

Neilston Greener Grid Park S.36 Application

784-B042549

Preliminary Ecological Appraisal

TNEI on behalf of Statkraft UK Ltd

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APPENDICES

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is located off the B775 Gleniffer Road in Renfrewshire; 3.9km northwest of Neilston, and 15.3km southeast of the centre of Glasgow. The site is centred at Northing: 659853 Easting: 245060 / Ordnance Survey National Grid Reference NS 45060 59853.
Proposals	Formation of an up to 750MW Battery Storage Facility, comprising up to 88 battery storage container blocks and associated infrastructure, storage containers, welfare, diesel generators, CCTV and lighting columns and associated access, internal access roads, hard and soft landscaping, SuDS basin, perimeter fence and underground grid connection cable.
Scope of this Survey(s)	<p>The purpose of this report is to:</p> <ul style="list-style-type: none"> • Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence • Present the results of an extended Phase 1 Habitat Survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and evidence of protected fauna or habitats capable of supporting such species • Evaluate potential ecological receptors on site and within the zone of influence; identify any constraints to the site’s development and make any recommendations for further surveys, mitigation, or enhancement.
Results and Evaluation	<p>Given the distance from statutory designated sites, it is considered unlikely that the proposed development will lead to adverse impacts on designated sites. However, it is recommended that a hydrologist is consulted to confirm this due to the presence of groundwater influenced/dependent habitats within the local area, and therefore the potential for hydrological links/impact pathways between the site and Black Cart SPA.</p> <p>The site has the potential to support several protected species including nesting birds, badger, reptiles, red squirrel, hedgehog, and brown hare.</p>
Recommendations	<p>Key recommendations of the report are:</p> <p>Further survey/assessment:</p> <ul style="list-style-type: none"> • Maintain baseline information leading up to pre-checks for unforeseen ecological constraints prior to groundworks and construction. • Seek advice from a hydrologist prior to disruption/removal of wetland habitat features.

Mitigation:

- Potential impacts to habitats, designated sites, and protected species must be considered as part of an Ecological Method Statement (EcMS)/Construction Environmental Management Plan (CEMP). The CEMP should set out the methods used to protect the environment and species, and include details of any enhancements that will be implemented (e.g. bat, and bird boxes; planting).
- Trees to be retained on and adjacent to the site should be protected in accordance with BS5837:2012.
- Any mature trees to be felled must be checked for red squirrel dreys and pine marten dens. This must be done in advance of works to allow for mitigation to be designed and implemented and licenses sought if necessary.
- It is recommended that a walkover by an Ecological Clerk of Works (ECoW) to identify any new features suitable for use by reptiles is undertaken at the start of works. Any features should only be removed outside of the reptile hibernation period (October – March, weather dependent) and either searched by hand immediately prior or removed under ECoW supervision.
- Where possible, any vegetation clearance and the demolition of the bunker structure should take place outside of the bird nesting season (March-August inclusive). If this is not possible, a nesting bird check must be conducted by an experienced ecologist no more than 48 hours prior to any vegetation clearance/demolition.
- A lighting strategy for the site should be designed in line with the bats and artificial lighting in the UK guidelines.
- Best practice working methods must be followed to prevent harm or disturbance to any protected species or other animal that may use the site.
- Should any Rhododendron be removed during the course of the works, this must be either chipped/burned/mulched on site, or removed in closed containers for safe disposal to prevent spread. Affected soils may contain rhododendron seed and therefore the movement of soils on and off site should be attended to in a biosecurity plan.

Enhancement:

- Landscaping plans for the site will use wildlife-friendly planting and native plant species, providing additional habitat and foraging resources for a variety of species. Additionally, the planned hedgerow and tree planting will connect the woodland areas to the east and west of the site, creating additional commuting routes for a range of species.

	<p>These landscaping plans will therefore increase the ecological value of the site.</p> <ul style="list-style-type: none">• Installation of at least two high-quality bat boxes, three bird nesting boxes, and one red squirrel nesting box (as directed by an ecologist) is recommended to enhance the proposed development area and surrounding area for bats, birds, and red squirrel.• Adding butterfly banks and/or insect hotels onto the landscape plan would further enhance the site for a range of invertebrate species.
Conclusion	<p>Provided the measures within this report for mitigation can be adopted, it is anticipated that a design could be brought forward for this site that would be compliant with current local and national biodiversity planning policy and legislation.</p>

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by TNEI on behalf of Statkraft UK Ltd in November 2022 to undertake a Preliminary Ecological Appraisal (PEA) of land off Gleniffer Road, Renfrewshire, part of the Neilston Greener Grid Park S.36 Application, hereafter referred to as “the site”. Following updates to plans for the site, further survey commissions were received to undertake PEAs of additional areas of land to the east and west of the substation in January 2023 and May 2024 respectively.

The previously consented Phase 1 of the BESS project is currently under construction. The additional land parcels cover Phases 2 and 3, and the cable routes.

This report has been prepared by Consultant Ecologist Ash Ronaldson BSc (Hons).

1.2 SITE DESCRIPTION

The site is located off the B775 Gleniffer Road in Renfrewshire; 3.9km northwest of Neilston, and 15.3km southeast of the centre of Glasgow. The site is centred at Northing: 659853 Easting: 245060 / Ordnance Survey National Grid Reference NS 45060 59853 (Figure 1) at an elevation of 196m above sea level. It comprises two large fields separated from Neilston Substation by the B775 Gleniffer Road, areas of grassland and scrub to the east of the substation, and an area dominated by marshy grassland surrounding the west side of the substation. The surrounding landscape is rural with farmland dominating the wider area. Additionally, there is woodland directly adjacent to the north-east boundary and lowland raised bog (NatureScot, 2021) immediately south-west of the site.

1.3 DEVELOPMENT PROPOSALS

Formation of an up to 750MW Battery Storage Facility, comprising up to 88 battery storage container blocks and associated infrastructure, storage containers, welfare, diesel generators, CCTV and lighting columns and associated access, internal access roads, hard and soft landscaping, SuDS Basin, perimeter fence and underground grid connection cable.

1.4 PURPOSE OF REPORT

The purpose of this report is to:

- Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence.
- Present the results of an extended Phase 1 Habitat Survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and evidence of protected fauna or habitats capable of supporting such species.
- Evaluate potential ecological receptors on site and within the zone of influence; identify any constraints to the site’s development and make any recommendations for further surveys, mitigation, or enhancement.

The details of this report will remain valid for a period of eighteen months from the date of the survey (i.e. until 16th October 2025), after which the validity of this assessment should be reviewed to determine whether further updates are necessary. The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.

Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 METHODOLOGY

2.1 HISTORIC SURVEYS

Previous reports relevant to the site include:

- Neilston BESS Ecological Appraisal (Tetra Tech, 2022)
- Neilston BESS Cable Route Preliminary Ecological Appraisal (Tetra Tech, 2023)
- Neilston BESS Breeding Bird Survey Report (Tetra Tech, 2024)

2.2 DESK STUDY

The desktop study comprised two elements:

- Data searches obtained from Glasgow Museums Biological Records Centre (GMBRC) in January 2023 and National Biodiversity Network (NBN) Atlas in April 2024.
- Online element including a search using: NatureScot Sitelink (<https://sitelink.nature.scot>), Scotland's Environment Map (<https://map.environment.gov.scot/sewebmap>), and Ordnance Survey (OS) and Aerial Imagery (<https://www.bing.com/maps>).

The extent of the search area was related to the significance of sites and species and potential zones of influence. For this site the following search areas were considered appropriate:

- 10km for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Area (SPA), Ramsar sites);
- 2km for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI), protected or otherwise notable species and non-statutory designated sites of County Importance (e.g. Sites of Importance for Nature Conservation (SINCs)/Local Wildlife Sites (LWS));
- 2km for biological records, and
- 1km for ancient woodland and mapped priority habitats.

The data search did not cover Tree Preservation Orders (TPOs); or Conservation Areas designated for their special architectural and historic interest.

In the absence of a Local Biodiversity Action Plan, the appraisal has used the Scottish Biodiversity List as a guide to the animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland.

By identifying the species and habitats that are of the highest priority for biodiversity conservation, the list helps the client to be informed on the criteria by which public bodies carry out their biodiversity duty.

2.3 FIELD SURVEYS

The following methodologies have been used to identify the ecological receptors present on or near the site and which are relevant to the proposed development. Survey extended beyond the site to a distance of 50m where accessible.

2.3.1 Habitats

An extended Phase 1 habitat survey was undertaken on the main BESS development area at the south of the site on 30th November 2022 by Tetra Tech Consultant Ecologist Jordane Marsh BSc (Hons). The weather conditions were calm, cold, and misty, there was high humidity of 95%, temperature between 2-5°C, and winds of 5km/h.

An extended Phase 1 habitat survey was undertaken on the east cable route/phase 1 site on 26th January 2023 by Tetra Tech Consultant Ecologist Ash Ronaldson BSc (Hons). The weather conditions were calm and bright, with no wind and the temperature rising from 4°C to 8°C during the survey.

An extended Phase 1 habitat survey was undertaken on the west cable route site on 16th May 2024 by Tetra Tech Consultant Ecologist Ash Ronaldson BSc (Hons). The weather conditions were cloudy but warm, with an occasional gentle breeze and temperature of 19°C.

