between Towers CB031 and CB035, and two records of hedgehog associated with the Kildrum housing estate, at closest, approximately 970m north of the Site at Tower CB001. <u>Field survey</u> It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Site. Brown hare may also occur in the grassland habitats within the Site.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17. Local level importance would be considered disproportionate, and Site level importance in considered sufficient.	Site
Great crested newt	The below is a summary – please see Volume 3, Appendix 8.4 WB, CB, AA Great Crested Newt Results for detail and Volume 2, Figures 8.8a Great Crested Newt Habitat Suitability Assessment and eDNA Survey Results and Figure 8.8b Great Crested Newt Population Assessment Results. <u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for GCN, as determined by the ARG UK Advice Note 5, and the species is known to be present within the central belt of Scotland.	GCN live in a meta-population structure comprising multiple small populations across several closely located ponds, usually within 250m of one another. A lack of connectivity between suitable ponds reduces the likelihood that GCN would be present. Pond AA01 is isolated given that it is the only pond within the area bordered by the Rowan Tree Burn and two railway lines, both of which are likely barriers to GCN movement. Ponds AA02 and AA03, through close to each other, are separated from other ponds in the wider area by the railway to the north and the Rowan Tree Burn to the east. No other ponds are present within	Local

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	No records of GCN were received from NBN Atlas, TWIC or ARG/ARC UK Record Pool. <u>Field survey</u> A desk-based review and subsequent fieldwork identified 13 ponds within 250m of Works. Of these: • five ponds (WB35, WB0J, WB38, WB39, WB40 and WB41) returned negative eDNA results; four ponds (WB34, WB36, WB37 and WB42) were not subject to eDNA survey for reasons described in Volume 3, Appendix 8.4 WB, CB, AA Great Crested Newt Results, but GCN are considered absent; four ponds were not subject to eDNA survey because they were found after the 2025 survey season ended (see Limitations in Volume 3, Appendix 8.4 EB, CB, AA Great Crested Newt Results. The status of GCN in these ponds is unconfirmed. These ponds had the following HSI scores: AA01 – Below average; AA02 – Poor; AA03 – Below average; and CB01 – Good.	the accessible areas within 500m. Furthermore, AA02 scored Poor on the HSI. Pond CB01 (which scored Good on the HSI) is relatively close to the GCN population present in the wider Drum WS area (see assessment for New Build Overhead Line), being 0.76km from the nearest pond known to contain GCN. For this reason, a precautionary approach has been taken, and GCN are assumed to be present in and around pond CB01. If present, this individual pond is likely to support only a small population of GCN, and this would be connected but peripheral to the wider Drum WS area population. Hence County level importance is disproportionate, and Local level importance is considered more appropriate.	
Common reptiles and amphibians	<u>Desk study</u> The NBN Atlas search returned records of common toad and common lizard associated with the moorland north of Fannyside Loch. The ARGUK Record Pool provided further records of common lizard within the 10km OS grid squares that overlap the Site. No other amphibians or reptiles were identified during the desk study.	Apart from GCN, reptiles and amphibians in Scotland are widespread, and there is abundant suitable habitat for these species in the areas immediately within and adjacent to the Site, as such Site importance is considered appropriate.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	<u>Field survey</u> There is some suitable habitat present within the Site in the form of woodlands and associated grassland and scrub, which could be used by reptiles as well as foraging / commuting amphibians. However, the improved pasture locally present across the Site does not offer good habitat conditions for reptiles and amphibians. There are suitable water bodies which could support breeding populations of amphibians scattered across the Site; these are referred to above in relation to GCN.		
Terrestrial invertebrates	<u>Desk study</u> The Site is not located within, or near to, any Buglife IIAs. Records of three notable invertebrate species, all located within the Roughcastle WS and Howierig Muir SSSI, were received from the NBN atlas: • Tormetil mining bee <i>Andrena tarsata</i>; and, • Crane fly species <i>Tanyptera nigricornis</i> and <i>Tanyptera atrata</i>. <u>Field survey</u> Specific invertebrate surveys were not completed but the likelihood of notable invertebrate assemblages being present can in part be inferred from the presence of notable habitats. Thus, notable invertebrates (including those not identified by the desk study) may occur where SBL Priority or	Notable invertebrates may be present across the Site, where habitats are suitable. Vast amounts of habitat similar to that found on Site are present within the wider local area. Given that the Site is not located within, or near to, any Buglife IIAs, County level importance is considered disproportionate. However, taking a precautionary approach in the absence of specific field data, and given the presence of notable records in the desk study, a valuation of Local importance is given.	Local

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	other notable habitats are present, and it is possible notable invertebrates may use more widespread and common habitats such as non-notable woodland and non-notable marsh pasture. Heavily modified habitats in the Site (improved fields, built-up areas, which represent a large proportion of the habitat present) are unlikely to support notable invertebrates.		
Breeding passerines	<u>Desk study</u> The NBN Atlas provided records of twelve notable passerine species which could potentially use habitat on or adjacent to the Site during the wintering period. Species returned were greenfinch, redpoll, mistle thrush, siskin, skylark, song thrush, starling, bullfinch, house sparrow, reed bunting, yellowhammer and kingfisher. <u>Field survey</u> Specific surveys for wintering passerines were not undertaken. Species that are potentially resident (i.e. present year-round) were recorded during the breeding bird survey. Species recorded can be broadly assigned as woodland/scrub specialists (bullfinch, greenfinch, redpoll, mistle thrush, siskin and song thrush), species associated with field margin habitats and wetland areas (yellowhammer, tree sparrow, linnet and reed bunting) and species associated with buildings/built up areas (house sparrow and starling). Skylark, associated with open grassland/agricultural fields, were also recorded.	The wintering passerine assemblage contains species which are common and widespread in North Lanarkshire and Falkirk, and the wider central belt of Scotland and as such these are valued at Site importance.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	There is suitable habitat for a range of notable passerines species on or adjacent to Site		
Raptors and owls	<u>Desk study</u> Notable raptor/owl species returned from a search of NBN that could potentially use habitat on or adjacent to Site during the winter/passage period included barn owl, peregrine falcon and goshawk. <u>Field survey</u> Breeding territories of the following resident raptor species were recorded within approximately 1km of the Site; barn owl, goshawk, kestrel, long-eared owl and tawny owl. As these species are generally resident i.e. present year-round, habitats on or adjacent to site could support birds over the winter period. In addition to the above species flights of peregrine and hen harrier were recorded during the non-breeding season VP surveys. The majority of hen harrier activity recorded was more than 500m east of the Site, including at Fannyside Muir.	Resident raptor species recorded included the Schedule 1 listed barn owl and goshawk with hen harrier and peregrine (both Annex 1 and Schedule 1 listed) recorded during the non-breeding season. The above species are typically more wide ranging during the non-breeding season than the breeding season. Habitats used by these species for roosting and hunting are more dispersed than during the breeding season, which is more concentrated in the vicinity of the nest site. Consequently, it is considered that the Site and surrounding area is at most of Site importance to raptors and owls.	Site
Waterbirds (not including taiga bean goose and pink-footed goose)	<u>Desk study</u> Notable waterbird species returned from a search of NBN that could potentially use habitat on or adjacent to site during the winter/passage period included curlew, lapwing, snipe, garganey, goldeneye, pintail, pochard, greylag goose, and whooper swan.	Greylag goose is an Amber listed BoCC based on the proportion of the European wintering population present in the UK and its relatively localised distribution. The Scottish population of greylag goose comprises at least 25,000 native/naturalised birds present year-round with a further 85,000+ arriving from Iceland to overwinter ⁸⁸ . No regional population is available for the species. A peak of 275 birds represents approximately 0.3% of the national wintering population.	Local

Feature	Summary of baseline	Rationale for Valuation	Importance Level
	<u>Field survey</u> The only wintering waterbirds recorded within the ZOI of the Site during the foraging and roosting goose surveys were recorded on and around St. Helen's Loch at the northern end of the Site. Greylag geese were recorded foraging and loafing on and around St Helens Loch during the goose foraging and roosting surveys. Eight observations were recorded in this area with a peak count of 275 birds recorded. All records were within 350m of the Site in this area. Additionally, multiple species of waterfowl were incidentally recorded on St Helen's Loch during the goose foraging and roosting surveys. Species included mute swan, shoveller and goosander.	Incidentally recorded species on St Helen's Loch included shoveller and whooper swan, both of which are Amber listed BoCC, with whooper swan additionally listed on Annex I of the Birds Directive. It is considered that the wintering waterbird population is of local importance.	

Invasive non-native plant species

- 8.8.33 Two records of INNS were received from the NBN Atlas, both of Japanese knotweed from approximately 500m west of the Site at Tower CB039 on the banks of the Bonny water.
- 8.8.34 The field surveys recorded INNS are scattered throughout the Site, as shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species.
- 8.8.35 Of particular note is:
- Himalayan balsam within the footprint of tower compound CB039;
 - Japanese knotweed within and adjacent to the footprint of tower compound CB033 and associated access;
 - Rhododendron within the footprint of tower compound CB031;
 - Japanese knotweed adjacent to the footprint of tower compound CB002 and associated access;
 - Japanese knotweed and rhododendron scattered along access to tower compound CB035 and within Howierig Wood; and
 - Montbretia and buddleja within private landscaped areas adjacent to access tracks associated with tower compound CB031.
- 8.8.36 INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

- 8.8.37 As set out in Section 8.8.40, relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of Site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-2844. For scoped out features there are no likely significant effects in EIA terms.

Table 8-284 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this chapter
Howierig Muir SSSI	Howierig Muir SSSI is located outside of the Site. The qualifying feature for this designation is lowland raised bog habitat and, given that this is restricted to within the SSSI boundary, there is no risk of direct habitat loss. Thus no possible impact pathways have been identified and this site has been excluded from further assessment.
LNRs, LNCS and SWT Reserves which do not overlap the Site, are not hydrologically connected to the Site (or are located upstream): - Bonnyfield Nature Park LNR/Bonnyfield Quarry WS; - Cumbernauld Glen: Vault Glen (East) SINC; - Palacerigg Country Park (East) SINC; - Cumbernauld Glen: Crow Wood & Vault Glen (West) SINC; - South Drum Claypit SINC; - South Drum Moss WS; - North Walton Burn WS; - Glenhead Wood South SINC; - Garbethillmuir Moss WS; - Glencryan Meadow SINC; - Wester Drum WS; - Garbethill Moor SINC; - Glenhead Wood North SINC; and - Blackhill Moss WS	Considering the scale and nature of Works, and that the listed designations are designated to protect the ecological features which occur within their boundaries, there is no possible means through which Works could have a significant effect on any of these designated sites. Thus no possible impact pathways have been identified and these Sites are excluded from further assessment.
Ancient / Veteran Trees	Valued at Less than Site level importance.
Scattered trees and scrub, lines of coniferous trees, coniferous woodland, non-notable scrub, acid grassland, neutral grassland, improved grassland,	Valued at Site level importance.

Feature	Rationale for exclusion from further assessment in this chapter
poor semi-improved grassland, bracken, tall ruderal vegetation, non-SBL degraded blanket bog, arable and amenity grassland.	
Standing Water/ Ponds	Valued at County and Local level. No ponds will be subject to habitat loss and the embedded mitigation measures will ensure no indirect impacts.
Minor watercourses and ditches	Valued at Site level importance.
Buildings, bare ground, non-native shrub and, hardstanding.	Valued at less than Site level importance.
Notable plant species	Valued at Site level importance.
Water vole	Valued at less than Site level importance.
Pine marten	Valued at Site level importance.
Badger	Valued at Site level importance.
Brown hare and hedgehog	Valued at Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Passerines	Valued at Site level importance.
Raptors and owls	Valued at Site level importance ¹¹⁹ .

¹¹⁹ All SPA quantifying features are considered within the relevant SPA evaluation and not included as part of this assemblage.

Design and Embedded Mitigation Measures

- 8.8.38 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant.
- 8.8.39 Note that there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot will be required to permit such works, and must be in place before works commence. SPPs are required to support applications for such licenses, and will include appropriate mitigation measures. For the likely content of these SPPs see the below section on Proposed Additional Mitigation Measures.

Important ecological features

- 8.8.40 The following IEFs relevant to the assessment are:
- SPAs and SSSIs which overlap the Site:
 - Slamannan Plateau SPA;
 - Slamannan Plateau SSSI;
 - SPAs, Ramsar sites and SSSIs which don't overlap the Site but are within range for qualifying features:
 - Firth of Forth SPA and Ramsar site;
 - West Fannyside Moss SSSI;
 - LNCS and SWT Reserves which overlap the Site;
 - Forth And Clyde Canal WS;
 - Roughcastle WS (and waterbirds associated with St Helens Loch);
 - Tippetcraig WS;
 - Graystone Knowe WS;
 - East Fannyside Muir SINC;
 - Forest Woods SINC;
 - Forest Wood SWT Reserve;
 - Bruntrigg Moor (Palacerigg) SINC; and
 - Glencryan Woods SINC;
 - AWI LEPO;
 - Annex I habitats;
 - Lowland Heathland, H4030 Dry heaths; lowland;
 - Lowland Heathland, H4010 Wet heaths; lowland;
 - Intact Blanket Bog, H7130 Blanket bog;

- Degraded Lowland Raised Bog, *H7120 Degraded Raised bog*;
- Degraded Blanket Bog, *H7130 Degraded Blanket bog*;
- SBL Priority habitats
 - Lowland Mixed Deciduous Woodland;
 - Wet Woodland;
 - Purple Moor-grass and Rush Pastures;
 - Lowland Fens;
 - Ponds;
 - Hedges; and,
 - Possible SBL Priority Rivers;
- Other habitats which enhance the local habitat resource;
 - Lines of broadleaved or mixed trees;
 - Non-SBL hedges;
 - Non-SBL broadleaved and mixed woodland;
 - Non-SBL marsh/marshy grassland;
 - Non-SBL standing water; and
 - Non-SBL watercourses (excluding very minor watercourses);
- Bats;
- Otter;
- Red squirrel;
- GCN; and
- Terrestrial invertebrates.

Assessment of Effects

- 8.8.41 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed above and in Section 8.4 and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.8.42 The following construction phase impacts cannot be fully scoped out following implementation of embedded mitigation:
- Direct habitat loss (permanent and temporary);
 - Direct loss of bat roosts;
 - Disturbance to roosting bats (other than from lighting);
 - Loss/fragmentation of refuges/habitats of importance to protected and notable species;

- Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration; and
 - Morality of protected species caused by vehicle movements (not including breeding birds).
- 8.8.43 Following a review of the potential impact pathways and implementation of embedded mitigation there are no likely significant operational effects.
- 8.8.44 Possible impacts and effects from the construction phase are described in Table 8.35.

Table 8-295 Summary of Statutory Sites for Nature Conservation.

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
Firth of Forth SPA/Ramsar site (International)	Temporary disturbance /displacement	Details of effects on the SPA are also included in detail in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Of the qualifying species of the SPA/Ramsar site, pink-footed goose could potentially use habitat on or adjacent to the Site for foraging. This species was recorded foraging around the northern end of the Site during the goose roosting and foraging surveys. There are extensive alternative foraging resources available to the birds and the species naturally redistributes in response to agricultural practices. While minor temporary disturbance/ displacement effects may occur during the construction phase, which are considered to be negligible, no adverse effects on the integrity of the SPA/Ramsar site are anticipated, due to the short term and temporary nature of the effect, and the suitability of foraging resources within the wider area. Consequently, there could only be a temporary effect, which based on the data recorded is considered negligible.	Negligible (Not Significant)
Firth of Forth SPA/Ramsar site (International)	Temporary habitat loss	Details of effects on the SPA are also included in detail in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Loss of habitat potentially used by foraging pink-footed goose would be negligible in extent and temporary in nature with all temporary works areas reinstated following the works. There will be no habitat loss from within the SPA.	None
Slamannan Plateau SPA (International)	Temporary disturbance /displacement	Details of effects on the SPA are also included in detail in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Details of effects on the SPA are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). As shown on Volume 2, Figure 8.14 Bean Goose Foraging Roosting Activity the core areas used by foraging and roosting bean goose were to the east of the Site.	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		The works have the potential to disturb and displace bean goose within the disturbance zone of the works, determined to be 500m based on guidance in Goodship & Furness¹²⁰. Notably, no foraging or roosting bean goose were recorded within 500m of the Site during AECOM surveys. One areas within the SPA, within 500m of the Site, were shown to be used by bean goose in data provided by the BGAG: Field approximately 400m south of access track to CB Tower 22 - Foraging flocks were recorded in this field on two occasions in winter 2020/21 with a mean count of 45 birds (Volume 2, Figure 8.31 Bean Goose 2020-2021). The only records of GPS tagged birds in this field were recorded during the same winter with records comprising four separate birds recorded during January 2021. No use of this field was recorded during winters 2021/22, 2022/23, 2023/24 or 2024/25 indicating this area is not a regular key foraging area. Even if this was a regular foraging area, which it is not, works associated with the CB route would only affect foraging geese for a maximum of four months (the construction program for the CB route). An additional two areas used by bean geese within 500m of the Site, outside the SPA, were identified as follows: Field approximately 180m north of WB Tower 33 – Four GPS tagged birds were recorded within the field across relatively short time periods. Tag ID 215345 and WHIT182 were recorded on a single day (05 January 2025 and 18 January 2022 respectively), Tag ID WHIT242 across 6 days in November 2021, and Tag WHIT27 across three days in November 2021. No birds were recorded in this field during the foraging distribution surveys or during AECOM surveys. As such, this field is not considered a core foraging area used frequently between years. Due to the	

¹²⁰ Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		proximity of works it is assumed that bean geese could be dissuaded from foraging within this field during the removal of the CB route and construction of the WB route in this area. This would encompass periods within both the 2027/28 and 2028/29 wintering periods. Field between WB Towers 35 and 36 - A single GPS tagged bird (Tag 215345) was recorded in this field with multiple GPS fixes across four days in early January 2025. No birds were recorded in this field during foraging distribution surveys or during AECOM surveys. This area was evidently used infrequently by foraging geese and is not considered an important foraging area for the population. Due to their proximity, it is assumed that works could prevent bean geese from foraging within this field during the removal of the CB route and construction of the WB route in this area. This would encompass periods within both the 2027/28 and 2028/29 wintering periods. All of the above areas were used infrequently by bean geese in comparison to areas more distant to the Site. None of these areas, within 500m of the Site, are considered as core foraging areas based on the data collected between 2020/21 and 2024/25 or were even important foraging areas within years. Consequently, there could only be a temporary effect, which based on the data recorded is considered negligible.	
Slamannan Plateau SPA (International)	Temporary habitat loss	Details of effects on the SPA are also included in detail in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Loss of potentially suitable foraging habitat, in fields used by the geese, would be negligible in extent and largely temporary from compound areas and access tracks. Additionally, while not used by the foraging geese in recent years, Towers would be removed from the SPA and other areas of potentially suitable habitat. There will be no effect from habitat loss.	None

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
Slamannan Plateau SSSI (National)	Temporary disturbance /displacement	The site is an underlying SSSI of the SPA, coincident in area, and is designated for the same qualifying feature, bean goose. As such effects follow those of the SPA.	Negligible (Not Significant)
Slamannan Plateau SSSI (National)	Temporary habitat loss	The site is an underlying SSSI of the SPA, coincident in area, and is designated for the same qualifying feature, bean goose. As such effects follow those of the SPA. Consent from NatureScot would be required to enable works within this SSSI (the works compound around Tower CB022 and associated access).	None
West Fannyside Moss SSSI (National)	Temporary disturbance/displacement	West Fannyside Moss SSSI, along with the Slamannan Plateau SSSI detailed above, is an underlying SSSI of the Slamannan Plateau SPA with both sites designated for supporting bean goose. As such the conclusions with respect to the SPA above is also applicable to this SSSI. There will be no habitat loss from West Fannyside Moss.	Negligible (Not Significant)
All LNCS and SWT Reserves (County)	Temporary habitat loss	Non-woodland/scrub habitats within LNCS and SWT Reserves will be temporarily lost where there are tower compounds, proposed access tracks, scaffolding and pulling positions within the designations. Some of these habitats are notable, however, this loss is expected to be temporary, until the habitats regenerate, and minor (limited to the footprints of proposed new access tracks, compounds, scaffolding and pulling positions), especially when compared to the total areas of the LNCS and SWT Reserves, many of which are very large. The habitats are expected to regenerate into habitats which are already present within the designations. Furthermore, once the existing towers are removed, habitats located here would be able to naturally regenerate over time. This loss required to facilitate the removal of the towers is therefore not expected to have any long-term negative impact on the integrity of these destinations and effects are considered negligible.	Negligible (Not Significant)
AWI LEPO (County)	Permanent habitat loss	Habitat which is located within AWI LEPO areas will be lost at five locations – 0.18ha to tower compounds CB036, CB028, CB006, CB005 and CB003 and 0.08ha to associated access tracks, amounting to a total loss of 0.26ha of LEPO (where woodland or scrub was recorded), noting that the AWI is not always	Negligible (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		sufficiently accurate to confirm the extents of woodlands¹²¹). The loss in reality will be less than this as CB005 and CB006 are on peatland habitats, and there will be no tree (or woodland) loss at these locations. CB028 was not accessed (see Limitations), however, a review of aerial imagery and Streetview would suggest that the tower compound at this location will be placed within the adjacent improved field (by micro-siting), rather than requiring any significant tree felling. Furthermore, though mapped as LEPO, the woodland within tower compound CB028 is most likely not long-established, most likely having been felled in recent years during management for the CB Route. Woodland loss to compounds (as confirmed by habitat survey results) would encompass 0.13ha of woodland at CB036, 0.6% of this wider LEPO patch, and 0.05ha of woodland at CB003, 0.2% of this wider LEPO patch, neither of which is significant, and a smaller proportion still of that within the Site or Local area. Loss along access tracks would be less than the 0.08ha calculated, given that in some cases the tracks will follow existing tracks through the woodland (including informal tracks) or will run alongside woodland, not requiring any felling. Furthermore, once the existing towers are removed, habitats located here would be able to naturally regenerate over time to scrubby habitats with a similar species composition to that lost, and as such effects are considered negligible.	
<u>Lowland Mixed Deciduous Woodland</u> (County)	Permanent habitat loss	0.09ha (5.23% of the total area of <u>Lowland Mixed Deciduous Woodland</u> identified within the survey area) would be temporarily lost.	Significant adverse effect at a Site level (Not Significant)

¹²¹ NatureScot guidance on AWI notes that the AWI is a provisional guide to the location of ancient woodland, and when evaluating woods it is important to examine the site on the ground looking for archaeological, biological and other indicators of antiquity and of its current biodiversity value - <https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi>

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		<u>Lowland Mixed Deciduous Woodland</u> (NVC type W10) occurs near CB037 and between CB037 and CB036 (where intersected by access tracks), at the CB035 compound, between CB035 and CB034 (in a scaffolding area) and at the CB023 compound. For both CB035 and CB023, <u>Lowland Mixed Deciduous Woodland</u> is at the very edge of the tower compounds, and it is likely they would be avoided through micro-siting. The woodlands are notable for their structural diversity and naturalness but are only moderately species rich. This habitat type is a source of much nature conservation value within the Site but is nevertheless widespread throughout the Scottish central lowlands. Losses of <u>Lowland Mixed Deciduous Woodland</u> are considered permanent, however, where felled, regeneration of tree/shrub vegetation of similar species to those lost is anticipated. Given the CB overhead line will be removed, it is anticipated that regeneration will be allowed to proceed without management and would not be restricted to a height compatible with overhead lines. Where felled for temporary Works, tree/shrub regeneration to a reasonable height would be expected in the medium-term. Considering the scale of the loss and that the losses would likely recover in the medium term through natural regeneration, the impact of Works on <u>Lowland Mixed Deciduous Woodland</u> would be very minor. The impact of Works on <u>Lowland Mixed Deciduous Woodland</u> would therefore be Significant at Site level.	
<u>Wet Woodland</u> (County)	Permanent habitat loss	0.53a (5.67% of the total area of <u>Wet Woodland</u> (woodland and scrub) identified within the survey area) would be temporarily lost. <u>Wet Woodland</u> (NVC type W4) is within and around CB036 (compound and associated proposed access tracks), and around the access tracks near CB034 and CB033. However, the access tracks largely avoid the woodland as they are	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		sited within pre-existing access tracks. A scrubby form of <u>Wet Woodland</u> is within the CB026 compounds, and likely within the CB028 compound (as viewed from Streetview/aerial imagery), and an area of downy birch <i>Betula pubescens</i> scrub encroachment is on deep peat within and near CB011 and CB003. The woodlands are notable but are an acidic type and are therefore only moderately species rich. This habitat type is a source of nature conservation value within the Site but is nevertheless widespread throughout the Scottish central lowlands. Losses of <u>Wet Woodlands</u> are considered permanent, however, where felled, regeneration of tree/shrub vegetation of similar species to those lost is anticipated. Given the CB overhead line will be removed, it is anticipated that regeneration will be allowed to proceed without management and would not be restricted to a height compatible with overhead lines. Where felled for temporary Works, tree/shrub regeneration to a reasonable height would be expected in the medium-term through natural regeneration and the impact of Works on <u>Wet Woodland</u> would be very minor. The impact of Works on <u>Wet Woodland</u> would therefore be Significant at Site level.	
Non-SBL broadleaved and mixed woodland (Local)	Permanent habitat loss	0.76ha (4.89% of the total area of non-SBL broadleaved woodland including broadleaved semi-natural woodland, broadleaved and mixed plantations identified within the survey area) would be temporarily lost. Non-notable broadleaved woodland occurs within and around CB039 and CB035, but the woodland is on the very edge of these compounds, and it is likely that they would be avoided by Works. Non-notable broadleaved woodland occurs north of CB036 (within an area of proposed access tracks), plus within and around CB034 and CB033 compounds and proposed access tracks. However, it is likely that the tracks would largely be sited in open areas, so felling would be limited to the compounds and some short lengths of track. Scots pine <i>Pinus sylvestris</i> dominated woodland with a heathy understory is present near	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		CB028, however, it is anticipated that this area would be completely avoided by Works and the compound restricted to the adjacent agricultural field in which the tower sits. Between CB027 to CB024, CB021 to CB017, CB014 to CB012, and near CB003, the woodlands are almost entirely non-notable and species-poor coniferous types dominated by non-native conifers, but with scattered patches of broadleaved plantation woodland, and mixed woodland. None of these woodlands would be required to be felled to accommodate the Works, so direct impacts would be avoided. Losses of non-SBL broadleaved and mixed woodland are considered permanent, however, where felled, regeneration of tree/shrub vegetation of similar species to those lost is anticipated. Given the CB overhead line will be removed, it is anticipated that regeneration will be allowed to proceed without management and would not be restricted to a height compatible with overhead lines. Where felled for temporary Works, tree/shrub regeneration to a reasonable height would be expected in the medium-term. Considering the scale of the loss, that the losses would likely recover in the medium term through natural regeneration, and that the woodlands themselves are of no particular note, the impact of Works on non-SBL broadleaved and mixed woodland would be very minor. The impact of Works on non-SBL broadleaved and mixed woodland would therefore be Significant at Site level.	
<u>Hedgerows</u> and non-SBL hedgerows and broadleaved and mixed tree-lines (Local)	Permanent and temporary habitat loss	0.01km of SBL Priority <u>Hedgerows</u> (0.01km of which contains mature trees) and 0.64km of non-SBL hedges are within the tower compounds or crossed by proposed access tracks. Loss is considered temporary as reinstatement of any hedges lost will occur following the Works. <u>Hedgerows</u> and non-SBL hedges will be lost at the following locations: CB039-CB038 - Non-notable hedgerows beneath scaffolding;	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		- CB031-CB030 - <u>Hedgerows</u> and a non-notable hedge, both with trees, beneath the existing overhead line; and, - non-SBL hedges alongside access tracks in various locations. For the purposes of this assessment, it has been assumed that all hedges will be lost where they are present within the footprint of proposed access tracks or compounds. However, the actual loss is likely to be less than that stated, given that the hedgerows in most locations can likely be avoided by micro-siting and that hedges within the footprint of access tracks will more likely run alongside them in reality. Loss of taller trees within the hedges is considered permanent, given the time it would take for these to return to their current condition. However, hedges with trees (and other hedges) will be reinstated, and the reinstated hedges will be native and species-rich, and frequently of superior biodiversity value than those lost. Loss of tree lines will be permanent but extremely minor, limited to where they are beneath scaffolding at CB027-CB026 and CB023-CB024, and, locally, along access tracks to CB035, CB032, CB028. Again, it is likely that tree-lines can be avoided in most locations by micro-siting, or run alongside tracks rather than being crossed by them. Even if assuming a total loss of all hedges and trees in the areas described above, the impact would be significant effect at a Site level only.	
Intact <u>Blanket bog</u> (<u>H7130</u>) (Regional)	Temporary habitat loss	0.47ha (9.65% of the total area of <u>Blanket bog</u> identified within the survey area) would be temporarily lost. <u>Blanket bog</u> (NVC type M17a/M18a) would be temporarily lost within and around towers CB016 and CB015 at the compound locations, in addition to losses from associated proposed access tracks. Tower compounds and proposed access tracks would be temporary and reinstated following construction. Peat would be handled, stored and re-	Significant adverse effect at a Local level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		instated appropriately. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). Overall temporary impacts from tracks and compounds would be minor with no significant long-term change. Given the above, but accounting for the value of intact <u>Blanket Bog</u> there will be a temporary significant effect at a Local level.	
Degraded <u>Lowland Raised bog (H7120)</u> / Degraded <u>Blanket bog (H7130)</u> (Regional)	Temporary habitat loss	2.61ha (7.45% of the total area of Degraded <u>Blanket Bog</u> identified within the survey area) would be temporarily lost. Wet modified bog (NVC types H21*, M17*, M19*, M25*, M25a*, M20*) would be lost within and around the following towers and their associated proposed access tracks: CB026, CB020 to CB017, CB015 to CB014, CB012 to CB003. Degraded bogs are a common feature within the local area, occurring in large swathes across the landscape. Works would be temporary and habitats reinstated following construction. Peat would be handled, stored and re-instated appropriately. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). Overall temporary impacts from tracks and compounds would be minor with no significant long-term change. Given the above, there will be a temporary significant effect at a Site level. No <u>Lowland Raised Bog</u> will be lost or otherwise impacted.	Significant adverse effect at a Site level (Not Significant)
<u>Lowland Heathland (H4010 and H4030)</u> (including with acid grassland mosaic)	Temporary habitat loss	0.30ha (8.72% of the total area of <u>Lowland Heathland</u> identified within the survey area) would be temporarily lost.	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
(Regional)		<u>Lowland heathland</u> is a fairly uncommon and often fragmented feature of the central Scottish lowlands. Details with reference to specific locations as follows: - Wet heath (NVC type M15) would be temporarily lost to access tracks between CB036 and CB035; - Wet heath (NVC type M15-H21) and dry heath (NVC type H12) would be temporarily lost to compound CB025 and associated proposed access tracks; and - Wet heath (NVC type M15) within pulling positions associated with CB017, and within CB015. Works would be temporary and reinstated following construction. Peat would be handled, stored and re-instated appropriately. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). Overall temporary impacts from tracks and compounds would be minor with no significant long-term change. Given the above, there will be a temporary significant effect at a Site level.	
<u>Lowland Fens</u> (County)	Temporary habitat loss	0.03ha (1.9% of the total area of non-Annex I <u>Lowland Fens</u> identified within the survey area) would be temporarily lost. These fens are acidic and species-poor. They occur in isolated fragments within the landscape and provide a source of biodiversity value. Loss will occur at one location - at CB036 where a fragment of <u>Lowland Fen</u> (NVC type M6) would be temporarily lost to the compound and the proposed access tracks. A large swathe of <u>Lowland Fen</u> (NVC type M6), is currently over-sailed by the CB line at CB017 and CB016, and CB015 and CB014, and will not be affected by Works.	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		Works would be temporary and reinstated following construction. Vegetation along access tracks would likely recover relatively quickly or over the medium term (depending on if protective matting or stone tracks were used/constructed). Overall temporary impacts from tracks and compounds would be minor with no significant long-term change. Given the above, there will be a temporary significant effect at a Site level.	
<u>Purple Moor-grass and Rush Pastures</u> (County)	Temporary habitat loss	0.03ha (8.57% of the total area of <u>Purple Moor-grass and Rush Pasture</u> identified within the survey area) would be temporarily lost. <u>Purple Moor-grass and Rush Pasture</u> is locally scarce (and in the Scottish central lowlands in general) as much of the original area of this habitat has been lost to agriculture. The habitat (of notable SBL priority status) has some conservation value, due to being moderately floristically diverse. Loss will occur at one location – at CB016, where the compound would be sited on the <u>Purple Moor-grass and Rush Pasture</u> (NVC type M23a), in preference over the more important Blanket bog nearby, as much as possible. Losses would be very minor. Where temporary losses are anticipated, reinstated turves are likely to recover relatively quickly, with no significant long-term change. Given the above, there will be a temporary significant effect at a Site level.	Significant adverse effect at a Site level (Not Significant)
Non-notable marsh/marshy grassland (Local)	Temporary habitat loss	1.69ha (9.87% of the total area of non-notable marsh/marshy grassland identified within the survey area) would be temporarily lost. These are wetlands/damp habitats with little intrinsic nature conservation value. The examples within the Site are generally species-poor, but they provide a source of biodiversity value to the landscape.	Significant adverse effect at a Site level (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		Non-SBL marsh/marshy grassland would be lost to accommodate tower compounds and/or tracks at and around CB037, CB036, CB034, CB033, CB030, CB021 to CB017, CB014, CB012, CB005 and CB001. This habitat is common and widespread in the Scottish central lowlands. The relatively small losses are minor in that context. Losses would also temporary, with recovery expected in the medium-term. Given the above, there will be a temporary significant effect at a Site level.	
Possible SBL Priority <u>Rivers</u> (County)	Temporary habitat loss	No stretches of watercourse will be lost as a result of the Works, although temporary impacts may occur where watercourses are to be crossed. No changes to watercourse lengths are proposed and impacts due to watercourse pollution are scoped out. The Rowan Tree Burn is within 30m of CB037 and is crossed in two places by a proposed access track in this location. This watercourse is also less than 10m from CB035. This watercourse would only be impacted temporarily during construction and in highly localised areas (at crossing points). Temporary bridges or open-bottomed culverts would be utilised and the <u>Rivers</u> restored to their original condition following the completion of Works. Given the above, the effect would be negligible.	Negligible (Not Significant)
Non-SBL watercourses (excluding very minor watercourses/ditches) (Local)	Temporary habitat loss	No stretches of watercourse will be lost as a result of the Works, although temporary impacts may occur where watercourses are to be crossed. No changes to watercourse lengths are proposed and impacts due to watercourse pollution are scoped out. A minor tributary of the Rowan Tree Burn is crossed by a proposed access track to CB030. Another minor tributary of the Rowan Tree Burn is within approximately 5m of the CB035 compound, however, there would be no direct impacts from the Works. An unnamed watercourse within the compound of CB022 is likely to be avoided, with the Works for the compound taking place entirely within the agricultural field in which the tower sits. Any direct impacts to	Negligible (Not Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		these watercourses are over short lengths (e.g. where they are culverted to accommodate access tracks) and would be temporary. Given the above, the effect would be negligible.	
Roosting bats (County)	Loss of bat roosts	Based on current survey data, one PRF-I tree (CB.BT.04) with suitability for roosting bats will be felled as a result of Works at tower compound CB036. Loss of one potential roost site, likely suitable for only individual bats, would not significantly affect the bat population within the Site. It is possible through micro-siting as advised by the ECoW tree removal will be avoided, there is only one single PRF-I tree within the proposed footprint of the access track. However, even in the event of removal the loss of this tree would not have a significant effect on the local bat population, as it is only likely to be used by individual bats and thus effects are considered negligible.	Negligible (Not Significant)
Roosting bats (County)	Temporary disturbance to roosting bats	Based on current survey data, 37 trees with suitability for roosting bats are at risk of disturbance, where they are within 10m of Works (felling, proposed access, scaffolding, tower compounds) but will not be lost. These comprise the following: eight PRF-M trees, 21 PRF-I trees and eight FAR trees. The number of actual bat roosts which will be disturbed is likely to be a very small proportion of those which have suitability. Bats are particularly vulnerable to disturbance during breeding and hibernation. Disturbance may cause a decline in breeding success, and bats awoken during hibernation may struggle to survive the winter. The species which are potentially utilising each PRF are unknown, and, as a precaution, it is considered possible that the more uncommon <i>Nyctalus</i> species could have notable maternity or hibernation roosts within any of the PRF-M trees. These roosts have the potential to be important in a County context. Disturbance of such roosts has the potential to cause a decline in the breeding	Significant adverse effect at Local level (Significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		success/survival of associated bats, and, in the unlikely event that this was the case, this effect would be of County Significance. However, this considered is a worst-case scenario. In reality, the small number of PRF-M trees (eight) are unlikely to all support such notable roosts, and the number of bat roosts which will be disturbed is likely to be a very small proportion of those which are present within the local area, in use by more common species. The number of bat roosts which will be disturbed is likely to be a very small proportion of those which are present within the local area. Furthermore, these trees will be disturbed mainly by access tracks. In many cases, existing access tracks are being used. Works to upgrade these will be minor and vehicular movements during construction would not be dissimilar to baseline use of the tracks (e.g. by farm vehicles). In addition, the effect would be temporary - for the duration of the Works at each particular location (of shorter duration than the full Works, anticipated to be 4 months), and will avoid the main bat breeding season (juvenile bats are generally independent by the start of September¹²²). Disturbance to maternity roosts is therefore unlikely, and hibernation roosts will only be impacted over a single hibernation season. Thus, County level would be disproportionate, and this effect is expected to be of Local significance at most.	
Foraging and commuting bats (County)	Temporary loss of foraging habitat	Small areas of woodland, wetland and grassland will be temporarily lost (as set out above) to the Works, all of which could be used by foraging bats. However, habitat loss will be minor when compared to the retained resource in the survey	Negligible (Not Significant)

