Appendix 8.1
Habitats and Vegetation Survey

Appendix 8.1 Habitats and Vegetation Survey

Scope

1.1 This Appendix relates to the habitat and vegetation surveys undertaken to inform the Ecological Impact Assessment (EcIA) of the EDM Project. The appendix includes an account of the scope of the surveys, the methods adopted, baseline findings and an interpretation of results. The appendix should be read in conjunction with **Chapter 8: Ecology and Ornithology** of the Environmental Impact Assessment (EIA) Report.

1.2 For the purposes of this appendix, the EDM Project encompasses the construction of the New 132kV OHL and the removal of the Existing 132kV OHL. The project is described in detail in **Chapter 4: Project Description** of the EIA Report.

Supporting Documents

1.3 The Appendix is supported by a series of figures, which can be found in **Appendix A**. Figures comprise:

- **Figure 8.1.1: Study Area**
- **Figure 8.1.2: Desk Study Results**
- **Figure 8.1.3: Phase 1 Habitat Survey**

1.4 Representative site photography is provided in **Appendix B**.

Competency

1.5 All habitat and vegetation surveys were undertaken within appropriate seasonal windows in 2018/19, by academically and professionally qualified LUC ecologists. The data has been assessed by ecologists with extensive experience in interpreting habitat data sets.

Methods Overview

1.6 The methods adopted in the survey, outlined in detail below, include a desk study, Phase 1 Habitat Survey and National Vegetation Classification (NVC) Survey. The range of survey methods adopted accord with best practice guidance produced by the Chartered Institute of Ecology and Environmental Management[i] (CIEEM) and the British Standards Institute[ii].

Baseline Data Collection

Desk Study

1.7 To provide additional background information, a study of available online resources, including SNH Site Link[iii] and Renfrewshire SINCs[iv] websites, was undertaken to identify sites designated for their nature conservation value. A search was undertaken, within a 5km radius from New 132kV OHL, for statutory designated sites, and within 2km of the New 132kV OHL for non-statutory designated sites. Inverclyde Council was approached for records of non-statutory sites within their jurisdiction, but a response was not forthcoming.

1.8 A search was also made of the Ancient Woodland Inventory (AWI)[v] for relevant woodland features within 2km of the New 132kV OHL.

1.9 The Desk Study was completed in April 2018.

Phase 1 Habitat Survey

1.10 A Phase 1 Habitat Survey was undertaken between April 2018 and November 2018, following standard methods[vi], by experienced ecologists. The Phase 1 Habitat Survey method provides a means of rapidly classifying broad habitat types in any given terrestrial study area. The output of the survey comprises habitat accounts, field maps and associated photography and target notes (where required).

1.11 During the survey, field surveyors walked all accessible parts of the Study Area, using GIS-enabled field tablets to accurately map broad habitat types and their boundaries. Sufficient species identification was undertaken to accurately classify habitat types, using DAFOR scales were necessary, and a series of notes were taken to identify key areas of interest.

1.12 Mosaic habitats were recorded where one habitat was mixed with another in undefinable proportions. Typically, these areas of mosaic habitat were present in areas where habitats were in a transitional state, or where human intervention had affected species composition.

National Vegetation Classification (NVC)

1.13 Where broad habitats of conservation concern[1] were identified, where necessary, they were subject to further detailed botanical investigation, using NVC methods[vii]. Within the Study Area, habitats of conservation concern included broadleaved woodlands, heath and mire communities.

1.14 Additionally, Groundwater Dependent Terrestrial Ecosystems (GWDTEs) are defined by SEPA[viii] and are considered important indicators of sensitive groundwater movement. GWDTEs are identified by their NVC code, which also determines, to an extent, their likely dependence on groundwater. The following broad Phase 1 habitat types, identified within the Study Area, support NVC communities that may depend on groundwater to some extent:

- A1 Broadleaved Woodland.
- B5 Marshy Grassland.
- D1 – D6 Heathland.
- E1 – E4 Bogs and Flushes.
- F1 – F2 Swamp.

1.15 Where these habitat types were identified, *and they were not obviously surface or rainwater fed* (e.g. marshy grassland in pasture hollows, ombrogenous bog systems), they were subject to detailed botanical analysis. Table 2.1 sets out a decision tool that was used to establish the level of dependency of each community.

Table 1.1: GWDTE Decision Tool

Criteria	Yes	No
A. Is the GWDTE vegetation evidently influenced by groundwater? (i.e. base-enriched (M10, M11, M37 and/or M38) and/or disrcharging from an evident point source such as a spring head (M31, M32, M33)		
If the answer to A is 'Yes' then field assessment ends at this stage and the GWDTE is treated as 'high', as per the guidance. If 'No', continue to B		
B. Is the GWDTE polygon associated with an evident surface water feature? I.e. is the vegetation located within one of the following topographic locations?		
Watershed/Ridge		
Watercourse		
Floodplain		
Ponding location (pond, loch, localised depression etc.)		
Surface water conveyance (drain, gully, rill, etc.)		

[1] Defined as Annex 1 Habitat, habitats present on the Scottish Biodiversity List, habitats included in the Renfrewshire or Inverclyde Biodiversity Action Plans, or habitats considered to be potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs).

Criteria	Yes	No
If the answer to B is 'Yes', then the GWDTE polygon is no more than 'moderate' and very likely to be 'low'. Additional floristic and environmental data should be collected, including photographs to allow for further desk-based determination of the groundwater dependency. If 'No' continue to C		
C. Is the GWDTE polygon associated with an ombrogenous system? i.e. with a blanket bog or wet heath habitat. This is especially relevant to M6 and M25.		
Presence/persistence of distinctive bog habitat, species and/or associations		
Deep peat not confined to depressions/valleys (>0.5m visible in drains or hagged areas)		
If the answer to C is 'Yes' then the GWDTE is no more than 'moderate' and very likely to be 'low'. Additional floristic and environmental data should be collected, including photographs to allow for further, desk-based determination of the groundwater dependency.		

1.16 Where potential GWDTEs were identified, this information was shared with project hydrologists for further detailed analysis. Further assessment of potential effects on GWDTEs are discussed in **Chapter 7** of the EIAR.

Study Area Summary

1.17 Table 2.2 sets out a summary of the Study Areas applied during the survey.

Table 1.2: Study Area Definitions

Survey Method	Study Area Description
Desk Study	**Statutory designated sites** – 5km buffer from new 132kV OHL corridor, wayleave and construction infrastructure (construction compounds etc.) **Non-statutory designated sites** – 2km buffer from new 132kV OHL corridor, wayleave and construction infrastructure (construction compounds etc.)
Phase 1 Habitat Survey	**New 132kV OHL –** 170m corridor, including 35m wayleave and 50m buffer on either side of OHL route **Existing 132kV OHL –** 50m buffer on either side of existing OHL **Construction infrastructure –** 50m buffer around all construction infrastructure and access tracks
NVC Survey	Phase 1 Habitats of Conservation Concern polygons. NVC not completed on potential GWDTEs that were obviously surface or rainwater fed.

1.18 The Study Areas are shown in **Figure 8.1.1** in **Appendix A**. Note that habitat and vegetation surveys were not completed along the Existing 132kV OHL where it did not fall within the Study Area presented in Figure 8.1.1.

Survey Limitations

1.19 All ecological surveys represent a snapshot in time. Habitats and species assemblages are dynamic and change over time in response to a range of variables. Data presented in this report should not be considered a long-term interpretation of ecological data and should not be relied upon as such.

1.20 While weather conditions were, in general, optimal, occasional rain, flooding, and snow showers may have resulted in the loss of evidence of indicator species. While this limitation is recognised, it is not considered to undermine the value of the data collected which is considered sufficiently robust for the purposes of informing the EcIA.

1.21 At the time of field surveys, the peat depth was unknown and, as such, there may be areas where superficially similar communities have been recorded erroneously due to their relationship with peat depth.