The vegetation and broad habitat types within the site were recorded using the Phase 1 categories (JNCC, 2016), with the site's suitability to support notable flora assessed according to the Chartered Institute of Ecology and Environmental Management guidelines (CIEEM, 2017). Dominant plant species were recorded for each habitat present using standard nomenclature (Stace, 2019).

2.3.2 Protected and Notable Species

The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), Schedule 5 of the Wildlife and Countryside Act (W&CA) 1981 (as amended), and those given extra protection under Section 2 of the Nature Conservation (Scotland) Act 2004.

The presence of some species was determined using standard best practice guidance and are listed below.

Badger

The site was surveyed for evidence of badger *Meles meles* setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria (Harris, Cresswell, & Jefferies, 1989).

Otter

The site was assessed for its suitability to support otter *Lutra lutra* using standing Government advice (Chanin, 2003).

Bats

Roosting Bats – Buildings / Structures / Trees

Any suitable buildings, structures or trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2023) – hereafter referred to as the 'BCT Guidelines'.

Foraging / Commuting Bats

Potential habitat for foraging and commuting bats were assessed on site according to the BCT Guidelines.

Birds

Bird Species identified at the time of survey were noted and nesting birds recorded as seen. An assessment of habitats was undertaken to determine the likely value to breeding and foraging birds.

Great Crested Newt & Common Amphibians

The site was appraised for its suitability to support great crested newt *Triturus cristatus* based on guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Beckett, & Foster, 2001). This appraisal also considered waterbodies within 500m of the site and their potential to be used for breeding newts. Each pond was assessed using the Habitat Suitability Index (HSI) (Oldham, Keeble, Swan, & Jeffcote, 2000) which assigns a value to the pond calculated from 10 pre-identified features. The HSI value gives a correlation of likely use by GCN and below 0.46 the waterbody is considered to have less likelihood of GCN presence however this metric is a guide and should be assessed on a site-by-site basis as waterbodies with low HSI have been known to support GCN.

Habitat suitability and evidence of other common amphibians was recorded on site where relevant.

Reptiles

The site was appraised for its suitability to support reptiles using guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003).

Invertebrates

The site habitats were appraised for suitability to support assemblages of invertebrates and commented on in the report as appropriate.

Other Species

The site was also appraised for its suitability to support other protected or notable fauna with regard to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

Invasive Species

Evidence of invasive and non-native species were recorded as seen.

2.3.3 Evaluation of Importance

Certain habitats and species are considered to have some level of nature conservation importance, due to factors such as their rarity, vulnerability, or declining population/status.

To appraise the features recorded during the field study, a level of importance has been assigned within a defined geographical context considering local circumstance and following standard Ecological Impact Assessment guidance (CIEEM, 2018), further defined in Guidelines for Ecological Evaluation and Impact Assessment (Regini, 2000). The descriptors utilised in this evaluation are:

- International (i.e. Natura 2000 sites including areas of such habitat essential to maintaining the integrity of the larger whole, red listed species *and* in unfavourable conservation status/conservation concern).
- National (i.e. SSSI, SBL habitats essential to maintain the viability of a larger whole, species of conservation importance or concern, red listed species).

- Regional (i.e. listed on an LBAP/SBL *and* considered regionally rare or localised occurrence).
- Local/ County (i.e. ancient woodland, LBAP/SBL, locally scarce features, educational or amenity value, species rich habitat features, of conservation interest to the area).
- Negligible (i.e. low grade- widespread habitats).
- Negative importance (i.e. invasive non-native species).

2.4 LIMITATIONS

Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

Glasgow Museums Biological Records Centre is currently closed to new record search requests. Therefore, this study is informed by the 2023 GMBRC record search, and a 2024 search of biological records on NBN Atlas for records since January 2023. This returned three additional records, comprising common and widespread species; therefore, the limitation of data from GMBRC is not considered to affect the outcome of this study.

Due to GMBRC closure, it was not possible to add mapping data of local SINC to the designated sites plan for the site. To overcome this limitation, the SINC and the distance from site to the SINC has been included in Table 1 below.

Surveys on site were undertaken in November and January which is outside of the optimal botanical and terrestrial invertebrate survey period of April – September. Due to the sub-optimal time of year some field signs may not be visible as some species, including non-native invasive species, may be dormant or absent at this time. The habitats identified within the site were common and of limited value both botanically and for invertebrates; as such, the timing of the survey is not considered a significant limitation as it is unlikely that other habitats would be identified.

Fieldwork on site was undertaken under the 2016 and 2023 bat survey guidelines, which have since been updated; however, this is not considered to be a limitation due to the extent of the update.

To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. This survey focuses on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to those given protection under UK or European wildlife legislation, from only a single visit. This report cannot, therefore, be considered a comprehensive assessment of the ecological interest of the site. However, it does provide an assessment of the ecological interest present on the day the site was visited and highlights areas where further survey work may be recommended.

3.0 RESULTS & EVALUATION

3.1 DESIGNATED SITES

European and National designated sites identified within 10km of the proposed development are presented in Table 1 with the designation, qualifying features and proximity from the development site also indicated.

Table 1. Statutory and non-statutory designated sites identified during the desk study

Site Name	Designation	Distance and direction from Site	Reasons for designation
Black Cart	SPA	6.9km north	<p>Comprises a 3 km tidal stretch of the Black Cart Water and its associated floodplain. Supports abundant aquatic vegetation typical of brackish conditions including fennel pondweed <i>Potamogeton pectinatus</i>, floating sweet-grass <i>Glyceria fluitans</i> and beaked tasselweed <i>Ruppia maritima</i>. Floodplain mostly semi-improved pasture but includes small creeks, stands of common reed <i>Phragmites australis</i> and areas of rush <i>Juncus</i> sp. grassland.</p> <p><u>Qualifying Interest:</u> qualifies under Article 4.1 by regularly supporting a wintering population of European importance of Annex 1 species whooper swan <i>Cygnus cygnus</i> (average winter peak mean of 207 individuals between 1993 and 1997, 4% of GB and 1% of total Icelandic population). The population forages over the entire Black Cart SPA, roosts on the open water and uses the area as a severe winter refuge.</p>
Bardrain Glen, Sergeantlaw Moss & Gleniffer Braes West	SINC	Within site	<p>Diverse woodland on the sides of Bardrain Glen. The lower, steep slopes support the best diversity with the deep shade encouraging ferns and abundant bryophytes. Upper slopes are shaded by mature beech <i>Fagus sylvatica</i>, sycamore <i>Acer pseudoplatanus</i>, oak <i>Quercus robur</i> and elm <i>Ulmus procera</i> with a more acidic, grassy ground cover (e.g. <i>Holcus mollis</i>, <i>Agrostis capillaris</i>, <i>Oxalis acetosella</i>, bramble <i>Rubus</i> sp., ferns, honeysuckle <i>Lonicera</i> sp. and some bilberry <i>Vaccinium myrtillus</i>). Upper of Bardrain Glen with a more acidic ground cover and some heath and acidic grassland under spaced, mature beech, sycamore, and pine. Below Bardrain Glen is dense scrub with unimproved grassland, often marshy due to flushing.</p>
Stanelymoor	SINC; Country Park	0.1km east	<p>Complex area of drained marshy acidic grassland and mire. <i>Juncus acutiflorus</i> is frequent throughout and local ridges occur with more acidic mire vegetation with sphagnum present. Characterised by a wide range of species such as <i>Juncus acutiflorus</i>, <i>J. squarrosus</i>, <i>Carex</i> spp., <i>Nardus stricta</i>, <i>Anthoxanthum odoratum</i>, <i>Agrostis capillaris</i>, <i>Festuca ovina</i>, <i>Succisa pratensis</i>, <i>Luzula multiflora</i>, <i>Viola palustris</i> and <i>Pedicularis sylvatica</i>).</p>

Site Name	Designation	Distance and direction from Site	Reasons for designation
Sergeantlaw Moss	SINC; Country Park	0.3km southwest	Part of the SINC complex of Bardrain Glen, Sergeantlaw Moss & Gleniffer Braes West. Relic raised bog and lagg fen with associated fen/carr. Probably originally much larger area but incursion due to agriculture and road building with evidence of previous peat cutting, burning and drainage. Known to support large heath butterfly <i>Coenonympha tullia</i> (Bog Squad, 2017), a species listed on the Scottish Biodiversity List (SBL).
Gleniffer Braes (East)	SINC	0.9km east	Short cut grassland appearing improved, or amenity cut but the turf actually diverse and herb rich. Contrasts with the acidic grassland to the northwest and north facing hillside with tussocky heather and blaeberry giving way to more grass dominated vegetation. Lower slopes of braes with mixed heath and acidic grassland with fairly abrupt changes to large areas of bracken with <i>Holcus mollis</i> and bluebell <i>Hyacinthoides non-scripta</i> while the lower slopes, to the burn, have gorse <i>Ulex europaeus</i> . Gleniffer Burn flows through a steep sided gorge, creating a wet, shaded habitat, supporting a diverse range of flowering plants with a cover of bryophytes and ferns. Further east the grassland is less acidic. Tree planting has occurred by the informal path to the south (older alder <i>Alnus glutinosa</i> and larch <i>Larix decidua</i> with recent beech and pine on the grassland). To the west side the grassland slopes support acidic grassland with high frequencies for <i>Nardus stricta</i> , <i>Agrostis vinealis</i> , <i>Pleurozium schreberii</i> and <i>Vaccinium myrtillus</i> . A neutral enriched zone is of interest with diverse short grazed herbs including <i>Carex caryophyllea</i> , <i>C. pulicaris</i> , <i>C. flacca</i> , <i>Galium verum</i> , <i>Hieracium pilosella</i> , <i>Lotus corniculatus</i> etc. Diversity increases towards the burn with the broad slope supporting a diverse, if somewhat uniform, grassland turf, generally indicating acidic conditions. Scrub invasion (by gorse and hawthorn <i>Crataegus monogyna</i>) is occurring. A few woodland elements occur by the burn and the embankment supports dense, inaccessible scrub of willow and blackberry with rose, ash and hawthorn. Ridge of more neutral short turf (i.e. distinct from acidic areas of slopes) with rock outcrops, the latter with distinctly acidic, heathy elements.
Durrockstock Park	LNR; xLSINC	1.3km northeast	Extending to 6.6 ha its focus is a former reservoir which now provides habitat for waterfowl, common toad <i>Bufo bufo</i> , and a wide variety of wetland plants. The site also contains a variety of woodland and grassland habitats, creating rich biodiversity in a suburban environment.
Caplaw Dam / Peesweep Wood	LBS	1.4km southwest	An L-shaped extension of Caplaw Dam and includes an area of ancient woodland.
Bardrain 02.2:	SINC	1.5km west	Part of the SINC complex of Bardrain Glen, Sergeantlaw Moss & Gleniffer Braes West.