¹²² Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		area, and will be temporary, until habitats are restored/ naturally regenerate and effects are considered negligible.	
Foraging and commuting bats (County)	Fragmentation of commuting routes (through habitat loss or displacement during Works)	The existing Limit of Deviation s are likely to be used as commuting routes by bats. Woodland edges will be retained (including where Works will occur), and alternative commuting routes around woodland edges and along linear features including watercourses, hedgerows and lines of trees are available nearby and will be retained. Thus, it is not anticipated that there will be a perceptible impact on bats as a result of the shortening/fragmentation of commuting routes and effects are considered negligible.	Negligible (Not Significant)
Otter (Local)	Temporary disturbance of commuting/ foraging otter	As discussed above, otters are most active within watercourse channels between dusk and dawn, and are most likely to be disturbed where Works are carried out in proximity to these habitats or during these time-periods. Works between Towers CB030 and CB037 (including for associated access tracks) are in close proximity to the Rowan Tree Burn, may disturb/displace otters foraging or commuting along an approximately 2.2km stretch. Works will largely be carried out during daylight when otters are less likely to be active and although they will be complete within four months, Works will be phased so impacts at any given location will be over less time. Also, due to the small size of this burn, it is likely to form only part of the territory of any individual otter (estimated at 48km for males, 21km for females, by some studies¹²³). Therefore, if affected, individuals are most likely to be displaced into alternative suitable habitat within their territories, and this impact would be temporary and thus effects are considered negligible.	Negligible (Not Significant)
Otter (Local)	Temporary habitat loss/Fragmentation of commuting routes	No in channel works are proposed purely for the Works (access to the CB Route Removal will use water crossing associated with access to the New Build Overhead Line works, and discussed in that section).	Negligible (Not Significant)

¹²³ Harris, S., & Yalden, D. (2008). Mammals of the British Isles: handbook. Mammal Society.

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		Habitat loss will be localised (temporary tower compounds, scaffolding, pulling positions and proposed access tracks), restricted to habitats which are not immediately adjacent to watercourses, and temporary, until the habitats regenerate / are restored following Works. As mentioned above, individual otters can have large territories (estimated at 48km for males, 21km for females, by some studies¹²³), and the area of loss would encompass only a small proportion of an individual otters territory. If affected, individuals are most likely to be displaced into alternative suitable habitat within their territories. Given the lack of in-channel works for this component, fragmentation of commuting routes would only occur as a result of disturbance during works. This is unlikely given that works are expected to take place during daylight hours, when otter are less likely to be active. Again, these effects would be temporary, for the duration of works, and any possible impact would be highly localised in comparison to the size of an otter territory and the alternative available habitat thus effects are considered negligible.	
Red Squirrel (County)	Temporary habitat loss	Loss of red squirrel habitat will occur where suitable woodland is felled for the Works, although as noted above, habitats are likely to naturally regenerate over time. This loss will be small, likely a few individual trees compared to the vast areas of suitable retained woodland in the wider area, and is unlikely to impact the ability of even a single red squirrel to survive/breed thus effects are considered negligible.	Negligible (Not significant)
Red Squirrel (County)	Loss of/ temporary disturbance to dreys	Loss of red squirrel dreys may occur where trees containing dreys are felled for the Works. Disturbance to red squirrel dreys may occur where Works take place within 50m of dreys during the breeding season (February to September inclusive), or within 5m or one tree's distance of a potential drey location (whichever is less) during the non-breeding season.	Negligible (Not significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
GCN (Local)	Temporary habitat loss and fragmentation	Given the small number of trees which will be lost, and the localised nature of Works, it is anticipated that the possible number of dreys which could be lost/disturbed would be a small proportion of those available in suitable retained woodland in the wider area and any loss of dreys is considered unlikely. Furthermore, the works will take place only during a single month of the red squirrel breeding season, September 2028, late in the season when young are approaching maturity and are more likely to be able to survive the loss of a breeding drey, and given that red squirrels are known to breed twice in a single season, it is considered that the population will recover in the short term thus effects are considered negligible.	Significant adverse effect at a Site level (Not Significant)
		The below is based on the survey information available and, given that the status of GCN in pond CB01 is unconfirmed, is a worst-case scenario of the possible impacts which could occur.	
		Habitat loss will be restricted to terrestrial habitats, and no ponds will be lost.	
		Temporary GCN habitat loss will take place to all habitats within tower compounds, scaffolding, pulling positions and proposed access tracks where Works are in the vicinity of pond CB01 (taken as between towers CB023 and CB026).	
		Works for towers CB023 and CB024 will take place largely in improved pasture, a habitat unlikely to be used by GCN. Habitat loss associated with towers CB025 and CB026 would be at a small scale, with ample suitable alternative habitat retained in the wider area, including wetland, damp grassland and woodland (where it is not so dense as to prevent a ground flora from developing).	
		However, the tower compound at CB025 will largely prevent GCN associated with pond CB01 from commuting along the existing Limit of Deviation and, although the adjacent woodland could be used, it is likely to be locally	

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		unsuitable due to the patchy ground flora cover where the trees are most dense. This potential reduced access to foraging grounds could have an impact on the ability of GCN within pond CB01 to survive or breed, and such an impact would be of Site level. This impact would be temporary, until the habitats were restored or regenerated following Works.	
GCN (Local)	Mortality of GCN during preparatory works	The below is based on the survey information available and, given that the status of GCN in pond CB01 is unconfirmed, the assessment follows the precautionary principle and assumes GCN are present. GCN associated with pond CB01 could be killed by machinery or personnel during vegetation clearance and ground preparations for/installation of proposed access tracks, tower compounds and scaffolding. These works will be localised, limited to proposed access tracks, tower compounds and scaffolding Works at Towers CB023 to CB026. The risk of accidentally killing or injuring a GCN is therefore low, and at most would only affect very few individuals. This would be a one-off event, taking place at the start of the construction period in this location (sometime between September and December 2028) during the time when GCN are living terrestrially or overwintering in refugia. In the unlikely event that a GCN was killed, this would not significantly impact the wider, local level population given that the population of CB01 is likely a sub-population of the larger wider Drum WS area population. However, the death/injury of a small number of GCN would likely have a significant impact on the population within CB01, given that it most likely supports only a small population. This would be significant at Site level. This effect would be temporary, until the CB01 population was naturally repopulated	Significant adverse effect at a Site level (Not significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		by the main wider Drum WS area population (which could be reliably expected to occur given that the species occurs in meta-populations).	
GCN (Local)	Mortality of GCN during construction	The below is based on the survey information available and, given that the status of GCN in pond CB01 is unconfirmed, is a worst-case scenario of the possible impacts which could occur. GCN associated with pond CB01 could travel into nearby Works areas during construction and be killed by machinery or personnel. However, this is unlikely given that: • GCN mostly travel over land at night, when works will not be taking place; • there will be at least some alternative available habitat on both sides of the Works such that crossing is not essential for foraging; • the proposed access tracks, the main location where mortality could take place, will be made of crushed stone, a habitat not routinely used by GCN; • the movement of traffic in this area is expected to be minimal, restricted to that which is necessary for the Works on Towers CB023 to CB026 only, given that there are no Site Compounds in this area; • the Works for CB023 and CB024 will take place largely in improved pasture, another habitat not routinely used by GCN; and • this risk will be temporary, for the duration of works in this area (likely of shorter duration than the 4 month timeframe given for the Works). Given how unlikely it is that mortality would occur in this way, particularly given the short duration of the Works, and the resulting small numbers of individuals that would be impacted, this is considered a negligible effect.	Negligible (Not significant)
Terrestrial invertebrates (Local)	Temporary habitat loss	Several of the habitats which will be lost have the potential to support notable invertebrates. Species of notable terrestrial invertebrate are generally habitat specific, and cannot readily make use of alternative habitats.	Significant adverse effect at a Site level (Not significant)

Feature / Value	Potential Impacts	Details of ecological effect	Assessment
		However, none of the losses to habitat were only found to be of significance at greater than Site level significance, and it is considered that the effect of habitat loss on terrestrial invertebrates would be of a similar scale and it is likely that habitats will naturally regenerate over time.	
Waterbirds (not including bean goose and pink-footed goose) (Local)	Temporary disturbance / displacement	St Helen's Loch is approximately 60m south of the closet point of the Site, which comprises an access track. This access track is an existing private road which may require upgrading. Other more distant sections of access track to the north are screened from the loch by an extensive area of woodland. Works to upgrade the access track could potentially disturb or displace wintering waterbirds on St Helens Loch and adjacent fields. The birds on the loch, however, are likely habituated to human activity as the Loch is situated in a build-up area with residential areas 80m to the west. Elf hill, to the northeast of the Loch, and a woodland strip along the private road would also provide a degree of visual screening from the works. Works to upgrade this access track would be temporary, a few weeks maximum, and construction traffic would be relatively infrequent. Greylag geese foraging in adjacent fields would likely be displaced during the works but extensive alternative agricultural land is available. It is considered that while waterbirds on St Helen's Loch may become alert to the works, they are unlikely to take flight and be displaced as such effects are considered negligible.	Negligible (Not significant)
	Habitat loss	The Site does not overlap the Loch or adjacent areas.	None

Summary of Significant Effects

- 8.8.45 No effects of County level or higher (i.e. Significant in EIA terms) were identified.

Proposed Additional Mitigation Measures

Habitats

- 8.8.46 As there are no likely Significant effects to habitats in relation to the CB Route Removal, there are no additional mitigation requirements, however, the following measures as set out above for the New Line in Section 8.6.60 will be followed.

Species

- 8.8.47 No likely Significant effects have been identified, and no further mitigation beyond that which is embedded is required.
- 8.8.48 There are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot are required to permit such works, and must be in place before works commence. Until such licences are obtained, appropriate works exclusion zones would be implemented around any relevant protected species features identified during the surveys listed in Table 8-2735, and any pre-works surveys that take place. SPPs are required to support applications for licenses, and will include appropriate mitigation measures. For the Works, the required licenses, and the likely content of associated SPPs, are set out in Table 8-3066. Additional details are set out in the embedded mitigation measures in 8.4.3.

Table 8-306. Summary of Additional Mitigation

Feature	Additional mitigation required
Bats	In-line with BCT Guidance, further bat surveys are required to confirm presence/likely absence of bats and characterise roosts. In-line with BCT Guidance, pre-construction bat surveys are required to confirm presence/likely absence of bats and characterise roosts. Surveys should be undertaken of any trees identified at risk of loss or disturbance identified as suitable for roosting bats. Surveys should be scheduled at least 3 months in advance of felling to allow sufficient time to develop a mitigation strategy and licence application. Also, due to the transient nature of bats, additional surveys maybe required immediately pre-felling. Following these surveys, the number of bat licenses required to permit destruction/possible disturbance can be confirmed (currently loss of one tree and possible disturbance of 37 trees with suitability to supporting roosting bats is taken as the worst case). It is likely that the numbers of confirmed roost presence, will be lower than these numbers. The Bat SPP will specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works/lighting, details on works methods such as soft-felling, and provision of compensatory roosts in the form of bat boxes. In addition, roost features known to be used by less common species which may be lost should be reused where practical, for example by isolating felled branches containing such features and attaching to nearby retained trees. To compensate for the loss of the single tree with bat roost potential, bat boxes will be provided at a suitable ratio, once the final numbers of confirmed roosts which will be lost are known. The details in terms of locations and specifications for bat boxes will be set out within the Ecological Enhancement Plan, to be agreed with the North Lanarkshire

Feature	Additional mitigation required
	and Falkirk Local Authorities. A variety of box types will also be used, including those suitable for breeding and hibernation.
Badger	A Protected Species licence for badger will be required to permit disturbance to a single badger sett (CB.B.01) due to it being within 30m of the proposed access track. No additional badger licenses to permit destruction of setts are required for the Works. The Badger SPP which will accompany the applications for the license will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and detailed works methods. The exact content of the SPPs would be updated by the results of pre-works surveys.
Red squirrel	Red squirrel licensing may be required to permit the loss of and disturbance of red squirrels dreys. A pre-work survey will be undertaken to confirm the presence of any dreys, and monitoring maybe required to confirm the species using the drey, given the presence of grey squirrels within the area as well. This will occur where tree felling (or other Works) occur within the range of red squirrel (taken to be north of Beam Road) In the event that the pre-construction surveys identify a requirement for a Protected Species licence for red squirrel, a Red Squirrel SPP which will accompany the license application will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods. The exact content of the SPP would be updated by the results of pre-works surveys and of ongoing monitoring throughout the Works. Timing in particular is critical given that disturbance to red squirrel dreys is possible within 50m of dreys during the breeding season (February to September inclusive), as opposed to within 5m/one trees distance in the non-breeding season. NatureScot state that there is a presumption against licensing disturbance/damage/destruction of active breeding dreys. As in general vegetation removal will be undertaken outwith this period this is unlikely to be a consideration.
GCN	In-line with NatureScot Guidance, further GCN survey (likely eDNA survey initially) is required to confirm presence/likely absence of GCN at pond CB01, and to determine the size of the population. Following these surveys, the requirement for GCN licenses can be confirmed. A GCN license maybe required to permit possible harm to the animals themselves (death/injury/disturbance) and to their resting sites (destruction/damage/obstruction) where it could occur within 250m of pond CB01, if eDNA survey confirm presence. No ponds (including CB01) are expected to be impacted, and this license will apply to terrestrial habitat only. The GCN SPP will likely specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods (including hand searching and phased vegetation clearance to exclude the species from certain areas, and phased removal by hand of any refugia).

Residual Effects

- 8.8.49 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.
- 8.8.50 There will therefore be no likely Significant residual effects.

Monitoring

- 8.8.51 Monitoring will be required where it is a required as condition of protected species licensing, or where necessary to determine the success of habitat regeneration.

Biodiversity enhancement

- 8.8.52 In compliance with the requirements of policy 3 of NPF4, the Works will include a range of measures which are positive for biodiversity.
- 8.8.53 The Applicant is committed to delivering measurable biodiversity improvements to achieve at least 10% BNG on projects.
- 8.8.54 A separate report is provided which sets out the BNG assessment, see AECOM (2026) Denny to Wishaw Overhead Line BNG Assessment.
- 8.8.55 Further details with respect to biodiversity enhancements are set out in Section 8.16.

8.9 Assessment of Effects, Mitigation and Residual Effects of the AA Route Undergrounding Works

Introduction

- 8.9.2 The AA Route Undergrounding Works and the area within which the works for this are located are hereafter referred to respectively as the “Works” and the “Site”, until Section 0 of this document. Full details of the Works, including construction methods are provided in Chapter 4.
- 8.9.3 Note that all access tracks that will be used during the Works are primarily for the New Build Overhead Line or the CB Route Removal Works and are assessed in Section 8.6 and Section 8.8. These are not considered further here, except for the access between Towers AA006 and AA009 and the associated water crossing, which are considered part of the Works.
- 8.9.4 The construction phase is projected to last 18 months, scheduled from June 2027 to November 2028

Methodology

- 8.9.5 General methods, assumptions and limitations relevant to this assessment are detailed above in Section 8.3. Specific assumptions and limitation relating to the assessment of the Works are detailed below.
- 8.9.6 The specific methods adopted for surveys in relation to the Works are detailed within the relevant survey appendix (Appendices 8.1 – 8.5).
- 8.9.7 Notably, the excavations required to install the underground cables and foundations for temporary towers are likely to be of significant depth and therefore, as per SEPA guidance³⁹, GWDTE’s have been considered to 250m from towers and from the proposed

underground cables. GWDTE's have been considered to 100m from site compounds and proposed access tracks (where not on existing tracks).

- 8.9.8 There are no operational impacts associated with the AA route. The undergrounding of the AA route is considered when assessing the risk of bird collision associated with the New Build Overhead Line.

Site specific assumptions

- 8.9.9 Habitats within the footprints of tower compounds, underground cables, scaffolding and proposed access tracks will be restored following the completion of Works;

Site specific limitations

- 8.9.10 With respect to vegetation clearance around proposed access tracks and visibility splays, specific details on clearance extents required are unknown. In many instances the Proposed Tracks follow existing accesses, and although may require a level of upgrade, the vegetation clearance required will be minimal, and as such the absence of this detail is not considered a significant limitation to the assessment; and,
- 8.9.11 As set out in the embedded mitigation measures (Section 8.4) an ECoW will advise on micro-sighting to avoid removal of trees with suitability for roosting bats and will advise on suitable buffer zones to avoid roost lost. The assessment therefore assumes that trees with features suitable for roosting bats will be retained where adjacent to proposed access tracks and within visibility splays. Disturbance to bats within 10m of the central access line is considered within the assessment.
- 8.9.12 The desk-based review identified no ponds within 250m of Works, however, three ponds were incidentally recorded during habitat surveys. eDNA sampling was not carried out at any of these ponds since they were not discovered until November 2025 and thus outside of the survey window. These ponds were subject to HSI assessment, and the assessment has been undertaken on the basis of the ponds suitability to support GCN and their proximity to the Works. As such the absence in eDNA data is not considered to affect the outcome of the assessment.
- 8.9.13 Only small sections of the Site were within the breeding bird survey area. Habitats within the surveyed areas of the Site are broadly similar to those in the wider Site not subject to detailed survey, although un-surveyed areas include a larger proportion of scrub/woodland. The assessment took into account what over typical breeding passerine assemblage could be present in these locations. Furthermore, as the Works relate to the undergrounding of the cable, impacts on birds are limited to the construction phase, as such standard embedded mitigation measures will address these. As such the absence of detailed breeding bird survey information is not considered to affect the outcome of the assessment.
- 8.9.14 Access to specific locations within the survey area were not available:
- Network Rail land, immediately north of tower AA002 and between towers AA004 and AA005; and
 - Fields in the far south of the survey area, associated with Greenrig Farm, in the vicinity of tower AA010.

- 8.9.15 None of these are considered significant limitations because the land which was not accessed is, in general, of low value habitats which could be reliably surveyed from adjacent land and which were unlikely to support protected or notable species.
- 8.9.16 Survey specific limitations are described within the relevant appendix for that survey type.

Baseline Conditions

- 8.9.17 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment. Further details of the baseline conditions are provided in Appendices 8.1 - 8.5.

Statutory and Non-Statutory Designated Sites

- 8.9.18 Information on nature conservation sites is given in Table 8-3177, and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.
- 8.9.19 Unless stated, designated sites have no hydrological connectivity to the Site.

Table 8-317 Summary of Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for regularly supporting nationally important numbers of migratory taiga bean geese. Partially underpinned by Slamannan Plateau SSSI, West Fannyside Moss SAC and West Fannyside Moss SSSI.	Approximately 1.7km south west of the Site. Intervening land comprises plantation woodland and farmland.	Designated site importance is derived from designation.	International
Firth of Forth SPA and Ramsar site	Designated for supporting Annex I species over winter and during passage; wintering migratory species; and in excess of 20,000 individual waterfowl over winter. Designated for assemblages of non-breeding and passage birds.	Approximately 8.2km northeast of the Site. Intervening land comprises the town of Falkirk. Located approximately 9.2km downstream of the Site via the Rowan Tree Burn.	Designated site importance is derived from designation.	International
Howierig Muir SSSI	Designated for lowland raised bog.	Approximately 0.5km east of the underground cable route DIP2. Intervening land comprises improved pasture.	Designated site importance is derived from designation.	National
Slamannan Plateau SSSI	Designated for non-breeding taiga bean goose.	Largely concurrent with Slamannan Plateau SPA.	Designated site importance is derived from designation.	National
Forth and Clyde Canal WS	Designated by Falkirk council but no further information is available.	Intersects the Site where scaffolding will bridge the Forth and Clyde Canal.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Roughcastle WS	Designated by Falkirk council; habitats comprise blanket bog and wet modified bog habitat, identified for peatland flora.	Intersects the Site where scaffolding will bridge the railway south of the Forth and Clyde Canal.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.9.20 The Site overlaps a parcel of LEPO at Towers AA002 and AA003.
- 8.9.21 A further seven parcels LEPO are within 1km of the Site, but are not crossed by it.
- 8.9.22 Although listed on the AWI, LEPO within the Site and nearby is widespread in the local area frequently encompasses woodland which is not otherwise notable and which exhibits a full or partial non-native canopy with a poor ground flora.
- 8.9.23 LEPO is therefore valued as County importance.
- 8.9.24 No ASNW is present within the Site and it is therefore of Less than Site importance.
- 8.9.25 See Volume 3, Appendix 8.1 WB, CB, AA Habitat Results for further detail on AWI woodlands.
- 8.9.26 AWI woodlands are shown on Volume 2, Figure 8.2 Ancient Woodland, Peatland and Watercourses. AWI woodlands are also shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species alongside other notable habitats.
- 8.9.27 No ancient or veteran trees were identified by the ATI and as such these are considered absent and are valued at less than Site importance.

Habitat survey results

- 8.9.28 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results and Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species and further details are provided in Volume 3, Appendix 8.1 WB, CB, AA Habitat Results. Example photographs of habitats found during the surveys are shown on Plates 9 to 12.
- 8.9.29 The survey area is characterised by agricultural fields in the north (Plate 9), with blocks and parcels of notable woodland (Plate 10), including some listed on the AWI, and non-notable broadleaved plantation woodland (Plate 11). Woodlands are common and include Lowland Mixed Deciduous Woodland, associated with Roughcastle WS and is listed on the AWI as LEPO woodland. Wet Woodland is also present, e.g. along the Rowan Tree Burn. The woodlands are within a pre-existing overhead line corridor and are subject to periodic felling. Lowland Fen occurs in an isolated patch within Roughcastle WS. Scattered trees, scrub habitats, Hedgerow and non-SBL hedgerows are present in two locations. Non-notable wetland and grasslands occurs frequently and are particularly common in the south, which includes expansive area of improved grassland (Plate 12).
- 8.9.30 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-3288, along with their status as Annex I, SBL Priority habitats and valuation of importance. Linear habitats are set out in Table 8-3399. Watercourses are discussed in more detail in 8.9.358.9.33 .
- 8.9.31 Also present were scattered trees and scrub which were present across the survey area. These are common and widespread, but do enhance the habitat resource within the Site. Thus they have been assigned Site level importance.
- 8.9.32 Many of the of the habitats identified during field survey qualify potential GWDTEs, and these are discussed in Section 8.9.33.



Plate 9. Arable fields in the north of the survey area



Plate 10. Lowland Mixed Deciduous Woodland along the Rowan Tree Burn



Plate 11. Plantation woodland adjacent to the proposed underground cable



Plate 12. Improved grassland in the south of the survey area

Table 8-328 Summary of habitats within the survey area and valuation of importance (area habitats)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	2.98	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	3.73	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	No	0.28	Enhances the local habitat resource.	Local
A1.1.2 - Broadleaved woodland - plantation	No	1.98	Enhances the local habitat resource.	Local
A1.3.2 - Mixed woodland - plantation	No	0.06	Enhances the local habitat resource.	Local
A2.1 - Scrub - dense/continuous	No	1.77	Common and widespread habitat.	Site
B1.1 - Acid grassland - unimproved	No	1.19	Locally common habitat with limited ecological value.	Site
B2.2 - Neutral grassland - semi-improved	No	7.12	Common and widespread habitat.	Site
B4 - Improved grassland	No	7.73	Common, widespread and heavily modified habitat with limited ecological value.	Site
B5 - Marsh/marshy grassland	<u>Lowland Fens</u>	0.01	SBL Priority habitat.	County
B5 - Marsh/marshy grassland	No	2.20	Enhances the local habitat resource.	Local
B6 - Poor semi-improved grassland	No	0.37	Common, widespread and heavily modified habitat with limited ecological value.	Site
C1.1 - Bracken - continuous	No	0.40	Common and widespread habitat.	Site
C3.1 - Other tall herb and fern - ruderal	No	0.82	Common and widespread habitat.	Site

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total area within the survey area (ha)	Rationale for Valuation	Importance level
D6 - Wet heath/acid grassland	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	0.23	Patchy areas of low-quality Annex I habitat.	Regional
E3 - Fen	<u>Lowland Fens</u>	0.03	SBL Priority habitat.	County
G1 - Standing water	None	0.45	Ponds which enhance the local habitat resource but which are not known to contain notable species. The canal.	Local
J1.1 - Cultivated/disturbed land - arable	None	6.88	Heavily modified habitat with limited ecological value.	Site
J1.2 - Cultivated/disturbed land - amenity grassland	None	0.04	Heavily modified habitat with limited ecological value.	Site
J4 - Bare ground	None	0.18	Heavily modified habitat with limited ecological value.	Less than Site
Hardstanding	None	3.32	Artificial habitat with negligible ecological value.	Less than Site

Table 8-339 Summary of habitats within the survey area and valuation of importance (linear habitats, excluding watercourses)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Total length within the survey area (km)	Rationale for Valuation	Importance level
A3.1 - Broadleaved parkland/scattered trees	No	0.06	Enhances the local habitat resource.	Local
J2.1.2 - Intact hedge - species-poor	No	0.60	Enhances the local habitat resource.	Local
J2.2.2 - Defunct hedge - species-poor	No	0.13	Where SBL Priority habitat, this is due to the number of species present. However, <u>Hedgerows</u> are not appreciably different in value to non-SBL hedgerows and still overwhelmingly dominated by hawthorn.	Local
J2.3.1 - Hedge with trees - native species-rich	<u>Hedgerows</u>	0.12		Local
J2.3.2 - Hedge with trees - species-poor	No	0.12		Local

Groundwater Dependent Terrestrial Ecosystems

8.9.33 The NVC communities identified during the survey which are listed by SEPA guidance on GWDTE as potential GWDTE, are listed below in Table 8-4040, along with the associated GWDTE importance as assigned using the method in 8.3 Methodology. Full descriptions of these habitats are found within Volume 3, Appendix 8.1 WB, CB, AA Habitat Results.