1.22 Absence of habitat data in certain areas of 'Not Surveyed' land is a limitation of the collected data. 'Not Surveyed' areas comprise land where access was refused, or where proposed access arrangements for the development were added/changed in the post-survey period. While the lack of data is a limitation, it is not considered to influence the interpretation of the habitats at the project scale. 'Not Surveyed' land extends to only 46.8ha, less than 10% of the entire Study Area.

1.23 While care has been taken to collect and review habitat data, it is not possible to account for any changes that may occur from the period of data collection to the time of works commencing.

Desk Study

1.24 Statutory and non-statutory designated sites identified during the Desk Study are presented in **Table 3.1** and **Figure 8.1.2** in **Appendix A**. Note that geological SSSIs are not included.

Table 1.3: Statutory and Non-Statutory Designated Sites

Site Name	Designation	Approximate Distance and Orientation from New 132kV OHL	Qualifying Interest
Statutory Sites			
Inner Clyde	Special Protection Area (SPA), Ramsar, Site of Special Scientific Interest (SSSI)	50m north (at closest point, adjacent to M8 motorway)	Non-breeding redshank population and saltmarsh habitats
Renfrewshire Heights	SPA, SSSI	1.5km south	Breeding hen harrier
Black Cart	SPA, SSSI	3km east	Non-breeding whooper swans
Dargavel Burn	SSSI	100m south. The existing 132kV OHL passes through the site	Valley fen
Glen Moss	SSSI and non-statutory Scottish Wildlife Trust (SWT) Reserve	1.1km south	Basin fen and dragonfly assemblages
Formakin	SSSI	1.2km south east. The existing 132kV OHL passes through the site	Lowland acid grassland
Knocknairs Hill	SSSI	1.5km north	Fen meadow and lowland neutral grassland
Shovelboard	SSSI	1.5km south	Basin fen
Haw Craig-Glenarbuck	SSSI	2.3km north	Rocky slopes (includes inland cliff, rocky outcrops, chasmophytic vegetation), upland mixed ash woodland
Lang Craigs	SSSI	3.2km north	Tall herb ledge
The Salting	Local Nature Reserve (LNR)	2.3km north-east	Wetland habitats, butterflies, damselflies, dragonflies and bird assemblages
Non-Statutory			
Devol Road Upland	Site of Importance for Nature Conservation (SINC)	Within the new 132kV OHL route	Upland habitats including wet heath, dry heath, acid grassland and flushes
Craigmarloch Wood	SINC	Within the new 132kV OHL route	A mature plantation of Sessile oak, relic heathland communities, swamp
Leperstone Reservoir/Auchendores Reservoir	SINC	Within the new 132kV OHL route	Swamp vegetation
Auchendores Reservoir	SINC	Within the new 132kV OHL route	Swampy areas, unimproved grassland
Park Glen / Barbeg Hill	SINC	Within the new 132kV OHL route	Grassland and scrub

Site Name	Designation	Approximate Distance and Orientation from New 132kV OHL	Qualifying Interest
Knockmountain	SINC	Immediately adjacent (north)	Woodland, grassland and marsh
Erskine West Ferry, Barhill Wood/ Boden Boo	SINC	Immediately adjacent (north)	Woodland and grassland
Formakin Woods	SINC	100m east The existing 132kV OHL passes through the site	Mature woodland
Crosshill Road Heath	SINC	100m north	Areas of acid grassland, heathland and mire vegetation
Barscube Hill	200m north	200m north	Grassland, mire and scrub
Whitemoss	SINC	250m east The existing 132kv OHL is immediately adjacent	Woodland and scrub
Corseliehill & Swinesglen/ Northbrae Woods	SINC	400m south	Grassland, marsh, woodland and scrub
Auchenbothie Burn/Windmill Wood/Auchenbothie Wood	SINC	500m south	Mature semi-natural broadleaved woodland
Whinny Hill	SINC	500m south	Heath, grassland and mire
Craig Muir	SINC	500m south	Heath, mire and grassland
Dargavel Mosaic	SINC	1.5km south	Trees, scrub and grassland

1.25 In addition to the above, there are numerous woodlands listed on the Ancient Woodland Inventory (AWI) within 2km of the new 132kV OHL (refer to **Figure 8.1.2**), The new 132kV OHL will cross, or be within, four AWI listed woodlands.

- Long established Woodland at Craigmarloch.
- Long established Woodland at Park Glen.
- Long established Woodland at Drumcross.
- Long established Woodland at Shilton.

Phase 1 Habitat Survey

Overview

1.26 A Phase 1 Habitat map is provided in **Figure 8.1.3** in **Appendix A**. Representative photographs are provided in **Appendix B**.

1.27 The New 132kV OHL stretches between the Devol Moor substation and the Erskine substation, a length of approximately 16km. The habitats within the Study Area are mostly rural, comprising large areas of intensively managed grasslands and pastures.

1.28 In the western edge of the Study Area, the landscape is less intensively managed and upland habitat assemblages were identified. These included marshy grassland, wet dwarf shrub heath, small pockets of modified bog, and acid flush, alongside the more typical grazed pasture habitats of improved grassland and semi-improved grassland. The value of the upland habitats in this area are recognised through their inclusion in a number of non-statutory SINC designations, including Devol Road Upland, Crosshill Road Heath and Craigmarloch Woods. While these sites are designated, they are not currently under positive management and the influences of agricultural land management are evident.

1.29 As the Study Area moves eastward, the habitats become more intensively managed through agricultural use, with improved grassland being identified as the most common habitat overall. Semi-improved neutral grassland, mosaics of semi-improved neutral grassland and scattered scrub, and semi-natural broadleaved woodland are also widespread habitats within this part of the Study Area.

1.30 Most of the habitats observed within the Existing 132kV OHL Study Area are very similar to those within the New 132kV OHL Study Area; dominated agricultural pasture of improved grasslands and arable fields. The majority of the habitats of conservation concern recorded were patches of marshy grasslands which were highlighted for their potential to support GWDTEs.

1.31 Table 3.2 provides a summary of the absolute and proportionate habitat types within the Study Area, presented by broad habitat type. The calculations include both the New 132kV OHL and the Existing 132kV OHL Study Areas[2] and include data relating to access tracks where this was available.

Table 1.4: Broad Habitat Types

Phase 1 Broad Habitat Type	Area within Study Area (Ha)	Proportion of Study Area (%)
Grassland (incl. pasture and silage fields) – Acid grassland semi-improved (B1.2) – Neutral grassland semi-improved (B2.2) – Improved grassland (B4) – Marsh/Marshy grassland (B5) – Poor semi-improved grassland (B6) – Amenity grassland (J1.2)	317.25	67.34
Woodland, Forest and Scrub – Broadleaved woodland semi-natural (A1.1.1), plantation (A1.1.2) scattered (A3.1) – Coniferous woodland plantation (A1.2.2), scattered (A3.2) – Mixed woodland plantation (A1.3.2), semi-natural (A1.3.1) – Scrub (A2) scattered (A2.2), dense/continuous (A2.1)	48.34	10.26
Un-surveyed (incl. restricted access, post-survey addition)	46.89	9.95
Miscellaneous (incl. built environment, bare ground and arable land use etc.) – Acid/neutral inland cliff (I.1.1.1) – Hard standing (J5) – Buildings (J3.6) – Arable (J1.1) – Ephemeral/short perennial (J1.3)	33.69	7.15
Heathland – Dry dwarf shrub heath (D1) – Wet dwarf shrub heath (D2)	13.73	2.91

[2] Except where the Existing 132kV OHL did not fall within the Study Area of the New 132kV OHL.