Site Name	Designation	Distance and direction from Site	Reasons for designation
Craigmuir grasslands			A series of small areas of species rich grasslands lying alongside the western bank of Bardrain Glen. Contains large numbers of orchids and other interesting species. Habitats vary between acid grasslands, neutral grasslands, and marshy grasslands.
Knockindon Burn	SINC; IHC	1.5km southeast	Gentle slopes support distinct marsh vegetation dominated by <i>Juncus</i> spp. The species diversity is quite high due to the mixture of water depth and influence from the acidic habitats to the south; the latter marked by <i>Sphagnum palustre</i> , <i>S. recurvum</i> and <i>Polytrichum commune</i> tussocks. At the east end is an area of swampy ground with <i>Glyceria fluitans</i> , <i>Agrostis stolonifera</i> , <i>Ranunculus</i> spp., <i>Holcus mollis</i> , <i>Potentilla palustris</i> , <i>Eleocharis palustris</i> , <i>Agrostis stolonifera</i> , <i>Stellaria alsine</i> and stand of <i>Carex rostrata</i> .
Caplaw Dam	SINC; LBS	1.7km southwest	Large area of open water with very diverse marginal vegetation reflecting topography and land-use. Very diverse range of species recorded from margins and open water, including a number of rarities e.g. various-leaved pondweed <i>Potamogeton gramineus</i> , cowbane <i>Cicuta virosa</i> , water sedge <i>Carex aquatilis</i> , greater spearwort <i>Ranunculus lingua</i> , many-stemmed spike-rush <i>Eleocharis multicaulis</i> and yellow water lily <i>Nuphar lutea</i> .
Gleniffer Burn	IHC	1.7km northeast	Part of Gleniffer Braes (East) SINC complex. No further information provided.
Warehouse Burn	IHC	1.8km northeast	Part of Gleniffer Braes (East) SINC complex. No further information provided.
Whittliemuir Moss	SINC	1.8km west	Mire expanse with an abundant cover of heather <i>Calluna vulgaris</i> with good cover of <i>Sphagnum papillosum</i> and <i>S. magellanicum</i> . Extension of mire into improved pasture, but although grazed and treated remains strongly acidic and wet with <i>Molinia caerulea</i> , <i>Carex nigra</i> , <i>Nardus stricta</i> , <i>Agrostis</i> spp., <i>Danthonia decumbens</i> , <i>Juncus squarrosus</i> , <i>Pedicularis sylvatica</i> plus <i>Sphagnum</i> spp., Lagg type fen area extending from northern extension towards peat edge. Species include <i>Carex rostrata</i> , <i>Eriophorum angustifolium</i> , <i>Potentilla palustris</i> , <i>Menyanthes trifoliata</i> , <i>Lychnis flos-cuculi</i> , <i>Angelica sylvestris</i> and <i>Epilobium palustre</i> . Transitional area between main mire expanse and higher ground with more acidic grassland. <i>Molinia caerulea</i> and <i>Eriophorum vaginatum</i> common with <i>Sphagnum recurvum</i> plus <i>Deschampsia flexuosa</i> .
Witch Burn and Killoch Water	LBS	2km south	Mixed habitats along narrow stretch of burn with extensive rush pasture to the west but the vegetation fringe narrowing to the east, although increasing in diversity with several marsh and swamp areas; species include pond sedge <i>Carex acutiformis</i> and water sedge <i>Carex aquatilis</i> . Central area with

Site Name	Designation	Distance and direction from Site	Reasons for designation
			very small patch of scrubby woodland with various willows plus ash <i>Fraxinus excelsior</i> , bird cherry <i>Prunus padus</i> and rowan <i>Sorbus acuparia</i> and a few woodland herbs and mosses. Grassland diversity increases to the east, on steeper embankments.

Ancient Woodland

The desk study showed the presence of two parcels of ancient woodland within 1km of the site. These were High Bardrain Wood, located 0.7km southeast, and Bardrain Wood, 0.8km north, both of which are long-established (of plantation origin) woodland.

Notable Flora

The desk study returned seven records for protected and/or notable plant species; three for bluebell *Hyacinthoides non-scripta*, a species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended), three for greater butterfly orchid *Platanthera chlorantha* listed on the SBL and one for purple ramping-fumitory *Fumaria purpurea*, also listed on the SBL. The closest of these was for greater butterfly orchid where a record was located 1.1km south of the site.

3.2 HABITATS

The following habitats (overleaf) have been identified through our assessment. A Phase 1 habitat plan can be found in **Error! Reference source not found.**, with detailed Target Notes and Photographic Plates included in Appendix B, as appropriate.

Where possible, plant species abundance has been recorded in accordance with the DAFOR Scale; Dominant (D), Abundant (A), Frequent (F), Occasional (O), Rare (R).

Table 2. Habitats

Habitat	Result	Evaluation of Importance
Broadleaved woodland – semi-natural	<p>A small (approx. 0.0013km²) area of semi-natural, semi-mature trees (TN1) including downy birch <i>Betula pubescens</i> (F), grey willow <i>Salix cinerea</i> (F), Sitka spruce <i>Picea sitchensis</i> (R), and hawthorn <i>Crataegus monogyna</i> (R) is located between the southern edge of the substation and Gleniffer Road. This area has a marshy grassland understory comprising hard rush <i>Juncus inflexus</i> (F), horsetail <i>Equisetum</i> sp. (F), valerian <i>Valeriana</i> sp. (F), dandelion <i>Taraxacum</i> agg. (O) common bird’s-foot trefoil <i>Lotus corniculatus</i> (F), creeping buttercup <i>Ranunculus repens</i> (F), common nettle <i>Urtica doica</i> (O), bracken <i>Pteridium aquilinum</i> (O), meadowsweet <i>Filipendula ulmaria</i> (O) and creeping thistle <i>Cirsium arvense</i> (O) with some mosses.</p> <p>Along the roadside to the west (TN2) is a line of mostly scrubby trees dominated by grey willow with downy birch, and understory including broad-leaved dock <i>Rumex obtusifolius</i> (F), common nettle (F), creeping thistle (F), yarrow <i>Achillea millefolium</i> (O), and meadowsweet (O).</p> <p>Wet woodland and marshy grassland understory may indicate a wetland habitat which could be influenced or dependent on groundwater.</p>	Habitat correlates with SBL listing: Wet Woodland, but is not considered a regional rarity and therefore presents local importance.
Coniferous woodland - plantation	A line of mature Sitka spruce (TN3) is located at the northeast road edge, and there is approximately 0.016km ² of coniferous plantation woodland (TN4) directly adjacent to the northeast site boundary.	Negligible.
Scrub – dense/continuous	<p>Dense rhododendron <i>Rhododendron ponticum</i> (A) scrub lines the roadside in two areas within the site boundary (TN5, TN6).</p> <p>An area of scrub dominated by young willow with thistle <i>Cirsium</i> sp is present at the western edge of the southern half of the site (TN7).</p>	<p>Invasive non-native Rhododendron ponticum is considered of negative importance.</p> <p>Native willow scrub is considered of local importance.</p>
Scattered trees	<p>Young, scattered trees, mostly willow sp., are present throughout the marshy grassland areas at the west side of the northern half of the site (TN8, TN9).</p> <p>A line of young Sitka spruce is also present along the Heras fence edge in this area (TN10).</p>	<p>Native willow scrub is considered of local importance.</p> <p>Young sitka spruce is considered of negligible importance.</p>