8.9.34 Details on the hydrological conditions of the Site are provided in Chapter 9.

Table 8-40 NVC communities of potential GWDTE present within the survey area

NVC type	Subcommunities	Notable habitat type	GWDTE importance ¹²⁴	Importance Level
M6-Carex echinata-Sphagnum fallax/auriculatum mire	M6c-Juncus effusus	<u>Lowland Fens</u>	Moderate importance	County

¹²⁴ According to SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems.
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2F2c2nr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK>

NVC type	Subcommunities	Notable habitat type	GWDTE importance ¹²⁴	Importance Level
M15- <i>Trichophorum germanicum</i> - <i>Erica tetralix</i> wet heath	n/a	<u>Lowland Heathland (H4010 Wet heaths; lowland, H4030 Dry heaths; lowland)</u>	Moderate importance	Regional
M23- <i>Juncus acutiflorus</i> - <i>Galium palustre</i> rush-pasture (notable type)	M23a- <i>Juncus acutiflorus</i> - <i>Galium palustre</i> rush-pasture- <i>Juncus acutiflorus</i>	<u>Purple Moor-grass and Rush Pasture</u>	Moderate importance	County
M23- <i>Juncus acutiflorus</i> - <i>Galium palustre</i> rush-pasture (non-SBL type)	M23b- <i>Juncus effusus</i>	n/a	Low importance	Local
M25- <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire (non-SBL types)	n/a	n/a	Low importance	Local
M27- <i>Filipendula ulmaria</i> - <i>Angelica sylvestris</i> mire	n/a	<u>Lowland Fens</u>	Moderate importance	County
MG9- <i>Holcus lanatus</i> - <i>Deschampsia cespitosa</i> grassland	n/a	n/a	Unimportant	Site
MG10- <i>Holcus lanatus</i> - <i>Juncus effusus</i>	n/a	n/a	Unimportant	Site
W4- <i>Betula pubescens</i> - <i>Molinia caerulea</i> woodland	n/a	<u>Wet Woodland</u>	Moderate importance	County
W7- <i>Alnus glutinosa</i> - <i>Fraxinus excelsior</i> - <i>Lysimachia nemorum</i> (non-SBL types)	W7c <i>Deschampsia cespitosa</i> (poor examples)	n/a	Low importance	Local

Watercourses

- 8.9.35 Three watercourses present within 1km of the Site are identified by SEPA's Water Classification Hub¹²⁵. The Rowan Tree Burn was not classified by SEPA. These are summarised below in Table 8-3411.
- 8.9.36 As presented in Table 8-3411, some of the watercourses listed may qualify as Rivers SBL Priority habitat by meeting at least one of the criteria listed on the SBL Priority habitat description. Where a watercourse may represent SBL Priority habitat it is valued at County importance as for other SBL Priority habitats. Otherwise, Local importance has been assigned, because these watercourses still enhance the local habitat resource.
- 8.9.37 The remaining watercourses are very minor burns or narrow ditches, many of which only contained a trickle of water at the time of survey. These are not SBL Priority habitat, are not of particular ecological value and are valued at Site level importance.
- 8.9.38 Within the survey area there is 1.38km of potential Rivers SBL Priority habitat and 0.66km of non-SBL watercourse.

¹²⁵ <https://informatics.sepa.org.uk/WaterClassificationHub/> [Accessed December 2025]

Table 8-341 Watercourses identified within 1km of the Site and their SEPA Status.

Watercourse name	SEPA Overall status	SEPA Water quality	Relationship to the Site	SBL Priority habitat status	Importance Level
River Carron Avon Burn to Bonny Water Confluences / Bonny Water confluence to Carron Estuary	Poor	Moderate	Approximately 1.7km downstream of the Site via the Rowan Tree Burn and Bonny Water.	Possible SBL Priority <u>River</u>	County
Bonny Water	Moderate ecological potential	Moderate	Approximately 0.8km downstream of the Site via the Rowan Tree Burn.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Downstream of NS 84398 79528	Not identified by SEPA		Immediately adjacent to tower compounds AA001CSE, AA002 and AA003. 13m from tower compound AA004. 26m from the northern proposed underground cable.	Possible SBL Priority <u>River</u>	County
Rowan Tree Burn Upstream of NS 84398 79528	Not identified by SEPA		Crossed by the southern proposed underground cable and associated access.	Not SBL Priority habitat	Local
Forth and Clyde Canal Wyndford to Rough Castle / Rough Castle to Grahamston	Good ecological potential	High	Crossed by the overhead line between towers AA001 and AA002.	Not SBL Priority habitat	Local

Species

8.9.39 Table 8-3522 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment.

Table 8-352 Summary of protected and notable species results and valuation

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	<u>Desk study</u> No notable plant species were identified by the desk study. <u>Field survey</u> No notable plant species were identified during the surveys.	The Site is dominated by widespread and common habitats, or by degraded semi-natural habitats which are mainly on the edge of urban areas. There are more notable habitats which may be of greater botanical interest, but these are localised. The lack of desk study and field survey records are consistent with this and Site level importance is considered appropriate.	Site
Bats	The below is a summary – please see Volume 3, Appendix 8.2 WB, CB, AA Bat Results and Volume 2, Figure 8. 6 Bast Ground Level Tree Assessment / Preliminary Roost Assessment Results for further detail. <u>Desk study</u> NBN Atlas returned 20 records of bats: - two records of common pipistrelle at least 150m west of the Site between Towers AA001A and AA003; - eight records of Daubenton’ s bat (one of which was of 32 individuals) mostly from at least 150m west of the Site between Tows	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. The ZoI comprises a mosaic of habitats providing varying degrees of suitability for foraging, commuting and roosting bats. High suitability habitats are localised and are not ubiquitous throughout the Site. Desk study has highlighted the potential presence of seven species and given the location of the Site, the presence of further species is considered unlikely. Most of these seven species are common and widespread throughout the Scottish lowlands, although the <i>Nyctalus</i> species present show a more restricted distribution.	County

Feature	Summary of baseline	Rationale for Valuation	Importance
	AA001A and AA003 with some from the 2km² grid overlapping Towers AA003-AA010; • five records of soprano pipistrelle mostly from at least 150m west of the Site between Towers AA001A and AA003 with one record some from the 2km² grid overlapping Towers AA003-AA010; and, • a further five records of bats of unknown species (including one of unknown <i>Myotis</i> sp.). <u>Field survey</u> Habitat suitability across the Site is varied, ranging from High to Low. High suitability areas are generally associated with broadleaved woodlands and riparian corridors adjacent to rivers such as the woodland along the Rowan Tree Burn. The southern half of the Site comprises Low suitability areas primarily characterized by agricultural fields, though habitat connectivity was often maintained by hedgerows or tree lines. The 2022 bat activity surveys for the New Build Overhead Line Site confirmed the presence of soprano pipistrelle, common pipistrelle, Daubenton's bat, Leisler's bat, noctule, and brown long-eared bats. Given the proximity of study area used for the activity surveys and the Site, it is considered likely that a similar assemblage would be present here. The bat assemblage is unlikely to have changed since	Common and soprano pipistrelles, Daubenton's bat, brown long-eared bat and Natterer's bat are all considered widespread species throughout the Central Belt of Scotland. While they have differing habitat requirements, the suitable habitat on Site could support any of these species. The potential roost resource includes PRF- M trees which may be suitable for more important roosts, such as maternity roosts or hibernation roosts. The PRF-M trees are spread across the Site. Again, whilst species have differing roost requirements, the common species likely to be present based on desk study results could all use the PRFs identified. Noctule and Leisler's bat are less widespread but not considered rare. They too will utilise the same higher suitability habitats on Site but generally favour particular tree features (e.g. rot holes or woodpecker holes) and so are likely to be limited on Site by roost resource availability. The Core Sustenance Zone (CSZ) of all bat species likely to be present range from between 2 to 4 km, indicating that species which may roost on Site will also utilise suitable connected habitat well beyond the Site, of which there is much available.	

Feature	Summary of baseline	Rationale for Valuation	Importance
	2022 given no major habitat differences were recorded. GLTA identified 17 trees with potential to support roosting bats. These comprise eight PRF-M trees, six PRF-I trees; and one FAR tree. PRF trees were mostly concentrated in woodland, along road/field edges and along watercourses.	Given the above, whilst the Site is likely to support an assemblage of common and widespread species, plus possible uncommon Nyctalus species, and these are likely not distributed evenly across the Site but instead are localised in the specified clusters. The limited habitat suitability and limited distribution of roost resource indicates that the bat assemblage of the Site would not be important beyond a Local scale. However, the possible roosts present include potentially important types such as maternity / hibernacula which, depending on the species and number of individuals present, could be important beyond Local level, possibly up to County/Regional scale. Therefore, on balance, and on a precautionary basis, a valuation of County importance is considered appropriate.	
Otter	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results and Volume 2, Figure 8.7 Otter and Water Vole Survey Results for further detail. <u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u>	Otter are European Protected Species and remain strictly protected under the Habitats Regulations. Otter are relatively widespread and common in Scotland (with a population estimated at 8000 individuals by NatureScot¹²⁶), including the Central Belt, and evidence found during the surveys confirms that they are present on most of the suitable watercourses within and adjacent to the Site.	Local

¹²⁶ <https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/otter>

Feature	Summary of baseline	Rationale for Valuation	Importance
	Suitable habitat for the species is present along the Rowan Tree Burn, the Bonny Water, and the Forth and Clyde Canal. Otter are known to be present on these water courses from evidence identified during surveys for the New Build Overhead Line works. However, no resting sites were recorded within the survey area.	However, the Site as a whole is not especially suitable for otter and any suitable habitat present is localised and patchy as a result of the Sites linear shape which mainly crosses watercourses rather than following them. No otter holts or layups were found during survey. Given the above, and that there are many hundreds of kilometres of suitable watercourse within the Falkirk Council area which are more suitable and likely support greater numbers of otter, County importance would be disproportionate. Thus, Local level importance is considered appropriate.	
Water vole	The below is a summary – please see Volume 3, Appendix 8.3 WB, CB, AA Otter and Water Vole Results and Volume 2, Figure 8.7 Otter and Water Vole Survey Results for further detail. <u>Desk study</u> No records were returned by the NBN Atlas, and there were no records of water vole presence within the two 10km grid square (OSGRs NS87 and NS88) which overlap the Site on the National Water Vole Database. <u>Field survey</u> Suitable watercourses and waterbodies within the survey area comprise small streams typically through improved grassland or wetland habitats.	There is no indication water vole are present in this area from desk study information, and no evidence of the species was identified. Water vole is considered absent.	Less than Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	No evidence of the species was identified during field surveys.		
Badger	The below is a summary – please see Volume 3, Appendix 8.5 WB, CB, AA Badger Results (Confidential) and Volume 2, Figure 8.9 Badger Survey Results (Confidential) for further detail. <u>Desk study</u> Five records were received from NBN Atlas from across the two 10km grid squares overlapping the Site (OSGRs NS87 and NS88). <u>Field survey</u> The Site and surrounding area contain habitats suitable for sett creation and foraging (e.g. scrub, woodland, and neutral grasslands), with less suitable habitat associated with the peatland around Fannyside Muir. There is ample additional suitable habitat in the wider area. Two setts - AA.B.01 (an outlier sett) and WB.B.05 (a main sett) are present within 50m of Works.	Badgers are a common species and not afforded protection for nature conservation purposes. Whilst present within the Site, there is ample suitable habitat also present within the wider area. The two setts located within 50m are unlikely to be significant in a local context, given the large numbers of setts known to be present in the wider area from surveys for other elements of the Denny to Wishaw Network Upgrade project. Thus Site importance is considered appropriate.	Site
Pine marten	<u>Desk study</u> No records received from NBN Atlas, but the species is known to be present in North Lanarkshire as noted in the North Lanarkshire LBAP. <u>Field survey</u>	No pine marten refuges were identified within the Site and surrounding area, and the Site is therefore not considered to be of particular importance to the species. The population of pine marten associated with the Site is therefore unlikely to be significant in a local context.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	The Site and wider area offer good habitat for pine marten as it has a high proportion of woodland cover with open areas for foraging. Foraging opportunities are from small mammals, berries, beetles, birds, and bird's eggs. There are opportunities for den establishment scattered particularly in the north of the Site, e.g. amongst rock piles. No evidence of pine marten activity was recorded during field surveys and no confirmed den sites were identified, however, a possible pine marten scat was identified near Cumbernauld Substation during surveys for the PNew Build Overhead Line, indicating that the species may be present in the wider area at times.	However, pine marten are known to be present from desk study information and a potential scat, and individual pine marten may use the Site for foraging or commuting at times.	
Red squirrel	<u>Desk study</u> Records from the NBN Atlas and Saving Scotland's Red Squirrels indicate that red squirrels are present within the Site and surrounding area, but only from Bonnybridge northwards. <u>Field survey</u> No evidence of red squirrel was incidentally recorded during field surveys. Areas of suitable woodland habitat area scattered across the length of the Site.	The Site lies on the southern edge of red squirrel range, where the red squirrel population of northern Scotland meets the grey squirrel population of the Central Belt. Due to competition, red squirrels are only likely to occur in low densities where they co-exist with grey squirrels. An indicative range of the species was established from desk study information, and red squirrels are considered unlikely to occur within the Site south of Beam Road. Given the above, red squirrel could potentially occur along the full Site.	County

Feature	Summary of baseline	Rationale for Valuation	Importance
		NHZ 17 encompasses part of Loch Lomond & The Trossachs National Park, a red squirrel stronghold, and the Site population is likely part of this much larger population. Thus Regional importance for the population on Site would be disproportionate. However, red squirrels are uncommon in the lowlands, particularly in urban areas where grey squirrels are present, which includes the vast majority of Falkirk and North Lanarkshire local authority areas. Indeed the population in the north of the Site identified by the desk study appears to be the only population in this area. Thus, County importance is considered more appropriate.	
Brown hare and hedgehog	<u>Desk study</u> The NBN Atlas returned two records of brown hare from approximately 700m east of the Site, between Towers AA003 and AA007. No records received from NBN Atlas for hedgehog. <u>Field survey</u> It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Site. Brown hare may also occur in the grassland habitats within the Site.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17. Local level importance would be considered disproportionate, and Site level importance in considered sufficient.	Site
Great crested newt	The below is a summary – please see Volume 3, Appendix 8.4 WB, CB, AA Great Crested Newt Results and Volume 2, Figures 8.8a Great Crested Newt Habitat Suitability Assessment and eDNA	GCN live in a meta-population structure comprising multiple small populations across several closely located ponds, usually within 250m of one another. A lack of connectivity	Less than Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	Survey Results and Figure 8.8b Great Crested Newt Population Assessment Results for detail. <u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for GCN, as determined by the ARG UK Advice Note 5, and the species is known to be present within the central belt of Scotland. No records of GCN were received from NBN Atlas, TWIC or ARG/ARC UK Record Pool. <u>Field survey</u> A desk-based review identified no ponds within 250m of Works; however, three ponds were incidentally recorded during habitat surveys. eDNA sampling was not carried out at any of these ponds since they were not discovered until November 2025 and thus outside of the survey window. The ponds returned the following Habitat Suitability Assessment scores: • AA01 – Below average; • AA02 – Poor; and • AA03 – Below average.	between suitable ponds reduces the likelihood that GCN would be present. Pond AA01 is isolated given that it is the only pond within the area bordered by the Rowan Tree Burn and two railway lines, both of which are likely barriers to GCN movement. Ponds AA02 and AA03, through close to each other, are separated from other ponds in the wider area by the railway to the north and the Rowan Tree Burn to the east. No other ponds are present within the accessible areas within 500m. Furthermore, AA02 scored Poor on the HSI. Given the poor connectivity to the wider area (and to additional ponds), and that the ponds are of Below average or poorer suitability, it is considered highly likely that the species is absent from these ponds.	
Common reptiles and amphibians	<u>Desk study</u> Only one record of common lizard was received from the NBN Atlas, associated with Howierig Muir SSSI.	Apart from GCN, reptiles and amphibians in Scotland are widespread, and there is abundant suitable habitat for these species in the areas immediately within and adjacent to the Site.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	The ARGUK Record Pool map showed a small number of records of smooth newt, palmate newt, common toad, common frog and common lizard scattered throughout the Site. Neither NBN Atlas, TWIC or ARGUK returned records of slow worm. TWIC provided one record of palmate newt from Bonnybridge. <u>Field survey</u> There is some suitable habitat present within the Site in the form of woodlands and associated grassland and scrub, which could be used by reptiles as well as foraging/commuting amphibians. However, the improved pastures present across much of the Site do not offer optimal habitat conditions for reptiles and amphibians. There are suitable water bodies which could support breeding populations of amphibians scattered across the Site; these are referred to above in relation to GCN.		
Terrestrial invertebrates	<u>Desk study</u> The Site is not located within, or near to, any Buglife IIAs. Records of four notable invertebrate species, all located within Roughcastle WS and Howierig Muir SSSI, were received from the NBN Atlas:	Notable invertebrates may be present across the Site, where habitats are suitable. Vast amounts of habitat similar to that found on Site are present within the wider local area.	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	• tormentil mining bee <i>Andrena tarsata</i>; • cranefly species <i>Tanyptera atrata</i> and <i>Tanyptera nigricornis</i>; and, • a hoverfly <i>Neoascia obliqua</i>. <u>Field survey</u> Outside of Roughcastle WS, habitats in the Site are generally not notable and are unlikely to support notable invertebrates. Heavily modified habitats in the Site (farmland, built-up areas) are unlikely to support notable invertebrates.	Given that the Site is not located within, or near to, any Buglife IIAs, County level importance is considered disproportionate. However, taking a precautionary approach in the absence of specific field data, and given the presence of notable records in the desk study, a valuation of Local importance is given.	
Breeding passerines	<u>Desk study</u> Notable bird species that may breed in habitats within or surrounding the Site, as returned by the NBN Atlas, included the following: greenfinch, house martin, skylark, song thrush, starling, swift, bullfinch, house sparrow and reed bunting. <u>Field survey</u> Only small sections of the Site were within the breeding bird survey area. Notable species recorded within or adjacent to the Site included red listed (skylark, yellowhammer, house sparrow and starling) and amber listed (song thrush and sedge warbler) BoCC. Habitats within the surveyed areas of the Site are broadly similar to those in the wider Site not subject to detailed survey, although un-surveyed	The breeding passerine assemblage contains species which are common and widespread in Falkirk, and the wider central belt of Scotland. As such a valuation of Site level importance is considered appropriate.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
	areas include a larger proportion of scrub/woodland. As such the breeding passerine assemblage could include additional species, such as bullfinch and greenfinch, in these areas.		
Breeding waders	<u>Desk study</u> Lapwing records were returned from a search of NBN Atlas. <u>Field Survey</u> The site crosses agricultural areas and woodland/scrub which is generally suboptimal for breeding waders. Moorland in the Drum Moss area, which supports breeding curlew and snipe, is approximately 900m to the west of the Site. At this distance there would be no direct effects from the works due to disturbance or displacement. A single oystercatcher territory was recorded at the northern end of the Site within Bonnybridge Substation. Records of lapwing from VP surveys in 2022 suggest breeding activity in fields which overlap with the south of the Site. This area was outside the breeding bird survey area, as survey area was centred on the WB Route.	The Site and surrounding area are of limited importance to breeding waders with at most one oystercatcher and one lapwing territory within the Zol. An evaluation of Site level importance is considered appropriate for breeding waders.	Site level
Breeding schedule 1 birds	<u>Desk study</u> The only Schedule 1 species returned by NBN Atlas was garganey which was likely on passage (as the Site is not within the recognised breeding range for the species). <u>Field survey</u>	The Site and surrounding area is of limited importance to Schedule 1 birds.	Less than Site level

Feature	Summary of baseline	Rationale for Valuation	Importance
	No breeding territories of Schedule 1 birds were identified within the Zol of the Site.		
Wintering waterbirds (not including taiga bean goose and pink-footed goose¹²⁷)	<u>Desk study</u> A search of NBN Atlas returned a number of wintering waterbird records which were likely associated with St Helen's Loch and/or the Forth and Clyde canal. Species returned included goldeneye, mallard, pochard, pintail, shoveler, coot, greylag goose and whooper swan. <u>Field Survey</u> Wintering waterbirds were typically recorded on and around St. Helen's Loch, approximately 750m to the west of the Site. Greylag geese were recorded foraging and loafing on and around St Helens Loch during the goose foraging and roosting surveys. Eight observations were recorded in this area with a peak count of 275 birds recorded. The closest records were approximately 500m to the west of the Site. Additionally, multiple species of waterfowl were incidentally recorded on St Helen's Loch during the goose foraging and roosting surveys. Species included mute swan, shoveller and goosander.	Greylag goose is an Amber listed BoCC based on the proportion of the European wintering population present in the UK and its relatively localised distribution. The Scottish population of greylag goose comprises at least 25,000 native/naturalised birds present year-round with a further 85,000+ arriving from Iceland to overwinter. No regional population is available for the species. A peak of 275 birds represents approximately 0.3% of the national wintering population. Incidentally recorded species included shoveller and whooper swan, both of which are Amber listed BoCC, with whooper swan additionally listed on Annex I of the Birds Directive. It is considered that the wintering waterbird population is of Local importance.	Local

¹²⁷ Taiga bean goose and pink-footed goose are considered with respect to the Slamannan Plateau SPA and Firth of Forth SPA/Ramsar site respectively (and underlying SSSIs) and not separately as part of a wider countryside population.

Invasive non-native plant species

Desk study

- 8.9.40 Two records of Japanese knotweed from approximately 665m west of the Site at Tower AA001B, on the banks of the Bonny Water were returned by the NBN Atlas Scotland.

Field survey

- 8.9.41 INNS are shown on Volume 2, Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species. Rhododendron and Japanese knotweed are present within Howierig Wood.
- 8.9.42 INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

- 8.9.43 As set out in Section 8.3.35, relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of Site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-363. For scoped out features there are no likely significant effects in EIA terms.

Table 8-363 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this Section
Howierig Muir SSSI	Howierig Muir SSSI is located 0.5km east of the Site, and therefore no direct habitat loss will take place, and there is no risk of groundwater related impacts given this distance. The qualifying feature for this designation is lowland raised bog habitat and as such is restricted to within the SSSI boundary. Howierig SSSI is located upstream of the Site, such that no pollutants would be expected to reach the designated site via watercourses. Thus no possible impact pathways have been identified and this site has been excluded from further assessment.
Forth and Clyde Canal WS	The Forth and Clyde Canal WS encompasses only the canal itself, and not adjacent habitats. This WS will be over-sailed by the Site, and retained in its current state.
Ancient Woodland and Ancient / Veteran Trees	Valued at Less than Site level importance.
<u>Lowland Fen</u>	Valued at Local level importance. No habitat loss will occur to this habitat type, and embedded mitigation measures will ensure no indirect impacts.

Feature	Rationale for exclusion from further assessment in this Section
Scattered trees and scrub, non-notable scrub, acid grassland, neutral grassland, improved grassland, poor semi-improved grassland, bracken, tall ruderal vegetation, arable and amenity grassland.	Valued at Site level importance.
Non-SBL standing water	Valued at Local level importance. No habitat loss will occur to this habitat type, and embedded mitigation measures will ensure no indirect impacts.
Rivers (Possible SBL habitat)	Valued at County level importance. There will be no alterations to <u>Rivers</u> to accommodate the works. The Rowan Tree Burn is within AA001CSE and AA002, and in close proximity (at furthest 10m distant) to AA001, AA003, AA004. However, the watercourse in these locations would not be directly impacted, as Works would be micro-sited within compounds to avoid the habitat.
Minor watercourses and ditches	Valued at Site level importance.
Buildings, bare ground and, hardstanding	Valued at less than Site level importance.
Notable plant species	Valued at Site level importance.
Water vole	Valued at less than Site level importance.
Badger	Valued at Site level importance.
Pine marten	Valued at Site level importance.
Brown hare and hedgehog	Valued at Site level importance.
GCN	Valued at less than Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Breeding passerines	Valued at Site level importance.
Breeding waders	Valued at Site level importance.
Schedule 1 birds	Valued at Less than Site level importance.

Design and Embedded Mitigation Measures

- 8.9.44 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant.
- 8.9.45 Note that there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot will be

required to permit such works, and must be in place before works commence. SPPs are required to support applications for such licenses, and will include appropriate mitigation measures. For the likely content of these SPPs see the below section on Proposed Additional Mitigation Measures.

Important ecological features

8.9.46 The following IEFs relevant to the assessment are:

- SPAs, Ramsar sites and SSSIs which don't overlap the Site but are within range of impacts on qualifying features:
 - Slamannan Plateau SPA / SSSI; and,
 - Firth of Forth SPA/Ramsar site;
- LNCS and SWT Reserves which overlap the Site;
 - Roughcastle WS;
- Woodland listed on the AWI; LEPO;
- Annex I and SBL habitats;
 - Lowland Heathland, H4010 Wet heaths; lowland;
 - Lowland Mixed Deciduous Woodland;
 - Wet Woodland; and
 - Hedgerows.
- Other habitats which enhance the local habitat resource;
 - Lines of broadleaved or mixed trees;
 - Non-SBL hedgerows;
 - Non-SBL broadleaved and mixed woodland;
 - Non-SBL marsh/marshy grassland; and
 - Non-SBL watercourses (excluding very minor watercourses/ditches).
- Bats (roosting and foraging/commuting);
- Otter;
- Red squirrel;
- Terrestrial invertebrates; and
- Wintering waterbirds (not including taiga bean goose and pink-footed goose).

Assessment of Effects

8.9.47 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed above and in Section 8.4, and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).

- 8.9.48 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts on IEFs can be scoped out and are considered further (in addition to those scoped out in Table 8.8 above):
- habitat change to potential GWDTEs as a result of changes in hydrology. Impacts to potential GWDTEs are discussed in Chapter 9: Water Environment, which concluded that there would be no significant effects on potential GWDTEs following the implementation of embedded mitigation. GWDTEs are not discussed further.
- 8.9.49 The following construction phase impacts cannot be fully scoped out following implementation of embedded mitigation:
- Direct habitat loss (permanent and temporary);
 - Direct loss of bat roosts;
 - Disturbance to roosting bats (other than from lighting);
 - Loss/fragmentation of refuges/habitats of importance to protected and notable species;
 - Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration; and
 - Morality of protected species caused by vehicle movements.
- 8.9.50 Following a review of the potential impact pathways and implementation of embedded mitigation there are no remaining operational impacts.
- 8.9.51 Possible impacts and effects from the construction phase are described in Table 8-3744.

Table 8-374 Construction phase impacts and effects

Feature	Potential Impacts	Details of ecological effect	Assessment
Firth of Forth SPA/Ramsar site (International)	Temporary disturbance /displacement	Details of effects on the SPA/Ramsar site are also included in the accompanying Shadow HRA (Appendix 8.9 – Habitats Regulations Appraisal). Of the qualifying species of the SPA/Ramsar site pink-footed goose could potentially use habitat on or adjacent to the Site for foraging. This species was recorded foraging around the northern end of the Site during the goose roosting and foraging surveys. Foraging birds were recorded infrequently within 1km of the Site both within and between years. There are extensive alternative foraging resources available to the birds and the species naturally redistributes in response to agricultural practices. While minor temporary effects could occur, adverse effects Project on the qualifying species are considered negligible.	Negligible (Not significant)
Firth of Forth SPA/Ramsar site (International)	Temporary loss of functionally linked habitat	Details of effects on the SPA are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). Loss of habitat potentially used by foraging pink-footed goose would be negligible in extent and temporary in nature with all temporary works areas reinstated following the works and thus no effects are anticipated.	None
Slamannan Plateau SPA (International) and Slamannan Plateau SSSI (National)	Temporary disturbance /displacement	Details of effects on the SPA/Ramsar site are also included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal). No foraging or roosting areas for taiga bean goose were identified within 500m of the Site and thus no effects are anticipated. This SSSI is coincident with the Slamannan Plateau SPA, and is designated for the same qualifying feature, taiga bean goose. As such effects follow those of the SPA.	None

Feature	Potential Impacts	Details of ecological effect	Assessment
Slamannan Plateau SPA (International) and Slamannan Plateau SSSI (National)	Temporary loss of functionally linked habitat	Details of effects on the SPA/Ramsar site are included in the accompanying Shadow HRA (Volume 3, Appendix 8.8 Habitats Regulations Appraisal) and are summarised below for the purposes of this EIA. Habitat lost as a result of the Project is not of importance to taiga bean goose, based on the known foraging and roosting distribution of the species. This SSSI is coincident with the Slamannan Plateau SPA, and is designated for the same qualifying feature, taiga bean goose. As such effects follow those of the SPA.	None
Roughcastle WS (County)	Permanent habitat loss	There would be minimal habitat loss associated with the Project within this designated Site. Any loss would be highly localised around existing Towers, and would total 0.51ha, 0.7% of the total size of the designation. This loss will take place in the historically disturbed overhead line corridors, and would be temporary, given that habitats will be reinstated following completion of Works, or, where not possible to reinstate woodland, the habitats will most likely revert to habitat present elsewhere within the designation, through natural regeneration. The character of the designation is therefore unlikely to change and effects are considered negligible.	Negligible (Not significant)
AWI LEPO (County)	Permanent habitat loss	A total of 0.51ha of LEPO will be lost to the Works, of which 0.18ha was confirmed to be woodland during habitat surveys. The other habitats present include gorse scrub (0.17ha), scattered birch and species poor damp and acid grassland and no indicative features of ancient woodland were recorded. These habitats are likely subject to disturbance as are within the existing Limit of Deviation. The woodland present is all SBL Priority woodland (<u>Lowland Mixed Deciduous Woodland</u> or <u>Wet Woodland</u>) but is small proportion of the LEPO category 2b within the survey area (4.27%), and of this LEPO parcel as a whole (0.82%) (which is broadly similar to that lost), and an even smaller proportion of the extent of LEPO the Local area. This is assessed as	Significant adverse effect at a Local level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
		permanent loss, although it is noted here that the woodland may naturally regenerate following the Works, given that the trees that will be lost are mainly birches which are fast growing. Given the very small area effected, an effect of Local significance is considered appropriate.	
<u>Lowland Mixed Deciduous Woodland</u> (County)	Permanent habitat loss	0.15ha (5.03% of the total area of <u>Lowland Mixed Deciduous Woodland</u> identified within the survey area) (this area overlaps with the area recorded as LEPO on the AWI) will be lost to scaffolding, proposed access tracks and tower compounds. <u>Lowland Mixed Deciduous Woodland</u> (NVC type W10) occurs from AA001 to around AA004 and between AA007 and AA008. The woodlands are notable for their structural diversity and naturalness, but are only moderately species rich. Around AA003, the W10 woodland is in mosaic with <u>Wet Woodland</u> (NVC type W4). This habitat type is a source of much nature conservation value within the Site, but is nevertheless widespread throughout the Scottish central lowlands. <u>Lowland Mixed Deciduous Woodland</u> is within tower compounds AA001 and AA002 (note, the <u>Lowland Mixed Deciduous Woodland</u> within AA002 is LEPO, as discussed above), however, the habitat is on the edge of these compounds. In practice, it is possible that the tower compounds themselves would avoid <u>Lowland Mixed Deciduous Woodland</u> through micro-siting, though some woodland will be lost to scaffolding at this location. Loss to scaffolding would also occur between AA004 and AA005. The proposed access track between AA007 and AA008 (associated with the crossing of a tributary of the Rowan Tree Burn), would result in a minor loss of <u>Lowland Mixed Deciduous Woodland</u>, at the edge of an extensive block of woodland. Although it is assumed this woodland would be lost, in practice, again, avoidance maybe possible through micro-siting and the track placed in open non-notable habitat.	Significant adverse effect at a Site level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
<u>Wet Woodland</u> (County)	Permanent habitat loss	<u>Lowland Mixed Deciduous Woodland</u> is considered permanently lost in all locations where loss will occur. However, in the medium term (10-15 years) there is expected to be some regeneration of fast-growing species of trees/shrub to a reasonable height, particularly in areas where ongoing management is not required e.g. Proposed Access Tracks or around the underground cable. Given the very small area effected the impact of Works on <u>Lowland Mixed Deciduous Woodland</u> would therefore be significant at Site level and should be reversible through natural regeneration.	Significant adverse effect at a Site level (Not significant)
		0.40ha (10.72% of the total area of <u>Wet Woodland</u> identified within the survey area) will be lost to scaffolding, proposed access tracks and tower compounds.	
		Wet Woodland (NVC type W4) is between AA002 and AA003 (note, the Wet <u>Woodland</u> within AA002 is LEPO, as discussed above, and between AA004 and AA006. Some of which around AA003 are in a mosaic with dry <u>Lowland Mixed Deciduous Woodland</u>. The woodlands are notable but are an acidic type and are therefore only moderately species rich. This habitat type is a source of nature conservation value within the Site, but is nevertheless widespread throughout the Scottish central lowlands.	
		<u>Wet Woodland</u> is present within tower compounds AA002, AA003, AA005 and scaffolding in three locations (AA001-AA002, AA004-AA005, AA005-AA006), and thus would be subject to loss during the construction period. The proposed access track to AA002 and near AA004, would result in a minor loss of <u>Wet Woodland</u>. <u>Wet Woodland</u> is considered permanently lost in all locations where loss will occur. However, in the medium term (10-15 years) there is expected to be	