Phase 1 Broad Habitat Type	Area within Study Area (Ha)	Proportion of Study Area (%)
– Wet heath/acid grassland (D6)		
Ephemeral (incl. tall herb and fern, and bracken)	4.65	0.99
– Bracken continuous (C1.1), scattered (C1.2)		
– Tall ruderal (C3.1)		
– Non-ruderal (C3.2)		
Mire and Acid flush	4.23	0.90
– Wet modified bog (E1.7)		
– Acid/neutral flush (E2.1)		
Open water and marginal vegetation (incl. swamp)	2.34	0.50
– Standing water (G1)		
– Swamp (F1)		
– Marginal vegetation (F2.1)		
Total	**471.12**	**100**

Habitat Accounts

1.32 Brief habitat descriptions are provided below, using standard Phase 1 Habitat Survey nomenclature.

A1.1.1 – Broadleaved Woodland (Sem-Natural)

1.33 Semi-natural broadleaved woodland was recorded scattered throughout the Study Area and accounts for approximately 3.6% of the total habitat recorded. The largest areas of continuous cover of this habitat type were recorded at Erskine substation and Lepperstone Reservoir. Most commonly recorded tree species within these woodlands were alder, sycamore, hawthorn, birch, willow, rowan, ash, beech, oak, and hazel. This classification includes the AWI features recorded at various locations within the Study Area. AWI features were generally mature examples of broadleaved woodland, dominated by the species noted above.

A1.1.2 – Broadleaved Woodland (Plantation)

1.34 Less than two hectares of this habitat was recorded within the Study Area. Young plantation broadleaved woodland was recorded rarely however it is likely this has been under recorded due to the maturity of the plantations appearing more semi-natural in character. Species present included birch, oak, rowan, hawthorn and hazel.

A1.3.1 – Mixed Woodland (Semi-Natural)

1.35 Approximately 2.7ha of semi-natural mixed woodland were recorded, scattered across the Study Area. Species included Sitka spruce, sycamore, alder, silver birch, downy birch, rowan, oak, scots pine, larch and ash. Mixed woodland within the Study Area varied in their maturity with examples of both immature, self-seeded woodland and mature mixed woodlands recorded.

A1.3.2 – Mixed Woodland (Plantation)

1.36 Mixed woodland plantation was recorded in a few areas within the Study Area, typically forming the boundaries/ borders to larger coniferous coups. Approximately 2.8ha of habitat was recorded at the Drums Estate. Species present included alder, rowan, silver birch, scots pine, larch and willow species.

A2.1 – Scrub (Dense/Continuous) – A2.2 Scrub (Scattered)

1.37 Scrub is vegetation dominated by native shrubs, usually smaller than 5m in height. It was recorded across the Study Area and was typically in mosaic with other habitats, forming the understory within woodlands or as a shrub layer within grasslands, but most commonly forming edge habitats. Scrub species varied by location, but hawthorn, bramble, and gorse were all frequently recorded.

A3.1 – Broadleaved Scattered Trees

1.38 Typical with agricultural/pastoral landscapes, scattered trees were recorded minimally across the Study Area. Occasionally, broadleaved scattered trees were recorded often being the predominant feature within scrub or open habitats. Species most commonly recorded include hawthorn, rowan, birch, ash, oak, willow sp., beech and horse chestnut.

B1.2 – Acid Grassland (Semi-Improved)

1.39 Semi-improved acid grassland was recorded in two broad locations. The most extensive area was present to the west of Devol Road and two smaller areas were recorded in the Langbank area. All areas showed evidence to a varying degree of past management, resulting in relatively species poor acid grass communities often dominated by one or two aggressive species. Species present included purple moor grass, matt grass, common bent, wavy hair grass, sweet vernal grass, Yorkshire fog, heath bedstraw, tormentil, soft rush, white clover, buttercup, common mouse eared, thistle sp., sharp flowered rush, field woodrush, heath rush and common heather.

B2.2 – Neutral Grassland (Semi-Improved)

1.40 This habitat was the second most common across the Study Area and largely represented less intensively managed pasture. Recorded species include cocksfoot grass, Yorkshire fog, perennial ryegrass, crested dog's-tail, common bent, sweet vernal-grass common sorrel, white clover, common mouse ear, soft rush, thistle sp., broad-leaved dock, dandelion and buttercup.

1.41 Semi-improved neutral grassland frequently occurred in mosaic with other habitats such as scrub (scattered and dense/continuous), other tall herb and fern (ruderal), poor grassland (semi-improved), marshy grassland and mixed scattered trees.

B4 – Improved Grassland

1.42 Improved grassland is ubiquitous within the Study Area accounting for more than 45% of the total habitats recorded. This form of grassland is intensively managed for silage or grazed by sheep and cattle resulting in species poor communities. Perennial ryegrass was the most abundant species with other species present including annual meadow grass, dandelion, daisy, white clover, buttercup, common mouse ear and broad-leaved dock.

B5 – Marshy Grassland

1.43 While present throughout the Study Area, Marshy grassland was recorded in relatively small discrete areas or in mosaic with other grassland types. Proportionally, this habitat accounts for approximately 3% of all habitats recorded. The marshy grassland habitats were typically recorded in poorly draining waterlogged agricultural land where species such as soft rush were the dominant feature. Other species present include marsh thistle, sharp flowered rush, meadowsweet, broad-leaved dock, nettle, moss sp., buttercup, horsetail, and compact rush.

B6 – Poor Grassland (Semi-Improved)

1.44 Poor semi-improved grassland was recorded in minimally within the Study Area, accounting for approximately 1.5% of total habitats recorded. This habitat was recorded in areas of previous intensive agricultural practice where management has lapsed creating a slightly more species rich sward than in improved grassland. The species present include perennial ryegrass, Yorkshire fog, thistle sp., buttercup, dandelion, common mouse ear, white clover and soft rush in wetter areas.

C – Tall Herb and Fern (C1.1 – Bracken [Continuous]; C3.1 – Other Tall Herb and Fern [Ruderal]; C3.2 – Other Tall Herb and Fern [Non-Ruderal]

1.45 Less than 1% of all habitats recorded were classed as tall herb or fern.

1.46 Continuous bracken was rarely recorded within the Study Area. This habitat predominantly occurred in mosaic with other habitats including scrub (scattered and dense/continues) and broadleaved scattered trees.

1.47 Tall ruderal vegetation was rarely noted within the Study Area. This habitat predominantly occurred in mosaic with scrub (scattered and dense/continues), neutral grassland (semi-improved), marshy grassland and broadleaved scattered trees. Tall ruderal species recorded include rosebay willowherb, nettle, Japanese knotweed (invasive non-native), bramble, raspberry, and fern species.

D2 – Wet Dwarf Shrub Heath

1.48 Several areas of wet dwarf shrub heath and wet dwarf shrub heath, in mosaic with other habitats, were recorded between the Devol Moor substation and Port Glasgow Road within the western section of the Study Area. The wet dwarf shrub heath species recorded include common heather, cross-leaved heath, green ribbed sedge, heath rush, purple moor grass, deer grass, hare's tail cottongrass, matt grass, wavy hair grass, tormentil, bilberry and sphagnum species.

1.49 The mosaic nature of the habitat highlights its remnant nature. All areas of heath have been affected by grazing and encroachment by agricultural land uses. Several areas of this habitat are designated as SINCs.

E1.7 – Wet Modified Bog

1.50 Two small areas of wet modified bog were recorded to the south-east of Devol Road. Indicative species included: hare's tail cottongrass, deer grass, heath rush, common heather, cross leaved heath, star sedge, wavy hair grass, purple moor grass, bilberry, tormentil, sweet vernal grass, heath bedstraw, crowberry, green ribbed sedge and sphagnum mosses. As with D2 habitats, modified bog was patchy and isolated, having been degraded by agricultural land use. Several areas of this habitat are designated as SINCs.

E2.1 – Acid Flush

1.51 Acid flush was recorded in several locations between the Devol Road and Knockmountain Wood. These flush habitats were recorded on gently sloping land among heath and mire and, occasionally grassland habitats. Species present include hare's tail cottongrass, common cottongrass, sharp flowered rush, soft rush, compact rush, bottle sedge, common sedge, cuckoo flower, bog asphodel, purple moor grass and sphagnum species.