Habitat	Result	Evaluation of Importance
Acid grassland – semi-improved	A large portion of the south-west field is acid semi-improved grassland (TN11). This was dominated by crested dog’s-tail <i>Cynosurus cristatus</i> (D) with creeping buttercup, meadow buttercup <i>Ranunculus acris</i> , common mouse-ear <i>Cerastium fontanum</i> and chickweed <i>Stellaria media</i> .	Local – common and widespread.
Neutral grassland - unimproved	Most of the east cable route area (TN12) comprises unimproved grassland with scattered scrub including young Sitka spruce saplings (O), bramble <i>Rubus</i> sp. (R), and gorse <i>Ulex europaeus</i> (O).	Local – common and widespread.
Neutral grassland – semi-improved	<p>The eastern field at the south of the site has previously been grazed by sheep and is dominated by crested dog’s tail (D) with soft rush <i>Juncus effusus</i> (A), perennial ryegrass <i>Lolium perenne</i> (F), lesser spearwort <i>Ranunculus flammula</i> and creeping buttercup (TN13).</p> <p>Sloped grassland at the edge of an access road within the northwestern side of the site (TN14) has previously been mown, and the approx. 20-30cm high semi-improved grassland sward includes hard rush (A), creeping buttercup (F), hogweed <i>Heracleum sphondylium</i> (F), marsh thistle <i>Cirsium palustre</i> (F), thale cress <i>Arabidopsis thaliana</i> (F), creeping thistle (O), wavy bitter-cress <i>Cardamine flexuosa</i> (O), common mouse-ear (R), common sorrel <i>Rumex acetosa</i> (R), cuckooflower <i>Cardamine pratensis</i> (R), ribwort plantain <i>Plantago lanceolata</i> (R), and a small patch of bugle <i>Ajuga reptans</i> (R).</p>	Local – common and widespread.
Marshy grassland	<p>Approximately one third of the southwestern field (TN15) comprises marshy grassland with abundant soft rush and tufted hair grass <i>Deschampsia cespitosa</i>. Other species noted in this area include crested dogs’-tail, lesser spearwort, and chickweed. At the time of survey there were numerous ephemeral waterbodies and waterlogged areas here.</p> <p>A mossy, marshy woodland understory comprising hard rush (A), horsetail (A), valerian (A), bird’s-foot trefoil (F), creeping buttercup (F), dandelion (O), bracken (O), common nettle (O), meadowsweet (O) and creeping thistle (O) is present adjacent to the south substation edge (TN1). To the south of the woodland (TN8), this marshy grassland becomes dominated by hard rush and meadowsweet with hogweed (F), cleavers <i>Galium aparine</i> (O), common nettle (O) common sorrel (O), soft rush (R), and wavy bitter-cress (R). At the west of</p>	Local – common and widespread.

Habitat	Result	Evaluation of Importance
	<p>the woodland, this transitions into soft rush and creeping buttercup dominated marshy grassland with common nettle (F), creeping thistle (F), hogweed (F), horsetail (F), cleavers (O), common sorrel (O), wavy bitter-cress (O), wild angelica <i>Angelica sylvestris</i> (O), bracken (R), broad-leaved dock (R), marsh thistle (R), rosebay willowherb <i>Chamaenerion angustifolium</i> (R).</p> <p>The northwest of the site around the substation (TN16) primarily comprises marshy grassland dominated by soft rush, creeping thistle, and common nettle. Also present are creeping buttercup (O), marsh thistle (O), rosebay willowherb (R), wavy bitter-cress (O), bracken (R) and a small number of scattered willow sp. trees throughout, particularly at the southern end of this area where horsetail is also frequent alongside marsh thistle (O) and marsh marigold (O) (TN9).</p> <p>Marshy grassland may indicate a wetland habitat which could be influenced or dependent on groundwater.</p>	
Tall herb and fen - ruderal	<p>An electricity pylon at the southeast of the site is surrounded by tall ruderal vegetation (TN17) including bittersweet nightshade <i>Solanum dulcamara</i> TN17.</p>	Local – common and widespread.
Dry heath/raised bog	<p>Within the east cable route is a small area comprising dry heath/raised bog habitat with heather and sphagnum moss (TN18).</p> <p>The presence of sphagnum moss may indicate a wetland habitat which could be influenced or dependent on groundwater.</p>	Habitat indicates some correlation with SBL listing: Lowland raised bog, but is not considered a regional rarity and therefore presents local importance.
Bog	<p>At the western edge of the northern half of the site is an area of moss-dominated bog with soft rush (F), bilberry <i>Vaccinium myrtillus</i> (O), heather <i>Calluna vulgaris</i> (O) and cottongrass <i>Eriophorum</i> sp (O) (TN19).</p> <p>This feature may indicate a wetland habitat which could be influenced or dependent on groundwater.</p>	Habitat indicates some correlation with SBL listing: Lowland raised bog, but is not considered a regional rarity and therefore presents local importance.
Fen/mire	<p>A small pocket of fen/mire habitat (TN20) is located within the east cable route.</p>	Habitat indicates some correlation with SBL listing: Lowland fen, but is not considered a regional rarity and therefore presents local importance.

Habitat	Result	Evaluation of Importance
	This feature may indicate a wetland habitat which could be influenced or dependent on groundwater.	
Running water	A fast flowing but shallow drainage ditch/watercourse less than 1m wide with well vegetated banks runs along the northern road edge at the west of the site (TN21). This does not appear to be connected to any other watercourses in the wider landscape.	Local – common and widespread.
Fence	A 1m wire fence bounds the roadside edges of the southern fields, as well as the vegetated areas along the northern roadside. The substation is bounded by palisade fencing, and the works areas at both the north (TN22) and south (TN23) of the site by Heras fencing.	Negligible.
Wall	A low stone dyke separates the two fields at the south of the site.	Negligible.
Buildings/structures	A single storey decoy bunker structure, approximately 3m x 4m and of solid concrete construction, is present towards the centre of the southern half of the site (TN22). The structure is open to the elements with no doors or windows, and the concrete is in good condition with no cracks or fissures. Metal pylons are present in several areas of the site.	Negligible.
Bare ground	Two bare ground works areas are present within the red line boundary; one at the north of the site (TN23), and one at the south (TN24).	Negligible.
Hardstanding	Gleniffer Road (TN25) separates the north and south sections of the site, and an access road is also present alongside the north works area.	Negligible.

3.3 PROTECTED AND NOTABLE SPECIES

Data obtained from Glasgow Museums Biological Records Centre (GMBRC) confirmed the records of several protected and notable species within 2km of the site. Relevant data are discussed in Table 3 below.

Protected and notable species identified as a receptor for the site are detailed in Table 3. For species with legal protection arising from persecution, such as badgers, some details are purposefully omitted, but can be provided on request to inform the masterplan.

Table 3. Species

Species	Legal protection	Result	Evaluation of Importance
Badger	Protection of Badgers Act 1992; Wildlife and Countryside Act 1981 (as amended) Schedule 6.	The data search returned one record of badger within 2km of the site, however, no detailed information was provided due to the confidential nature of the record. Additionally, one potential badger sett is known to be present on Sergeantlaw Moss SINC to the west of the site (NatureScot, 2021). No direct evidence of badger was found on site during the survey; however, badgers are highly mobile, and the site and surrounding habitats are potentially suitable for commuting, foraging, and sett creation by badger.	Local
Pine marten	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended); Wildlife and Countryside Act 1981 (as amended) Schedule 5.	The data search did not return any records of pine marten within 2km of the site. No evidence of pine marten was found on site during the survey, however, mature trees on site and woodland to the northeast of the site have suitability to support this species as they collectively form a larger area of suitable habitat and could be used by dispersing pine marten.	Local
Red squirrel	Wildlife and Countryside Act 1981 (as amended) Schedules 5 and 6.	The data search did not return any records of red squirrel within 2km of the site. No evidence of red squirrel was found on site during the survey, however, mature trees on site and woodland to the northeast of the site have suitability to support this species as they collectively form a larger area of suitable habitat and could be used by dispersing squirrels.	Local

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Species	Legal protection	Result	Evaluation of Importance
Otter	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended); Wildlife and Countryside Act 1981 (as amended) Schedules 5 and 6.	The data search did not return any records of otter within 2km of the site. No evidence of otter was found on site during the survey. Drainage ditches, wetland, woodland and scrub habitats present some limited resource for otter to commute through, hunt and rest on site.	Local
Water vole	Wildlife and Countryside Act 1981 (as amended) Schedule 5.	The data search did not return any records of water vole within 2km of the site. No evidence of water vole was found on site during the survey. The watercourse at the north side of the site does not appear to be connected to any other watercourses, and so is unlikely to be used by commuting or foraging water vole. The shallow banks also provide negligible suitability for nesting water vole. A watercourse within the 50m buffer at the southwest corner of the site is considered suboptimal for water vole; this watercourse may be used occasionally by commuting or foraging water vole, but is unlikely to be used by nesting water vole.	Local
Other protected or notable mammal species	Wildlife and Countryside Act 1981 (as amended).	The data search returned one record of brown hare <i>Lepus europaeus</i> within 2km of the site. Several mammal paths were observed within the grassland and scrub habitats around both the east and west cable route areas (TN26), however, no further evidence (e.g., droppings, hairs) was found within the survey area or 50m buffer, and therefore the species which created these paths could not be identified. Habitats on and immediately surrounding the site have potential to support commuting, foraging, and nesting mammals including hedgehog <i>Erinaceus europaeus</i> and brown hare.	Local
Bats	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), Wildlife and	The data search did not return any records of bats within 2km of the site. No direct evidence of bats was found on site during the survey. Roosting bats Trees within the site boundary were assessed from ground level. No potential roosting features were identified, and the trees are therefore considered to have negligible suitability to support roosting bats.	Local