Feature	Potential Impacts	Details of ecological effect	Assessment
		some regeneration of fast-growing species of trees/shrub to a reasonable height, particularly in areas where ongoing management is not required e.g. Proposed Access Tracks or around the underground cable. The existing <u>Wet Woodland</u> present currently sits within the existing overhead line corridor, which will remain, any future management requirements would therefore be as currently followed for the existing overhead line, so does not constitute a change Given the very small area effected the impact of Works on <u>Wet Woodland</u> would therefore be significant at Site level, but should be reversible through natural regeneration.	
Non-SBL broadleaved and mixed woodland (Local)	Permanent habitat loss	0.29ha (12.5% of the total area of non-SBL broadleaved and mixed woodlands (including broadleaved semi-natural woodland and broadleaved plantations) identified within the survey area) will be lost to scaffolding, proposed access tracks and tower compounds. Non-notable broadleaved woodland would be lost to accommodate the Works between AA001 and AA002 and AA004 and AA007. This habitat type is present within tower compounds AA005 and AA006CSE. Non-notable broadleaved woodland is considered permanently lost in all locations where loss will occur. However, in the medium term (10-15 years) there is expected to be some regeneration of fast-growing species of trees/shrub to a reasonable height, particularly in areas where ongoing management is not required e.g. Proposed Access Tracks or around the underground cable. This habitat is also present between AA001 and AA002, between AA004 and AA007, within the existing overhead line corridor, any future management	Significant adverse effect at a Site level (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
		requirements would therefore be as currently followed for the existing overhead line, so does not constitute a change. Given the very small area effected the impact of Works on non-SBL broadleaved woodland would therefore be significant at Site level and should be reversible through natural regeneration. No non-SBL mixed woodland will be lost.	
<u>Hedgerows</u>, non-SBL hedgerows and broadleaved tree-lines (Local)	Temporary habitat loss	0.02km of <u>Hedgerows</u> and non-SBL hedges (2.06% of the total length of hedge identified within the survey area) would be lost to accommodate the UGC, which will be trenched to an approximate width of 6m. Loss is considered temporary as reinstatement of any hedges lost will occur following the Works. This will occur at the following locations: - Bonnybridge Substation – AA0018, where there will be loss of ~12m of non-notable hedge; and, - near AA008, where there will be loss of ~6m <u>Hedgerow</u> and ~6m non-SBL hedge, both with mature trees. Loss of taller trees within the hedges is considered permanent, given the time it would take for these to return to their current condition, and because those beneath the overhead line will be subject to ongoing management. However, hedges with trees (and other hedges) will be reinstated as hedges without trees, and the reinstated hedges will be native and species-rich, and frequently of superior biodiversity value than those lost. Given the very small area effected the impact of Works would therefore be significant at Site level. No broadleaved tree-lines will be lost.	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
Non-SBL marsh/marshy grassland (Local)	Temporary habitat loss	0.14ha (6.36% of the total area of non-SBL marsh/marshy grassland identified within the survey area) would be temporarily lost to proposed access tracks and tower compounds. Marshy grassland beneath scaffolding is not considered to be lost. Non-notable marsh/marshy grassland are wetlands/damp habitats with little intrinsic nature conservation value. The examples within the Site are generally species-poor, but they provide a source of biodiversity value to the landscape. Non-notable marsh/marshy grassland would be lost to accommodate tower compounds at AA002, although in this location the habitat is on the edge of the compound and could be avoided by micro-siting. Non-notable marsh/marshy grassland would be lost to accommodate the compound and tower itself at AA009CSE (although the area of permanent loss would only be at the tower feet, which will measure 4m x 4m, each, thus total area lost would be, at most, 0.007ha). Non-notable marsh/marshy grassland are common and widespread in the Scottish central lowlands. The relatively small losses of these habitats are minor in that context. Losses would also temporary at AA002 and to a large degree at AA009CSE, with recovery expected in the medium-term. Given the very small area effected the impact of Works would therefore be significant at Site level.	Significant adverse effect at a Site level (Not significant)
<u>Lowland Wet Heath</u>	Temporary habitat loss	<0.01ha (3.48% of the total area of Lowland Wet Heath identified within the survey area) will be temporarily lost to tower compound AA003. This is a small proportion of that present within the survey area, and, furthermore, this Lowland Wet Heath is of Phase 1 habitat type D6 - Wet heath/acid grassland and therefore occurs in mosaic with acid grassland, which is of lower importance. Thus this Lowland Wet Heath is not itself of	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
		particular quality and, given the small amount lost, and that this loss will be temporary (until the habitat is replaced or regenerates) this effect is considered of negligible significance.	
Non-SBL watercourses (Local)	Temporary habitat loss	A tributary of the Rowan Tree Burn would be crossed by a temporary access track and the UGC between AA007 and AA008. The watercourse would be subject to temporary habitat loss during the installation of the UGC (to be installed using open cut methods) and water crossing. The estimated combined width of these works is 10m, a small proportion (0.6%) of the length of the Rowan Tree Burn within the survey area (1.67km), and a small fraction of the total length of watercourses in the area. Furthermore, the habitat would be restored following construction. Given the very small area effected the impact of Works would therefore be significant at Site level and will be reversible.	Significant adverse effect at a Site level (Not significant)
Roosting bats (County)	Loss of bat roosts	The below is based on the survey information available and, given that the bat roosts are unconfirmed, is a worst-case scenario of the possible losses which could occur. At most, one PRF-I tree (AA.BT.05) with suitability for roosting bats will be felled as a result of Works at tower compound AA003. Loss of one potential roost site, likely suitable for only individual bats, would not significantly affect the local bat population and this thus is assessed to be significant at a Site level only. As discussed, it is expected that embedded mitigation, including micro-siting as advised by the ECoW, will prevent the loss of trees which are within the proposed footprint of access tracks.	Significant adverse effect at a Site level (Not Significant)
Roosting bats (County)	Temporary disturbance to roosting bats	The below is based on the survey information available and, given that the bat roosts are unconfirmed, is a worst-case scenario of the possible impacts which could occur.	Significant adverse effect at a Site level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
		At most, six trees with suitability for roosting bats are at risk of disturbance where they are within 10m of Works, but will not be lost. These comprise the following: one PRF-M tree, four PRF-I trees and one FAR tree. Information recorded during the GLTA of the FAR tree indicates that it is unlikely to support a notable roost due to its size. Information recorded during the GLTA of the PRF-M tree also indicates that it is unlikely to support a notable roost because it is not of the type usually favoured by <i>Nyctalus</i> species (it is a large and damp rotten wound and not a woodpecker hole or similar). On balance it is considered unlikely that this tree hosts a roost of County importance. The disturbance of four PRF-I trees and of the likely poor quality FAR tree is unlikely to have an effect at Local level given that ample similar roost features are present within the wider Roughcastle WS and surrounding area and could be exploited by disturbed bats. Furthermore, disturbance will be temporary, for the duration of Works. However, the PRF-M roost could still host maternity or hibernation roosts of common species and, given the small number of PRF-M trees identified during the survey, its disturbance is considered significant at Site level.	
Foraging and commuting bats (County)	Temporary loss of foraging habitat	Small areas of woodland, wetland and grassland (as described above) will be lost to the Works, all of which could be used by foraging bats. However, habitat loss will be minor when compared to the retained resource in the survey area, and will be temporary, until habitats naturally regenerate over time. Effects are therefore considered negligible.	Negligible (Not significant)
Foraging and commuting bats (County)	Fragmentation of commuting routes	The existing Limit of Deviation s are likely to be used as commuting routes by bats. Woodland edges will be retained (including where Works will occur), and alternative commuting routes around woodland edges and along linear features including watercourses, hedgerows and lines of trees are available nearby and will be retained. Thus, it is not anticipated that there will be a perceptible impact on bats as a result of the shortening/fragmentation of commuting routes and effects are therefore considered negligible.	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
Otter (Local)	Temporary habitat loss/Fragmentation of commuting routes	Otters are largely active within watercourse channels and riparian habitats. In channel works are confined to a very small and localised stretch of the Rowan Tree Burn where habitat loss will occur due to the installation of a water crossing and the trenching of the underground cables. The loss will not result in the watercourse being unusable by otter, given that embedded mitigation stipulates that the water crossing will allow the continued passage of the species. Fragmentation of commuting routes would therefore only occur as a result of disturbance during Works, and is unlikely given that Works are expected to take place during daylight hours, when otter are less likely to be active. Regardless, these effects would be temporary, for the duration of works and until the habitats are restored. Furthermore, any possible impact is at a minute scale in comparison to the size of an otter territory and the alternative available habitat and effects are therefore considered negligible.	Negligible (Not significant)
Otter (Local)	Temporary disturbance to commuting/ foraging otter	As discussed above, otters are most active within watercourse channels between dusk and dawn, and are most likely to be disturbed where Works are carried out in proximity to these habitats or during these time-periods. Works at multiple Towers are in close proximity to the Rowan Tree Burn across a 2km stretch and may disturb/displace otters foraging or commuting along this watercourse. However, Works will largely be carried out during daylight when otters are less likely to be active and although they will be complete within 18 months, Works will be phased so impacts at any given location will be over less time. Also, due to the small size of this burn, it is likely to form only part of the territory of any individual otter (estimated at 48km for males, 21km for females, by some studies). Therefore, if affected, individuals are most likely to be displaced into alternative suitable habitat within their territories, and this impact would be temporary and effects are therefore considered negligible.	Negligible (Not significant)
Red Squirrel (County)	Temporary habitat loss	Loss of red squirrel habitat will occur where suitable woodland is felled for the Works, although as detailed above this is likely to naturally regenerate over time. This loss will be small (a few individual trees) compared to the vast areas of suitable retained woodland in the wider area, and is unlikely to	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
		impact the ability of even a single red squirrel to survive/breed and effects are therefore considered negligible.	
Red Squirrel (County)	Loss of/ temporary disturbance to dreys	Loss of red squirrel dreys could occur if trees containing dreys are felled for the Works. Disturbance to red squirrel dreys may occur where Works take place within 50m of dreys during the breeding season (February to September inclusive), or within 5m or one tree's distance of a potential drey location (whichever is less) during the non-breeding season. However, the risk of this is considered to be very low, given the small area of woodland/ tree loss. It is anticipated that the even in the unlikely event of a drey being present, the possible number of dreys which could be lost/disturbed would be an small proportion of those available in suitable retained woodland in the wider area. Furthermore, the works will take place over a single breeding season, and especially given that red squirrels are known to breed twice in a single season, it is considered that the population will recover in the short term and effects are therefore considered negligible.	Negligible (Not significant)
Terrestrial invertebrates (Local)	Temporary habitat loss	Several of the habitats which will be lost have the potential to support notable invertebrates. Species of notable terrestrial invertebrate are generally habitat specific, and cannot readily make use of alternative habitats. However, none of the losses to habitat were found to be of Site level significant or greater, and it is considered that the effect of habitat loss on terrestrial invertebrates would be of a similar scale.	Adverse effect at a Site level (Not significant)
Wintering waterbirds (not including taiga bean goose)	Temporary disturbance / displacement	St Helen's Loch is approximately 750m east of the closet point of the Site. At this distance works are unlikely to disturb or displace waterbirds on the Loch. Greylag geese foraging in adjacent fields may be displaced during the works but at a distance of 500m from the works foraging records are at the	Negligible (Not significant)

Feature	Potential Impacts	Details of ecological effect	Assessment
and pink-footed goose) (Local)	Habitat loss	upper end of the recommended disturbance zone (listed as 200-600m in Goodship and Furness (2022) ¹²⁸). The Site does not overlap St Helen's Loch or adjacent fields.	None

¹²⁸ Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Summary of Significant Effects

- 8.9.53 No effects of County level or higher (i.e. Significant in EIA terms) were identified.

Proposed Additional Mitigation Measures

Habitats

- 8.9.54 No habitat effects associated with the AA Route Undergrounding were significant in EIA terms and as such there are no mitigation requirement. However, the measures as set out above for the New Line in Section 8.6.60 will be followed in line with best practice.

Species

- 8.9.55 No effects species associated with the AA Route Undergrounding were significant in EIA terms and as such there are no mitigation requirement. No further mitigation beyond that which is embedded is required.
- 8.9.56 However, there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot are required to permit such works, and must be in place before works commence. Until such as time as licences are obtained, appropriate works exclusion zones would be implemented around any relevant protected species features identified during the surveys listed in Table 8-374, and any pre-works surveys that take place. SPPs are required to support applications for licenses, and will include appropriate mitigation measures. For the Works, the required licenses, and the likely content of associated SPPs, are set out in Table 8-3855. Additional details are set out in the embedded mitigation measures in 8.4.3.

Table 8-385 Summary of Additional Mitigation

Feature	Additional mitigation required
Bats	In-line with BCT Guidance, pre-construction bat surveys are required to confirm presence/likely absence of bats and characterise roosts. Surveys should be undertaken of any trees identified at risk of loss or disturbance identified as suitable for roosting bats. Surveys should be scheduled at least 3 months in advance of felling to allow sufficient time to develop a mitigation strategy and licence application. Also, due to the transient nature of bats, additional survey maybe required immediately pre-felling. Following these surveys, the number of bat licenses required to permit destruction/possible disturbance can be confirmed. Following these surveys, the number of bat licenses required to permit destruction/possible disturbance can be confirmed (currently loss of one tree and possible disturbance of seven trees with suitability to supporting roosting bats is taken as the worst case). It is likely that the numbers of confirmed roost presence, will be lower that these numbers. A Bat SPP will be produced which will specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works/lighting, details on works methods such as soft-felling, and provision of compensatory roosts in the form of bat boxes. In addition, roost features known to be used by less common species which will be lost should be reused where practical, for example by isolating felled branches containing such features and attaching to nearby retained trees. In the even that a license is

Feature	Additional mitigation required
	required, the SPP will provide details on compensation measures, such as the provision of bat boxes.
Badger	No badger licensing will be required given that, based on the information provided, no badger setts are expected to be damaged/destroyed/obstructed. If a works exclusion zone of 30m cannot be maintained, a badger license may be required to permit disturbance to this sett. A Badger SPP would accompany the application for such a license, and would specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and detailed works methods. The exact content of the SPPs would be updated by the results of pre-works surveys.
Red squirrel	Red squirrel licensing may be to be required to permit the loss of and disturbance of red squirrels dreys should pre-construction surveys identify any to be present. In the event that the pre-construction surveys identify a requirement for a Protected Species licence for red squirrel, a Red Squirrel SPP which will accompany the license application will likely specify measures including provision of compensatory red squirrel drey boxes, adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works and works methods. The exact content of the SPP would be updated by the results of pre-works surveys and of ongoing monitoring throughout the Works. Timing in particular is critical given that disturbance to red squirrel dreys is possible within 50m of dreys during the breeding season (February to September inclusive), as opposed to within 5m/one trees distance in the non-breeding season. NatureScot state that there is a presumption against licensing disturbance/damage/destruction of active breeding dreys. As in general vegetation removal will be undertaken outwith this period this is unlikely to be a consideration.

Residual Effects

- 8.9.57 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.

There will therefore be no likely Significant residual effects.

Monitoring

- 8.9.58 Monitoring will be required where it is a required as condition of protected species licensing, or where necessary to determine the success of habitat regeneration.

Biodiversity enhancement

- 8.9.59 In compliance with the requirements of policy 3 of NPF4, the Works will include a range of measures which are positive for biodiversity.
- 8.9.60 The Applicant is committed to delivering measurable biodiversity improvements to achieve at least 10% BNG on projects.

- 8.9.61 A separate report is provided which sets out the BNG assessment, see AECOM (2026) Denny to Wishaw Overhead Line BNG Assessment.
- 8.9.62 Further details with respect to biodiversity enhancements are set out in Section 8.16.

8.10 Assessment of Effects, Mitigation and Residual Effects of the Denny North Substation Works

Introduction

- 8.10.2 The Denny North Substation Works are hereafter referred in this Section of this Chapter as the “Works” and the area in which the Works are located is hereafter referred to as the “Site”, until Section 8.111 of this document.
- 8.10.3 The existing Denny North Substation, is located approximately 1.7km north of Denny, as shown in Volume 2, Figure 4.1 Project Plan. The planned Works at the Site relate to upgrades to the existing substation, with the Works located on the primarily northeast side of the existing substation, within existing platform and within previously disturbed land, with a temporary construction compound also to be located within the existing substation site. Access to the Site will utilise existing tracks from an unnamed road east of the A872. A filter drain will be constructed around the Works which will link into the current drainage systems at the substation.
- 8.10.4 The construction phase is projected to last nine months, scheduled from November 2027 to July 2028. Once operational, the substation will be primarily operated remotely, with occasional access for inspections, servicing, or repairs. Full details with respect to the Works are provided in Chapter 4.
- 8.10.5 Further to this, the ZD route of the wider Project includes the addition of two towers (ZD096A and ZD096B) that link into Denny North Substation. These two towers were included within the EIA Report post scoping report and scoping opinion. Works are limited to the installation of two new towers, no significant effects on biodiversity are anticipated during construction or operation of the ZD route. This is due to the scale and nature of the impacts, and the relatively low sensitivity of the habitats to be impacted. This element of the Project was therefore scoped out of this chapter, however, an ecological baseline for ZD096A and ZD096B is provided for completeness.

Baseline Conditions

- 8.10.6 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment.

Statutory and Non-Statutory Designated Sites

8.10.7 Information on nature conservation sites is given below in Table 8-3966 , and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-396 Summary of Designated Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for non-breeding taiga bean goose.	7.4km south. Intervening land comprises arable land, forestry and urban areas of Bonnybridge. No hydrological connectivity to the Site; the SPA is upstream of the Site.	Designated site importance is derived from designation.	International
Firth of Forth SPA	Designated for assemblages of non-breeding and passage birds	8.4km northeast. Intervening land comprises farmland/arable. The SPA is downstream of the Site, approximately 12km via the River Carron.	Designated site importance is derived from designation.	International
Firth of Forth Ramsar site	Qualifies under criterion 2 for its red-throated diver <i>Gavia stellate</i> and golden plover <i>Pluvialis aprinaria</i> and criterion 5 supporting large populations of waterfowl, and criterion 6 for a varied assemblage of non-breeding waders and waterfowl.	As above for Firth of Forth SPA.	Designated site importance is derived from designation.	International
Torwood Mire WS	Designated under the Falkirk LDP2. Habitats include raised bog.	The Site is partly within the Torwood Mire WS. The Site is directly hydrologically connected to the WS.	Local authority designated site.	County
Dales Wood WS	Designated under the Falkirk LDP2. Habitats include woodland.	The opposite side of the public road adjacent to the bellmouth to the existing Denny North Substation.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
		No hydrological connectivity to the Site. The WS is upslope of the Site. No watercourses connect the Site and the WS.		
Quarter Bing WS	Designated under the Falkirk LDP2. Habitats include woodland.	0.7km west. Separated by woodland and arable land.	Local authority designated site.	County
		No hydrological connectivity to the Site. The WS is upslope of the Site. No watercourses connect the Site and the WS.		
Torwood Glen WS	Designated under the Falkirk LDP2. Habitats include a wooded river corridor.	0.8km north northeast from the Site. Intervening land comprises farmland/arable.	Local authority designated site.	County
		No hydrological connectivity to the Site. The WS is upslope of the Site. No watercourses connect the Site and the WS.		
South Torwood WS	Designated under the Falkirk LDP2. Habitats include wetlands.	0.7km south. Intervening land comprises raised bog and woodland.	Local authority designated site.	County
		No hydrological connectivity to the Site. No watercourses connect the Site and the WS.		

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.10.8 There is no woodland listed on the AWI within the Site. Eight parcels of LEPO are within 1km of the Site. The nearest AWI-listed woodland 0.2km east of the Site at the closest point. The ATI held no records for ancient or veteran trees within the Site, with only one record within 1km of the Site, 0.9km east.
- 8.10.9 ASNW and LEPO, and ancient and veteran trees, are absent from the Site and are valued at less than Site importance.

Habitat survey results

- 8.10.10 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results. The Site mainly comprises hardstanding, which is part of the existing Denny North Substation (Plate 13). East of the substation the Site has dense scrub, on flat, well-drained ground. This habitat has developed from disturbed land, and was possibly created as part of historical landscaping measures (Plate 14). No invasive species were recorded.



Plate 13. Hardstanding of existing substation platform in background (within Site), drainage ditch in foreground.



Plate 14. Dense scrub (gorse and mixed) in background (within 50m of Site, but similar to habitats within the Site).

- 8.10.11 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-4077, along with: their status, where relevant within Annex I of the Habitats Directive and /or designation as an SBL Priority habitat, and assessment valuation. None of the habitats identified during the field survey qualify as GWDTE. The rationale for this is provided below in Table 8-4077. Note all habitats within the survey area are detailed in Table 8-4077 the

area of these habitats which is found within the Works Area is also detailed. No invasive species were recorded.

Table 8-407 Summary of habitats within the survey area and valuation of importance

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area within the survey area (ha)	Rationale for Valuation	Importance level
A2.1 - Dense scrub	No	NVC type W23. Within the Site. It is highly likely that the scrub is maintained by periodic felling of semi-mature trees to maintain clearance for overhead lines. The scrub is dominated by silver birch or co-dominated by gorse and broom (Plate 14). Dominated by silver birch, gorse and/or broom, with eared willow, bramble and neutral grasses such as cock's foot, tufted hair-grass and Yorkshire fog. Weedy herbs are frequent and include colt's foot, creeping thistle, ox-eye daisy, white clover, bush vetch and broadleaved dock.	1.04	Widespread and common habitat found throughout NHZ 17 and the Falkirk Council local authority area.	Site
B1.2 - Semi-improved acid grassland	No	Outside of the Site to the northeast, on former hardstanding, is a thin cover of a damp acid grassland-type vegetation (Plate 2). Frequent Sheep's fescue places the habitat in an acid-type. However, it does possess any acid-indicators other than Sheep's fescue, and so is not a good example of acid. Species present include sheep's fescue, soft-rush, tufted hair-grass, creeping thistle, lesser spearwort, <i>Calliergonella cuspidatum</i> and marsh thistle. Does not qualify as SBL habitat due to being a poor example of acid grassland. Developed on disturbed ground.	0.15	Widespread and common habitat found throughout NHZ 17 and the Falkirk Council local authority area.	Site

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area within the survey area (ha)	Rationale for Valuation	Importance level
B5 - Marsh/marshy grassland	No	NVC type M23b. Outside of the Site to north, on disturbed soils. Soft-rush dominant with abundant tufted hair-grass, with creeping thistle, greater bird's-foot trefoil, red fescue and Yorkshire-fog.	0.28	Widespread and reasonably common habitat found throughout NHZ 17 and the Falkirk Council local authority area.	Site
D1.1 - Dry dwarf shrub heath – acid	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	NVC type H12. Outside of the Site. To the south southwest is a bank and associated drainage ditch formed of crushed stone that has developed into an acid dry dwarf shrub heath (Plate 1). Species include abundant heather with colt's foot, field horsetail, common bent, sheep's fescue, <i>P. formosum</i> and <i>P. schreberi</i>	0.31	An uncommon habitat within NHZ 17 and the Falkirk Council local authority area. SBL/Annex I habitat. Habitat formed on artificial slopes, fragmented habitat.	Local
E1.7 - Wet modified bog F1 – Swamp	Degraded <u>Lowland Raised Bog (H7120 Degraded Raised bog)</u>	NVC type M18. Outside of the Site. To the south is a <u>Lowland Raised Bog</u> (degraded and non-priority), with a near-intact hydrology, in this location. Furthermore, the bog vegetation suffers ongoing impacts of desiccation. The raised bog within 50m to the Site has frequent bog pools, but are of bare peat, a sign of damage from desiccation, as sphagnum species have been lost. Ongoing hydrological impacts to the raised bog in this area (and more widely) as a result of the existing Denny North Substation are certain. The raised bog is not capable of natural regeneration. Dominated by hair's-tail cottongrass, with cross-leaved heath, bog asphodel, crowberry, cranberry, <i>Polytrichum strictum</i> , <i>Polytrichum</i>	0.70	An uncommon habitat within the Falkirk Council local authority area. SBL habitat. Habitat degraded and non-priority, so valued at Local only.	Local

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area within the survey area (ha)	Rationale for Valuation	Importance level
F1 – Swamp	<u>Lowland Fens</u>	<i>commune, Sphagnum medium, Sphagnum papillosum, Sphagnum fallax, Aulacomnium palustre</i> and sundew. Outside of the Site. Depression in disturbed soils dominated by lesser reedmace with common cottongrass, marsh willowherb and marsh horsetail.	0.03	Widespread and reasonably common habitat found throughout NHZ 17 and the Falkirk Council local authority area.	Site
Hardstanding	No	Within the Site. Part of the existing Denny North Substation.	3.40	Artificial habitat with negligible ecological value.	Less than Site

Watercourses

- 8.10.12 There are no watercourses within the Site. The Site is drained by formal drainage ditches that are hydrologically connected to ditches within the wider area, that ultimately lead to named watercourses. The drainage ditches adjacent to the Site to the south, ultimately lead to the River Carron, 1.9km downstream. The River Carron is generally classified by SEPA as having an overall ‘poor’ status, a ‘poor’ overall ecology, ‘poor’ fish ecology and ‘moderate’ water quality. The Tor Burn is the nearest named watercourse, 0.8km north of the Site, but is upslope and therefore not hydrologically connected to the Site.
- 8.10.13 Watercourses are therefore considered to be of Less than Site importance for the purposes of this assessment.

Groundwater Dependent Terrestrial Ecosystems

- 8.10.14 No NVC communities identified during the survey within 50m of the Works are listed by SEPA guidance on GWDTE as potential GWDTE. Details on the hydrological conditions of the Site are provided in Chapter 9.

Species

- 8.10.15 **Error! Reference source not found.** 8.48 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment. Only where the desk study returned records for a given taxa are they mentioned.

Table 8-418 Summary of protected and notable species results and valuation

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	No notable plants recorded.	The Site is dominated by widespread and common habitats on an artificial surface/disturbed habitats that are unlikely to support notable plant species.	Less than Site.
Bats	<u>Desk study</u> The desk study returned two records of bat from the NBN atlas that were within 1km of the Site. One record of common pipistrelle and one record of an individual not identified to species level. The closest of these was 750m north of the Site. <u>Field survey</u> The habitats across the Site are considered to be of Low suitability for foraging and commuting bats. Hedgerows, arable and non-arable grassland, hedgerows, lines of trees acting as suitable habitat for bats have been identified within 1km of the Site. GLTA identified no trees with potential to support roosting bats.	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. Habitats across the Site and survey area are of Low suitability for foraging and commuting bats. There are limited features suitable for significant bat roosts. No buildings or trees with potential for roosts were identified. Common and widespread species, such as common and soprano pipistrelle, will probably use the Site for foraging and surrounding area for foraging <i>and</i> commuting. Similar habitats are present within the wider area, and given the lack of suitable roosting features Therefore, it is valued to be of Site importance for bats.	Site
Notable mammals (Otter, water vole, pine marten, red squirrel) - excluding bats	<u>Desk study</u> The NBN atlas returned 44 records of red squirrel within the Study Area, most of which were sighted east of the Site within Torr wood, the closest of which was around 400m east of the Site.	No evidence of notable mammals was identified within the survey area. The Site is considered to be of little to no importance for these species, given the lack of suitable habitat presence, and the dominance of hard standing.	Less than Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
	<u>Field survey</u> No sign of these species were found during surveys. Suitable habitat for otter is not present within the Site or the wider survey area, given the distance to any watercourses. Water vole habitat suitable for burrows is not present in the Site and wider survey area. Pine marten, red squirrel and badger could be present within the area (particularly in wooded habitats in the surrounding area); the occasional presence of these mobile species is a possibility, but no evidence of their presence was recorded during field surveys.		
Brown hare and hedgehog	It is possible that hedgehog occurs in areas of suitable scrub habitat within the Site. Brown hare may also occur within the Site at times.	Both species are relatively common and widespread. Alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across the NHZ 17.	Less than Site.
Great crested newt	<u>Desk study</u> The Site is located within the zone of 'marginal suitability' for great crested newt, as determined by the ARG UK Advice Note 5, and the species is known to be present within the central belt of Scotland. No records received from NBN Atlas or ARG/ARC UK Record Pool for great crested newts. There are no optimal waterbodies with the potential to be used by great crested newt within 250m of the Site. The pools within the	No optimal habitat is present within the survey area. Great crested newt is considered absent.	Less than Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
	area are small, and likely to be at least mildly acidic. <u>Field survey</u> The results of an eDNA survey on all ponds within 250m of the Site returned negative results for great crested newt. For full details on GCN surveys, see ponds ZG.GCN.01 – ZG.GCN.06 in Volume 3, Appendix 8.11 Upated Lines Great Crested Newt Results.		
Common reptiles and amphibians	<u>Desk study</u> The NBN atlas returned one record of common toad within the Study Area. <u>Field survey</u> Suitable habitat is present within the Site and immediate surrounding area for common reptiles and amphibians, including grassland, heath, bog, scrub and swampy pools. These habitats could be used by common species of reptile and amphibian for foraging and breeding. The swampy pools within the area are dominated by lesser reedmace and are likely to be at least mildly acidic. These pools present good opportunities for breeding amphibians such as common frog and common toad.	These species are relatively common and widespread, the Site offers some suitable habitat, but this is also present in the wider area.	Site.
Terrestrial invertebrates	Habitats in the Site are unlikely to support notable invertebrates (further, the habitats are ubiquitous in the area, and as such any	Invertebrates which may occur within the Site are likely to be common and widespread, particularly in similar habitats across the central belt.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
	invertebrates present within the Site are likely to be present across the landscape).		
Common breeding birds	<u>Desk study</u> The desk study returned records for curlew, yellow hammer, black-headed gull and herring gull. <u>Field survey</u> There is suitable nesting habitat for general breeding birds within all vegetated parts of the survey area.	The birds which are likely to breed on Site are common and widespread within rural parts of NHZ 17.	Site.
Schedule 1 birds	The habitats on Site are unsuitable for nesting barn owl, kingfisher and raptors. Within 500m there are no trees with cavities/dilapidated barns suitable for barn owl and no watercourse with steep slopes suitable for nesting kingfisher. The plantation woodlands located in the surrounding area have limited potential for nesting raptors. These are located 0.3km south-east of the Site and on the opposite side of the public road adjacent to the bellmouth to the existing Denny North Substation (0.5km from the main area of Works).	Schedule 1 birds will not breed on Site given the lack of suitable habitat. Habitats within the surrounding area have limited potential for breeding Schedule 1 raptors.	Less than Site.
Wintering birds	The habitats on Site are not important for wintering birds.	The birds which are likely to be present on Site are common and widespread within rural parts of NHZ 17. SPA qualifying features are considered within the relevant SPA evaluation and not included as part of this assemblage.	Site.

Invasive non-native plant species

Desk study

8.10.16 The NBN Atlas returned no records of plant INNS.

Field survey

8.10.17 No plant INNS were identified during the surveys, and they are considered absent.

8.10.18 INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

8.10.19 Relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of Site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-4299. For scoped out features there are no likely significant effects in EIA terms.

Table 8-429 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this chapter
Slamannan Plateau SPA	The SPA is located 7.3km south of the Site and there is no hydrological connectivity between the SPA and to the Site. The sole designated feature of the SPA is non-breeding Taiga bean goose. Though a mobile feature, Taiga bean geese are extremely unlikely to occur within the Site and surrounding area given the majority of the habitat currently present is unsuitable woodland. Some potentially suitable wetland and grassland habitat exists. A vast quantity of more suitable habitat exists in the wider area, including large expanses of bog and marsh similar to that present in the SPA. In addition, the distribution of the taiga bean goose population associated with Slamannan Plateau SPA is relatively well understood and is restricted to areas within and immediately surrounding the SPA boundary. It is expected that Taiga bean goose would preferentially utilise these more suitable habitats and not the Site.
Firth of Forth SPA / Ramsar site	The SPA is beyond the distance at which construction-related disturbance of animals could occur within the SPA. There is no possibility that any of the SPA qualifying species could occur within the habitats within and immediately surrounding of the Site, except for agricultural fields (which provide feeding opportunities for pink-footed goose), which are 0.2km from the Site at the nearest point. Regardless, there is an abundance of similar or more suitable fields around the SPA.
Quarter Bing WS, Torwood Glen WS and South Torwood WS	All WS' s are located over 0.5km from the Site and as such there will be no habitat loss from these. Considering the distance between

Feature	Rationale for exclusion from further assessment in this chapter
	each WS and the Site, there is no potential risk of disturbances to animals that maybe present within these sies. Note both effects from watercourse pollution and air borne pollution are scoped out of the assessment.
Ancient Woodland and Ancient / Veteran Trees	Valued at Less than Site level importance.
GWDTE	No possible hydrological impacts to potential GWDTE.
All other terrestrial habitats not identified as being important	Other habitat types which are common and widespread, or otherwise considered to be of low ecological value, both locally and nationally, were recorded within the Site. These were not identified as being notable. These are: dense scrub habitats of low floristic diversity and limited conservation value; and hardstanding with no conservation value.
Bats	Valued at Site level importance.
Notable mammals (Otter, water vole, pine marten, red squirrel) - excluding bats	Valued at less than Site level importance.
Brown hare and hedgehog	Valued at less than Site level importance.
Common breeding birds	Valued at Site level importance.
Schedule 1 birds	Valued at less than Site level importance.
Great crested newt	Valued at less than Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Terrestrial invertebrates	Valued at Site level importance.