F1 – Swamp

1.52 Swamp habitat was recorded in four broad locations within the Study Area. A small area amongst the wet modified bog near the new 132kV OHL route, south-east of Devol Road; a small area north-west of Craigmarloch wood; around Knockmountain Wood; and small areas within the Drums Estate, associated with drainage. Species present include marsh marigold, bulrush, horsetail, marsh thistle, flag iris, bottle sedge, spotted orchid, common cotton grass, moss species including sphagnum mosses, hare's tail cotton grass, sharp flowered rush and soft rush.

F2.1 – Marginal Vegetation

1.53 Marginal vegetation was recorded in three locations within the Study Area: around an area of standing water near the existing 132kV OHL route close to Devol Moor substation, near the swamp area around Knockmountain, and within the existing 132kV OHL study area east of Barmore plantation. Species recorded include horsetail, marsh marigold, marsh thistle, soft rush and duckweed.

G1 – Standing Water

1.54 Several small areas, and a larger (Leperstone Reservoir) area, of standing water were recorded within the Study Area. The majority of the standing water bodies were small collections of water from surrounding slopes and situated within the hollows and depressions of fields.

G2 – Running Water

1.55 A network of watercourses and ditches was present throughout the Study Area, mainly along the field boundaries. Watercourses were dominated by burns and small rivers with rather shallow water depth and variable flow. Generally, watercourses were poached or lacked obvious bankside vegetation. An exception was the Dalgarvel Burn SSSI which supported a diverse and seral vegetation assemblage.

I1.1.1 – Acid/Neutral Inland Cliff and B1.2 – Acid Grassland (Semi-Improved)

1.56 Exposed rock area with patchy acid grassland vegetation was recorded to the south-west of the North Glen Farm. This habitat was heavily grazed and relatively species poor with more diversity found along the rocky steep slopes inaccessible to livestock. Species recorded include bell heather, heather, tormentil and matt grass.

J1.1 – Arable

1.57 Several arable fields, used for cereal crop production, were recorded within the Study Area, most commonly around the area west of Bishopton, along the existing 132kV OHL route.

J1.2 – Amenity Grassland

1.58 Amenity grassland was rarely recorded within the Study Area. This habitat occurred within the Port Glasgow Golf Club and Erskine Golf Course.

J1.3 – Ephemeral/Short Perennial and A3.3 – Mixed Scattered Trees Mosaic

1.59 Ephemeral/short perennial with mixed scattered trees was recorded adjacent to the Drumcross Road. Species recorded include broadleaved dock, dandelion, nettle, white clover and thistle sp.

J3.6 – Buildings

1.60 Several built structures were recorded across the Study Area, from east of Knockmountain, in both the existing and new 132kV OHL Study Areas. Buildings and structures were associated with farms or estates.

J4 – Bare Ground and Hardstanding

1.61 Bare ground was recorded in four broad locations within the Study Area. These areas were locations within the new 132kV OHL corridor including around part of an existing track, areas beside Leperstone Reservoir, near Knockmountain and a small area around High Hatton farm. In total this habitat type accounts for less than 1ha.

1.62 Areas of hardstanding were frequently recorded within the Study Area and were associated with roads, tracks and small complexes such as the Devol Moor Substation and the Erskine Golf Course car park.

J2.1.2 – Intact Species-Poor Hedgerow

1.63 Intact species-poor hedgerows running alongside fence lines were occasionally recorded throughout the Study Area. These hedgerows were generally dominated by one or two species, frequently hawthorn and beech.

J2.2.2 – Defunct Species-Poor Hedgerows

1.64 Defunct species-poor hedgerows were rarely present within the Study Area. They were dominated by hawthorn and beech with occasional holly, bramble and gorse.

J2.3.2 – Hedgerow with Trees (Species Poor)

1.65 Species-poor hedgerow with trees was recorded in two locations within the Study Area, including along the Golf Road, south of the Erskine Golf Course and east of Drumcross Road. Hedgerows were dominated by hawthorn and beech. The tree species found growing within the hedgerows included sycamore, hawthorn and oak.

J2.4 – Fence and J2.5 – Wall

1.66 Fences and stone walls were regularly recorded across the Study Area, enclosing pasture land.

Tree Lines

1.67 Tree lines were occasionally recorded throughout the Study Area, predominantly along field boundaries, roads and the railway line in the north. Dominant species included beech, horse chestnut, ash, holly, hawthorn, willow species, sycamore, rowan, birch, oak, sitka spruce, scots' pine, larch, and elder.

Invasive Species

1.68 Japanese Knotweed, Rhododendron, and Himalayan Balsam were recorded within the Study Area. Presence and species diversity increased closer to settlements.

1.69 An extensive area of Japanese Knotweed (more than 20m long and about 2m high) was recorded west of the Auchenbothie Road, on the suburbs of Port Glasgow. Japanese knotweed was also recorded in land near the proposed new access route for removal of the existing 132kV OHL where Old Greenock Road meets New Greenock Road. A final stand was found on the edge of woodland shared by both the existing and new 132kV OHL, east of Drumcross Road, near Erskine substation.

1.70 Rhododendron was recorded in several locations within the Study Area. Two single specimens were recorded south-east of the North Porton Farm bordering the M8 motorway. Two further rhododendron stands were recorded in the semi-natural broadleaved woodland surrounding the Good Shepherd Centre, off Greenock Road. Rhododendron was a commonly recorded shrub within the Drums Estate and is present alongside other invasive species here.

1.71 Himalayan Balsam was recorded around North Glen Cottage at the site of the existing access track, proposed for use for both construction and removal. Further stands were recorded around Mid-Glen farm on the existing 132kV OHL route and associated access tracks. Large stands were recorded in the Drums Estate in areas adjacent to the new 132kV OHL and further recorded on proposed new access tracks associated with the existing 132kV OHL.

NVC Survey (Habitats of Conservation Concern)

Broadleaved Woodland

1.72 Woodland communities are amongst the most complex and difficult to classify in the UK. This relates to both their historic relationship with humans, which has seen the vast majority of woodlands influenced by human activity to some degree; and to the complexity of their vegetation structure, which often requires detailed analysis of mycological and bryological.

1.73 Within the Study Area, almost all woodland features had experienced intervention to some extent, altering their structure and function. Indeed, many of the woodlands are of plantation origin and do not conform to NVC classification. As such, while it remains that broadleaved woodland within the Study Area is Habitat of Conservation Concern due to their inclusion in the Scottish Biodiversity List and Local Biodiversity Action Plans, it can be concluded that they are not Annex 1 habitats, as they do not conform to the NVC classifications included the following Annex 1 Habitat descriptions:

- 9120 – Atlantic acidophilous beech forests
- 9130 – *Asperulo-Fagetum* beech forests
- 9160 – Sub-Atlantic and medio-European oak or oak-hornbeam forests
- 9180 – *Tilio-Acerion* forests
- 9190 and 91A0 - Old sessile oak woods
- 91C0 – Caledonian forest
- 91D0 – Bog woodland
- 91E0 – Alluvial forests with *Alnus glutionsa* and *Fraxinus excelsior*
- 91J0 – *Taxus bacata* woods

Heathland

1.74 Wet and dry dwarf shrub heath were recorded in the west of the Study Area, on the eastern edge of a larger upland habitat system that extends downhill from Lurg Moor and Corlic Hill. The habitat is supported by peat deposits, which are present between poles 161 and 169 (further details are provided in **Chapter 7**). In this area, agricultural intervention has led to a mosaic of heath, mire, acid and marshy grassland, and a generally impoverished botanical community. The heath habitat at this location was overwhelmingly dominated by heather with indicator species suggesting classification as **NVC H10 *Calluna vulgaris – Erica cinerea* heath.** H10 is a 'catch-all' classification and is attributed to a wide range of heaths subject to burning and grazing. However, despite the lack of species diversity, the area remains designated as the Devol Road Upland SINC.