Species	Legal protection	Result	Evaluation of Importance
	Countryside Act 1981 (as amended) Schedules 5 and 6.	<p>A small bunker structure at the centre of the site is in good condition with no cladding, wall cavities, or gaps or cracks suitable for bats. The structure is therefore considered to have negligible suitability to support roosting bats.</p> <p>Mature trees in the wider area may provide roosting opportunities for bats, but the site overall provides negligible roosting suitability.</p> <p>Commuting and foraging bats</p> <p>Grassland and scrub habitats on site provide a foraging resource for bats, and linear features such as tree lines at the edges of the site provide linear features suitable for commuting bats; however, these linear features are poorly connected with other habitats and roosting features within the wider landscape. The site is therefore considered to have low suitability for commuting and foraging bats.</p>	
Birds	Wildlife and Countryside Act 1981 (as amended).	<p>The data search returned records of species listed on the Scottish Biodiversity List (SBL), species listed as either red or amber on BoCC5 (Stanbury <i>et al.</i>, 2021) and species protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). These Schedule 1 species were kingfisher <i>Acedo atthis</i>, greylag goose <i>Anser anser</i>, goldeneye <i>Bucephala clangula</i>, hen harrier <i>Circus cyaneus</i>, whooper swan <i>Cygnus cygnus</i>, merlin <i>Falco columbarius</i>, peregrine falcon <i>Falco peregrinus</i>, brambling <i>Fringilla montifringilla</i>, crossbill <i>Loxia sp.</i>, osprey <i>Pandion haliaetus</i>, fieldfare <i>Turdus pilaris</i>, and barn owl <i>Tyto alba</i>.</p> <p>The closest of these records were for fieldfare, merlin, peregrine, and crossbill, all of which were located within the same four-figure grid reference point immediately adjacent to the site. Further records for these species as well as hen harrier are located within 500m of the site.</p> <p>Bird species recorded during the Phase 1 surveys include fieldfare and mistle thrush <i>Turdus viscivorus</i>.</p> <p>Trees, grassland, and scrub habitats on the site are considered likely to support nesting birds including meadow pipit <i>Anthus pratensis</i> and willow warbler <i>Phylloscopus trochilus</i>.</p>	Ranging from local to national importance.
GCN and Common Amphibians	GCN: Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). <i>Common amphibians:</i> Wildlife and	<p>The data search returned three records of amphibians; one smooth newt <i>Lissotriton vulgaris</i>, one common frog <i>Rana temporaria</i> and one common toad <i>Bufo bufo</i>, a species listed on the SBL. The first two records were located 0.8km northeast of the site, with the common toad record within 2km southwest.</p> <p>No evidence of GCN or other common amphibians was found on site during the survey.</p>	Local

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Species	Legal protection	Result	Evaluation of Importance
	Countryside Act 1981 (as amended).	The site is considered suboptimal to support these species due to the lack of permanent standing water/ponds, however, the wet ditch and grassland habitats may be used opportunistically by common amphibian species, particularly in their terrestrial phase.	
Reptiles	Wildlife and Countryside Act 1981 (as amended).	The data search did not return any records of reptiles within 2km of the site. No evidence of reptiles was found on site during the survey. Areas of grassland and scrub on the site provide suitable habitat for reptiles, particularly at the east cable route area where exposed rocks would provide basking opportunities, and the stone dyke in the southern half of the site which would provide refugia.	Local
Invertebrates	Some invertebrates are protected under the Wildlife and Countryside Act 1981 (as amended).	The data search returned records for five notable invertebrate species. These were small heath butterfly <i>Coenonympha pamphilus</i> , knot grass moth <i>Acronicta rumicis</i> , latticed heath moth <i>Chiasmia clathrata</i> , autumnal rustic moth <i>Eugnorisma glareosa</i> , and heath rustic moth <i>Xestia agathina</i> , all listed on the SBL. The small heath and latticed heath records were from an area 0.4km northeast, the heath rustic moth and knot grass moth records are located on Sergeantlaw Moss SINC 0.6km southwest, while the autumnal rustic moth record was from Caplaw Dam/Peesweep Wood LBS 1.5km southwest. Invertebrate species observed during surveys on the site include cinnabar moth <i>Tyria jacobaeae</i> (SBL species), orange-tip Anthocharis cardamines, common carder bee <i>Bombus pascuorum</i> and hawthorn fly <i>Bibio marci</i> . There is suitable habitat across the site for terrestrial invertebrates, although these are unlikely to support a significant assemblage or be a notable or unique resource within the landscape.	Local
Invasive species (fauna)	Wildlife and Countryside Act 1981 (as amended) Schedule 9; Environmental Protection Act 1990.	The data search did not return any records of invasive species within 2km of the site. No invasive species were noted on site during the survey; however, the site does have suitability to support a range of invasive species.	-

4.0 RECOMMENDATIONS

4.1 MITIGATION AND FURTHER SURVEY

All of the works outlined below in Table 4 should be assumed as likely requirements for the pre-planning stage to inform a planning application, unless otherwise stated.

Table 4. Mitigation and Further Survey / Assessment

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Designated sites	<p><i>Statutory designated sites:</i> Given the distance from statutory designated sites, it is considered unlikely that the proposed development will lead to adverse impacts on the designated site. The Consulting Engineer for the project assessed that the surface and groundwater flow from site likely meets the White Cart Water downstream of the confluence with the Black Cart SPA.</p> <p><i>Non-statutory designated sites:</i> Bardrain Glen, Sergeantlaw Moss & Gleniffer Braes West SINC complex lies within and adjacent to the site although the majority of the overlap is within the existing substation, with habitats present being hardstanding. Several other non-statutory designated sites lie within 2km of the site.</p> <p>No further survey or assessment of designated sites is recommended.</p>	<p>Where possible, an appropriate buffer should be implemented between the proposed development and Bardrain Glen, Sergeantlaw Moss & Gleniffer Braes West SINC complex. The requirement for a buffer should be detailed within a Construction Environmental Management Plan (CEMP)/Ecology Method Statement (EcMS) to ensure there is no adverse effect upon the designated site. The design of the buffer should consider both the construction phase and operational phase and ensure all impact pathways such as air quality impacts e.g. via dust deposition, pollution via surface water and ground water, and ground compaction are considered.</p> <p>Where a buffer is not possible, consult with LPA and any other relevant parties to confirm any mitigation required for the impacts to the SINC complex.</p>	<p>Due to the nature of the site and distance from designated sites, there are no suitable enhancement measures for designated sites.</p>

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Habitats	<p>No further ecological survey or assessment is recommended.</p> <p>If site design suggests impact to or removal of wetland habitats, it is recommended that a hydrologist is appointed to assess considerations of disruption to groundwater.</p>	<p>Where possible, the loss of natural habitats should be avoided and minimised.</p> <p>All works must follow good practice working methods as detailed in the EcMS/CEMP to minimise any impacts to habitats both on site and in the surrounding area.</p> <p>Trees to be retained on the site must be protected in accordance with BS5837:2012, <i>“Trees in relation to design, demolition and construction - Recommendations”</i>.</p>	<p>Landscaping plans will use wildlife-friendly planting and native plant species to increase the ecological value of the site.</p> <p>Additionally, the planting of new hedgerows with trees will connect the woodland areas adjacent to the east and west sides of the site.</p> <p>Removal of wetland and native woodland habitats could be mitigated or compensated through local habitat restoration and management initiatives in consultation with the local planning authority.</p>
Badger	<p>Maintain baseline data on badger to allow time for licensing and mitigation plans if required, culminating in a pre-check of the site for badger immediately prior to groundworks and construction.</p>	<p>During works, appropriate general good practice precautionary working methods must be adopted as detailed within an EcMS/CEMP including:</p> <ul style="list-style-type: none"> • A check prior to works to ensure that no setts have been created since the walkover; • back-filling or coverage of excavations overnight, or sloping the sides to 45° or less to provide an exit to any animal entering the excavation; • checking the site/stored materials at the beginning of each day; 	<p>The planting of fruiting trees and shrubs of local provenance is likely to provide additional foraging resources for badger should they be present within the wider landscape.</p>

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		<ul style="list-style-type: none"> any temporarily exposed open pipe system should be capped in a way as to prevent badgers or other mammals gaining access; and should a badger be encountered or suspected within the site during works, a suitably qualified ecologist should be contacted. 	
Pine marten	No further survey or assessment is recommended.	<p>Any mature tree to be felled must be checked for pine marten dens. This must be done in advance of works to allow for mitigation to be designed and implemented and licenses sought if necessary.</p> <p>Good practice working methods (as detailed above for badger) must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of pine marten occurring.</p>	Due to the nature of the site, there is limited opportunity for enhancement for pine marten.
Red squirrel	No further survey or assessment is recommended.	<p>Any mature tree to be felled must be checked for red squirrel dreys. This must be done in advance of works to allow for mitigation to be designed and implemented and licenses sought if necessary.</p> <p>Good practice working methods (as detailed above for badger) must be followed throughout the works to minimise</p>	Installation of a red squirrel box (as directed by an ecologist) is recommended to provide some shelter opportunity for red squirrel in the area.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		the likelihood of any disturbance, injury, or mortality of red squirrel occurring.	
Otter	No further survey or assessment is recommended.	Good practice working methods (as detailed above for badger) must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of otter occurring.	Due to the nature of the site, there is limited opportunity for enhancement for otter.
Water vole	No further survey or assessment is recommended.	Good practice working methods (as detailed above for badger) must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of water vole occurring.	Due to the nature of the site, there is limited opportunity for enhancement for water vole.
Other protected or notable mammal species	No further survey or assessment is recommended.	Good practice working methods (as detailed above for badger) must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of protected or notable mammals occurring.	Landscaping plans for the site incorporate wildlife-friendly planting and native plant species which will enhance the site for a range of species.
Bats	No further survey or assessment is recommended.	Good practice working methods must be followed throughout the works as a precautionary approach. The EcMS/CEMP should include mitigation for light pollution to avoid disturbance to commuting and foraging bats, e.g. by avoiding unnecessary lighting at night, and ensuring lighting is directed away from features suitable for use by bats. A lighting strategy for the site should be designed in line with the bats and artificial	Installation of two bat boxes (as directed by an ecologist) is suggested to provide increased shelter resource of bats which may be active in the area. Landscaping plans utilise native species to encourage invertebrate diversity, providing a foraging resource to bats. Additionally, the planting of new hedgerows with trees around the site will increase connectivity between the woodland areas to the east and west of the