ZD Route New Towers Baseline

- 8.10.20 A summary of the baseline for two proposed towers (ZD096A and ZD096B) on the ZD route is provided below. As described in Section 8.10.19, this area is scoped out of assessment, but the baseline is included here for completeness.
- 8.10.21 Both proposed towers are located immediately adjacent to the existing substation and are within Torwood Mire WS. The ZD096B tower is within an area of degraded raised bog and dwarf shrub heath (as described above). The ZD096A tower is within an area of Dense scrub (as described above) and also the fragmented remnants of a marsh of the NVC type M23a. This wetland is dominated by sharp-flowered rush, with tufted hair-grass, Yorkshire fog, narrow buckler-fern, common sorrel, devil's-bit scabious, marsh thistle and creeping bent. The tower is also within a damp, Semi-improved neutral grassland of the NVC type MG9, probably formed from the displacement of peat from when the existing substation was constructed. The habitat has abundant tufted hair-grass, with soft rush, broad-leaved dock, greater bird's-foot trefoil, Yorkshire fog, creeping buttercup and marsh willowherb. The tower is also partially within the existing substation platform.

- 8.10.22 Habitat suitability for protected and notable species, for the area of the two proposed towers, is as described above for the Denny North substation Site. No records of protected or notable species were found during the surveys.

Design and Embedded Mitigation Measures

- 8.10.23 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant. For the Denny Substation works, temporary construction compounds will be sited on the existing substation platform, rather than within surrounding habitats (such as those associated with deep peat).

Important ecological features

- 8.10.24 The following area IEFs are relevant to the Site:

- Torwood Mire WS;
- Dales Wood WS;
- Degraded Lowland Raised Bog (*H7120*); and,
- Lowland Heathland (*H4030*).

Assessment of Effects

- 8.10.25 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed above and in Section 8.4, and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.10.26 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts on IEFs can be scoped out and are not considered further (in addition to those scoped out in Table 8-429 above):
- Direct habitat loss to Torwood Mire WS and Dales Wood WS
 - Direct habitat loss (permanent) (no habitats of Local or greater importance will be lost).
 - habitat change to potential GWDTEs as a result of changes in hydrology. There are no GWDTEs present which could be impacted.
- 8.10.27 Given the above no likely impacts on any receptors have been identified from construction activities.
- 8.10.28 Following implementation of embedded mitigation there are no remaining likely operational effects.

Summary of Significant Effects

- 8.10.29 No likely effects of County level or higher (i.e. Significant in EIA terms) were identified.

Proposed Additional Mitigation Measures

- 8.10.30 No likely significant effects have been identified, and no further mitigation beyond that which is embedded (see details in Section 8.4) is required.

Monitoring

- 8.10.31 In the event of pre-construction surveys identifying species licensing requirements, monitoring will be required where it is a required as condition of protected species licensing

Residual Effects

- 8.10.32 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.
- 8.10.33 There will therefore be no likely Significant residual effects.

8.11 Assessment of Effects, Mitigation and Residual Effects of the Bonnybridge Substation Extension

Introduction

- 8.11.1 The Bonnybridge Substation Extension Works are hereafter referred to as the “Works” and the “Site” for the area in which the Works are located, until Section **Error! Reference source not found.**2 of this document.
- 8.11.2 The Site is situated between Bonnybridge and Camelon. Construction activities would include establishing a temporary construction compound, site clearance, utility diversions, bulk earthworks, drainage work, and the installation of electricity infrastructure. Site access would be via the A803 Falkirk Road, utilising the current access point south of the existing substation. The construction phase is expected to last approximately 26 months between October 2027 and November 2029. Once operational, Bonnybridge Substation would be accessed for inspections, servicing, or repairs, but overall, the on-site activity at the substation would be minimal. Full details with respect to the Works are provided in Chapter 4.

Methods

- 8.11.3 Methods, assumptions and limitations relevant to this assessment are detailed above in Sections 8.3.
- 8.11.4 GWDTE's are scoped out of the assessment for these Works due to their highly localised nature within previously disturbed ground and limited predicted impacts on groundwater levels and flows. The Works would be conducted largely within the existing main substation platform and within disturbed ground immediately adjacent to it, which is surrounded by tower bases and permanent tracks made of crushed stone. The hydrology of the area is already disturbed. The scale of the Works are minor and present little to no risk of altering the hydrological regime of the surrounding habitats. No indirect hydrological impacts beyond a highly localised area could impact GWDTE. Chapter 9 contains full details of the potential hydrological change as a result of the Works.

Baseline Conditions

- 8.11.5 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment.

Statutory and Non-Statutory Designated Sites

8.11.6 Information on nature conservation sites is summarised in Table 8-5050, and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-50 Summary of Statutory Sites for Nature Conservation

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Slamannan Plateau SPA	Designated for non-breeding taiga bean goose.	3.7km south. Intervening land comprises arable land and forestry. No hydrological connectivity to the Site; the SPA is approximately 4km upstream of the Site.	Designated site importance is derived from designation.	International
Firth of Forth SPA	Designated for assemblages of non-breeding and passage birds	8.8km northeast. Intervening land comprises urban areas and farmland / arable. The SPA is downstream of the Site, approximately 9km via the River Carron.	Designated site importance is derived from designation.	International
Firth of Forth Ramsar site	Qualifies under criterion 2 for its red-throated diver <i>Gavia stellate</i> and golden plover <i>Pluvialis apricaria</i> and criterion 5 supporting large populations of waterfowl, and criterion 6 for a varied assemblage of non-breeding waders and waterfowl.	As above for Firth of Forth SPA.	Designated site importance is derived from designation.	International
Forth and Clyde Canal LNCS	Recognised for a diversity of birds, mammals, fish, invertebrates and amphibians. Green/blue network.	0.4km south. No hydrological connectivity to the Site; the LNCS is approximately 0.5km upstream of the Site, along the watercourse.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Roughcastle LNCS	Recognised for diversity of ground beetles (inc. the locally rare green tiger beetle <i>Cicindela campestris</i>), true bugs, bumblebees, hoverflies and butterflies. Mammals, birds, reptiles and amphibians.	0.5km south. No hydrological connectivity to the Site; the LNCS is approximately 0.6km upstream of the Site, along the watercourse.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.11.7 There is no woodland listed on the AWI within the Site. The nearest AWI-listed woodland is two parcels of LEPO, associated with the Roughcastle LNCS, 0.5km south at the closest point. There are no trees listed on the ATI within 1km of the Site. Ancient Woodland and Ancient and Veteran Trees are absent from the Site, and are valued at less than Site importance.

Habitat survey results

- 8.11.8 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results.
- 8.11.9 The Site mainly comprises Cultivated/disturbed land – arable, on flat to gently-sloping, well-drained ground. This arable land is managed as a monoculture of barley and possesses infrequent arable weeds (see Plate 15). Other habitats include Broadleaved woodland – plantation, which is an even-aged sward of sycamore with a ground-flora of neutral grasses and common nettle (Plate 16). Other habitats include open areas of species-poor Semi-improved neutral grassland, Defunct hedge - species-poor, dominated by hawthorn and scattered semi-mature sycamore trees. The temporary compounds of the Site are located within the hardstanding of an industrial estate and within species-poor Semi-improved neutral grassland. No invasive species were recorded.



Plate 15. Arable field.

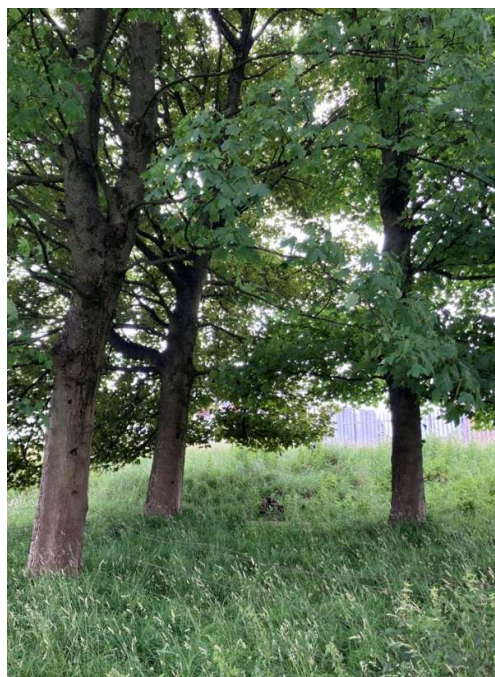


Plate 16. Sycamore-plantation.

- 8.11.10 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-43 along with their status as GWDTE and assessment valuation. Note all habitats within the survey area are detailed in Table 8-431, the area of these habitats which is found within the Site is also detailed.

8.11.11 None of the habitats identified during field survey qualify as Annex I or SBL types.

Watercourses

8.11.12 The Rowan Tree Burn is 60m to the southwest of the Site at the closest point. It is considered not to qualify as River SBL Priority habitat as it is unlikely to meet the criteria listed by the SBL Habitat description. The watercourse was c. 2.5m wide, and was 1.2m deep in some areas during the time of survey, but c. 0.4m on average. The bed is of bedrock and boulder. It had clear water and a fast flow of rapids, runs and cascades. The banks are vegetated, with overhanging scrub or trees in the upper reaches, south of the A803. The watercourse has been significantly modified by straightening adjacent to the Site. The Rowan Tree Burn discharges into the Bonny Water, which lies 70m north of the Site at the closest point. The Bonny Water was c. 10m wide and around c. 1-2m deep, with a channel that is natural in character with rapids, riffles and glides, with moderately-sloping banks of woodland and scrub. The Bonny Water is River SBL Priority habitat and is currently classified by SEPA as having an overall 'moderate' status, a 'moderate' overall ecology, 'high' fish ecology and 'moderate' water quality. It is also designated as a heavily modified water body. It discharges into the River Carron, a notable river, which is c. 0.8km from the Site. It is currently classified by SEPA as having an overall 'poor' status, including a 'poor' score for overall ecology and fish. The River Carron ultimately discharges into the Firth of Forth.

8.11.13 Watercourses are therefore considered to be of County importance.

Table 8-431. Summary of habitats within the Site and associated survey area and valuation of importance (no Annex 1 habitats are present)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area/Length within the survey area (ha/km)	Rationale for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	NVC type W10. Outside of the Site. Broadleaved woodland on steep slopes of riverbank. Semi-natural with semi-mature to mature trees. Locally abundant grey willow adjacent to the river, with frequent sycamore and ash. Rarely occurring downy birch, with a shrub layer of hawthorn and bramble. Ground flora with abundant common nettle, cleavers, male fern, broad-buckler fern and comfrey.	0.06	SBL Priority habitat.	County
A1.1.2 - Broadleaved woodland - plantation	No	Within the Site. Open woodland, with poor structure, dominated by even-aged mature sycamore. Ground flora dominated by cock's-foot and common nettle with cleavers and comfrey, and rarely occurring red campion and herb-Robert.	0.34	Widespread and common habitat found throughout the Falkirk Council local authority area.	Site
A2.1 - Scrub - dense/continuous / W21, W23, W24	None	Within the Site. Dense scrub of mixed woody species including hawthorn and silver birch or dominated by gorse / bramble with a ground layer with neutral grassland species.	0.10	Widespread and common habitat found throughout the Falkirk Council local authority area.	Site
B5 – Marsh/marshy grassland	<u>Lowland Fens</u>	Possible GWDTE. NVC type M27. Outside of the Site. Poorly-drained edge of agricultural field, dominated by meadowsweet with	None within the Phase 1 Habitat survey	<u>Lowland Fens</u> is relatively widespread in rural parts of NHZ 17 and the Falkirk	Local

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area/Length within the survey area (ha/km)	Rationale for Valuation	Importance level
		common nettle and reed canary-grass. Highly fragmented in the landscape. Impacted from nutrient enrichment (e.g. species-poor).	area, but present within the GWDTE survey area.	Council local authority area where there is damp abandoned pasture, and County importance would therefore be disproportionate. Moreover, the example within the area is highly fragmented. However, <u>Lowland Fens</u> does enhance the ecology of the local area and it is an SBL Priority habitat, and Local importance is deemed appropriate.	
B5 – Marsh/marshy grassland	No	Possible GWDTE. NVC type M23b. Outside of the Site. Poorly-drained corner of agricultural field. Adjacent to field ditch. Dominated by soft-rush with creeping buttercup and occasional immature willow species scattered throughout. Highly fragmented in the landscape. Impacted from nutrient enrichment (e.g. species-poor).	None within the Phase 1 Habitat survey area, but present within the GWDTE survey area.	Non-SBL wetland. Widespread and common habitat found throughout the Falkirk Council local authority area.	Local

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Description	Total Area/Length within the survey area (ha/km)	Rationale for Valuation	Importance level
B2.2 - Neutral grassland - semi-improved	No	NVC type MG1. Within the Site. Dry, species-poor, grassland of coarse grasses and agricultural weeds. Abundant Yorkshire fog, cock's-foot, common bent, sweet vernal-grass, white clover, meadow buttercup, germander speedwell, and rarely occurring mugwort.	1.59	Widespread and common habitat found throughout the Falkirk Council local authority area.	Site
J1.1 - Cultivated/disturbed land - arable	No	Within the Site. Barley, occasional agricultural weeds such as pineappleweed, with little else.	4.61	Habitat with little ecological value.	Less than Site
J2.1.2 - Intact hedge - species-poor	No	Hedge dominated by hawthorn with a grassy ground flora akin to MG1.	0.38	Widespread and common habitat found throughout the Falkirk Council local authority area.	Site
J2.2.2 - Defunct hedge - species-poor	No	Failed hedge dominated by hawthorn with a grassy ground flora akin to MG1.	0.22	Widespread and common habitat found throughout the Falkirk Council local authority area.	Site
Hardstanding	No	Artificial unsealed surface.	2.57	Habitat with no ecological value.	Less than Site

Groundwater Dependent Terrestrial Ecosystems

- 8.11.14 The NVC communities identified during the survey which are listed by SEPA guidance on GWDTE as potential GWDTE, are listed below in **Error! Reference source not found.**, along with the associated GWDTE importance as assigned using the method in 8.3 Methodology. Full descriptions of these habitats are found above within Table 8-43. Hydrological impacts to GWDTE are not possible north and west of the Rowan Tree Burn and the Bonny Water respectively, therefore potential GWDTE are not described for this area. Small, isolated fragments of potential GWDTE habitats are present outside of the Site. Lowland Fen is 160m from the proposed temporary compound (and 280m from the proposed substation extension). Marsh/marshy grassland is 220m from the proposed temporary compound and 300m from the proposed substation extension. The details of the hydrological conditions of the Site and the potential impacts to GWDTE are provided in Chapter 9 on Water Environment.

Table 8-442 NVC communities of potential GWDTE present within the survey area

NVC type	Notable habitat type	GWDTE importance ¹²⁹	Rationale for Valuation	Importance Level
M27 <i>Filipendula ulmaria</i> - <i>Angelica sylvestris</i> mire	<u>Lowland Fens</u>	Moderately important	See rationale in Table 8-43 above for <u>Lowland Fens</u> .	Local
M23b <i>Juncus effusus</i> / <i>acutiflorus</i> - <i>Galium palustre</i> rush-pasture, <i>Juncus effusus</i> sub-community	n/a	Low importance	See rationale in Table 8-43 above for non-SBL B5.	Local

Species

- 8.11.15 Table 8-4533 provides a summary of the protected and notable species data from desk study and recorded during the field surveys, along with details of the valuation assessment.

Table 8-453 Summary of protected and notable species results and valuation

Feature	Summary of baseline	Rationale for Valuation	Importance level
Notable plant species	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u>	The Site is dominated by widespread and common habitats on the edge of an	Less than Site.

¹²⁹ According to SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems.
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fi2cnr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK>

Feature	Summary of baseline	Rationale for Valuation	Importance level
	No records from field survey.	urban area and is unlikely to support notable plant species.	
Bats	<u>Desk study</u> A search of the NBN returned 14 records of bats: three bat sightings were recorded in a farm building 370m east of Site, with the species remaining undetermined. Bat Conservation Trust waterways surveys described six Daubenton' s bat sightings in woodland 440m west of the Site. The remainder of sightings were common pipistrelle and soprano pipistrelle, recorded in fields no closer than 200m from the Site. <u>Field survey</u> The habitats across the Site are considered to be of low suitability for foraging and commuting bats, but are of high value in the wider area. Local watercourses are vegetated and are highly likely to form habitat corridors for bats throughout the wider landscape. GLTA identified one PRF-I tree with potential to support roosting bats, 25m outside of the Site.	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. Habitats across the Site and survey area are of low suitability for foraging and commuting bats. There are limited features suitable for significant bat roosts. One tree with potential for roosts was identified. Therefore, Local importance is considered sufficient for bats.	Local
Otter	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> Suitable habitat for the species is present along the Rowan Tree Burn and Bonny Water. Two otter lay-ups and several areas with otter sign were recorded on both watercourses. However, no otter holts or dens (non-breeding, breeding / natal or otherwise) were identified within the survey area.	The Rowan Tree Burn and Bonny Water are likely to form part of a network of habitats important for otter feeding and commuting, however, but likely of low suitability for breeding.	Local
Water vole	<u>Desk study</u> No records received from NBN Atlas. The National Water Vole Database indicates no water vole presence within the 10km grid square which encompasses the Site. <u>Field survey</u>	No evidence of the species was identified. Water vole is considered absent.	Less than Site.

Feature	Summary of baseline	Rationale for Valuation	Importance level
	No suitable watercourses or water bodies are present within the Site, and no evidence of the species was incidentally identified within the habitats within the survey area.		
Badger	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> The Site and surrounding area has moderate suitability with some woodland suitable for sett creation and arable / grassland habitats for foraging. No badger setts or sign were found within the Site survey area. The Site is not well-connected to other suitable habitat in the wider area, the Bonny Water / River Carron and the Forth and Clyde Canal, which pose non-trivial barriers to badger movement.	Badgers are a common species and not afforded protection for nature conservation purposes.	Site.
Pine marten	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> No evidence of pine marten was recorded during field surveys. The Site and wider area is sub-optimal for the species as it lacks large trees or rock piles with cavities for den creation. Foraging opportunities are mostly poor on Site (e.g. agricultural fields).	Pine marten are potentially present in the wider area, but are considered absent from Site.	Less than Site.
Red squirrel	<u>Desk study</u> A search of the NBN returned five records of red squirrel within 1km of the Site. These were in woodlands at nearest 380m distant from Site, along the Union Canal to the south. The Saving Scotland's Red Squirrel website shows recent records of red squirrel in Chacefield Wood, 1.3km distant from the Site to the east. Plus records of grey squirrel throughout all urban areas (e.g. Bonnybridge and Falkirk). The results indicate that red squirrel are absent from Site and in low densities within the surrounding area and restricted to areas distant to the Site.	Red squirrel is considered absent.	Less than Site.

Feature	Summary of baseline	Rationale for Valuation	Importance level
	<u>Field survey</u> No sign of this species was found during surveys. The habitats within the Site and surrounding area are of low suitability for red squirrel.		
Brown hare and hedgehog	<u>Desk study</u> No records received from NBN Atlas for brown hare. <u>Field survey</u> It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Site and surrounding area. Brown hare may also occur in the agricultural habitats within the Site at times.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17.	Site.
Great crested newt	<u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for great crested newt, as determined by the ARG UK Advice Note 5¹³⁰, and the species is known to be present within the central belt of Scotland. No records received from the NBN Atlas or ARG / ARC UK Record Pool. The Record Pool showed no great crested newt records in the 10km grid square within which the Site is located. The Bonny Water, River Carron, and the Forth and Clyde Canal pose major barriers to movement. The arable fields that dominate the landscape provide very poor terrestrial habitat for this species. <u>Field survey</u> There are no waterbodies with the potential to be used by breeding great crested newt within 250m of the Site.	No suitable habitat is present within the Site and surrounding area. Great crested newt is considered absent.	Less than Site.
Common reptiles and amphibians	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> The Site and surrounding area is dominated by arable fields that are unsuitable for these species. Habitat present within the Site and the	Likely absent from Site. These species are relatively common and widespread, any possible impacts from the Works would not threaten their conservation status.	Less than Site.

¹³⁰ ARG UK (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index.

Feature	Summary of baseline	Rationale for Valuation	Importance level
	surrounding area that could be used by reptiles and amphibians (e.g. native woodlands, grassland and scrub) are fragmented. The wooded river corridors within the wider area provide limited suitability for slow worm. There are no suitable water bodies which could support breeding populations of amphibians.		
Terrestrial invertebrates	<u>Desk study</u> Two records were received from NBN Atlas of notable terrestrial invertebrates: green tiger beetle; and, tormentil mining bee. Both of these were recorded within the Roughcastle LNCS. <u>Field survey</u> Habitats in the Site are unlikely to support notable invertebrates (further, the habitats are ubiquitous in the area, and as such any invertebrates present within the Site are likely to be present across the landscape.	Invertebrates which may occur within the Site are likely to be common and widespread, particularly in similar habitats across the central belt, and any possible impacts from the Works would not threaten their conservation status.	Less than Site.
Common breeding birds	<u>Desk study</u> The following notable common breeding bird species were returned from a search of the NBN: kestrel, starling and tree creeper. <u>Field survey</u> There is limited nesting habitat for common breeding birds within the Site. Kestrel could potentially forage in rough grassland within the area. Starling and tree creeper could possibly forage within the Site.	The birds which are likely to breed on Site are common and widespread within NHZ 17.	Site.
Schedule 1 birds	<u>Desk study</u> Two records of kingfisher were received from the NBN Atlas. <u>Field survey</u> The habitats on Site are unsuitable for nesting barn owl and raptors. No watercourses with steep slopes suitable for nesting kingfisher were noted during surveys, however, the Bonny Water / River Carron present excellent foraging and commuting potential for this species. Within 500m there are no trees with cavities / no dilapidated barns suitable for barn owl. The nearest	Schedule 1 birds are unlikely to breed within the Site. Habitats within the surrounding area have limited potential for breeding kingfisher, barn owl and Schedule 1 raptors.	Site.

Feature	Summary of baseline	Rationale for Valuation	Importance level
	farmsteads with barns are c. 600m to the east of the Site. There are no habitats suitable for breeding raptors within the Site and the wooded habitats in the wider area have limited suitability for raptors. The best opportunities for raptors are within the Roughcastle LNCS, c. 0.5km from the Site.		
Wintering birds	The habitats on Site are not important for wintering birds.	The birds which are likely to be present on Site are common and widespread within rural parts of NHZ 17. SPA qualifying features are considered within the relevant SPA evaluation.	Less than Site.

Table 8-464. Details of protected and notable species results

Species	Record type	Description	Distance to Site
Bats	PRF-I	Single small knot hole located on an upper branch of ash at c. 10m, facing south. Located 25m from the Site on the opposite side of the A803 road.	Outside of Site, 25m south.
Otter	Resting site	Lay-up on the Bonny Water. Cavity at the base of mature sycamore on the northwest bank formed by erosion and lifted roots. Single old spraint at flattened middle section. Does not extend. Partially used slide towards water.	Outside of Site, 105m northeast.
Otter	Resting site	Lay-up on the Rowan Tree Burn. Mature sycamore on east bank with major butt rot that extends up into hollow trunk and creates cavity at base. Very sheltered and hidden amongst ferns. Does not extend. Single old spraint inside and a well-used slide going towards water.	Outside of Site, 135m west.
Otter	Evidence	Three locations with otter spraints on the Rowan Tree Burn.	Outside of Site, closest is 60m southwest.

Invasive non-native plant species

Desk study

- 8.11.16 The NBN Atlas returned two records of INNS within 1km of the Site, both were of Japanese knotweed from the Bonny Water (approximately 370m upstream of the Site).

Field survey

- 8.11.17 While habitats adjacent to substation do not contain INNS, both banks of the Bonny Water 50m from the current compound are infested with Himalayan balsam, with significant stands of Japanese knotweed and great burdock further upstream.

INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

- 8.11.18 As set out in Section 8.3.35, relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are listed below in Table 8-4755.

Table 8-475 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this chapter
Slamannan Plateau SPA	The SPA is located 3.7km distant to the Site and there is no hydrological connectivity between the SPA and to the Site. The sole designated feature of the SPA is non-breeding taiga bean goose. Though a mobile feature, Taiga bean geese are highly unlikely to occur within the Site and surrounding area, which is dominated by arable fields. The distribution of the taiga bean goose population associated with Slamannan Plateau SPA is relatively well understood and is restricted to areas within and immediately surrounding the SPA and elsewhere within the region and not any of the habitats within the Site or the immediate area.
Firth of Forth SPA / Ramsar site	The SPA is beyond the distance at which construction-related disturbance of animals could occur within the SPA (8.8km from the Site). There is no possibility that any of the SPA qualifying species could occur within the habitats within and immediately surrounding of the Site, except for agricultural fields (which provide feeding opportunities for pink-footed goose), which are 0.2km from the Site at the nearest point. Regardless, there is an abundance of similar or more suitable fields around the SPA.
Forth and Clyde Canal WS and Roughcastle WS	All LNCS are located at a distance from the Site that there are no possible impact pathways as a result of the Works.

Feature	Rationale for exclusion from further assessment in this chapter
Ancient Woodland and Ancient / Veteran Trees	Valued at Less than Site level importance
<u>Lowland Fens</u> (GWDTE)	Marshy grassland, including <u>Lowland Fens</u> , lies approximately 160m east of the Site at its closest point. It occupies a topographic dip and is therefore likely sustained by rainfall and surface runoff. This area is not hydrologically connected to the Site and will not be affected by the Works, either directly or indirectly.
All other terrestrial habitats (including woodland)	Other habitat types are common and widespread, or otherwise considered to be of low ecological value, both locally and nationally, were recorded within the Site. These were not identified as being notable. <u>Lowland Mixed Deciduous Woodland</u> is of higher value but is outside the Site and will not be affected.
Water vole, Pine marten, and Red squirrel	Considered to be absent from the Site and Zol.
Brown hare and hedgehog	Valued at Site level importance.
Common breeding birds	Valued at Site level importance.
Wintering birds	Valued at Less than Site level importance ¹³¹ .
Schedule 1 birds	Considered to be absent from the Site and Zol.
Great crested newt	Considered to be absent from the Site and Zol.
Common reptiles and amphibians	Valued at Less than Site level importance.
Terrestrial invertebrates	Valued at Less than Site level importance.

Design and Embedded Mitigation Measures

- 8.11.19 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant. For the Bonnybridge Substation Extension, the construction compound is to be sited on pre-existing hardstanding of artificial surface, rather than land adjacent to the existing substation (e.g. on arable land within close proximity to the Rowan Tree Burn).
- 8.11.20 The Works would involve removing species-poor hedgerow and broadleaved plantation woodland. An area of woodland and shrub planting will be provided and other areas will be reinstated as neutral grassland post-construction. Details are provided in Chapter 6 Landscape and Visual.

Important ecological features

- 8.11.21 The following area IEFs are relevant to the Site:

¹³¹ All SPA quantifying features are considered within the relevant SPA evaluation and not included here.

- Bats; and
- Otter.

Assessment of Effects

- 8.11.22 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed in Section 8.4 and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.11.23 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts on IEFs can be scoped out and are not considered further (in addition to those scoped out in Table 8.8 above):
- Direct habitat loss (no habitats within designated sites or of Local or greater importance will be lost);
 - Direct loss and disturbance of bat roosts (due to distance from the Works, one feature, over 25m from the works on the opposite side of the A803 road.);
 - Direct loss and disturbance to otter refugia (due to distance from the Works, no resting sites within 100m);
 - Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration; and
 - Fragmentation and loss of habitats of importance to protected and notable species (other than bats).
- 8.11.24 The following construction phase impacts cannot be scoped out following implementation of embedded mitigation:
- Direct loss of bat foraging habitat; and
 - Fragmentation of bat commuting routes.
- 8.11.25 Following a review of the potential impact pathways and implementation of embedded mitigation there are no remaining likely operational effects.
- 8.11.26 Possible likely impacts and effects from the construction phase on IEF are described in Table 8-4866.

Table 8-486 Construction phase impacts and effects

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Foraging and commuting bats	Fragmentation of commuting routes	The habitats within the Site (e.g. species-poor hedgerows) could be used as commuting routes by bats but the importance of these habitats is highly likely be very low. Only short sections of such habitat which do not connect valuable habitats will be lost and effects are considered negligible.	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
	Loss of foraging habitat	A total of 0.31ha of woodland and 1.49ha neutral grassland will be lost to the Works, all of which could be used by foraging bats. However, the presence of similar and much higher quality bat habitat adjacent to the Site and in the wider area, means that impacts of direct habitat loss within the Site is likely to be minimal and effects are considered negligible.	Negligible (Not Significant)

Summary of Significant Effects

8.11.27 No likely effects of County level or higher (i.e. Significant in EIA terms) were identified.

Proposed Additional Mitigation Measures

8.11.28 No significant effects have been identified, and no further mitigation beyond that which is embedded is required, see Section 8.4. However, there are legal requirements relating to works which have the potential to impact certain protected species. Appropriate works exclusion zones must be in place around otter resting sites. In the unlikely event that works are required within proximity to protected species resting sites, licenses from NatureScot would be required to permit such works, and must be in place before works commence. SPPs are required to support applications for licenses, and would include appropriate mitigation measures, if required.

Residual Effects

8.11.29 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.

8.11.30 There will therefore be no likely Significant residual effects.

Monitoring

8.11.1 In the event of pre-construction surveys identifying species licensing requirements, monitoring will be required where it is a required as condition of protected species licensing

8.12 Assessment of Effects, Mitigation and Residual Effects of the Newarthill Substation Works

Introduction

8.12.1 The Newarthill Substation Works are hereafter referred to as the “Works” and the “Site” for the area in which the Works are located, until Section 8.134 of this document.

8.12.2 The Works will upgrade the existing Newarthill Substation, situated approximately 750m north of Newarthill, North Lanarkshire. The construction phase will include the creation of temporary construction compounds and installation of new electricity infrastructure. Access to the Site will be via Legbrannock Road, with the access point west of the substation remaining in use. The construction phase is expected to last approximately sixteen months from October 2027 to January 2029. Once operational, the Newarthill Substation would generally be operated remotely, with on-site activity limited to

occasional inspections, servicing, or repairs as required. Full details with respect to the Works are provided in Chapter 4.

Methodology

- 8.12.3 Methods, assumptions and limitations relevant to this assessment are detailed above in Sections 8.3.
- 8.12.4 GWDTE are scoped out of the assessment due to:
- The highly localised nature of the Works;
 - The permanent elements of the Works are within the existing substation platform;
 - The temporary construction compounds are within species-poor, dry, neutral grassland immediately adjacent to the existing substation or within a dry, well-drained agricultural field; and
 - There are no predicted permanent impacts/extremely limited temporary impacts on groundwater levels and flows as a result of the Works (see Water Environment Chapter 9).
- 8.12.5 A site-specific survey limitation is that there was no access to the substation platform or the neighbouring industrial estates during surveys. It is possible some of the buildings have bat roost potential, however, all appeared to be of modern construction and in good order, with no opportunities for roosting bats, when observed from distance. Therefore, this is not considered to be a significant limitation.

Baseline Conditions

- 8.12.6 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment.