1.75 Further smaller areas of wet dwarf shrub heath was identified further west, immediately surrounding Craigmarloch Wood SINC. The habitat here has also been significantly affected by agricultural land use and is best categorised as **H10** due to its lack of diversity.

1.76 H10 communities are included in the Annex 1 habitat *4030 – Dry Heaths* however the quality and extent of the features within the Study Area are much impoverished.

Mire

1.77 Wet modified bog was identified in mosaic with heath vegetation in the west of the Study Area, as described above. The bog areas were small and fragmented, most likely remnant features in areas of slightly deeper peat, or where water movement slows. The vegetation comprised hare's tail cottongrass, deer grass, heath rush, common heather, cross leaved heath, star sedge, wavy hair grass, purple moor grass, bilberry, tormentil, sweet vernal grass, heath bedstraw, crowberry, green ribbed sedge and sphagnum mosses. They habitats best accord with **NVC M17 *Scirpus cespitosus – Eriophorum vaginatum* blanket mire**, however the limited extent and historic treatment of the features mean classification could vary between M15 and M18.

1.78 Acid flush habitats were also identified in the previously described mosaic, and in other peaty heaths near Craighmarloch Wood SINC. Their species composition was broadly similar to the wet modified bogs described above; however they were generally wetter and their topography suggested soligenous water movement, most likely from the peat systems to west and south. The increased presence of purple moor grass was notable. The vegetation characteristics of the flushes best accord with **NVC M25 *Molinia caerulea-Potentilla erecta* mire.**

1.79 M17 and **M25** communities are included in the Annex 1 habitat *7130 Blanket Bog*, however the quality and extent of the features within the Study Area are much impoverished.

Groundwater Dependent Terrestrial Ecosystems (GWDTEs)

1.80 The following broad Phase 1 habitat types, identified within the Study Area, support NVC communities that may depend on groundwater to some extent:

- A1 Broadleaved Woodland.
- B5 Marshy Grassland.
- D1 – D6 Heathland.
- E1 – E4 Bogs and Flushes.
- F1 – F2 Swamp.

1.81 No broadleaved woodland features were classified as having relevant NVC communities and, according to the criteria set out in **Table 2.1**, the heathland, bog and flush communities were clearly reliant on ombrogenous water flows.

1.82 While much of the Study Area supports extensive areas of Marshy Grassland, the majority of the habitat is homogenous soft rush in depressions or hollows in pasture land. These areas are not classified as relevant NVC communities and are clearly supported by surface water.

1.83 Table 3.3 sets out Marshy Grassland and Swamp habitats with relevant NVC classifications[viii] and where groundwater dependency could not be immediately discounted on the basis of topography, as per **Table 2.1**. The true characteristics of habitats with potential 'high' dependency are further considered in relation to underlying hydrogeology in **Chapter 7**.

Table 1.5: Potential GWDTEs

Nearest Pole/Access Track Location	Phase 1 Habitat Type	NVC Code	Potential Groundwater Dependency	Comment	Likely Groundwater Dependency
South of 113	B5 Marshy Grassland	M23	High	Groundwater dependency could not be discounted on topography	High
South-west of 114	B5 Marshy Grassland	M23	High	Groundwater dependency could not be discounted on topography. However, the feature is adjacent to a	High

Nearest Pole/Access Track Location	Phase 1 Habitat Type	NVC Code	Potential Groundwater Dependency	Comment	Likely Groundwater Dependency
				watercourse and may be influenced by it. This feature is associated with the Dargavel Burn SSSI.	
South-west of 115	F1 Swamp	S12	N/A	A small area of Swamp associated with the Dargavel Burn SSSI. Likely influenced by the adjacent watercourse.	High
North of 175	B5 Marshy Grassland	M23	High	Groundwater dependency could not be discounted on topography	High

Appendix A

Figures

Erskine to Devol Moor
for SPEN

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Figure 8.1.1: Study Area

- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- 5km – statutory designated sites
- 2km – non-statutory designated sites
- Study area for habitat survey

0 2.5 5 km

Map scale 1:90,000 @ A3

CB:MN EB:Nicholson_M LUC FIG08-01-01_7058_Ecology_StudyAreas_A3L 08/04/2020
Source:

SP ENERGY NETWORKS

Erskine to Devol Moor
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Figure 8.1.2: Desk Study Results

- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- 5km – statutory designated sites
- 2km – non-statutory designated sites
- Study area for habitat survey

Biodiversity Designations

- Special Protection Area (SPA)
- Local Nature Reserve (LNR)
- Ramsar - Inner Clyde
- Site of Special Scientific Interest (SSSI)
  - 1: Renfrewshire Heights
  - 2: Haw Craig - Glenarbuck
  - 3: Black Cart
  - 4: Dargavel Burn
  - 5: Formakin
  - 6: Inner Clyde
  - 7: Knocknairs Hill
  - 8: Lang Craigs
  - 9: Glen Moss
  - 10: Shovelboard
  - 11: Glenarbuck
- Scottish Wildlife Trust Reserve (SWT) - Glen Moss

Ancient Woodland Inventory Scotland (AWI)

- Ancient (of semi-natural origin)
- Long-Established (of plantation origin)
- Site of Importance for Nature Conservation
  1. Devol Road Upland
  2. Crosshill Road Heath
  3. Craigmarloch Wood
  4. Auchenbothie Burn/Windmill Wood/Auchenbothie Wood
  5. Leperstone Reservoir/Auchendores Reservoir
  6. Auchendores Reservoir
  7. Knockmountain
  8. Barscube Hill
  9. Whinny Hill
  10. Craig Muir
  11. Corseliehill & Swinesglen/Northbrae Woods
  12. Park Glen / Barbeg Hill
  13. Whitemoss
  14. Formakin Woods
  15. Dargavel Mosaic
  16. Erskine West Ferry, Barhill Wood/Boden Boo

Inner Clyde SPA

Renfrewshire Heights - SPA

Black Cart - SPA

0 2.5 5 km

Map scale 1:90,000 @ A3

SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-02_7058_Ecology_DesignatedSites_A3L 18/05/2020
Source: SNH, www.biodiversitysinc.uws.ac.uk

Erskine to Devol Moor
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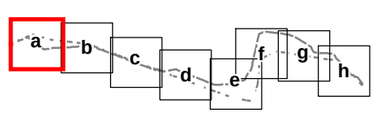
Figure 8.1.3a: Phase 1 Habitat Survey Results

Habitat and Vegetation Ecology Study Area
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
New Access (Stone)
Existing Access
Construction Compound
Working Area
Proposed Stone Laydown Area
Pulling Position

Phase 1 Code

G1 Standing water
G2 Running water
J2.5 Wall
TL Tree line
A1.1.1 Broadleaved woodland (semi-natural)
A1.1.2 Broadleaved woodland (plantation)
A1.2.2 Coniferous woodland (plantation)
A1.3.1 Mixed woodland (semi-natural)
A1.3.2 Mixed woodland (plantation)
A2.1 Scrub (dense/continuous)
A2.2 Scrub (scattered)
A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees
A2.2 Scrub (scattered)/C3.1 Other tall herb and fern (ruderal)/A3.3 Mixed scattered trees
A3.3 Mixed scattered trees
B1.2 Acid grassland (semi-improved)
B1.2 Acid grassland (semi-improved)/A2.1 Scrub (dense/continuous)
B1.2 Acid grassland (semi-improved)/A2.2 Scrub (scattered)
B1.2 Acid grassland (semi-improved)/B5 Marshy grassland
B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
B4 Improved grassland
B5 Marshy grassland
B5 Marshy grassland/D2 Wet dwarf shrub heath
B6 Poor semi-improved grassland
B6 Poor semi-improved grassland/A2.2 Scrub (scattered)/C3.1 Other tall herb and fern (ruderal)
C3.1 Other tall herb and fern (ruderal)
D2 Wet dwarf shrub heath
D2 Wet dwarf shrub heath/B1.2 Acid grassland (semi-improved)
D2 Wet dwarf shrub heath/D1 Dry dwarf shrub heath
E1.7 Wet modified bog
E2.1 Acid flush
F1 Swamp
F2.1 Marginal and inundation - marginal vegetation
G1 Standing water
J1.2 Amenity grassland
Road / Track / Hard Standing
Not Surveyed