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		lighting in the UK guidelines (Institute of Lighting Professionals (ILP), 2023).	site, providing further foraging and commuting opportunities for bats.
Birds	No further survey or assessment is recommended if works take place outside of the bird nesting season (March to August inclusive).	Where possible, any vegetation clearance and the demolition of the bunker structure should take place outside of the bird nesting season (March-August inclusive). If this is not possible, a nesting bird check must be conducted by an experienced ecologist no more than 24 hours prior to any vegetation clearance/demolition. Should a nest be found, an appropriate buffer must be implemented which may constrain works.	The installation of three bird nest boxes (as directed by an ecologist) is recommended to enhance the development area and surrounding area for birds.
GCN and Common Amphibians	No further survey or assessment is recommended.	Best practice working methods must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of common amphibians occurring. Where possible, grassland habitats and any refugia suitable for amphibians (e.g. brash/wood piles, stone dykes) should be retained and undisturbed.	It is recommended that rocks from the stone dykes currently on the site are retained and used to create artificial refugia for amphibians, ideally near the proposed SUDS pond.
Reptiles	No further survey or assessment is recommended.	Precautionary working measures must be detailed within an ECMS including that to avoid harm to reptiles during the construction phase of the development, it is recommended that a walkover by an ecological clerk of works (ECoW) to identify any new features suitable for use by	It is recommended that rocks from the stone dykes currently on the site are retained and used to create artificial refugia for reptiles, ideally near the proposed SUDS pond.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		<p>reptiles is undertaken at the start of works. Any features should only be removed outside of the reptile hibernation period (October – March, weather dependent) and either searched by hand immediately prior or removed under supervision of ECoW. If any reptiles are found, they should be allowed to disperse of their own volition or moved by the ECoW to a safe nearby location away from the working area. Where possible, grassland habitats and any refugia suitable for reptiles (e.g. brash/wood piles) should be retained and undisturbed.</p>	
Invertebrates	No further survey or assessment is recommended.	To reduce risks to invertebrates, the EcMS/CEMP must be followed, limiting pollution both within the site and across the surrounding landscape.	It is recommended that any removed habitat is reinstated sympathetically with suitable nectar rich plants on completion of works, and adding butterfly banks and/or insect hotels would further enhance the site for invertebrates. Planting species should be included in a Landscape Management Plan.
Invasive species	No further survey or assessment is recommended.	It is suggested that the project seeks to eradicate Rhododendron from site due to the risk it poses to surrounding habitats. Eradication may take the form of cutting, chipping, stump extraction, mulching and monitoring for regrowth. Affected soils may contain rhododendron seed and	Remove Rhododendron and replace with native shrub/scrub habitats such as willow, hazel, hawthorn.

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Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		therefore the movement of soils on and off site should be attended to in a biosecurity plan.	

5.0 CONCLUSIONS

Given the distance between the site and statutory designated sites, it is considered unlikely that the proposed development will lead to adverse impacts on the statutory designated sites listed in the desk study.

The Sergeantlaw Moss SINC (non-statutory) is situated 0.3km from the site and, following confirmation from the Consulting Engineer, this habitat is expected to receive water from the site via a drainage system, which then would dissipate through the White Cart Water catchment, meeting below the Black Cart SPA. Management of the environmental risk to the SINC from pollution will be documented in a CEMP, implemented and audited on site.

The site has the potential to support several protected species including nesting birds, badger, reptiles, red squirrel, hedgehog, and brown hare.

Key recommendations of the report are:

Further survey/assessment:

- Maintain baseline information leading up to pre-checks for unforeseen ecological constraints prior to groundworks and construction.
- Seek advice from a hydrologist prior to disruption/removal of wetland habitat features.

Mitigation:

- Potential impacts to habitats, designated sites, and protected species must be considered as part of an Ecological Method Statement (EcMS)/Construction Environmental Management Plan (CEMP). The CEMP should set out the methods used to protect the environment and species, and include details of any enhancements that will be implemented (e.g. bat, and bird boxes; planting).
- Trees on the site and within a 50m buffer of works must be protected in accordance with BS5837:2012.
- Any mature tree to be felled must be checked for red squirrel dreys and pine marten dens. This must be done in advance of works to allow for mitigation to be designed and implemented and licenses sought if necessary.
- It is recommended that a walkover by an Ecological Clerk of Works (ECoW) to identify any features suitable for use by reptiles is undertaken at the start of works. Any features should only be removed outside of the reptile hibernation period (October – March, weather dependent) and either searched by hand immediately prior or removed under ECoW supervision.
- Where possible, any vegetation clearance and the demolition of the bunker structure should take place outside of the bird nesting season (March-August inclusive). If this is not possible, a nesting bird check must be conducted by an experienced ecologist no more than 24 hours prior to any vegetation clearance/demolition.
- A lighting strategy for the site should be designed in line with the bats and artificial lighting in the UK guidelines.
- Best practice working methods must be followed to prevent harm or disturbance to any protected species or other animal that may use the site.

- Should any rhododendron be removed during the course of the works, this must be either chipped/burned/mulched on site, or removed in closed containers for safe disposal to prevent spread. Affected soils may contain rhododendron seed and therefore the movement of soils on and off site should be attended to in a biosecurity plan.

Enhancement:

- Landscaping plans for the site will use wildlife-friendly planting and native plant species, providing additional habitat and foraging resources for a variety of species. Additionally, the planned hedgerow and tree planting will connect the woodland areas to the east and west of the site, creating additional commuting routes for a range of species. These landscaping plans will therefore increase the ecological value of the site.
- Installation of two bat boxes and three bird nesting boxes (as directed by an ecologist) is recommended to enhance the proposed development area and surrounding area for bats and birds.
- Adding butterfly banks and/or insect hotels onto the landscape plan would further enhance the site for a range of invertebrate species.

Provided the measures within this report for mitigation can be adopted, it is anticipated that a design could be brought forward for this site that would be compliant with current local and national biodiversity planning policy and legislation.

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FIGURES AND DRAWINGS

Figure 1 – Site Location Plan

Figure 2 – Designated Sites Plan

Figure 3 – Phase 1 Habitat Map



Site Location Plan

Neilston

TNEI



Legend

 Site boundary

Notes:

Drawn by: dylan.gussman

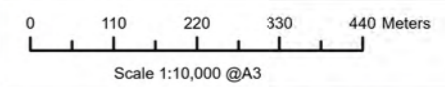
Checked by: AR

Office: Southampton

Figure No. 1

Revision No. A

24 April 2024



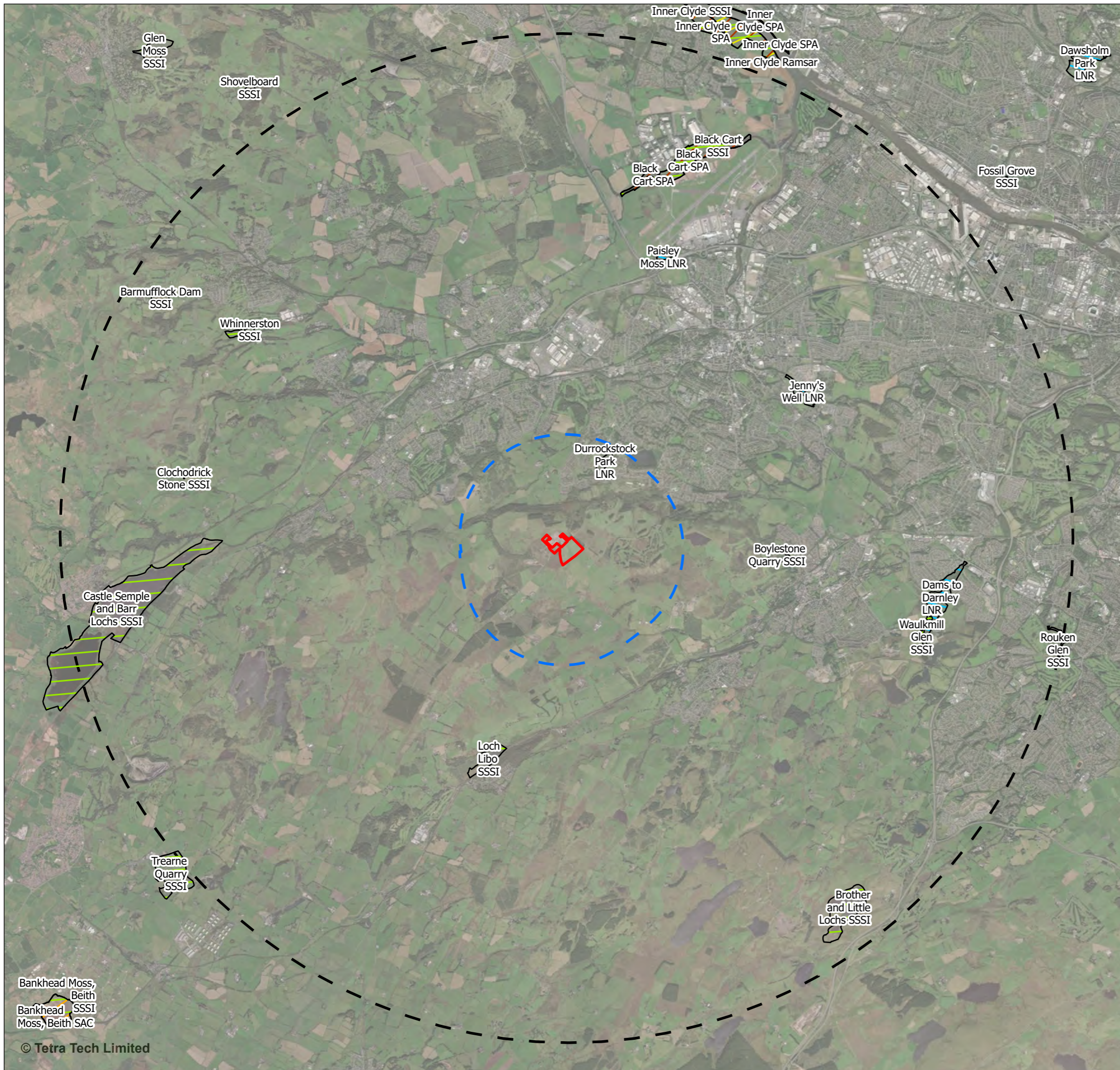
British National Grid

NGR: 245101E 659849N

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Statutory and Non Statutory Designated Sites

Neilston



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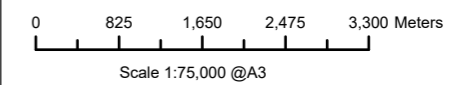
Legend

- Site boundary
- Site boundary buffer (10km)
- Site boundary buffer (2km)
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)
- Ramsar
- Sites of Special Scientific Interest (SSSI)
- Local Nature Reserves (LNR)

Notes:

Drawn by: M.COLLISHAWLOCK
 Checked by: AR
 Office: Southampton

Figure No. 2
 Revision No. A
 30 May 2024



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Phase 1 Habitat Plan

Neilston



TNEI

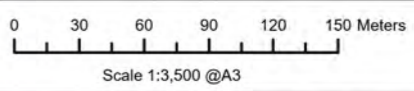
Legend

- Site boundary
- Acid grassland, Semi-improved
- Bare ground
- Bog, Dry modified bog
- Bog, Sphagnum bog, Blanket bog
- Built-up areas, Buildings
- B Fen, Basic
- Hardstanding
- Marsh/marshy grassland
- Neutral grassland, Semi-improved
- Neutral grassland, Unimproved
- Other, Tall ruderal
- Scrub, Dense/continuous
- Woodland, Broad-leaved, Semi-natural
- Woodland, Coniferous, Semi-natural
- unknown
- Fence
- ➔ Running Water
- Wall
- Broad-leaved tree
- Coniferous
- Target Notes

Notes:

Drawn by: M.COLLISHAWLOCK
 Checked by: AR
 Office: Southampton

Figure No. 3
 Revision No. B
 11 June 2024



British National Grid
 NGR: 244920E 659901N

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APPENDICES

APPENDIX A: REPORT CONDITIONS

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

Tetra Tech reserves the right to share this Report and any related materials, surveys, drawings and/or documents at any time with the relevant Local Ecological Records Centre (LERC), any relevant statutory body or any equivalent organisation as Tetra Tech may reasonably require from time-to-time.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B: TARGET NOTES & SURVEY DATA

Target Notes

Target Note	Description	Photographic Plates																																	
TN1	<p>Young to semi-mature trees, mostly grey willow to west with marsh understory</p> <p>Species List:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr style="background-color: #003366; color: white;"> <th style="width: 25%;">Common Name</th> <th style="width: 30%;">Latin Name</th> <th style="width: 45%;">Dafor</th> </tr> </thead> <tbody> <tr> <td>Common bird's-foot trefoil</td> <td><i>Lotus corniculatus</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Downy birch</td> <td><i>Betula pubescens</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Grey willow</td> <td><i>Salix cinerea</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Sitka spruce</td> <td><i>Picea sitchensis</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Valerian</td> <td><i>Valeriana sp.</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Bracken</td> <td><i>Pteridium aquilinum</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Dandelion</td> <td><i>Taraxacum agg.</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Creeping buttercup</td> <td><i>Ranunculus repens</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Horsetail</td> <td><i>Equisetum sp.</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Common nettle</td> <td><i>Urtica dioica</i></td> <td>4 - Occasional</td> </tr> </tbody> </table> <p style="margin-top: 20px;">WGS84 (Lat/Long): 55.8078°N, -4.4772°E</p>	Common Name	Latin Name	Dafor	Common bird's-foot trefoil	<i>Lotus corniculatus</i>	3 - Frequent	Downy birch	<i>Betula pubescens</i>	3 - Frequent	Grey willow	<i>Salix cinerea</i>	3 - Frequent	Sitka spruce	<i>Picea sitchensis</i>	3 - Frequent	Valerian	<i>Valeriana sp.</i>	3 - Frequent	Bracken	<i>Pteridium aquilinum</i>	4 - Occasional	Dandelion	<i>Taraxacum agg.</i>	4 - Occasional	Creeping buttercup	<i>Ranunculus repens</i>	4 - Occasional	Horsetail	<i>Equisetum sp.</i>	4 - Occasional	Common nettle	<i>Urtica dioica</i>	4 - Occasional	
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Horsetail	<i>Equisetum sp.</i>	4 - Occasional																																	
Common nettle	<i>Urtica dioica</i>	4 - Occasional																																	

TN2



Dense willow/birch scrub, damp understory


Species List:



Common Name	Latin Name	Dafor
Willow sp.	<i>Salix sp.</i>	3 - Frequent
Downy birch	<i>Betula pubescens</i>	4 - Occasional
Creeping thistle	<i>Cirsium arvense</i>	4 - Occasional
Broadleaved dock	<i>Rumex obtusifolius</i>	4 - Occasional
Common nettle	<i>Urtica dioica</i>	4 - Occasional
Meadowsweet	<i>Filipendula ulmaria</i>	4 - Occasional
Yarrow	<i>Achillea millefolium</i>	5 - Rare

WGS84 (Lat/Long): 55.8065°N, -4.4776°E



<p>TN3</p>	<p>Line of Sitka spruce</p> <p>WGS84 (Lat/Long): 55.8089°N, -4.4740°E</p>	
<p>TN4</p>	<p>Coniferous plantation woodland</p> <p>WGS84 (Lat/Long): 55.8088°N, -4.4715°E</p>	

<p>TN5</p>	<p>Rhododendron scrub along roadside/tree line</p> <p>WGS84 (Lat/Long): 55.8075°N, -4.4763°E</p>	 A photograph showing a dense thicket of Rhododendron scrub along a paved road. The scrub is lush green and yellowish-green, with taller trees in the background under a clear blue sky.
<p>TN6</p>	<p>Dense rhododendron dominated scrub along roadside with willow sp.</p> <p>WGS84 (Lat/Long): 55.8076°N, -4.4760°E</p>	 Two photographs showing dense rhododendron dominated scrub along a roadside. The top photo shows a close-up of the scrub with a blue sky and white clouds. The bottom photo shows a wider view of the scrub along a road, with a blue sky and white clouds.

<p>TN7</p>	<p>Willow scrub</p> <p>WGS84 (Lat/Long): 55.8068°N, -4.4764°E</p>																									
<p>TN8</p>	<p>Marshy grassland</p> <p>Species List:</p> <table border="1" data-bbox="263 884 734 1635"> <thead> <tr> <th>Common Name</th> <th>Latin Name</th> <th>Dafor</th> </tr> </thead> <tbody> <tr> <td>Hard rush</td> <td><i>Juncus inflexus</i></td> <td>1 - Dominant</td> </tr> <tr> <td>Meadowsweet</td> <td><i>Filipendula ulmaria</i></td> <td>1 - Dominant</td> </tr> <tr> <td>Hogweed</td> <td><i>Heracleum sphondylium</i></td> <td>3 - Frequent</td> </tr> <tr> <td>Cleavers</td> <td><i>Galium aparine</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Common nettle</td> <td><i>Urtica dioica</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Common sorrel</td> <td><i>Rumex acetosa</i></td> <td>4 - Occasional</td> </tr> <tr> <td>Soft rush</td> <td><i>Juncus effusus</i></td> <td>5 - Rare</td> </tr> </tbody> </table> <p>WGS84 (Lat/Long): 55.8074°N, -4.4765°E</p>	Common Name	Latin Name	Dafor	Hard rush	<i>Juncus inflexus</i>	1 - Dominant	Meadowsweet	<i>Filipendula ulmaria</i>	1 - Dominant	Hogweed	<i>Heracleum sphondylium</i>	3 - Frequent	Cleavers	<i>Galium aparine</i>	4 - Occasional	Common nettle	<i>Urtica dioica</i>	4 - Occasional	Common sorrel	<i>Rumex acetosa</i>	4 - Occasional	Soft rush	<i>Juncus effusus</i>	5 - Rare	
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Common sorrel	<i>Rumex acetosa</i>	4 - Occasional																								
Soft rush	<i>Juncus effusus</i>	5 - Rare																								



TN9

Marshy grassland with scattered trees.
 Potential meadow pipit nest(s) so
 observed from distance using binoculars.