Statutory and Non-Statutory Designated Sites

8.12.7 Information on nature conservation sites is given in Table 8-4922 and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-492 Summary of Statutory Sites for Nature Conservation

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Legbrannock Burn East (Burnside Rd / Manse View) LNCS	A wooded river corridor.	0.7km south. Intervening land is dominated by a golf course and parcels of woodland. No hydrological connectivity to the Site. Drainage ditches local to the Site are likely to connect to a point on the Legbrannock Burn (the watercourse not the LNCS) 1.2km downstream of the Site, but the Legbrannock Burn LNCS is 0.3km upstream of that point.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.12.8 There is no woodland listed on the AWI within the Site or within 1km of the Site. The Ancient Tree Inventory holds no records for ancient and veteran trees within the Site.
- 8.12.9 As such these are considered absent and are valued at less than Site importance.

Habitat survey results

- 8.12.10 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results.
- 8.12.11 The Site where permanent infrastructure is to be installed comprises hardstanding within the existing substation. The Site where temporary compounds are proposed are species-poor neutral grassland adjacent to the existing substation and modified grassland (see Plate 18 and 19).



Plate 17. Neutral grassland, substation in background. Plate 18. Modified grassland.

- 8.12.12 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-5033, along with their assessment valuation. This details all habitats within the survey area, and specifically details the area of habitat located within the Site.
- 8.12.13 None of the habitats identified during field survey qualify as Annex I habitats. No invasive non-native species were recorded.

Watercourses

- 8.12.14 There are no watercourses within the Site or within close proximity to the Site. The nearest minor watercourse¹³² is 0.6km west of the Site, this is little more than a highly canalised drainage ditch. The Legbrannock Burn is 1.5km distant to the Site. It is likely that urban surface water drainage in the area of the Site (e.g. on Legbrannock Road) ultimately discharges somewhere on the Legbrannock Burn. The watercourse is currently classified by SEPA as having an overall 'poor' status, a 'poor' overall ecology, 'high' fish ecology, 'poor' water quality and scored a 'fail' for ammonium levels. The nearest river known by Marine Scotland to support salmon and sea trout is the River Clyde which is c. 10km downstream of the Site.
- 8.12.15 Watercourses are therefore considered to be of Less than Site importance.

¹³² Visible on a 1:25,000 OS Landranger series map.

Table 8-503. Summary of habitats within the survey area and valuation of importance (No Annex 1 habitats were recorded)

Phase 1 habitat type	SBL habitat	Description	Total Area/Length within the survey area (ha/km)	Rationale for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	Present in the wider area. NVC type W1. Dominated by grey willow with alder, white willow and downy birch. Ground flora with Yorkshire-fog, soft-rush and tufted hair-grass. Patchy parcels of scrubby woodland developed from previously disturbed ground.	None	SBL Priority habitat.	County
A1.1.2 - Broadleaved woodland - plantation	No	Present in the wider area. A mix of planted species including pedunculate oak, sycamore, ash, hawthorn and elder. Ground flora with dense leaf litter and includes tufted hair-grass, common hogweed, creeping thistle, common nettle. Even-aged canopy of semi-mature trees. Woodland derived from agricultural land or disturbed ground.	None	Widespread and common habitat found throughout the North Lanarkshire Council local authority area.	Site
B5 - Marsh/marshy grassland	No	NVC type M23b. Outside the Site. Abundant soft-rush with Yorkshire-fog, tufted hair-grass, self-heal, marsh thistle, ribwort plantain, valerian, cuckoo flower, Michaelmas daisy (a non-native introduced species), <i>Rhytidiadelphus squarrosus</i> , <i>Pleurozium schreberi</i> and scattered seedings of eared willow and	0.45	Widespread and common habitat found throughout the North Lanarkshire Council local authority area.	Site

Phase 1 habitat type	SBL habitat	Description	Total Area/Length within the survey area (ha/km)	Rationale for Valuation	Importance level
		silver birch. Developed from previously disturbed ground.			
B2.2 - Neutral grassland	No	NVC types MG1, MG9. Outside the Site. Dominated by neutral grasses such as tufted hair-grass and/or Yorkshire-fog with scattered soft rush and creeping thistle, common nettle, common sorrel, meadow vetchling, wavy bitter-cress, spear thistle, sneezewort and cuckoo flower, with bryophytes including <i>Kindbergia praelonga</i> , <i>Lophocolea bidentata</i> , <i>Calliergonella cuspidatum</i> and/or <i>Brachythecium rutabulum</i> .	None	Widespread and common habitat found throughout the North Lanarkshire Council local authority area.	Site
J1.2 - Amenity grassland	No	Outside of the Site. Closely mown grassland with perennial rye-grass, smooth meadow-grass, Yorkshire-fog, creeping buttercup, white clover, daisy and dandelion.	0.82	Habitat with little ecological value.	Less than Site
Hardstanding	No	Within the Site. Artificial, unsealed surface.	1.13	Habitat with no ecological value.	Less than Site
J2.2.2 - Defunct hedge - species-poor	No	Outside of the Site. Species-poor hawthorn dominated hedge along the road.	0.11	Widespread and common habitat found throughout the North Lanarkshire Council local authority area. The defunct and species-poor nature of these hedgerows limits their ecological value.	Site

8.12.17 The immediate areas surrounding the Site includes the Legbrannock Road and an industrial estate to the west, a disused golf course to the south and an area of woodlands, scrub and wetlands in the wider area. A search of historic maps¹³³ revealed that the area was largely agricultural fields in 1950. The wetlands to the east were formed from disturbed ground, possibly during the creation of the existing Newarthill Substation sometime around the 1960s.

Species

8.12.18 Table 8-5144 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment. A search of the NBN returned no records of any notable species.

Table 8-514. Summary of protected and notable species results and valuation.

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	No records.	The Site is dominated by widespread and common habitats on the edge of an urban area and is unlikely to support notable plant species.	Less than Site.
Bats	The habitats across the Site are considered to be of Low suitability for foraging and commuting bats, and Moderate in the wider area (e.g. along Legbrannock Burn). The surveys found no trees or buildings with potential to support roosting bats.	Bats are European Protected Species and remain strictly protected under the Conservation (Natural Habitats, &c.) Regulations 1994. There are limited features suitable for significant bat roosts/good opportunities for roosting bats. Habitats across the Site and survey area are of low suitability for foraging and commuting bats and as such is assessed to be of Site importance.	Site
Notable mammals (Otter, water	A search of Saving Scotland's Red Squirrels returned no records of either red or grey squirrel.	Absent from Site.	Less than Site.

¹³³ National Library of Scotland (2025) Ordnance Survey maps <https://maps.nls.uk/os/>

Feature	Summary of baseline	Rationale for Valuation	Importance
vole, pine marten, red squirrel, badger) - excluding bats	No sign of notable mammals was found during surveys.		
Brown hare and hedgehog	It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Survey area. Brown hare may also occur in the grassland habitats within the Site at times.	Both species are relatively common and widespread. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across NHZ 17.	Less than Site.
Great crested newt	<u>Desk study</u> The Site is located within the zone of ‘marginal suitability’ for great crested newt, as determined by the ARG UK Advice Note 5, and the species is known to be present within the central belt of Scotland. A search of the Record Pool found no records within 1km of the Site. Major barriers to GCN movement surround the Site: the M8 motorway 0.6km to the north; extensive arable fields 0.7km east; the Legbrannock Burn 0.7km south; and, the urban area of Holytown/Motherwell 0.6km west. <u>Field survey</u> An area of wetlands, created from disturbed ground in the late 20th century, is present to the east of the Site. This area has three ponds with habitat suitability. The results of an eDNA on all ponds within 250m of the Site returned negative results for great crested newt. For full details on GCN surveys, see ponds XX.GCN.30, XR.GCN.01 and XR.GCN.02 in Volume 3, Appendix 8.11 Great Crested Newt Results.	Great crested newt is considered absent.	Less than Site.

Feature	Summary of baseline	Rationale for Valuation	Importance
Common reptiles and amphibians	No suitable habitat is present within the Site in the form of woodlands, grassland and scrub that is of value to reptiles or amphibians. The wider area has suitable water bodies which likely support breeding populations of common amphibians.	Common reptiles and amphibians are considered absent from Site given the absence of suitable habitat.	Less than Site.
Terrestrial invertebrates	Habitats in the Site are unlikely to support notable invertebrates (further, the habitats are ubiquitous in the area, and as such any invertebrates present within the Site are likely to be present across the landscape).	Invertebrates which may occur within the Site are likely to be common and widespread, particularly in similar habitats across the central belt, and any possible impacts from the Works would not threaten their conservation status.	Less than Site.
Common breeding birds	There is suitable nesting habitat for general breeding birds within all vegetated parts of the survey area.	The birds which are likely to breed within the area surveyed are common and widespread within rural and semi-urban parts of NHZ 17.	Less than Site.
Schedule 1 birds	The habitats on Site are unsuitable for nesting barn owl, kingfisher and raptors. Within 500m there are: no trees with cavities and no dilapidated barns suitable for barn owl; no watercourses with steep slopes suitable for nesting kingfisher. The wooded habitats in the area have little to no suitability for Schedule 1 raptors.	Schedule 1 birds are unlikely to breed within the Site. Habitats within the surrounding area have limited potential for Schedule 1 birds.	Less than Site.
Wintering birds	The habitats on Site are not important for wintering birds.	The birds which are likely to be present on Site are common and widespread within rural/urban parts of NHZ 17.	Less than Site.

Invasive non-native plant species

Desk study

8.12.19 The NBN Atlas returned no records of plant INNS.

Field survey

8.12.20 No plant INNS were identified during the surveys, and they are considered absent.

8.12.21 INNS have a negative influence on the biodiversity of an area at all scales, and are not of any importance for their ecological value.

Features excluded from further assessment

8.12.22 As set out in Section 8.12.25, relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-5255. For scoped out features there are no likely significant effects in EIA terms.

Table 8-525 Ecological and ornithological features scoped out of further assessment.

Feature	Rationale for exclusion from further assessment in this chapter
Designated Sites	All designated sites are located at a distance which no direct or indirect impacts are likely to occur as a result of the Works. There are no hydrological links between the designated sites and the Site. The qualifying features for the SACs are limited to the areas of the SACs.
Ancient Woodland and Ancient / Veteran Trees	Valued at less than Site level importance.
SBL Priority Habitats which lie outside the Site	<u>Wet Woodland</u> SBL Priority habitat is located approximately 57m east of the Site at the closest point and will not be impacted either directly or indirectly by the Works.
All other terrestrial habitats not identified as being important	Valued at Site/less than Site level importance.
GWDTE	GWDTE are scoped out as described in the Methodology above. The Works will not significantly impact groundwater levels and flows.
Bats	Valued at Site level importance.
Notable mammals (Otter, water vole, pine marten, red squirrel) - excluding bats	Valued at less than Site level importance.
Brown hare and hedgehog	Valued at less than Site level importance.

Feature	Rationale for exclusion from further assessment in this chapter
Common breeding and wintering birds	Valued at less than Site level importance.
Schedule 1 birds	Valued at Site level importance.
Great crested newt, common amphibians and reptiles	Valued at less than Site level importance.
Terrestrial invertebrates	Valued at less than Site level importance.

Design and Embedded Mitigation Measures

- 8.12.23 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant.
- 8.12.24 The works at Newarthill substation will be completely contained within the existing substation platform, preventing any requirement for permanent habitat loss and limiting impacts to within an area that is disturbed at baseline. Moreover, access will be taken via existing tracks and access points to further reduce habitat loss and ensure impacts are localised to already disturbed areas. The construction compounds are mostly sited on species-poor, dry grasslands with low conservation value, rather than on land with woodland or wetland.

Important ecological features

- 8.12.25 The assessment has identified no IEFs. All ecological/ornithological features identified were scoped out either because no impacts were identified or ecological features were of low importance (Site or less than Site).

Assessment of Effects

- 8.12.26 No IEFs were identified on which to assess significance of effects and adherence to the embedded mitigation will ensure any potential impacts on low value ecological features will also be avoided/mitigated.

Summary of Significant Effects

- 8.12.27 No effects of County level or higher (i.e. Significant in EIA terms) were identified.

Proposed Additional Mitigation Measures

- 8.12.28 No significant effects have been identified, and no further mitigation beyond that which is embedded, as set out in Section 8.4, is required.

Residual Effects

- 8.12.29 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.
- 8.12.30 There will therefore be no likely Significant residual effects.

Monitoring

In the event of pre-construction surveys identifying species licensing requirements, monitoring will be required where it is a required as condition of protected species licensing.

8.13 Assessment of Effects, Mitigation and Residual Effects of the Wishaw Substation Extension

Introduction

- 8.13.1 The Wishaw Substation Works are hereafter referred to as the “Works” and the “Site” for the area in which the “Works” and the area in which the Works are located is hereafter referred to as the “Site”, until Section 8.15 of this document.
- 8.13.2 Wishaw Substation is situated approximately 1km south of Wishaw town centre. Works at the existing Wishaw Substation are required due to the uprating of the existing XR route. These include an extension of the existing substation platform and associated security fencing at the south-east of the substation plus installation of three new bays containing gas insulated switchgear and circuit breaker. A temporary construction compound would be established outwith the existing substation. The Site will be accessed via existing tracks from Castlehill Road. The existing drainage system for Wishaw Substation will be used and modified as required. The construction phase is projected to last 32 months, divided into two main construction stages. Once operational, the substation will continue to function as a vital part of the electricity network, primarily operated remotely, with occasional access for inspections, servicing, or repairs. Full details with respect to the Works are provided in Chapter 4.

Methods

- 8.13.3 Methods, assumptions and limitations relevant to this assessment are detailed above in Sections 8.3.
- 8.13.4 The only site-specific limitation was that during the field survey, the woodland on the sloping railway embankment adjacent to Wishaw Substation could not be accessed due to railway fencing. The survey was done from adjacent habitat, looking through the fence with binoculars. Therefore, all species present in the ground flora may not have been identified during habitat survey and protected species surveys could not be carried out in this area, however given the nature of the Works sufficient survey data has been captured to inform the assessment.

Baseline Conditions

- 8.13.5 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment.

Statutory and Non-Statutory Designated Sites

8.13.6 Information on nature conservation sites is given in Table 8-5366, and their locations relative to the Site are shown on Volume 2 Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-536 Summary of Statutory Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rational for Valuation	Importance Level
Slamannan Plateau SPA	Designated for regularly supporting nationally important numbers of migratory taiga bean geese. Partially underpinned by Slamannan Plateau SSSI, West Fannyside Moss SAC and West Fannyside Moss SSSI.	18km to the northeast of the Site.	Designated site importance is derived from designation.	International
Clyde Valley Woods SAC	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	470m south of the existing tower XR BR2, and the proposed access track and bellmouth at this location	Designated site importance is derived from designation.	International
Millburn SSSI	Ash and winch elm woodland in a steep sided gorge.	2km south. Intervening land comprises woodland, grassland and by the River Clyde.	Designated site importance is derived from designation.	National
Cambusnethan Woodland LNR and SINC	Comprises two adjacent areas of mature, mainly broad-leaf woodland with several small watercourses running through it. It is home to a wide variety of plants and wildlife, such as bluebells, foxgloves, jay, badgers and pipistrelle bats.	330m southwest. Intervening land comprises Gowkthrapple housing estate and the B754.	LNR and SINC designated by local authority.	County

Ancient Woodland Inventory and Ancient Tree Inventory

There are two areas of woodland listed on the AWI within 1km of the Site, as shown on Volume 2, Figure 8.2 Ancient Woodland, Peatland and Watercourses. One is ancient woodland of semi-natural origin, the other is LEPO. The nearest is 350m from the Site and both lie to the south-west, separated from the Works by Castlehill Road (B754).

- 8.13.7 The Ancient Tree Inventory held no records for ancient trees within 1km of the Site.
- 8.13.8 Given that no ancient woodland or ancient and veteran trees are located within the Site, they are considered absent and are valued at less than Site importance.

Habitat survey results

- 8.13.9 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results.
- 8.13.10 The Site mainly comprises semi-improved neutral grassland immediately south-east of the existing Wishaw Substation. This grassland is unmanaged and dominated by neutral grasses with some of the drier areas comprising more floral diversity. There are also areas of damp semi-neutral grassland (Plate 20), mixed woodland (Plate 21) and dense scrub within the Site.
- 8.13.11 No invasive non-native plant species were identified during the field survey.



Plate 20. Small area of damp semi-neutral grassland within the Site.



Plate 21. Recently planted mixed woodland on neutral grassland (within Site).

- 8.13.12 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-5477 along with their status as SBL Priority habitats and GWDTEs and assessment valuation.
- 8.13.13 None of the habitats identified during field survey qualify as Annex I habitats.

Table 8-547. Summary of habitats within the Survey Area and valuation of importance

Phase 1 habitat type	SBL habitat	Description	Total Area/Length within the survey area (ha/km)	Rational for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	No	Possible GWDTE. Damp woodland immediately north of the substation but outwith the Site, very waterlogged with pools. Alder with grey willow and birch. The ground flora does not comprise species typical of any of the W7 subcommunities and is therefore not considered to be SBL priority habitat. It comprises hard and soft rush with horsetail, bulrush and creeping buttercup. Also outside of the Site to the north there is semi-natural woodland on the sloping bank of the railway line. It comprises ash, beech, birch and sycamore with hawthorn, elder and dog rose understory. Sparse ground floor with wood avens, nettle and ferns.	0.06	Widespread and common habitat which is included in the LBAP (see Woodland Action Plan) and enriches the ecological resource for a range of species (e.g. breeding birds, bats, invertebrates).	Local
A1.3.2 - Mixed woodland - plantation	No	Outside of the Site to the south. Recently planted alder, birch, rowan, pine, hawthorn, hazel and holly on neutral grassland with creeping thistle. Trees and shrubs mostly still entirely within planting tubes.	0.09	Widespread and common habitat. Recently planted so not considered to enrich the ecological resource.	Site
A2.1 - Scrub - dense	No	There are two areas of mixed scrub, one outside of the Site to the north and one partially within the Site, to the south-west. The area to the southwest is a mix of bramble, hawthorn, willow, raspberry and dog rose some of which has been recently planted on neutral grassland. The area to the north comprises crack willow and grey willow with raspberry, hawthorn and one birch tree.	0.12	Extremely widespread and common habitat.	Site

Phase 1 habitat type	SBL habitat	Description	Total Area/Length within the survey area (ha/km)	Rational for Valuation	Importance level
B2.2 - Neutral grassland - semi-improved	No	NVC type MG10. Within the Site and outside of the Site to the east. Dominated by neutral grasses including sweet vernal grass, meadow foxtail, meadow grasses, Yorkshire fog and cocksfoot with frequent meadow vetchling, creeping thistle, creeping buttercup, common sorrel, white clover and bush vetch. The grassland on the slope down to the existing substation (within the Site) is damp and more disturbed. These areas include soft rush, tufted hair grass, willowherb, cleavers, knapweed, nettle, coltsfoot, creeping thistle, broad-leaved dock, silverweed, ribwort plantain, hairy sedge, angelica, oxeye daisy and bittercress. One area to the northeast of the Site has slightly higher floristic diversity due to abundant yellow rattle, possibly from a seed mix, this area includes more of the aforementioned herbs per square metre and also comprises devils bit scabious, orchids, meadow buttercup, red clover, lesser stitch wort and tufted vetch. Also a small area within the Site to the south, larger area outwith the Site to the north. Disturbed rush pasture with an unusual species composition. Dominated by soft and hard rush with knapweed, Yorkshire fog, cuckoo flower, cleavers, silverweed, greater birds foot trefoil, marsh thistle, tufted hair grass, broad leaved dock, angelica, tufted vetch,	2.91	Extremely widespread and common habitat.	Site

Phase 1 habitat type	SBL habitat	Description	Total Area/Length within the survey area (ha/km)	Rational for Valuation	Importance level
		horsetail sp., meadow buttercup, common sedge and rarely heath spotted orchid.			
F1 - Swamp	<u>Lowland Fens</u>	Two small areas of waterlogged swamp outside of the Site to the north. Bulrush and soft rush with duckweed, brooklime, hairy willowherb, angelica and climbing nightshade. Poor example of SBL habitat.	0.02	Widespread and common habitat which enriches the ecological resource for a range of species (e.g. amphibians and invertebrates).	Local
J1.4 - Introduced shrub	No	Outside of the Site to the south. Non-native shrubs including cotoneaster, dogwood, berberis, rose sp. and flowering currant	0.11	Extremely widespread and common habitat.	Site
J4 - Bare ground	No	This habitat is entirely within the proposed temporary site compound. Red blaes pitch.	0.14	Habitat with little ecological value.	Less than Site
Hardstanding	No	Part of the existing Wishaw Substation.	2.05	Habitat with no ecological value.	Less than Site
J2.1.1 – Intact hedge - native species-rich	<u>Hedgerows</u>	Outside of the Site to the south, there is an intact but fairly recently planted species-rich hedgerow which comprises hawthorn, willow, hazel, holly and dog rose.	0.16	SBL Priority habitat.	Local

Groundwater Dependent Terrestrial Ecosystems

8.13.14 The NVC communities identified during the survey which are listed by SEPA guidance on GWDTEs as potential GWDTEs, are listed below in Table 8-5588, along with the associated GWDTE importance as assigned using the method in 8.3 Methodology. Full descriptions of these habitats are found above within Table 8-5477.

Table 8-558 NVC communities of potential GWDTEs present within the survey area

NVC type	SBL Priority habitat	GWDTE importance	Rational for Valuation	Importance Level
W7 <i>Alnus glutinosa</i> - <i>Fraxinus excelsior</i> - <i>Lysimachia nemorum</i> woodland Species-poor (no official sub-community)	None	Low importance	See rational in Table 8-547 Table 8-514 above for non- SBL A1.1.1.	Local
MG10 <i>Holcus lanatus</i> - <i>Juncus effusus</i> rush-pasture Hard and soft rush dominated with unusual mix of herbs present (no official sub-community)	None	Low importance	See rational in Table 8-547 above for non-SBL B2.2.	Site

Species

8.13.15 Table 8-5699 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment.

Table 8-569. Summary of protected and notable species results and valuation.

Feature	Summary of baseline	Rational for Valuation	Importance
Notable plant species	No notable plants recorded.	The Site is dominated by widespread and common habitats on the edge of an urban area and is unlikely to support notable plant species.	Less than Site
Bats	<u>Desk study</u> One bat record was returned by the desk study. A single common pipistrelle was recorded exiting a roost in a building within the 1km grid square which overlaps the Site to the south. <u>Field survey</u> Overall, habitats across the Site are of Moderate suitability for foraging and commuting bats. The open grassland and swamp is suitable for foraging bats. The woodland which lines the railway line may provide a commuting corridor for bats. No trees were identified during field surveys with potential bat roost features however one building was identified with Moderate bat roost suitability. The building, a small brick community centre building at NS 79092 53853 which was not accessed internally but can be assumed to have cavity walls and suspended ceiling / limited roof / loft space. Gaps between top of brickwork and roof	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. Habitats across the Site and survey area are of Moderate suitability for foraging and commuting bats. There is one feature 15m from the Site which could support a bat roost, although not one of significance. Bats present in the geography of the Site are likely to comprise common and widespread species which can tolerate semi-urban habitat such as common pipistrelle (the only species returned by the desk study) and soprano pipistrelle. Therefore, Local importance is considered sufficient for bats.	Local

Feature	Summary of baseline	Rational for Valuation	Importance
	sarking at all four corners of building which appear to lead to small void or may provide access to internal spaces. Building is fairly isolated and well-lit, reducing suitability, but may still be used by widespread pipistrelle species. The building is approximately 15m from the Site.		
Notable mammals (otter, water vole, pine marten, red squirrel, brown hare) - excluding bats and badger	<u>Desk study</u> The National Water Vole Database Project provided by The Wildlife Trust identified that water vole are present in the same 10km grid square as the Site. No records of red squirrel and several records of grey squirrel were returned by the NBN Atlas within 1km of the Site. Grey squirrel is likely to be present within the Site and survey area. <u>Field study</u> No evidence of any of these species was found during surveys. Suitable habitat for otter and water vole is not present within the Site or the wider survey area, given the distance/lack of connectivity to any watercourses. There is also no suitable habitat for pine marten, red squirrel and brown hare.	Grey squirrel outcompete native red squirrel populations; however, red squirrels do not occur within the study area. No evidence of other notable mammals was identified within the survey area. The Site is considered to be of little to no importance for these species, given the lack of suitable habitat presence and lack of records/evidence.	Less than Site
Hedgehog	It is possible that hedgehog occurs in areas of suitable scrub habitat within the Site.	Hedgehogs are relatively common and widespread. Alternative habitat in the form of woodland and scrub is common in the surrounding landscape.	Less than Site
Badger	The sloping banks along the railway adjacent to the Site provide moderate suitability for sett establishment and foraging. The Site comprises suitable	Badgers are a common species and not afforded protection for nature conservation purposes. No evidence of this species was recorded within the	Site.

Feature	Summary of baseline	Rational for Valuation	Importance
	foraging habitat but is connected to ample suitable habitat in the wider area. No evidence of badger was found within the Site and survey area.	Site, additionally there is ample suitable habitat within the wider area.	
Great crested newt	One area of swamp with standing water (pond reference XR.GCN.42XR45) was identified within the survey area. HSI survey was carried out on XR.GCN.42XR45 but following the HSI calculations, the waterbody was deemed poor and therefore considered unsuitable for GCN. Full details of GCN surveys are provided in Volume 3, Appendix 8.13 Great Crested New Results and ponds are shown on Volume 2, Figure 8.8a Great Crested Newt Habitat Suitability Assessment and eDNA Survey Results.	No suitable habitat is present. Great crested newt is considered absent.	Less than Site
Common reptiles and amphibians	Some suitable habitat is present within the Site in the form of swamp, woodlands, grassland and scrub which could be used by reptiles and foraging / breeding amphibians.	These species are relatively common and widespread, the Site offers some suitable habitat, but this is also present in the wider area.	Site.
Terrestrial invertebrates	Habitats in the Site are unlikely to support notable invertebrates (further, the habitats are ubiquitous in the area, and as such any invertebrates present within the Sites are likely to be present across the landscape).	Invertebrates which may occur within the Site are likely to be common and widespread, particularly in similar habitats across the central belt.	Less than Site.
Breeding birds	<u>Desk study</u> Two records of swift were identified from the NBN Atlas, both within the town of Wishaw. <u>Field survey</u>	The birds which are likely to breed on Site are common and widespread within rural and semi-urban parts of Wishaw and across NHZ 17.	Site.

Feature	Summary of baseline	Rational for Valuation	Importance
	There is suitable nesting habitat for general breeding birds within the dense scrub/hedgerow and woodland habitat within the survey area.		
Schedule 1 birds	There is no suitable habitat within the Site for Schedule 1 bird species to breed. There are no suitable buildings or mature trees in the survey area suitable for barn owl, no watercourses for kingfisher and the woodland adjacent to the Site is unsuitable for Schedule 1 raptors.	Schedule 1 birds will not breed on Site given the lack of suitable habitat. Habitats within the surrounding area have limited potential for breeding Schedule 1 raptors.	Less than Site.
Wintering birds	The marshy grassland and wet woodland are suitable for roosting and foraging woodcock.	Although notable, woodcock is a common and widespread wintering species and there is suitable habitat in the surrounding landscape and across NHZ 17.	Site

Invasive non-native plant species

Desk study

8.13.16 No plant INNS were identified through the desk study.

Field survey

8.13.17 No plant INNS were identified during the surveys, and they are considered absent.

Features excluded from further assessment

8.13.18 As set out in Section 8.13.20, relevant ecological features are those that are considered to be 'important' and have the potential to be affected by the Works (CIEEM, 2024). In view of the baseline data obtained through desk study and field survey, features assessed to be of site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are summarised below in Table 8-7070. For scoped out features there are no likely significant effects in EIA terms.

Table 8-70 Ecological and ornithological features scoped out of further assessment.

Feature	Rationale for exclusion from further assessment in this chapter
Slamannan Plateau	Given the limited to nature of the works within the existing substation and the distance to the SPA there is no risk of effects to the SPAs qualifying feature - non-breeding taiga bean goose.
Clyde Valley Woods SAC	Located 470m from the site, with no hydrological connectivity and separated by a railway line. Therefore, considering the distance of the SAC from the Site, no direct habitat loss will take place and there is no possibility for further impacts on this SAC as the result of the works. Furthermore, the qualifying feature for this SAC are non-mobile habitat features and as such are restricted to the boundaries of the relevant designation. Therefore, no possible impact pathways have been identified and Clyde Valley Wood SAC is excluded from further assessment
Cambusnethan Woodland LNR and SINC	Designated for woodland habitats, located 330m away from the Works. There are no pathways for impacts to the LNR/SINC.
Ancient Woodland and Ancient / Veteran Trees	Valued at less than Site level importance.
All habitats within the Site.	Comprises semi-improved grassland, dense scrub and recently planted mixed woodland which are all valued at Site level importance.
All habitats which lie outside the Site (excluding GWDTEs).	There are no possible impacts on non-GWDTE habitats which lie outside of the Site because they will not be directly lost during works or impacted indirectly by pollution given the lack of hydrological connectivity.

Feature	Rationale for exclusion from further assessment in this chapter
GWDTE	GWDTE are scoped out as described in the Methodology above. The Works will not significantly impact groundwater levels and flows.
Notable plant species	Valued at less than Site level importance.
Notable mammals (otter, water vole, pine marten, red squirrel) - excluding bats and badger	Valued at less than Site level importance.
Brown hare and hedgehog	Valued at less than Site level importance.
Badger	Valued at Site level importance.
Common breeding birds	Valued at Site level importance.
Wintering birds	Valued at Site level importance.
Schedule 1 birds	Valued at less than Site level importance.
GCN	Valued at less than Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Terrestrial invertebrates	Valued at Site level importance.

Design and Embedded Mitigation Measures

- 8.13.19 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage, and are identified below where relevant.

Important ecological features

- 8.13.20 The following are IEFs relevant to the assessment:

- Woodland which is potential GWDTE; and,
- Bats.

Assessment of Effects

- 8.13.21 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed above in Section 8.4 and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.13.22 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts can be scoped out and are not considered further:
- Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration; and,

- Disturbance to roosting bats (the Moderate suitability building is sufficiently distant from Works to avoid this, 15m).
- 8.13.23 The following construction phase impact cannot be fully scoped out following implementation of embedded mitigation:
- Direct loss of bat foraging habitat.
- 8.13.24 Following implementation of embedded mitigation there are no remaining likely operational effects.
- 8.13.25 Possible impacts and effects from the construction phase are described in Table 8.71.

Table 8-571 - Assessment of Construction Phase Effects

Feature	Potential Impacts	Details of ecological effect	Assessment
Foraging bats	Loss of foraging habitat	A total of 0.62ha of neutral grassland will be lost to the Works, which could be used by foraging bats. This area of habitat loss is very minor and there is sufficient similar habitat remaining in the local area.	Negligible (Not significant)

Summary of Significant Effects

- 8.13.26 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.

Proposed Additional Mitigation Measures

- 8.13.27 No significant effects have been identified, and no further mitigation beyond that which is embedded is required.

Residual Effects

- 8.13.28 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.
- 8.13.29 There will therefore be no likely Significant residual effects.

Monitoring

In the event of pre-construction surveys identifying species licensing requirements, monitoring will be required where it is a required as condition of protected species licensing.

8.14 Assessment of Effects, Mitigation and Residual Effects of the Cumbernauld Substation Works

Introduction

- 8.14.2 The Cumbernauld Substation Works are hereafter referred to as the “Works” and the “Site” for the area in which the Works are located, until Section 8.16 of this document.
- 8.14.3 The Site is situated south-east of Cumbernauld. The construction phase is expected to last approximately 37 months between January 2027 and February 2030. Once operational, Cumbernauld Substation would be accessed for inspections, servicing, or

repairs, but overall, the on-site activity at the substation would be minimal. Full details of the Works are provided in Chapter 4.

Methods

- 8.14.4 Methods, assumptions and limitations relevant to this assessment are detailed above in Sections 8.3.
- 8.14.5 The only site-specific limitation was that the area to the north of Forest Road was not accessed for surveys. This is because no works are proposed within or immediately adjacent to this area and because this area is already subject to significant disturbance from both Forest Road and the railway, between which it is located. Furthermore, this area was viewed from the Site and appears similar in character to woodland immediately west of the substation and is therefore not considered to have the potential to be a GWDTE. Therefore, no impacts on this area are anticipated and the lack of access for survey is not considered a significant limitation.
- 8.14.6 Additional survey specific limitations are set out in Appendices 8.13 and 8.14.