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Map scale 1:7,500 @ A3

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

SP ENERGY NETWORKS

Erskine to Devol Moor
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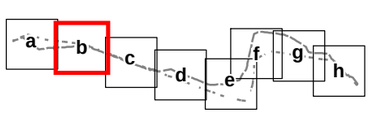
Figure 8.1.3b: Phase 1 Habitat Survey Results

- Habitat and Vegetation Ecology Study Area
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Phase 1 Code

- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge (species-poor)
- J2.5 Wall
- A1.1.1 Broadleaved woodland (semi-natural)
- A1.3.1 Mixed woodland (semi-natural)
- A2.1 Scrub (dense/continuous)
- A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees
- A2.2 Scrub (scattered)
- A2.2 Scrub (scattered)/C1.2 Bracken (scattered)
- B1.2 Acid grassland (semi-improved)
- B1.2 Acid grassland (semi-improved)/B5 Marshy grassland
- B2.2 Neutral grassland (semi-improved)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees/C1.2 Bracken (scattered)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)/C3.1 Other tall herb and fern (ruderal)
- B4 Improved grassland
- B5 Marshy grassland
- B5 Marshy grassland/A2.2 Scrub (scattered)
- B5 Marshy grassland/A3.1 Broadleaved scattered trees
- B6 Poor semi-improved grassland
- C1.1 Bracken (continuous)
- C1.1 Bracken (continuous)/A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees
- C3.1 Other tall herb and fern (ruderal)
- C3.1 Other tall herb and fern (ruderal)/A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees
- D2 Wet dwarf shrub heath
- D2 Wet dwarf shrub heath/A2.1 Scrub (dense/continuous)
- D2 Wet dwarf shrub heath/C1.1 Bracken (continuous)/A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees
- E2.1 Acid flush
- E2.1 Acid flush/A2.2 Scrub (scattered)
- F1 Swamp
- J1.1 Arable
- J4 Bare ground
- Road / Track / Hard Standing
- Not Surveyed



SP ENERGY NETWORKS

Map scale 1:7,500 @ A3

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
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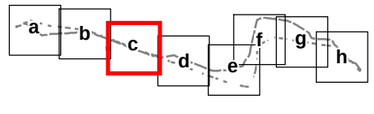
Figure 8.1.3c: Phase 1 Habitat Survey Results

Habitat and Vegetation Ecology Study Area
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
New Access (Stone)
Existing Access
Working Area
Proposed Stone Laydown Area
Pulling Position

Phase 1 Code

G2 Running water
J2.1.2 Intact hedge (species-poor)
J2.2.2 Defunct hedge (species-poor)
J2.5 Wall
TL Tree line
A1.1.1 Broadleaved woodland (semi-natural)
A1.1.2 Broadleaved woodland (plantation)
A1.2.2 Coniferous woodland (plantation)
A1.2.2 Coniferous woodland (plantation)/A3.1 Broadleaved scattered trees
A1.3.1 Mixed woodland (semi-natural)
A1.3.2 Mixed woodland (plantation)
A2.1 Scrub (dense/continuous)
A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees
A2.1 Scrub (dense/continuous)/B2.2 Neutral grassland (semi-improved)/C1.1 Bracken (continuous)/A3.1 Broadleaved scattered trees
A2.1 Scrub (dense/continuous)/B5 Marshy grassland/A3.1 Broadleaved scattered trees
A2.2 Scrub (scattered)
A3.1 Broadleaved scattered trees
A3.3 Mixed scattered trees/A2.2 Scrub (scattered)
B2.2 Neutral grassland (semi-improved)
B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
B2.2 Neutral grassland (semi-improved)/C3.1 Other tall herb and fern (ruderal)
B4 Improved grassland
B4 Improved grassland/A2.2 Scrub (scattered)
B4 Improved grassland/A3.1 Broadleaved scattered trees
B4 Improved grassland/A3.3 Mixed scattered trees
B5 Marshy grassland
B5 Marshy grassland/A3.1 Broadleaved scattered trees
B6 Poor semi-improved grassland
C1.1 Bracken (continuous)
C1.1 Bracken (continuous)/A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees
D2 Wet dwarf shrub heath
E2.1 Acid flush
F1 Swamp
F2.1 Marginal and inundation - marginal vegetation
G1 Standing water
J1.2 Amenity grassland
J4 Bare ground
J4 Bare ground/A2.2 Scrub (scattered)/A3.1 Broadleaved scattered trees
J4 Bare ground/J5 Other habitat
Road / Track / Hard Standing
Not Surveyed



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0 0.5 1 km

Map scale 1:7,500 @ A3

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
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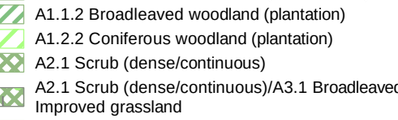
Figure 8.1.3d: Phase 1 Habitat Survey Results

Habitat and Vegetation Ecology Study Area
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
New Access (Stone)
Existing Access
Working Area
Proposed Stone Laydown Area
Pulling Position

Phase 1 Code

G1 Standing water
G2 Running water
J2.2.2 Defunct hedge (species-poor)
J2.5 Wall
TL Tree line
A1.1.1 Broadleaved woodland (semi-natural)
A1.1.1 Broadleaved woodland (semi-natural)/A2.2 Scrub (scattered)
A1.1.2 Broadleaved woodland (plantation)
A1.2.2 Coniferous woodland (plantation)
A2.1 Scrub (dense/continuous)
A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees/B4 Improved grassland
A2.2 Scrub (scattered)
A2.2 Scrub (scattered)/B2.2 Neutral grassland (semi-improved)
A3.1 Broadleaved scattered trees
B1.2 Acid grassland (semi-improved)
B2.2 Neutral grassland (semi-improved)
B2.2 Neutral grassland (semi-improved)/A2.1 Scrub (dense/continuous)
B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
B2.2 Neutral grassland (semi-improved)/A3.1 Broadleaved scattered trees/A2.2 Scrub (scattered)
B2.2 Neutral grassland (semi-improved)/B5 Marshy grassland
B4 Improved grassland
B4 Improved grassland/A2.2 Scrub (scattered)
B5 Marshy grassland
B5 Marshy grassland/A2.2 Scrub (scattered)
B6 Poor semi-improved grassland
B6 Poor semi-improved grassland/B2.2 Neutral grassland (semi-improved)
F1 Swamp
G1 Standing water
I1.1.1 Acid/neutral inland cliff/B1.2 Acid grassland (semi-
I2.2 Spoil
J1.1 Arable
J1.2 Amenity grassland
J3.6 Buildings
Road / Track / Hard Standing
Not Surveyed



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
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Figure 8.1.3e: Phase 1 Habitat Survey Results

- Habitat and Vegetation Ecology Study Area
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Phase 1 Code