Species List:

Common Name	Latin Name	Dafor
Soft rush	<i>Juncus effusus</i>	2 - Abundant
Horsetail	<i>Equisetum sp.</i>	2 - Abundant
Marsh thistle	<i>Cirsium palustre</i>	3 - Frequent
Mosses		4 - Occasional
Willow	<i>Salix sp.</i>	5 - Rare
Heather	<i>Calluna vulgaris</i>	5 - Rare
Marsh marigold	<i>Caltha palustris</i>	5 - Rare



WGS84 (Lat/Long): 55.8066°N, -4.4785°E

TN10 Immature coniferous trees along Heras fence line
WGS84 (Lat/Long): 55.8069°N, -4.4781°E



TN11 Acid SI grassland
WGS84 (Lat/Long): 55.8062°N, -4.4744°E



TN12 Unimproved grassland with scattered scrub.
Species List:

Common Name	Latin Name	Dafor
Soft rush	<i>Juncus effusus</i>	4 - Occasional
Bramble	<i>Rubus sp.</i>	4 - Occasional
Gorse	<i>Ulex europaeus</i>	4 - Occasional



Sitka spruce	<i>Picea sitchensis</i>	5 - Rare
--------------	-------------------------	----------

WGS84 (Lat/Long): 55.8093°N, -4.4744°E

TN13

SI grassland – sheep grazed (now mostly bare ground/Phase 1 construction site)

WGS84 (Lat/Long): 55.8068°N, -4.4720°E



TN14

SI grassland – mown but regrowing

Species List:

Common Name	Latin Name	Dafor
Hard rush	<i>Juncus inflexus</i>	2 - Abundant
Creeping buttercup	<i>Ranunculus repens</i>	3 - Frequent
Hogweed	<i>Heracleum sphondylium</i>	3 - Frequent
Marsh thistle	<i>Cirsium palustre</i>	3 - Frequent
Thale cress	<i>Arabidopsis thaliana</i>	3 - Frequent
Creeping thistle	<i>Cirsium arvense</i>	4 - Occasional
Wavy bitter-cress	<i>Cardamine flexuosa</i>	4 - Occasional
Common mouse-ear	<i>Cerastium fontanum</i>	5 - Rare
Common sorrel	<i>Rumex acetosa</i>	5 - Rare
Cuckooflower	<i>Cardamine pratensis</i>	5 - Rare



Ribwort plantain	<i>Plantago lanceolata</i>	5 - Rare
Thale cress	<i>Arabidopsis thaliana</i>	5 - Rare

WGS84 (Lat/Long): 55.8075°N, -4.4775°E



TN15

Marshy grassland with areas of ephemeral standing water

WGS84 (Lat/Long): 55.8054°N, -4.4758°E



TN16



Marshy grassland, handful of scattered Willow trees. Meadow pipits present.

Species List:

Common Name	Latin Name	Dafor
Soft rush	<i>Juncus effusus</i>	1 - Dominant
Creeping thistle	<i>Cirsium arvense</i>	1 - Dominant
Common nettle	<i>Urtica dioica</i>	1 - Dominant
Creeping buttercup	<i>Ranunculus repens</i>	4 - Occasional
Marsh thistle	<i>Cirsium palustre</i>	4 - Occasional
Horsetail	<i>Equisetum sp.</i>	4 - Occasional
Rosebay willowherb	<i>Chamaenerion angustifolium</i>	5 - Rare
Wavy bittercress	<i>Cardamine flexuosa</i>	5 - Rare
Bracken	<i>Pteridium Aquilinum</i>	5 - Rare
Willow	<i>Salix sp.</i>	5 - Rare

WGS84 (Lat/Long): 55.8080°N, -4.4811°E



<p>TN17</p>	<p>Tall ruderal</p> <p>WGS84 (Lat/Long): 55.8057°N, -4.4723°E</p>	
<p>TN18</p>	<p>Fen/mire pocket with suitability to support nesting birds and potential to support reptiles.</p> <p>WGS84 (Lat/Long): 55.8095°N, -4.4751°E</p>	

TN19

Bog

Species List:

Common Name	Latin Name	Dafor
Mosses		1 - Dominant
Soft rush	<i>Juncus effusus</i>	2 - Abundant
Bilberry	<i>Vaccinium myrtillus</i>	3 - Occasional
Heather	<i>Calluna vulgaris</i>	3 - Occasional
Cottongrass	<i>Eriophorum sp.</i>	3 - Occasional

WGS84 (Lat/Long): 55.8057°N, -4.4798°E



TN20 Dry heath/former raised bog with heather and sphagnum.
WGS84 (Lat/Long): 55.8095°N, -4.4755°E



TN21 Ditch

Species List:

Common Name	Latin Name	Dafor
Bramble	<i>Rubus fruticosus agg.</i>	2 - Abundant
Common nettle	<i>Urtica dioica</i>	2 - Abundant
Rosebay willowherb	<i>Chamaenerion angustifolium</i>	2 - Abundant

WGS84 (Lat/Long): 55.8072°N, -4.4767°E





TN22

Bunker structure

WGS84 (Lat/Long): 55.8069°N, -4.4729°E



<p>TN23</p>	<p>Hardstanding/bare ground works area</p> <p>WGS84 (Lat/Long): 55.8073°N, -4.4777°E</p>	
<p>TN24</p>	<p>Hardstanding/bare ground works area</p> <p>WGS84 (Lat/Long): 55.8087°N, -4.4728°E</p>	<p>No photos – active work site with traffic and no safe vantage point</p>
<p>TN25</p>	<p>Mammal paths</p> <p>WGS84 (Lat/Long): 55.8066°N, -4.4789°E</p>	



APPENDIX C: KEY LEGISLATION

Habitats Directive

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, via the Conservation (Natural Habitats, &c) Regulations 1994 (as amended) in Scotland, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

Birds Directive

The EC Directive on the Conservation of Wild Birds (79/1409/EEC) or 'Birds Directive' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.

Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use; or
- take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

- disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
- The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to: intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant; unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Environmental Protection Act 1990

The Act imposes a classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed *Reynoutria japonica*, with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act.

Protection of Badgers Act 1992

The main legislation protecting badgers in England, Scotland, and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Birds of Conservation Concern

This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The latest report was produced in 2021 (Stanbury *et al*, 2021) and identified 70 red list species, 103 amber species, and 72 green species. The criteria are complex, but generally:

Red list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years.

Amber list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK.

Green list species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed.

Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Local Biodiversity Action Plan (LBAP)

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities.

Some LBAPs may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.

Wild Mammals (Protection) Act 1996

This Act offers protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation.

Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

Its application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

National Planning Framework

National Planning Framework 4 (NPF4) is the top tier of planning policy. The Framework provides guidance to local authorities and other agencies on planning policy and the operation of the planning system.

“Policy 1 gives significant weight to the nature crisis to ensure that it is recognised as a priority in all plans and decisions. Policy 4 protects and enhances natural heritage, and this is further supported by Policy 5 on soils and Policy 6 on forests, woodland and trees. Policy 20 also promotes the expansion and connectivity of blue and green infrastructure, whilst Policy 10 recognises the particular sensitivities of coastal areas.

Protection of the natural features of brownfield land is also highlighted in Policy 9, and protection of the green belt in Policy 8 will ensure that biodiversity in these locations is conserved and accessible to communities, bringing nature into the design and layout of our cities, towns, streets and spaces in Policy 14.

Most significantly, Policy 3 plays a critical role in ensuring that development will secure positive effects for biodiversity. It rebalances the planning system in favour of conserving, restoring and enhancing biodiversity and promotes investment in nature-based solutions, benefiting people and nature. The policy ensures that Local Development Plans (LDPs) protect, conserve, restore and enhance biodiversity and promote nature recovery and nature restoration. Proposals will be required to contribute to the enhancement of biodiversity, including by restoring degraded habitats and building and strengthening nature networks. Adverse impacts, including cumulative impacts, of development proposals on the natural environment will be minimised through careful planning and design, taking into account the need to reverse biodiversity loss. Development proposals for national, major or Environmental Impact Assessment (EIA) development 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. Proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity.”

See here for full details: <https://www.gov.scot/publications/national-planning-framework-4/>

Renfrewshire Local Development Plan 2021 (Renfrewshire Council, 2021)

POLICY ENV 2

“Development proposals will consider the potential impacts on natural heritage. Development proposals should protect and restore degraded habitats, enhance and promote access to Renfrewshire's natural environment and minimise any adverse impacts on habitats, species, network connectivity or landscape character.

Developments must not have an adverse effect on the integrity of sites protected for their natural conservation interest or the wider biodiversity and geo-diversity of the area.

All proposals will be assessed in terms of the mitigation hierarchy of Avoid/Reduce/Compensate, the cumulative impact of development based on the precautionary principle and should protect, and where possible enhance:

- *Natura 2000 and Ramsar Sites;*
- *Protected Species; • SSSI's;*
- *Wild land;*
- *LNRs, SINCs and wildlife corridors;*
- *Biodiversity;*
- *Landscape character and setting;*
- *Clyde Muirshiel Regional Park;*
- *Trees - Ancient and semi- natural woodland in line with the Scottish Government's Control of Woodland Removal Policy and Clydeplan's Forestry and Woodland Strategy, significant trees including those covered by Tree Preservation Orders, hedgerows, and trees within Conservation Areas.”*