Baseline Conditions

- 8.14.7 A summary of the baseline conditions for each feature is provided, along with a review of the nature conservation importance or details of why the feature is scoped out from further assessment. Further details of the baseline conditions are provided in Volume 3, Appendix 8.13 and 8.14.

Statutory and Non-Statutory Designated Sites

8.14.8 Information on nature conservation sites is summarised in Table 8.72, and their locations relative to the Site are shown on Volume 2, Figure 8.1a Internationally Designated Sites and Figure 8.1b Nationally and Locally Designated Sites.

Table 8-582 Summary of Statutory Sites for Nature Conservation.

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
West Fannyside Moss SAC	Designated for Annex I blanket bog habitat.	2.3km southeast. Intervening land comprises mainly wetland and grassland.	Designated site importance is derived from designation.	International
Black Loch Moss SAC	Designated for Annex I active raised bogs.	8.7km southeast. Intervening land comprises mainly grassland and woodland.	Designated site importance is derived from designation.	International
Slamannan Plateau SPA	Designated for non-breeding Taiga bean goose.	1.5km east. Intervening land comprises mainly wetland and grassland.	Designated site importance is derived from designation.	International
Slamannan Plateau SSSI	Designated for non-breeding Taiga bean goose.	1.5km east. Intervening land comprises mainly wetland and grassland.	Designated site importance is derived from designation.	National
Glencryan Woods SINC	Woodland, and geological interest.	Intersects the Site at its northern most point. Much of the SINC lies outside of the Site boundary.	Local authority designated site.	County
Forest Woods SWT Reserve	An area of mostly plantation woodland with small areas of	Intersects the Site at its northern most point. This is a large site split across two areas, the Site overlaps	SWT site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
	lowland peat bog, heath and grassland.	with smaller of the two areas (which also in part overlaps with Glencryan Woods SINC). The boundaries of Forest Woods SWT Reserve and Forest Woods SINC differ significantly.		
Cumbernauld Glen: Vault Glen (East) SINC	Woodland, and geological interest.	20m west. Runs parallel to Cumbernauld Glen: Crow Wood & Vault Glen (West) and is separated from the Site by Forest Road.	Local authority designated site.	County
Cumbernauld Glen: Crow Wood & Vault Glen (West) SINC	Geological interest.	55m west. Separated from the Site by Forest Road.	Local authority designated site.	County
Forest Woods SINC	Woodland.	280m east. Intervening land comprises mainly grassland and woodland.	Local authority designated site.	County
Bruntrigg Moor (Palacerigg) SINC	Peatland and heath.	425m east. Intervening land comprises mainly grassland and woodland.	Local authority designated site.	County
Palacerigg Country Park (West) SINC	Woodland, grassland, and ponds.	440m southeast. Intervening land comprises mainly woodland.	Local authority designated site.	County

Feature	Reason for Designation	Relationship to the Site	Rationale for Valuation	Importance Level
Glencryan Meadow SINC	Grassland.	525m south. Intervening land comprises mainly woodland.	Local authority designated site.	County
Palacerigg Country Park (East) SINC	Woodland, grassland, and ponds.	965m southeast. Intervening land comprises mainly woodland.	Local authority designated site.	County
Abronnill Moss SINC	Peatland.	965m north. Intervening land comprises mainly urban development and some woodland.	Local authority designated site.	County
Palacerigg Country Park (West) SINC	Woodland, grassland, and ponds.	440m southeast. Intervening land comprises mainly woodland.	Local authority designated site.	County

Ancient Woodland Inventory and Ancient Tree Inventory

- 8.14.9 There is no woodland listed in the AWI within the Site. However, there are 12 parcels of ancient woodland recorded in the AWI within 1km of the Site: nine parcels of ancient woodland of semi-natural origin, two parcels of LEPO, and one parcel present on the Roy map. The nearest four of these parcels are within 100m of the Site and lie on the north side of Forest Road, south of the railway line. All are ASNW. The remaining parcels of ancient woodland are more distant and include a mix of ASNW and LEPO.
- 8.14.10 The Ancient Tree Inventory held no records for ancient trees within 1km of the Site¹³⁴.
- 8.14.11 Ancient Woodland and Ancient Trees, given the absence from the Site and, where present, their separation from the Site, are considered to be of less than Site level importance.

Habitat survey results

- 8.14.12 Habitats recorded during field survey are shown on Volume 2, Figure 8.3 Phase 1 Habitat Survey Results and Figure 8.4 Priority and Notable Habitats and Invasive Non-Native Species. Example photographs of habitats found during the surveys are shown on Plates 22 to 23. Full detail on the habitats recorded are provided in Volume 3, Appendix 8.13 Cumbernauld Habitats and Protected and Notable Species Results (Excluding Badger), with a summary of the habitats present provided below.
- 8.14.13 The Site is generally sloping and fairly damp, and mainly comprises non-SBL broadleaved or mixed woodland dominated by willow, birch. Locally there is Wet Woodland SBL Priority habitat and very young plantation woodland. Between woodland blocks are Limit of Deviation s of marshy grassland.
- 8.14.14 A summary of the areas of Phase 1 habitats relevant to the Works is provided in Table 8-103, along with their status as Annex I, SBL Priority habitats and valuation of importance.
- 8.14.15 Also present across the survey area were scattered trees and scrub. These are common and widespread, but do enhance the habitat resource within the Site. Thus they have been assigned Site level importance.
- 8.14.16 Many of the of the habitats identified during field survey qualify potential GWDTEs, and these are discussed below.

¹³⁴ Woodland Trust (2025). *Ancient Tree Inventory*. Available at: [Ancient Tree Inventory - Woodland Trust](#)



Plate 22. Mixed plantation woodland to the west of the existing substation.



Plate 23. Marshy grassland within the existing Limit of Deviation.

Table 8-593. Summary of habitats within the survey area and valuation of importance

Phase 1 habitat type	SBL habitat	Total area within the survey area (ha)	Rational for Valuation	Importance level
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	0.38	SBL Priority habitat.	County
A1.1.1 - Broadleaved woodland - semi-natural	No	0.00	Enhances the local habitat resource.	Local
A1.1.2 - Broadleaved woodland - plantation	No	6.28	Enhances the local habitat resource.	Local
A1.3.2 - Mixed woodland - plantation	No	6.19	Enhances the local habitat resource.	Local
A2.1 - Scrub – dense / continuous	No	0.30	Common and widespread habitat.	Site
B2.2 - Neutral grassland - semi-improved	No	1.25	Common and widespread habitat.	Site
B5 – Marsh / marshy grassland	<u>Lowland Fens</u>	0.19	SBL Priority habitat.	County
B5 – Marsh / marshy grassland	No	0.66	Enhances the local habitat resource.	Local
C1.1 - Bracken - continuous	No	0.10	Common and widespread habitat.	Site
Hardstanding	No	1.10	Artificial habitat with negligible ecological value.	Less than Site

Groundwater Dependent Terrestrial Ecosystems

8.14.17 The NVC communities identified during the survey which are listed by SEPA guidance on GWDTE as potential GWDTE, are listed below in Table 8-6044, along with the associated GWDTE importance as assigned using the method in Section 8.3. Full descriptions of these habitats are provided within Volume 3, Appendix 8.13 Cumbernauld Habitats and Protected and Notable Species Results (Excluding Badger).

8.14.18 Details on the hydrological conditions of the Site are provided in Chapter 9.

Table 8-604. NVC communities of potential GWDTEs present within the survey area and GWDTE Importance level.

NVC type	Subcommunities	Notable habitat type	GWDTE importance level ¹³⁵	Importance Level
W7 <i>Alnus glutinosa</i> – <i>Fraxinus excelsior</i> – <i>Lysimachia nemorum</i> woodland	W7b <i>Carex remota</i> – <i>Cirsium palustre</i> sub-community	<u>Wet Woodland</u>	Moderate importance	County
	Species-poor (no official sub-community)	None	Low importance	Local
MG9 <i>Holcus lanatus</i> – <i>Deschampsia cespitosa</i> grassland	MG9b <i>Arrhenatherum elatius</i> sub-community	None	Unimportant	Site
MG10 <i>Holcus lanatus</i> – <i>Juncus effusus</i> rush-pasture	MG10a Typical sub-community	None	Unimportant	Site
M23 <i>Juncus effusus</i> / <i>acutiflorus</i> – <i>Galium palustre</i> rush-pasture	Compact rush dominated (no official sub-community)	None	Low importance	Local
	M23b <i>Juncus effusus</i> sub-community	None	Low importance	Local
MX Neutral sedge mire	None	<u>Lowland Fens</u>	Moderate importance	County

Watercourses

- 8.14.19 The only watercourses within the Zol of the Works are the Glencryan Burn (located within the Site) and the Red Burn (located immediately downstream of the Glencryan Burn).
- 8.14.20 The Glencryan Burn is located at the western most extent of the application boundary but at its closest is 140m west of the works footprint, is currently classified by SEPA as having an overall ‘moderate’ status, a ‘moderate’ overall ecology, ‘moderate’ fish ecology and ‘high’ water quality. The pipe culvert located on the Glencryan Burn immediately downstream of the Site is unlikely to be passible to migratory fish.

¹³⁵ Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems (2024) SEPA
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fi2cnnr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK>

- 8.14.21 The Glencryan Burn is not considered to qualify as River SBL Priority habitat as it is unlikely to meet any of the criteria listed by the SBL Habitat description (see Section 8.6). However, this watercourse does enhance improve the habitat diversity of the local area and provide a habitat resource for common and widespread species. The Glencryan Burn is therefore considered to be of Local importance.
- 8.14.22 The Red Burn is separated from the Site by Forest Road and the railway and is currently classified by SEPA as having an overall ‘moderate ecological potential’, a ‘moderate’ overall ecology, and ‘moderate’ water quality. The Red Burn is potentially passible to migratory fish and is therefore considered to be of County importance.

Species

- 8.14.23 Table 8.76 provides a summary of the protected and notable species data from desk study and field surveys, along with details of the valuation assessment.

Table 8-76. Summary of protected and notable species results and valuation.

Feature	Summary of baseline	Rationale for Valuation	Importance
Notable plant species	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> No records from field survey.	The Site is dominated by widespread and common habitats on the edge of an urban area and is unlikely to support notable plant species. There are more notable habitats which may be of greater botanical interest, but these are localised. The small number of desk study and lack of field survey records are consistent with this and Site level importance is considered appropriate.	Site
Bats	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> The habitats across the Site are considered to be of high suitability for foraging and commuting bats. Seven trees within the survey area have potential to support individual or small numbers of roosting bats (PRF-I) (WB.BT.73, WB.BT.74, WB.BT.76, WB.BT.75, WB.BT.78, CM.BT.01, CM.BT.01). No roosting bats were identified during surveys, and no key indicators associated with the	Bats are European Protected Species and remain strictly protected under the Habitats Regulations. Habitats across the Site and survey area are of high suitability for foraging and commuting bats, but there are limited features suitable for significant bat roosts. Species likely to be present in the Site are likely to be common and widespread. As common and widespread species are those likely to be present, high suitability bat habitat exists, and as only small, non-breeding day roosts / other roosts of	Local

Feature	Summary of baseline	Rationale for Valuation	Importance
	presence of bats (e.g. droppings, staining, foraging remains) were present.	minor conservation value are likely to be present, the bat assemblage is assessed as of Local importance at most.	
Otter	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> Suitable habitat for this species is present along the Glencryan Burn, and otter are known to be present in the wider area based on survey findings for the wider Denny Wishaw Network Upgrade project. However, no otter resting sites or other evidence to indicate their presence was identified within the survey area.	No otter evidence was identified within the Survey area, and as such the surveyed part of the Glencryan Burn is not considered to be of particular importance to the species. However, otter are known in the wider area, and individual otters may use this part of the Glencryan Burn for foraging or commuting at times.	Site
Water vole	<u>Desk study</u> The National Water Vole Database notes water vole presence within 10km grid square which encompasses the Site¹³⁶. <u>Field survey</u> No suitable watercourses or water bodies are present within the survey area, and no evidence of the species was incidentally identified within the rushy grasslands / marsh within the survey area.	No evidence of the species was identified. Water voles are considered absent from the Site.	Less than Site
Badger	<u>Desk study</u> No records received from NBN Atlas. <u>Field survey</u> The Site and surrounding area is highly suitable for badger, containing a large amount of sloping woodland suitable for sett creation and woodland and grassland habitats for	Badgers are a common species and not afforded protection for nature conservation purposes. Two setts were identified within the Site, however setts were also recorded within the wider Study area and there is ample suitable habitat also present within the wider area, as such the Site is assessed to be of Local value.	Local

¹³⁶ Wildlife Trusts (2025). *The National Water Vole Database Project*. Available at: [The National Water Vole Database Project | The Wildlife Trusts](#)

Feature	Summary of baseline	Rationale for Valuation	Importance
	foraging. The Site is connected to ample suitable habitat in the wider area, including Palace Riggs Country Park. Two setts found within the Site (Sett WB.B.20 - likely active main sett, Sett WB.B.21 - likely partially-used outlier with no sign of recent use). Three setts found outside the Site (Sett WB.B.24 - likely partially-used annex sett with no sign of recent use, Sett WB.B.22 and WB.B.23 - likely partially-used outliers with no sign of recent use).		
Pine marten	<u>Desk study</u> No records received from NBN Atlas. Pine marten are known to be present in North Lanarkshire as noted in the North Lanarkshire LBAP¹². <u>Field survey</u> The habitat within and around the Site has some suitability for pine marten, containing mature trees within which pine marten could take refuge. However, the GLTA survey identified relatively few larger cavities in trees, and no likely pine marten refuges were incidentally identified during the badger survey (which covered an extensive area). A possible pine marten scat was found incidentally in a woodland 300m south of the Site (outside the survey areas) suggesting that pine marten may be present around the Site.	No pine marten evidence was identified within Survey area, and the Site and surrounding area is not considered to be of particular importance to the species. However, pine marten are potentially present in the wider area, and individual pine marten may use the Site for foraging or commuting at times.	Site
Red squirrel	<u>Desk study</u> No records received from NBN Atlas. Records from the NBN Atlas and Saving Scotland's Red Squirrels Error! Bookmark not defined. indicate that grey squirrels <i>Sciurus carolinensis</i> are ubiquitous in and around Cumbernauld.	The Site and surrounding area are not within the known range of red squirrel. Red squirrel are considered absent from the Site.	Less than site

Feature	Summary of baseline	Rationale for Valuation	Importance
	In addition to this, grey squirrels are prevalent in the area surrounding the Site, and this further reduces the likelihood that red squirrel would be present.		
Brown hare and hedgehog	<u>Desk study</u> No records received from NBN Atlas for brown hare. The NBN Atlas returned three records of hedgehog from residential areas of Cumbernauld. It is likely that hedgehog occurs in areas of suitable woodland and scrub habitat within the Site. Brown hare may also occur in the grassland habitats within the Site at times.	Both species are relatively common and widespread, and any possible impacts from the Works would not threaten their conservation status. Furthermore, alternative habitat in the form of woodland and grassland is common in the surrounding landscape and across the NHZ 17.	Site
GCN	<u>Desk study</u> The Site is located within the zone of 'marginal suitability' for great crested newt, as determined by the ARG UK Advice Note 5¹³⁷, and the species is known to be present within the central belt of Scotland. No records of received from NBN Atlas or ARG / ARC UK Record Pool. The Record Pool showed no great crested newt records in the 10km grid square within which the Site is located; however, there were six records in the 10km grid square to the south (at closest, 4.2km away), and two in the grid square to the west (at closest, 7.2km away). There are no waterbodies with the potential to be used by great crested newt within 250m of the Site. In addition, the Glencryan Burn and Forest Road act as barriers to great crested newt travel from the west and north, and the species was determined to be absent from more distant ponds within Palace Rigg Country Park to the south and	No suitable habitat is present. Great crested newt is considered absent.	Less than Site

¹³⁷ ARG (2010). *Great Crested Newt Habitat Suitability Index*. May 2010. Available at: [5. Great Crested Newt Habitat Suitability Index - Amphibian and Reptile Groups of the UK](#)

Feature	Summary of baseline	Rationale for Valuation	Importance
	east following surveys undertaken for the wider Denny Wishaw Network Upgrade project.		
Common reptiles and amphibians	<u>Desk study</u> No records of received from NBN Atlas. Some suitable habitat is present within the Site in the form of woodlands, grassland and scrub, much of which is damp and could therefore be used by reptiles as well as foraging / commuting amphibians. As discussed above as for great crested newt, there are no suitable water bodies which could support breeding populations of amphibians.	These species are relatively common and widespread, any possible impacts from the Works would not threaten their conservation status.	Site
Terrestrial invertebrates	<u>Desk study</u> The Site is not located within, or near to, any Buglife IIAs. No records of received from NBN Atlas of protected and / or notable terrestrial invertebrates. <u>Field survey</u> Specific invertebrate surveys were not completed but the likelihood of notable invertebrate assemblages being present can in part be inferred from the presence of notable habitats. Thus, notable invertebrates (including those not identified by the desk study) may occur where SBL Priority or other notable habitats are present, and it is possible notable invertebrates may use more widespread and common habitats such as non-notable woodland and non-notable marsh pasture.	Notable invertebrates may be present across the Site, where habitats are not unsuitable. Vast amounts of habitat similar to that found on Site are present within the wider local area. Given that the Site is not located within, or near to, any Buglife IIAs, County level importance is considered disproportionate. However, taking a precautionary approach in the absence of specific field data, and given the presence of notable records in the desk study, a valuation of Local importance is given.	Local
Common breeding birds	<u>Desk study</u> No records of protected and / or notable bird species received from NBN Atlas. <u>Field survey</u>	The birds which are likely to breed on Site are common and widespread within rural and semi-urban parts of Cumbernauld and the wider central belt of Scotland.	Site

Feature	Summary of baseline	Rationale for Valuation	Importance
	There is suitable nesting habitat for general breeding birds within all vegetated parts of the survey area.		
Schedule 1 birds	<u>Desk study</u> Two records of kingfisher were received from the NBN Atlas. <u>Field survey</u> The habitats on Site are unsuitable for nesting barn owl and raptors. No watercourses with steep slopes suitable for nesting kingfisher were noted during surveys, however, the Bonny Water / River Carron present excellent foraging and commuting potential for this species. Within 500m there are no trees with cavities / no dilapidated barns suitable for barn owl. The nearest farmsteads with barns are c. 600m to the east of the Site. There are no habitats suitable for breeding raptors within the Siioded habitats in the wider area have limited suitability for raptors. The best opportunities for raptors are within the Roughcastle WS, c. 0.5km from the Site.	Schedule 1 birds are unlikely to breed within the Site. Habitats within the surrounding area have limited potential for breeding kingfisher, barn owl and Schedule 1 raptors.	Site
Wintering birds (excluding Taiga bean goose)	<u>Desk study</u> No records of protected and / or notable bird species received from NBN Atlas. <u>Field survey</u> There is suitable wintering habitat for birds within all vegetated parts of the survey area.	The birds which are likely to winter on or adjacent to the Site are common and widespread within rural and semi-urban parts of Cumbernauld and the wider central belt of Scotland.	Site

Invasive non-native plant species

Desk study

- 8.14.24 No records of non-native invasive plant species were returned by the NBN atlas.

Field survey

- 8.14.25 Japanese knotweed and rhododendron were recorded during the surveys, as follows:

- One large patch of Japanese knotweed, 993m² located 57m south of the Site; and,
- One smaller patch of Japanese knotweed, 276m², located 75m east of the Site, also including some snowberry.

- 8.14.26 Three scattered rhododendron plants are present within the woodland surrounding the Site, one of which is within the Site and is located 33m east of the proposed earthworks.

Features excluded from further assessment

- 8.14.27 Relevant ecological features are those that are considered to be Local value or higher and have the potential to be affected by the Works. In view of the baseline data obtained through desk study and field survey, features assessed to be of site importance or below have been scoped out of the assessment. Features of higher value have also been excluded from further assessment where there are no possible effects on them, for example through absence of the feature or clear absence of an impact pathway. Ecological and ornithological features which have been scoped out are listed below in Table 8-617. For scoped out features there are no likely significant effects in EIA terms.

Table 8-617 Ecological and ornithological features scoped out of further assessment

Feature	Rationale for exclusion from further assessment in this chapter
West Fannyside Moss SAC and Black Loch Moss SAC	West Fannyside Moss SAC and Black Loch Moss are located approximately 2.3km and 8.7km away from the Site, respectively. There are no hydrological links between the SACs and the Site and the qualifying features for the SACs are limited to the areas of the SACs.
Slamannan Plateau SPA and Slamannan Plateau SSSI	Slamannan Plateau SPA and Slamannan Plateau SSSI are concurrent for the majority of their extent and are located approximately 1.5km from the Site. The sole designated feature of the SPA and SSSI is non-breeding Taiga bean goose. Though a mobile feature, Taiga bean geese are extremely unlikely to occur within the Site and surrounding area given the majority of the habitat currently present is unsuitable woodland. Some potentially suitable wetland and grassland habitat exists, however, this is present as narrow corridors through the woodland and is mostly cluttered by existing overhead lines. The Bean Goose Advisory Group provided extensive data spanning the last ten years, from both distribution surveys and GPS tracking of Taiga bean goose. There were no records provided within 1km of the Site. As such there would be no impacts on the SPA / SSSI.
All SINC and SWT reserves with the exception of Glencryan Woods SINC and Forest Woods SWT Reserve	No SINC (with the exception of Glencryan Woods SINC) or SWT reserves (with the exception of Forest Woods SWT Reserve) will be affected by the Works for one or more of the following reasons: i) they are located on the opposite side of Forest Road (a significant barrier); ii) they are designated for geological interest and will therefore be unaffected by the Works; iii) they are located up-slope (and upstream) of the Works; and / or, iv) they are over 250m distant (beyond the distance at which groundwater impacts could arise).
Ancient Woodland and Ancient / Veteran Trees	Valued at Less than Site level importance.
All habitats which lie outside the Site excluding potential GWDTEs.	There are no possible impacts on non-GWDTE habitats which lie outside of the Site because they will not be directly lost during works or impacted indirectly by pollution given the embedded mitigation measures set out in Section 8.4.
Widespread, common and species-poor habitats (scattered trees and scrub, dense scrub, bracken and semi-	Valued at Site level importance.

Feature	Rationale for exclusion from further assessment in this chapter
improved neutral grasslands including potential GWDTEs).	
Notable plant species	Valued at Site level importance.
Otter	Valued at Site level importance.
Water vole	Valued at Less than Site level importance.
Pine marten	Valued at Site level importance.
Red squirrel	Valued at Less than Site level importance.
Brown hare and hedgehog	Valued at Site level importance.
Great crested newt	Valued at less than Site level importance.
Common reptiles and amphibians	Valued at Site level importance.
Breeding birds	Valued at Site level importance.
Wintering birds (excluding Taiga bean goose)	Valued at Site level importance.

Design and Embedded Mitigation Measures

- 8.14.28 As detailed above embedded mitigation measures set out in Section 8.4 have been considered at the initial impact assessment stage, whereas Additional Mitigation that is not part of the design and is developed after the initial impact assessment is considered at the residual effects stage.
- 8.14.29 Plans for landscaping around the Site have been developed with biodiversity in mind and these are described in more detail in Section 8.16 Biodiversity enhancements.
- 8.14.30 Note that there are legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot may be required to permit such works, and must be in place before works commence. Species Protection Plans (SPP) are required to support applications for such licences, and will include appropriate mitigation measures. For the likely content of these SPPs see the below section on Proposed Additional Mitigation Measures.

Important ecological features

- 8.14.31 The following are important ecological features (IEFs) relevant to the assessment:

- LNCS and SWT Reserves which overlap the Site;
 - Glencryan Woods SINC; and,
 - Forest Woods SWT Reserve.
- SBL habitats;
 - Wet Woodland;
 - Lowland Fens.
- Other habitats which enhance the local habitat resource;
 - Non-SBL broadleaved and mixed woodland;
 - Non-SBL marsh/marshy grassland;
 - Non-SBL watercourses.
- GWDTEs;
- Bats;
- Badger; and
- Terrestrial invertebrates.

Assessment of Effects

- 8.14.32 This section considers construction impacts of the Works on the IEFs identified. This assessment considers the embedded mitigation measures detailed in Section 8.4 and identifies where additional mitigation measures are required (being where significant effects are identified, notwithstanding legal obligations).
- 8.14.33 Following a review of the potential impact pathways and the implementation of the above embedded mitigation measures, the following construction phase impacts on IEFs can be scoped out and are not considered further (in addition to those scoped out in Table 8.77

above): habitat change to potential GWDTEs as a result of changes in hydrology¹³⁸. Impacts to potential GWDTEs are discussed in Chapter 9, which concluded that there would be no significant effects on potential GWDTEs following the implementation of embedded mitigation. GWDTEs are not discussed further.

8.14.34 The following construction phase impacts cannot be fully scoped out following implementation of embedded mitigation:

- Direct habitat loss;
- Direct loss of minor bat roosts;
- Disturbance to roosting bats (other than from lighting);
- Loss/fragmentation of refuges/habitats of importance to protected and notable species; and
- Disturbance to and displacement of protected and notable species as a result of visual stimuli, noise and vibration.

8.14.35 Following a review of the potential impact pathways and implementation of embedded mitigation there are no likely remaining operational impacts.

8.14.36 Possible impacts and effects from the construction phase are described in Table 8-6288.

¹³⁸ Habitat changes to potential GWDTEs as a result of changes in hydrology refers to potential indirect changes in vegetation species composition as a result of disruptions to groundwater hydrology, and are therefore only considered possible on habitats which are potential GWDTEs. Such disruption could lead to a change in vegetation species composition due to, for example, drying of the area making it unsuitable for the existing vegetation community. Such disruption is considered within 250m for a project of this type.

Table 8-628. Construction phase impacts and effects

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Glencryan Woods SINC (County)	Permanent habitat loss	0.49ha of habitat within Glencryan Woods SINC (all of which is non-SBL mixed plantation woodland) will be lost to the Works. This equates to 1.4% of the existing total area of Glencryan Woods SINC (34.1ha). This habitat is relatively poor-quality mixed plantation woodland with a high proportion of non-native species and a poorly developed ground flora. Glencryan Woods SINC contains a large quantity of similar woodland, as well as higher quality woodland and wetland, the vast majority of which will be retained. However, the loss of woodland will slightly reduce the habitat resource for common and widespread species within Glencryan Woods SINC which contribute to its biodiversity value. The loss is minor, such that a significant effect at County level is considered disproportionate. However, there will be some impact on the designation, and an effect of Local level significant is considered more appropriate. This will most likely be replaced by grassland habitat in the proposed earthworks area, and by aquatic / wetland habitats associated with proposed SuDs features, which will provide some biodiversity value.	Significant adverse effect at Local level (Not Significant)
Forest Woods SWT Reserve (County)	Permanent habitat loss	1.04ha of habitat within Forest Woods SWT Reserve (all of which is Mixed woodland – plantation) will be lost to the Works. This equates to 1.2% of the existing total area of Forest Woods SWT Reserve (90.4ha). This habitat is all relatively poor-quality mixed plantation woodland with a high proportion of non-native species and a poorly developed ground flora. Forest Woods SWT Reserve contains a	Significant adverse effect at Local level (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
		large quantity of similar woodland, as well as higher quality woodland and wetland, the vast majority of which will be retained. However, the loss of woodland will slightly reduce the habitat resource for common and widespread species within Forest Woods SWT Reserve which contribute to its biodiversity value. The loss is minor, such that a significant effect at County level is considered disproportionate. However, there will be some impact on the designation, and an effect of local level significant is considered more appropriate. This will most likely be replaced by grassland habitat in the proposed earthworks area, and by aquatic / wetland habitats associated with proposed SuDs features, which will provide some biodiversity value.	
<u>Wet Woodland</u> (County)	Permanent habitat loss	0.01 ha of <u>Wet Woodland</u> SBL Priority habitat will be permanently lost. This equates to 2.6% of this habitat patch and 0.5% of the total area of <u>Wet Woodland</u> identified within 250 m, a very small area in comparison with the wider resource. In addition, the small area that will be lost is on the edge of this habitat patch where it transitions into a non-SBL woodland type to the north and a non-SBL grassland type to the west.	Negligible (Not Significant)
<u>Lowland Fens</u> (County)	Permanent habitat loss	All <u>Lowland Fen</u> is located outside of the footprint of the Works, and will therefore not be lost.	None
Non-SBL broadleaved and mixed woodland and non-SBL marsh/marshy grassland (Local)	Permanent habitat loss	2.85ha of non-SBL woodland and 0.23ha of non-SBL marsh will be permanently lost. These habitats are frequently found in the wider area, including adjacent to the Site and throughout NHZ17. The areas of these habitats which will be lost constitute an extremely tiny proportion of the wider resource, far below that which would be considered significant.	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Non-SBL watercourses (Local)	Permanent habitat loss	Direct habitat loss of watercourses will not occur because the Works are located 140m from the Glencryan Burn.	Negligible (Not Significant)
Roosting bats (Local)	Loss of bat roosts	A total of four trees with the potential to support small numbers of roosting bats are expected to be felled as a result of the Works (WB.BT.73, WB.BT.74, WB.BT.76, WB.BT.75). All have been subject to one climbing inspection, and no evidence of roosting was recorded at that time. The bats species likely to be present on Site show low fidelity to tree roosts and a large roost resource will remain in the immediate and wider area (within the wider woodland). However, the Works could result in the permanent loss of up to four minor roosts. Although bats were assessed as Local importance, the loss of these roosts are only significant at Site level, given the high suitability present within the wider area.	Significant adverse effect at a Site level (Not Significant)
Roosting bats (Local)	Disturbance to roosting bats	The same potential roost features which will be lost, plus an additional PRF-I tree (WB.BT.78), could be temporarily disturbed during construction and therefore small roosts of common bat species may be disturbed prior to their loss. No other potential roost features will be retained on Site and so cannot be disturbed.	Negligible (Not Significant)
Foraging and commuting bats (Local)	Direct loss of foraging habitat	A total of 3.59ha bat foraging habitat (comprising 2.86ha woodland, 0.08ha scrub, 0.23ha marsh and 0.43ha grassland) will be lost to the Works. The bat species which may be present on Site would utilise all these habitats, however a much larger area of similar habitat will remain in the immediate vicinity of the Site and in the wider area. The loss of such a small proportion is likely to be insignificant.	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Foraging and commuting bats (Local)	Fragmentation of commuting routes	Due to the loss of 3.59ha of habitat on Site the habitat features likely to be currently used by bats as commuting routes will change significantly. However, whilst the routes will change there will remain suitable edge habitat which the bat species present on Site will continue to use, and this will continue to connect to the further suitable bat habitat beyond the Site. There will be less available habitat for commuting along Forest Road to the north of the Site, but the road itself probably already presents a barrier to the north.	Negligible (Not Significant)
Badger (Local)	Loss of setts	Sett WB.B.20 (main sett) and Sett WB.B.21 (outlier sett) will be lost due to being located within the area of the earthworks. Extensive suitable habitat for badger sett creation exists to the west and east of the Site, where there are already several other known setts.	Significant adverse effect at a Site level (Not Significant)
Badger (Local)	Disturbance	Works will generally take place during daylight hours, and the risk of disturbing foraging / commuting badgers is low. With the exception of Sett WB.B.20 and Sett WB.B.21, which will be destroyed, all other setts are located more than 30m from the Proposed Works, and badgers occupying them will not be subject to disturbance (no blasting or piling is proposed).	Negligible (Not Significant)
Badger (Local)	Loss of foraging habitat	The Proposed Works will result in the loss of approximately 1.3ha of woodland. However, there is extensive retained woodland beyond the Development to the south, north, west and to the east where it is bordering residential houses. Coupled with this, rough grassland is abundant east of the Site. As such, there is considered to be sufficiently abundant suitable habitat within the local vicinity, that will be retained and remain undisturbed, that no significant effect on local badgers is likely. Moreover, given the ubiquity of badgers in central Scotland there is no possibility of any appreciable effect on badger conservation status.	Negligible (Not Significant)

Feature	Potential Impacts	Details of ecological effect	Assessment of effect
Badger (Local)	Habitat fragmentation	Badgers were recorded using woodland both in and around the Site. The Proposed Works sit within a wooded area adjacent to an existing road, and other woodland that is far more extensive than that lost to the Proposed Works will be unaffected and remain 'connected'. Therefore, it is not considered to be a significant habitat fragmentation issue. Access roads are scheduled to be constructed to aid in the construction of the Proposed Works, which will run from the Site, north to Forest Road and will be in very close proximity to the Development itself and will therefore not appreciably contribute any further fragmentation effect. The construction of the road will not limit badger movements within the environment as it will be traversable by badger and will be located more than 30m away from retained badger setts (not Sett WB.B.20 and Sett WB.B.21, but they will be excluded and destroyed).	Negligible (Not Significant)
Terrestrial Invertebrates (Local)	Habitat loss	Some of the habitat which will be lost has the potential to support notable invertebrates (e.g. <u>Wet Woodland</u>, Non-SBL broadleaved and mixed woodland). None of the habitat losses which will be incurred are predicted to have a Significant effect. However, the loss of habitats within Glencryan Woods SINC and Forest Woods SWT Reserve are both considered Significant at Local level. These locations are the most likely in the vicinity of the Site to support notable terrestrial invertebrates. Notable invertebrates are generally habitat specific, and cannot readily make use of alternative habitats. Therefore, as a precaution, it cannot be ruled out that the effect of habitat loss on terrestrial invertebrates would be of a similar scale.	Significant adverse effect at Local level (Not Significant)

Summary of Significant Effects

8.14.37 No effects considered significant in EIA terms are likely as a result of the Works.

Proposed Additional Mitigation Measures

- 8.14.38 A significant effect at a Site level (not significant in EIA terms) is anticipated on roosting bats via direct loss of four trees with potential roost features for small numbers of common bat species, and disturbance of these plus one additional tree.
- 8.14.39 There are also legal requirements relating to works which have the potential to impact certain protected species. Protected species licenses from NatureScot are required to permit such works, and must be in place before works commence. Until such as time as such licences are obtained, appropriate works exclusion zones would be implemented around any relevant protected species features identified during the surveys listed in Table 8.5, and any pre-works surveys that take place. SPPs are required to support applications for licenses, and will include appropriate mitigation measures. For the Works, the required licenses, and the likely content of associated SPPs, are set out in Table 8-6399. Additional details are set out in the embedded mitigation measures in 8.4.3.
- 8.14.40 For the Works, protected species licenses will be required for badgers and specific mitigation measures are required to adhere with legislative requirements. These mitigation measures are set out below in Table 8.79. Currently based on survey evidence, there is no requirement for a protected species licence with respect to bats, however pre-construction surveys will be undertaken as part of the embedded mitigation measures. Should any bat roosts be identified during pre-construction surveys, the requirement for a protected species licence with respect to bats will be reviewed.
- 8.14.41 Note that the below measures have been determined by the results obtained during the surveys described in **Error! Reference source not found.** 8.78. NatureScot consider survey data for protected species to be out-of-date after two years, therefore cognisance of the dates of the protected species survey set out in Table 8.5 should be taken when further details of the works programme are available. More information on further survey requirements is provided below.