- G2 Running water
- J2.1.2 Intact hedge (species-poor)
- J2.2.2 Defunct hedge (species-poor)
- J2.3.2 Hedge with trees (species-poor)
- J2.5 Wall
- TL Tree line
- A1.1.1 Broadleaved woodland (semi-natural)
- A1.2.2 Coniferous woodland (plantation)
- A1.3.1 Mixed woodland (semi-natural)
- A1.3.2 Mixed woodland (plantation)
- A2.1 Scrub (dense/continuous)
- A2.1 Scrub (dense/continuous)/B6 Poor semi-improved grassland
- A2.2 Scrub (scattered)
- A3.1 Broadleaved scattered trees
- A3.1 Broadleaved scattered trees/A3.1 Broadleaved scattered trees
- B2.2 Neutral grassland (semi-improved)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
- B2.2 Neutral grassland (semi-improved)/A3.3 Mixed scattered trees
- B2.2 Neutral grassland (semi-improved)/B5 Marshy grassland
- B2.2 Neutral grassland (semi-improved)/C3.1 Other tall herb and fern (ruderal)
- B4 Improved grassland
- B4 Improved grassland/A2.2 Scrub (scattered)
- B5 Marshy grassland
- B5 Marshy grassland/C3.1 Other tall herb and fern (ruderal)
- B5 Marshy grassland/F1 Swamp
- B6 Poor semi-improved grassland
- B6 Poor semi-improved grassland/A3.1 Broadleaved scattered trees
- C1.1 Bracken (continuous)
- C3.1 Other tall herb and fern (ruderal)
- C3.1 Other tall herb and fern (ruderal)/A2.2 Scrub (scattered)
- C3.2 Other tall herb and fern (non ruderal)
- F2.1 Marginal and inundation - marginal vegetation
- G1 Standing water
- J1.1 Arable
- J1.2 Amenity grassland
- J3.6 Buildings
- J4 Bare ground
- Road / Track / Hard Standing
- Not Surveyed

0 0.5 1 km

Map scale 1:7,500 @ A3

a b c d e f g h

SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
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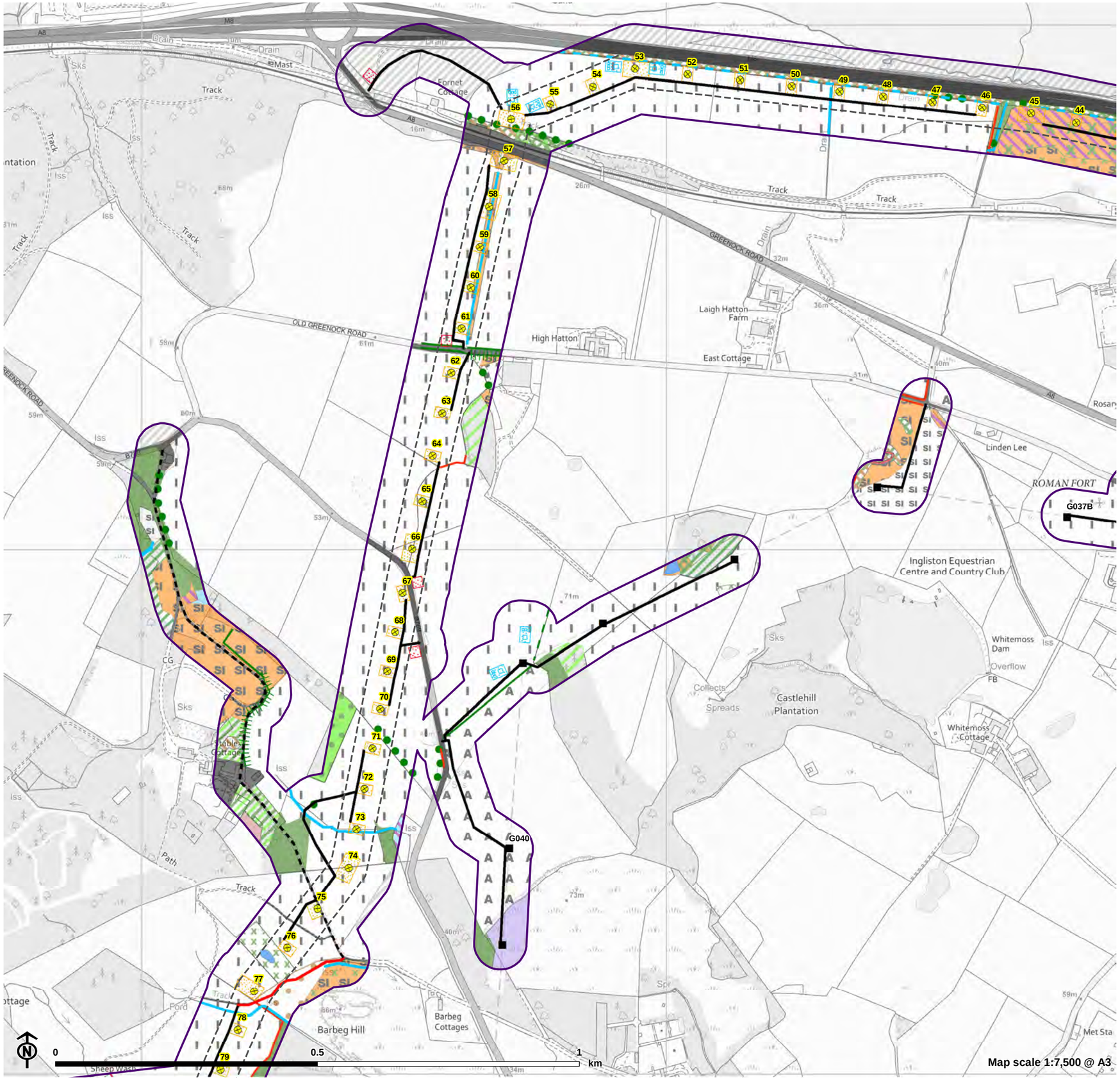
Figure 8.1.3f: Phase 1 Habitat Survey Results

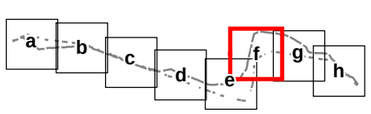


Map scale 1:7,500 @ A3

- Habitat and Vegetation Ecology Study Area
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Phase 1 Code

- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge (species-poor)
- J2.2.2 Defunct hedge (species-poor)
- J2.3.2 Hedge with trees (species-poor)
- J2.5 Wall
- TL Tree line
- A1.1.1 Broadleaved woodland (semi-natural)
- A1.1.2 Broadleaved woodland (plantation)
- A1.2.2 Coniferous woodland (plantation)
- A1.3.1 Mixed woodland (semi-natural)
- A1.3.2 Mixed woodland (plantation)
- A2.1 Scrub (dense/continuous)
- A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees
- A2.1 Scrub (dense/continuous)/B6 Poor semi-improved grassland
- A2.1 Scrub (dense/continuous)/C3.1 Other tall herb and fern (ruderal)
- A2.2 Scrub (scattered)
- A3.1 Broadleaved scattered trees
- B2.2 Neutral grassland (semi-improved)
- B2.2 Neutral grassland (semi-improved)/A2.1 Scrub (dense/continuous)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
- B2.2 Neutral grassland (semi-improved)/C3.1 Other tall herb and fern (ruderal)
- B4 Improved grassland
- B5 Marshy grassland
- B5 Marshy grassland/A2.2 Scrub (scattered)
- B5 Marshy grassland/F1 Swamp
- B6 Poor semi-improved grassland
- B6 Poor semi-improved grassland/A3.1 Broadleaved scattered trees
- C3.1 Other tall herb and fern (ruderal)
- C3.1 Other tall herb and fern (ruderal)/A2.1 Scrub (dense/continuous)
- C3.2 Other tall herb and fern (non ruderal)
- F1 Swamp
- G1 Standing water
- I1.4.1 Acid/neutral rock
- J1.1 Arable
- J3.6 Buildings
- J4 Bare ground
- Road / Track / Hard Standing
- Not Surveyed