Table 8-639 Additional Mitigation

Feature	Additional mitigation required
Bats	Pre-felling checks of the four trees recorded to have roost features (PRF-I), and one tree to be disturbed, by a licenced bat ecologist are required. The loss of this potential roost resource should also be mitigated via the provision of five bat boxes of suitable specification to replace the PRF lost. The Bat SPP will specify measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works / lighting, details on works methods such as soft-felling, and provision of compensatory roosts in the form of bat boxes.
Badger	A badger license will be required to permit the destruction of two badger setts - one likely main sett (Sett WB.B.20) and one likely outlier sett (Sett WB.B.21). No additional setts will be disturbed given that they are more than 30m from the Works. 30m is sufficient to avoid disturbance given that no blasting or piling works are currently planned.

Feature	Additional mitigation required

	As a main sett (Sett WB.B.20) will need to be closed, an artificial sett will be required as part of the mitigation measures set out in the licence application. A badger SPP has been produced¹³⁹, and this will accompany the licence application. The SPP specifies measures including adherence to appropriate works exclusion zones, ECoW supervision of works, restrictions on the timing of works, works methods (including the sett exclusion process) and provision of an artificial sett to compensate for the loss of a main sett. The exact content of the SPP may be refined prior to license application by further surveys.

Other Measures

- 8.14.42 Japanese knotweed in the vicinity of Cumbernauld Substation (OSGR NS 77544 74168) will be subject to a five-year treatment plan commencing in August-October 2026, as stipulated in the existing BMP¹⁴⁰, with the aim of eradicating this patch. For the duration of treatment the Japanese knotweed will be fenced so as to be inaccessible to the public, with signage to alert personnel to its presence.
- 8.14.43 The following additional measures which will benefit biodiversity within the Site and wider area will also be implemented:
- In addition to any bat boxes that may be required by the Bat SPP (see Embedded Mitigation), a further ten bat boxes will be installed in suitable trees in the vicinity the Site, including within retained parts of Glencryan Woods SINC. A variety of box types will be used, including those suitable for breeding and hibernation;
 - Ten bird boxes will be installed in suitable trees in the vicinity the Site. A variety of box types will be used, such that are suitable for nesting by a for a range of common species;
 - Two pine marten boxes will be installed in suitable trees in the vicinity the Site;
 - Two barn owl boxes will be installed in suitable trees in the vicinity the Site; and,
 - Brash from scrub and woodland clearance to facilitate construction will be retained within the Site. This will be arranged into log piles at woodland edges and incorporated into earth covered reptile hibernacula.
- 8.14.44 The provision of barn owl boxes and pine marten boxes represent an enhancement as suitable nesting features for these species currently do not exist within the Study area. The Site was found to support relatively few suitable features for roosting bats, although the habitats present are were of high suitability for foraging, the provision of bat roosts will be provide an enhancement to the local roosting resource.

Residual Effects

- 8.14.45 No likely Significant effects (Significant in EIA terms) were identified, even without the implementation of additional mitigation.

¹³⁹ AECOM (2025). Denny to Wishaw Network Upgrade – Cumbernauld Substation Extension: Badger Protection Plan. For SPEN.

¹⁴⁰ Morgan Sindall (2025). DWNO-MORG-XE-ZZZZOVERHEAD LINE-EP-KE-0001 Invasive Species Management Plan. For SPEN.

8.14.46 There will therefore be no Significant residual effects.

Monitoring

8.14.47 Monitoring will be required where it is a required as condition of protected species licensing.

8.15 Biodiversity enhancements

Biodiversity Net Gain

8.15.2 In compliance with the requirements of Policy 3 of NPF4, the Project is committed to delivering a range of measures which are positive for biodiversity.

8.15.3 The Applicant is committed to deliver measurable biodiversity improvements and committed to the Project providing a 10% net gain. Separate BNG reports are provided for the overhead line and Substation components which set out the details of the BNG assessment and the number of biodiversity units that will be provided to achieve a 10% net gain, see AECOM (2026) Denny to Wishaw Overhead Line BNG Assessment, AECOM (2026) Denny to Wishaw Substations (excluding Cumbernauld) BNG Assessment and AECOM (2026) Denny to Wishaw Cumbernauld BNG Assessment. The net gain will be sought offsite, as the given the nature of the Project the applicant does not have long term control over the habitats within the Limit of Deviation.

8.15.4 The Applicant is committed to delivering measurable biodiversity improvements to achieve at least 10% BNG on projects.

8.15.5 The BNG assessment has taken account of the details within the Landscape Plans prepared for the substations which have been developed with biodiversity in mind. The main ecological considerations of the Landscape Plans are summarised below.

8.15.6 All planting and seeding (of woodlands, grasslands and wetlands) will be of species native to the area, of as local provenance as possible, and selected with cognisance to the native species composition of surrounding habitats.

8.15.7 The planting scheme will strictly avoid INNS, as listed on;

- Schedule 9 of the WCA (although this no longer legally applies in Scotland);
- Invasive Alien Species Regulations¹⁴¹, which are considered to be of EU concern; and,
- Annex B of the NatureScot Developing with Nature Guidance¹⁴².

8.15.8 Created habitats will require ongoing management and monitoring to ensure they establish as planned and can be maintained.

Other measures

8.15.9 In order to provide features for other species, particularly to compensate for the loss of woodland, the following are committed to:

- Pine marten den boxes;

¹⁴¹ Regulation 1143/2014 on invasive alien species, which is more commonly referred to as the 'Invasive Alien Species Regulation'.

¹⁴² <https://www.nature.scot/doc/developing-nature-guidance>.

- Red squirrel boxes;
 - Bird boxes of 25mm; and,
 - Bird boxes of 32mm.
- 8.15.10 The precise locations and specifications of these boxes will be detailed in an Ecological Enhancement plan. This document will be prepared and the enhancements delivered prior to energising of the line. SPEN will work with local landowners to agree suitable locations to install these boxes.
- 8.15.11 Brash from scrub and woodland clearance to facilitate construction will be retained within the Site where possible. This will be arranged into log piles at woodland edges and incorporated into earth covered reptile hibernacula.

8.16 Cumulative assessment

- 8.16.1 Details of the cumulative assessment are provided in Chapter 16 Cumulative Effects.

8.17 Summary and Conclusions

Designated Sites

- 8.17.2 No likely significant effects were identified on any internationally designated sites for any components of the Project individually. In summary of the individual components assessed only one effect of temporary disturbance and displacement to foraging and roosting bean goose associated with the Slamannan Plateau SPA was identified in relation to the removal of the CB. This was assessed to be significant at the Site level only, and not significant in EIA terms. Given this and considering the Project as a whole, as no other effects were identified beyond a level of negligible, overall, no likely significant effects on internationally designated sites have been identified.
- 8.17.3 For the locally designated sites, a small number of the sites identified are within the zone of influence of more than one project component. Table 8.80 below, considers the combined effects of the whole Project on these sites. As detailed in this table, when considering combined effects, no likely significant effects have been identified. For all other local designated sites, only one project component is relevant, and as such the assessments provided for the individual components remain valid. In summary, the effect on any designation from the Project as a whole will therefore not exceed Local significance, which is not significant in EIA terms.

Table 8-80 Summary of Impacts to Non-Statutory Designated Sites effected by more than one project component

Designated Site	WB Impact	CB Impact	Cumbernauld Impact	Assessed AA Impact	Combined effect
Bruntrigg Moor (Palacerigg) SINC and East Fannyside Muir SINC	Loss limited to scattered trees, predominantly non-native conifers or stunted birches which have established on the degraded bog, and their loss will potentially reduce drying and improve the condition of the bog immediately around the trees. Effect: Significant adverse effect at a Site level (Not Significant)	Localised loss required to facilitate the removal of the towers is not expected to have any long-term negative impact on the integrity of the destinations Effect: Negligible. (Not Significant)	n/a n/a	n/a	Significant adverse effect at a Site level (Not Significant)
Forest Wood SWT Reserve and Forest Woods SINC	Loss of 0.63ha (0.7% of SWT Reserve, which has a total area of 90.4ha) of an area of non-notable woodland, the majority of which is low quality broadleaved plantation or mixed/coniferous woodland dominated by non-native species. SINC loss limited to that of scattered trees. These are predominantly non-native conifers or stunted birches which have established on the degraded bog, and their loss will potentially reduce drying and improve the condition of	Localised loss required to facilitate the removal of towers is not expected to have any long-term negative impact on the integrity of the destinations Effect: Negligible. (Not Significant)		n/a	Effect: Significant adverse effect at a Site level (Not Significant)

Designated Site	WB Impact	CB Impact	Cumbernauld Impact	Assessed AA Impact	Combined effect
	the bog immediately around the trees. Effect: Significant adverse effect at a Site level (Not Significant)				
Glencryan Woods SINC	Loss of 0.65ha (1.9% of SINC total area, 34.1ha) limited to non-notable woodland, the majority of which is low quality broadleaved plantation or mixed/coniferous woodland dominated by non-native species. Effect: Significant adverse effect at Local level (Not Significant)	Localised loss required to facilitate the removal of towers is not expected to have any long-term negative impact on the integrity of the destinations Effect: Negligible. (Not Significant)	Loss of 0.49ha (1.4% of SINC total area, 34.1ha), all of which is non-SBL mixed plantation woodland. Effect: Significant adverse effect at Local level (Not Significant)	n/a	Total combined loss 1.14ha Significant adverse effect at Local level (Not Significant)
Graystone Knowe WS	0.01ha of loss limited to areas of non-notable woodland, the majority of which is low quality broadleaved plantation or mixed/coniferous woodland dominated by non-native species. The areas lost amount to 0.2% of total site (49.9ha). Effect: Significant adverse effect at a Site level (Not Significant)	Localised loss required to facilitate the removal of towers is not expected to have any long-term negative impact on the integrity of the destinations Effect: Negligible. (Not Significant)	n/a	n/a	Effect: Significant adverse effect at a Site level (Not Significant)

Designated Site	WB Impact	CB Impact	Cumbernauld Impact	Assessed AA Impact	Combined effect
Roughcastle WS	The total loss of woodland and scrub habitat for New Build Overhead Line wayleave is 1.45ha, 1.9% of the total area of the designation (74.8ha). Of this, 1.26ha is <u>Lowland Mixed Deciduous Woodland</u> SBL Priority habitat. Effect: Significant adverse effect at Local level (Not Significant)	Localised loss required to facilitate the removal of towers is not expected to have any long-term negative impact on the integrity of the destination Effect: Negligible (Not Significant)	n/a	Temporary loss localised around existing Towers, totalling 0.51ha, 0.7% of the designation (74.8ha) (within existing overhead line corridor). Habitats will most likely revert to habitat present elsewhere within the designation, through natural regeneration. Effect: Negligible (Not Significant)	Total combined loss 1.96ha (noting 0.51ha is likely to be temporary) Significant adverse effect at Local level (Not Significant)

Ancient Woodland

- 8.17.4 Woodland listed on the AWI as 2a ASNW (1860) will be lost to the New Build Overhead Line only. Areas listed on AWI as 2b LEPO (1860) will be lost to the four overhead line components of the Project, these areas include both woodland and other habitat types. These losses are detailed in in 8.81 and 8.82.

Table 8-81 Summary of Ancient Woodland Inventory: 2a ASNW (1860) loss for all Project components

ASNW component habitats	Notable habitat (Annex I or SBL)	Valuation	Combined
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	County	0.09

ASNW component habitats	Notable habitat (Annex I or SBL)	Valuation	Combined
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	County	0.19
A1.1.1 - Broadleaved woodland - semi-natural	None	Local	0.06
A1.1.2 - Broadleaved woodland - plantation	None	Local	0.03
A2.1 - Scrub - dense/continuous	None	Site	0.04
Total area of AWI ASNW loss (ha)			<u>0.42</u>

Table 8-82 Summary of Ancient Woodland Inventory: 2b LEPO (1860) loss for all Project components

LEPO component habitats	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)				
			WB	Uprated	CB	AA	Combined
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	County	0.98	0	<0.01	<0.01	0.99
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	County	0.06	0.15	0.26	0.17	0.67
A1.1.1 - Broadleaved woodland - semi-natural	None	Local	0.06	0	0	0	0.06
A1.1.2 - Broadleaved woodland - plantation	None	Local	2.32	0.02	<0.01	0	2.34
A1.3.2 - Mixed woodland - plantation	None	Local	3.61	0.04	0	0	3.65
A2.1 - Scrub - dense/continuous	None	Site	1.08	0.05	0.01	0.17	1.31
Total area woodland and scrub loss (ha)			8.14	0.26	0.26	0.35	9.01
Total area other habitats (grassland, heathland, bog etc) loss (ha)			0.50	0.30	0.80	0.16	1.76
Total area of AWI LEPO loss (ha)			8.64	0.56	1.06	0.51	<u>10.78</u>

- 8.17.1 Of the above, the following likely significant adverse effects were identified, all from the New Build Overhead Line:
- Loss of AWI ASNW (**Significant at County level**); and
 - Loss of AWI LEPO (**Significant at County level**).
- 8.17.2 Loss of AWI ASNW will only occur on the New Build Overhead Line, and as such the magnitude of this effect remains the same for the Project as a whole – Significant at County level.
- 8.17.3 Loss of AWI LEPO was heavily concentrated along the New Build Overhead Line (80% of the area lost), and the comparatively minor losses to the other components will not combine to produce an effect of greater significance. As such the magnitude of this effect remains the same for the Project as a whole – Significant at County level.

Habitats

- 8.17.4 The combined habitat losses associated with the overhead line components (the XX, XR, AB, AA and CB) of the Project are summarised in Table 8.83 and Table 8.84. Habitat loss associated with Denny North Substation and Newarthill Substation will be extremely minor, as Works are largely restricted to existing hardstanding. These substations are not included in the below tables.
- 8.17.5 Woodland and scrub will be lost to the Project where present within the Limit of Deviation of the New Build Overhead Line and from within associated management felling areas, tower/site compounds, scaffolding locations, pulling positions and the footprint of proposed access tracks of all Project components, and within the footprints proposed works at Cumbernauld and Bonnybridge Substations. Loss of woodland and scrub, where it occurs, has been considered permanent for the purposes of this assessment, although it is acknowledged that a level of natural regeneration will occur, particularly outside of Limit of Deviation areas.
- 8.17.6 Non-woodland habitats will be lost to the Project where present within tower/site compounds, scaffolding, pulling positions and the footprint of proposed access tracks of all Project components, and within the footprints of the various proposed Substation Works. To consider the combined impacts of the Project, the total losses for those habitats valued at Local and above have been assessed, these losses are set out in Table 8.83. Loss of these habitats are considered temporary, given that, on the completion of Works, the habitat will be returned through natural regeneration or in the case of blanket bog reinstated following appropriate management during the construction period. The loss of waterbodies and watercourses will be avoided by micro-siting, as set-out in Section 8.4 Embedded Mitigation.
- 8.17.7 For the substation components, loss of all habitats is considered permanent (though there may be some localised temporary loss in compound areas).
- 8.17.8 For linear habitats (tree-lines and hedgerows), these will be lost to the Project where present within tower/site compounds, scaffolding locations, pulling positions and the footprint of proposed access tracks of all Project components, and a Bonnybridge Substation. The total lengths of loss from the combined project components are shown on Table 8.84. Loss of tree lines are considered permanent, while removal of hedges is

considered temporary, given that hedges will be reinstated following the Works, with the exception of any trees present within the hedges.

- 8.17.9 No likely significant effects on linear habitats were identified through the assessment of individual components. Given the limited amount of loss that will occur, that this is spread across a large geographic area and that the losses will be temporary, it is not considered, when taken as a whole, that the Project would have any likely significant effects of County level or above (significant in EIA terms) on any of these habitats, following the rational set out within the assessments for the individual components.

Table 8-83. Summary of woodland/scrub loss for all Project components (area habitats)

Phase 1 habitat type	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)							
			WB	Uprated	CB	AA	Substations			Combined
							Bonnybridge	Wishaw	Cumbernauld	
A1.1.1 - Broadleaved woodland - semi-natural	<u>Lowland Mixed Deciduous Woodland</u>	County	6.54	0.07	0.09	0.15	0	0	0	6.86
A1.1.1 - Broadleaved woodland - semi-natural	<u>Wet Woodland</u>	County	6.45	0.24	0.43	0.40	0	0	0.03	7.56
A1.1.1 - Broadleaved woodland - semi-natural	None	Local	1.19	0.52	0.03	0.01	0	0	0	1.76
A1.1.2 - Broadleaved woodland - plantation	None	Local	11.90	0.70	0.69	0.28	0.31	0	1.77	15.66
A1.2.1 - Coniferous woodland - semi-natural	None	Site	<0.01	0	0	0	0	0	0	<0.01
A1.2.2 - Coniferous woodland - plantation	None	Site	6.84	0.01	0.19	0	0	0	0	7.04

Phase 1 habitat type	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)							
			WB	Uprated	CB	AA	Substations			Combined
							Bonnybridge	Wishaw	Cumbernauld	
A1.3.2 - Mixed woodland - plantation	None	Local	8.82	0.26	0.04	0	0	0	2.88	12.00
A2.1 - Scrub - dense/continuous	<u>Wet Woodland</u>	County	0.29	0.03	0.10	0	0	0	0	0.42
A2.1 - Scrub - dense/continuous	None	Site	4.14	1.06	0.23	0.47	0.04	0.02	0.14	6.05
Total area of woodland/scrub of County importance loss (ha)			13.29	0.34	0.62	0.56	0.00	0.00	0.03	14.84
Total area of woodland/scrub of Local importance loss (ha)			21.92	1.48	0.76	0.29	0.31	0.00	4.65	29.41
Total area of woodland/scrub of Site importance loss (ha)			10.98	1.08	0.41	0.47	0.04	0.02	0.14	13.10
Total area of woodland/scrub loss (ha)			46.19	2.90	1.80	1.32	0.35	0.02	4.82	<u>57.34</u>

Table 8-84 Summary of non wooded habitat loss for all Project components (area habitats)

Phase 1 habitat type	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)							
			XX	Uprated	CB	AA	Substations			Combined
							Bonnybridge	Wishaw	Cumbernauld	
B5 - Marsh/marshy grassland	<u>Lowland Fens</u>	County	<0.01	<0.01	0	0	0	0	0.30	0.31

Phase 1 habitat type	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)							
			XX	Uprated	CB	AA	Substations			Combined
							Bonnybridge	Wishaw	Cumbernauld	
B5 - Marsh/marshy grassland	<u>Purple Moor-grass and Rush Pastures</u>	County	0.43	0.22	0.03	0	0	0	0	0.68
B5 - Marsh/marshy grassland	None	Local	2.12	2.11	1.69	0.14	0	0	0	6.07
D1.1 - Dry dwarf shrub heath - acid	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	Regional	0.01	0.05	0.05	0	0	0	0	0.11
D2 - Wet dwarf shrub heath	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	Regional	0.19	0.24	0.20	0	0	0	0	0.64
D5 - Dry heath/acid grassland	<u>Lowland Heathland (H4030 Dry heaths; lowland)</u>	Regional	0.02	0	0	0	0	0	0	0.02
D6 - Wet heath/acid grassland	<u>Lowland Heathland (H4010 Wet heaths; lowland)</u>	Regional	<0.01	0	0.05	0.01	0	0	0	0.06
E1.6.1 - Blanket sphagnum bog	<u>Intact Blanket Bog (H7130 Blanket bog)</u>	Regional	0.44	0	0.47	0	0	0	0	0.91
E1.7 - Wet modified bog	<u>Degraded Blanket Bog (H7130)</u>	Regional	3.65	0.02	2.61	0	0	0	0	6.28

Phase 1 habitat type	Notable habitat (Annex I or SBL)	Valuation	Total area of loss (ha)							
			XX	Uprated	CB	AA	Substations			Combined
							Bonnybridge	Wishaw	Cumbernauld	
	<i>Degraded Blanket bog)</i>									
E1.7 - Wet modified bog	Degraded <u>Lowland Raised Bog (H7120 Degraded Raised bog)</u>	Regional	<0.01	0.69	0	0	0	0	0	0.69
E2.1 - Flush and spring - acid/neutral flush	<u>Lowland Fens</u>	County	0.03	0	0	0	0	0	0	0.03
E3 - Fen	<u>Lowland Fens</u>	County	0.02	0	0.03	0	0	0	0	0.05
E3.1 - Fen - valley mire	<u>Lowland Fens</u>	County	0.05	0	0	0	0	0	0	0.05
E3.2 - Fen - basin mire	<u>Lowland Fens (H7140 Transition mires and quaking bogs)</u>	Regional	0.16	0	0	0	0	0	0	0.16
F1 - Swamp	<u>Lowland Fens</u>	County	0	0.09	0	0	0	0	0	0.09
F1 - Swamp	None	Local	0	<0.01	0	0	0	0	0	<0.01

Table 8-85 Summary of tree-line and hedge loss for all Project components (linear habitats)

Phase 1 habitat type	Notable habitat (SBL or Annex I)	Valuation	Total length of loss (km)				
			XX	Uprating	CB	Bonnybridge Substation	Combined
A3.1 - Broadleaved parkland/scattered trees	None	Local	0.14	0.01	0	0	0.15
A3.3 - Mixed parkland/scattered trees	None	Local	0	0.03	0	0	0.03
A3.2 - Coniferous parkland/scattered trees	None	Site	0.09	0	0.03	0	0.12
Total tree-line of County value length loss (km)			0.14	0.04	0	0	0.18
Total tree-line of Site value length loss (km)			0.09	0	0.03	0	0.12
Total combined tree-line length loss (km)			0.23	0.04	0.03	0	0.30
J2.1.2 - Intact hedge - species-poor	None	Local	0.06	0.06	0.21	0.15	0.48
J2.2.2 - Defunct hedge - species-poor	None	Local	0.28	0.21	0.43	0	0.92
J2.3.1 - Hedge with trees - native species-rich*	<u>Hedgerow</u>	County	0.17	0	0.01	0	0.18
J2.3.2 - Hedge with trees - species-poor*	None	Local	0.12	0.05	0	0	0.17
Total hedge of County value length loss (km)			0.17	0	0.01	0	0.18
Total hedge of Local value length loss (km)			0.46	0.32	0.64	0.15	1.57
Total combined hedge length loss (km)			0.63	0.32	0.65	0.15	1.75
*note that trees within hedges with trees will be <u>permanently</u> lost.							
*there are no loss of hedges or tree lines associated with the AA line or substations other than Bonnybridge.							

- 8.17.10 Losses remain small for most habitats when considering all project components combined. For the majority of habitats, the anticipated temporary losses are less than 1ha across the Project. No likely significant effects on these habitats were identified through the assessment of individual components. Given the limited amount of loss that will occur, that this is spread across a large geographic area and that the losses will be temporary, it is not considered, when taken as a whole, that the Project would have any likely significant effects of County level or above (significant in EIA terms) on any of these habitats, following the rational set out within the assessments for the individual components.
- 8.17.11 No likely significant effects on linear habitats were identified through the assessment of individual components. Again, given the limited amount of loss that will occur, that this is spread across a large geographic area and that the losses will be temporary, it is not considered, when taken as a whole, that the Project would have any likely significant effects of County level or above (significant in EIA terms) on linear habitats, following the rational set out within the assessments for the individual components.

Protected and Notable Species (excluding birds)

- 8.17.12 The only protected and/or notable species for which significant effects (Significant in EIA terms) were considered likely prior to additional mitigation was roosting bats. Following additional mitigation, the effects for each component were found to be, at most, Significant at Local level which is Not Significant in EIA terms. The assessment of effects on roosting bats from each component is summarised below in Table 8.86 and Table 8.87.

Table 8-646. Summary of effects of loss of bat roosts across the Project

*No effects identified to substations, with the exception of Cumbernauld

Component	Summary of ecological effect	Initial Assessment	Residual Assessment
New Build Overhead Line	x67 PRF trees to be lost = x17 PRF-M, x35 PRF-I, x15 FAR.	Significant adverse effect at County level (Significant)	Significant adverse effect at Local level (Not significant)
Upgraded Overhead Lines	x9 PRF trees to be lost =x2 PRF-M, x4 PRF-I, x3 FAR	Significant adverse effect at County level (Significant)	Significant adverse effect at Local level (Not significant)
CB Route Removal	x1 PRF-I tree to be lost	Negligible (Not Significant)	Negligible (Not Significant)
AA Route Undergrounding	x1 PRF-I tree to be lost	Negligible (Not Significant)	Negligible (Not Significant)
Cumbernauld Substation	x4 PRF-I trees to be lost	Significant adverse effect at Site level (Not Significant)	Negligible (Not Significant)
TOTAL potential losses of components combined	82 PRF trees to be lost (comprised of 19 PRF-M, 45 PRF-I and 18 FAR)		

- 8.17.13 In total, 82 trees with the potential to support roosting bats will be lost to the Project as a whole. Loss to the New Build Overhead Line accounts for the majority of these – 67 trees – and was assessed as having a residual Significant effect at Local level. The predicted losses from the other components is from the Uprated Overhead Lines, CB Route Removal and AA Route Undergrounding is relatively minor (15 trees – x2 PRF-M, x10 PRF-I, x3 FAR), with the majority being PRF-I (suitable for individual or small numbers of bats) due to having small and relatively unremarkable features, and there are likely thousands of trees with similar features within the Falkirk and North Lanarkshire local authority areas. Of these 15 trees, all of those with the potential to support roosts of higher conservation value (not PRF-I) are associated with the Uprated Overhead Lines, are therefore spread over a vast area when accounting for the length of these routes, running the majority of the length of the Falkirk and North Lanarkshire local authority areas.
- 8.17.14 Given the above, it is not considered that the combined residual effect of the loss of bat roosts to the Project as a whole would exceed a Significant effect at Local level, as was assessed for the New Build Overhead Line in isolation, and which is Not Significant in EIA terms.

Table 8-87 Summary of effects of disturbance to bat roosts across the Project

Component	Summary of ecological effect	Initial Assessment	Residual Assessment
New Build Overhead Line	x32 retained trees could be disturbed = x7 PRF-M trees, x18 PRF-I trees, x7 FAR trees	Significant adverse effect at County level (Significant)	Significant effect at Local level (Not significant)
Uprated Overhead Lines	x44 retained trees could be disturbed = x29 PRF-M, x14 PRF-I trees, x1 FAR tree.	Significant adverse effect at County level (Significant)	Significant effect at Local level (Not significant)
CB Route Removal	x37 retained trees could be disturbed = x8 PRF-M, x21 PRF-I, x8 FAR	Significant adverse effect at County level (Significant)	Significant effect at Local level (Not significant)
AA Route Undergrounding	x6 retained trees could be disturbed = x1 PRF-M, x4 PRF-I, x1 FAR	Significant effect at Site level (Not significant)	Negligible (Not Significant)
Cumbernauld Substation	x1 retained PRF-I tree could be disturbed	Negligible (Not Significant)	Negligible (Not Significant)
TOTAL	x120 PRF trees to be lost = x45 PRF-M, x58 PRF-I, x17 FAR.		

*No effects identified to substations, with the exception of Cumbernauld

- 8.17.15 In total, 120 trees with the potential to support roosting bats are at risk of disturbance from the Project as a whole. Of the trees, 45 are PRF-M, 58 are PRF-I and 17 are FAR.
- 8.17.16 The assessment of residual effects on bats from both roost loss and disturbance for the Project as a whole, is considered to mirror that of the individual component parts. Therefore, following the application of the proposed mitigation residual effects to bats

from loss of roosts and disturbance are assessed to be significant at a local level and are Not Significant in EIA terms.

- 8.17.17 No likely significant effects (Significant in EIA terms) were identified on any other species considered in the assessment.
- 8.17.18 All effects on otter and water vole were negligible for all components.
- 8.17.19 For red squirrel and terrestrial invertebrates, the greatest effect was a likely Significant effect at Local level from the New Build Overhead Line. All other effects were Negligible.
- 8.17.20 For GCN, the greatest effect was a likely Significant effect at Site level from the New Build Overhead Line and CB Route Removal. All other effects were Negligible.
- 8.17.21 For badger, the greatest effect was a likely Significant effect at Site level from the Cumbernauld Substation Extension. All other effects were Negligible.
- 8.17.22 Given that for all species assessed (except bats) the majority of Project components have a Negligible effect, that the likely Significant effects were, at most, Local, and, given the large geographical spread of the Project, the Project as a whole will not have any greater than Local level Significant effects (not Significant in EIA terms) on species, other than bats. Noting this does not negate legal requirements related to protected species licensing.

Ornithology

- 8.17.23 No significant effects, in EIA terms at County level of greater, were identified for any ornithological species receptors for any of the Project components. The only effects identified as greater than Negligible were Local level effects (not Significant in EIA terms) on curlew and barn owl identified from the assessment of the New Build Overhead Line. Identified effects were construction related disturbance and displacement for both species and operational collision mortality for curlew. Additional mitigation, in the form of BFDs for curlew and barn owl construction restrictions and/or breeding site compensation will further reduce these non-significant effects.
- 8.17.24 All other effects, across all Project components, were identified as no greater than Negligible. As such the magnitude of effects for barn owl and curlew remains the same for the Project as whole (significant at a Local Level).

Final Conclusion

- 8.17.25 Following the implementation of mitigation, two residual effects considered significant in EIA terms were identified for the Project as a whole:
 - Loss of AWI ASNW (**Significant at County level**); and
 - Loss of AWI LEPO (**Significant at County level**).