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

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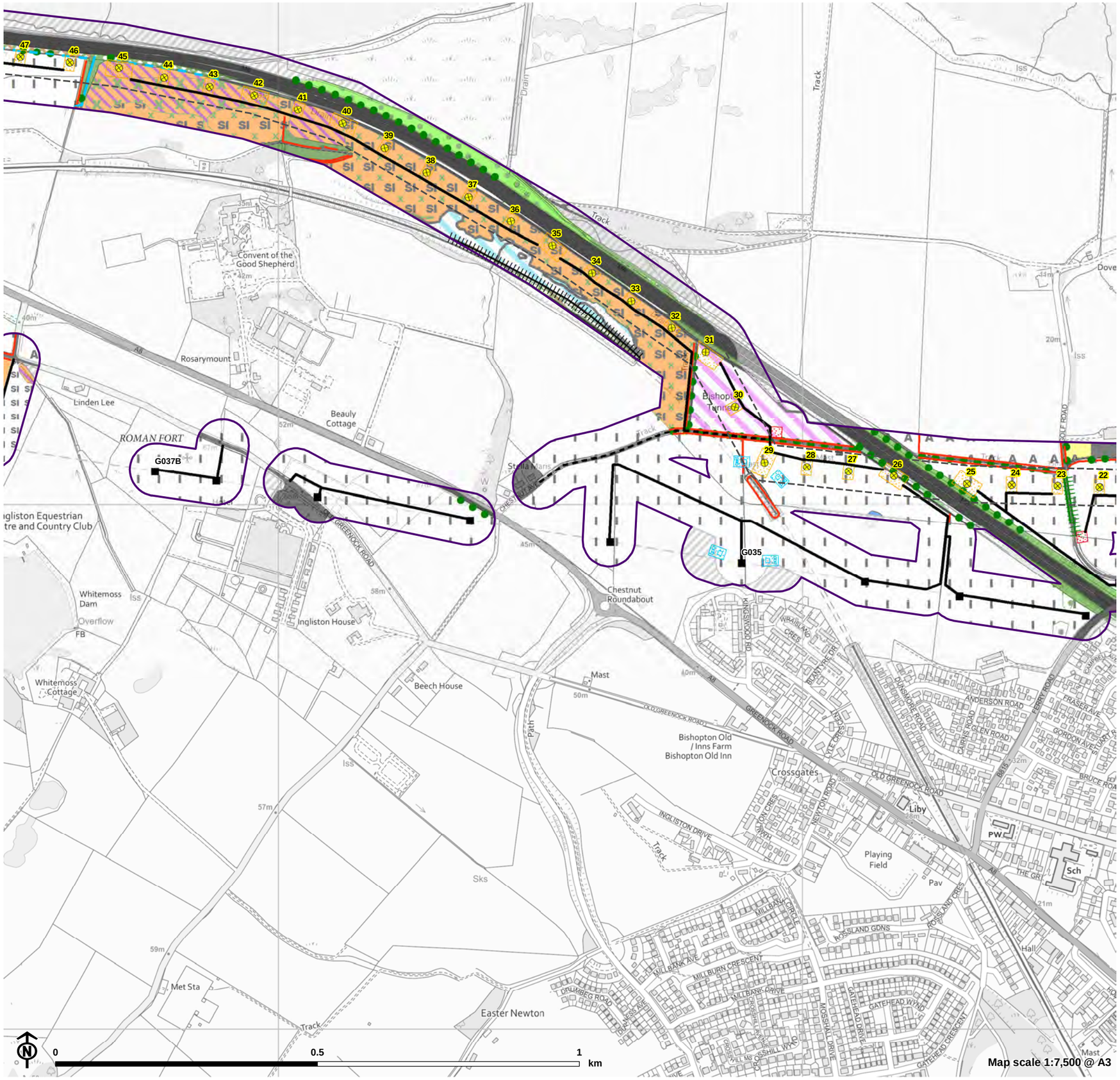
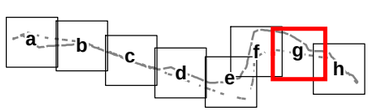
Figure 8.1.3g: Phase 1 Habitat Survey Results



- Habitat and Vegetation Ecology Study Area
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Phase 1 Code

- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge (species-poor)
- J2.3.2 Hedge with trees (species-poor)
- J2.4 Fence
- J2.5 Wall
- TL Tree line
- A1.1.1 Broadleaved woodland (semi-natural)
- A1.1.1 Broadleaved woodland (semi-natural)/A2.2 Scrub (scattered)
- A1.3.1 Mixed woodland (semi-natural)
- A2.1 Scrub (dense/continuous)
- A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees
- A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees/C3.1 Other tall herb and fern (ruderal)
- A2.1 Scrub (dense/continuous)/A3.1 Broadleaved scattered trees/I1.4.1 Acid/neutral rock
- A2.1 Scrub (dense/continuous)/C3.1 Other tall herb and fern (ruderal)
- A2.1 Scrub (dense/continuous)/C3.1 Other tall herb and fern (ruderal)/A3.1 Broadleaved scattered trees
- A2.2 Scrub (scattered)/C3.1 Other tall herb and fern (ruderal)
- A3.1 Broadleaved scattered trees
- B2.2 Neutral grassland (semi-improved)
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
- B4 Improved grassland
- B5 Marshy grassland
- B5 Marshy grassland/A2.2 Scrub (scattered)
- B6 Poor semi-improved grassland
- C3.2 Other tall herb and fern (non ruderal)/C3.1 Other tall herb and fern (ruderal)/A2.2 Scrub (scattered)
- G1 Standing water
- I1.4.1 Acid/neutral rock/A2.1 Scrub (dense/continuous)
- J1.1 Arable
- J1.2 Amenity grassland
- J3.6 Buildings
- J5 Other habitat
- Road / Track / Hard Standing
- Not Surveyed



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.1.3h: Phase 1 Habitat Survey Results

- Habitat and Vegetation Ecology Study Area
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Construction Compound
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Phase 1 Code

- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge (species-poor)
- J2.2.2 Defunct hedge (species-poor)
- J2.3.2 Hedge with trees (species-poor)
- J2.5 Wall
- TL Tree line
- A1.1.1 Broadleaved woodland (semi-natural)
- A1.1.1 Broadleaved woodland (semi-natural)/A2.2 Scrub (scattered)
- A2.1 Scrub (dense/continuous)
- A2.2 Scrub (scattered)/B2.2 Neutral grassland (semi-improved)
- A3.1 Broadleaved scattered trees
- B2.2 Neutral grassland (semi-improved)/A2.2 Scrub (scattered)
- B4 Improved grassland
- B4 Improved grassland/B5 Marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern (ruderal)/3.1 Broadleaved scattered trees
- C3.2 Other tall herb and fern (non ruderal)/C3.1 Other tall herb and fern (ruderal)/A2.2 Scrub (scattered)
- G1 Standing water
- J1.1 Arable
- J1.2 Amenity grassland
- J1.3 Ephemeral/short perennial/A3.3 Mixed scattered trees
- J3.6 Buildings
- Road / Track / Hard Standing
- Not Surveyed

0 0.5 1 km

Map scale 1:7,500 @ A3

a b c d e f g h

SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-01-03_7058_Ecology_Phase1Habitats_A3L 26/04/2020
Source:

Appendix B

Site Photography

Photograph 1: An example of marshy grassland, common within the Study Area

Photograph 2: Wet dwarf shrub heath, recorded in the west of the Study Area

Photograph 3: Wet dwarf shrub heath/ Acid grassland (semi-improved)

Photograph 4: Wet dwarf shrub heath/ Dry dwarf shrub heath

Photograph 5: Wet modified bog, recorded in the west of the Study Area

Photograph 6: Acid flush, recorded with other mire communities in the west of the Study Area

[i] Survey guidance is available at www.cieem.net/sources-of-survey-methods-sosm- and appraisal guidance is available at www.cieem.net/guidance-on-preliimnary-ecological-appraisal-gpea-

[ii] British Standards Institute (2013). BS42020: 2013 Biodiversity – Code of Practice for Planning and Development.

[iii] Available at www.gateway.snh.gov.uk/sitelink/ (accessed April 2018).

[iv] Available at www.biodiversitysinc.uws.ac.uk (accessed April 2018).

[v] Available at https://gateway.snh.gov.uk/natural-spaces/dataset.jsp?dsid=AWI (accessed April 2018)

[vi] Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit. JNCC, Peterborough.

[vii] Rodwell, J.S (1991 – 2000). British Plant Communities. 5 volumes. Cambridge University Press.

[viii] SEPA (2017). Land Use Planning System Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.