



Technical Appendix

# Drummarnock Wind Farm

Technical Appendix 6-2: National Vegetation  
Classification Survey

Drummarnock Wind Farm Limited

July 2024



# Contents

1	Introduction	1
1.1	Terms of Reference	1
1.2	Objectives	1
2	Methodology	2
2.1	NVC Survey Methods	2
2.2	GWDTE Survey Methods	2
2.3	Limitations	3
3	Results	4
3.1	NVC Survey Results	4
3.2	Mires, Springs and Flushes	4
3.3	Dry heath Communities	7
3.4	Grassland Communities	8
3.5	NVC community summary	9
3.6	Non-NVC Communities	10
3.7	GWDTE Survey Results	10
4	References	12
5	Appendices	13
	Appendix A. Target Notes	13

## Tables

Table A6-2-1:	GWDTE scoring system	2
Table A6-2- 2:	Annex 1 and UK BAP Habitats	9
Table A6-2-3:	Potential GWDTE Communities Recorded within the Proposed Development Site	10
Table A6-2-4:	Target Notes from Surveys	13

## Figures

Figure 6-2-1 NVC

## Glossary of Terms

Term	Definition
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as amended)
Study Area	within the Proposed Development Site

## List of Abbreviations

Acronym	Full Term
CIEEM	Chartered Institute of Ecology and Environmental Management
EIA	Environmental Impact Assessment
GWDE	Ground Water Dependant Terrestrial Ecosystems
JNCC	Joint Nature Conservation Committee
NVC	National Vegetation Classification
SBL	Scottish Biodiversity List



# 1 Introduction

## 1.1 Terms of Reference

This report presents the findings of a National Vegetation Classification (NVC) at a Site at Drummarnock, Stirlingshire located at National Grid Reference (NGR) NS 75471 87114, circa 10km southwest of Stirling, in the Fintry, Gargunock and Touch Hills (as shown in Figure 1-1).

The site is associated with a proposed windfarm consisting of four turbines at up to 180m to tip height along with associated infrastructure and access tracks (the Proposed Development).

The survey was conducted in April 2023 following previous surveys in September 2020 and July 2021.

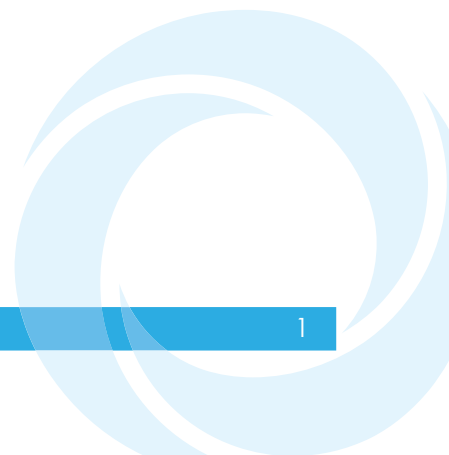
This report is presented as a Technical Appendix to Chapter 6: Ecology of the Environmental Impact Assessment (EIA) Report. It should be read in conjunction with that Chapter and the following technical appendices:

- Appendix 6-1: Extended Phase One Survey;
- Appendix 6-3: Bat Surveys; and
- Appendix 6-4: Protected Species Survey.

## 1.2 Objectives

The principal objectives of this report are:

- To report on the results of an NVC survey, undertaken to describe potential Ground Water Dependant Terrestrial Ecosystems (GWDTE); and
- From the survey results, identify Annex I habitats as especially protected under the Habitats Directive and Scottish Biodiversity List habitats.



## 2 Methodology

### 2.1 NVC Survey Methods

The 2020 NVC survey was carried out by Rory Whytock ACIEEM on the 1st, 2nd, and 3rd of September 2020 for the on the entire Proposed Development Site.

The 2021 survey was carried out on the 14<sup>th</sup> & 24<sup>th</sup> July by Stephen McNee ACIEEM on a localised area of previously unsurveyed ground, within the north of the Proposed Development Site.

The 2023 update survey on the entire Proposed Development Site was undertaken on the 19<sup>th</sup>, 24<sup>th</sup> and 25<sup>th</sup> April 2023, also by Stephen McNee, and covered all areas previously surveyed (Figure 6-2-1).

All surveys were carried out in dry weather conditions with good visibility.

The NVC communities were mapped by eye and classified according to Rodwell (1998a, 1998b, 2003). Where possible five 2 x 2m quadrats were set up for each habitat type where detailed floristic samples were recorded to allow the habitat to be categorised later into the appropriate NVC classification.

Small areas of interest and general descriptions of features were made using target notes as per Phase 1 survey methodology (JNCC, 2010).

Higher plant nomenclature follows that of Stace (2019), bryophyte nomenclature follows that of the Hill *et al.* (2008) and lichens follow Coppins (2002).

### 2.2 GWDTE Survey Methods

The distribution of Groundwater Dependent Terrestrial Ecosystems (GWDTEs) within the NVC survey area can be found on Figure 8-5 in Volume 4 of the EIA Report.

The NVC habitats were mapped according to their dominant NVC community, although many of these habitats were made up of mosaics of NVC communities. Hence when determining whether a particular habitat was potentially groundwater dependent within the context of Land Use Planning Guidance Note 4 (SEPA, 2012), the composition of the mosaic was considered, as outlined in Table A6-2-1.

**Table A6-2-1: GWDTE scoring system**

Potential GWDTE Score 5 = Highest 0 = Lowest	Habitat attributes (adapted from Table 2 of SEPA Land Use Planning System SEPA Guidance Note 4, 2012)
5	All NVC communities present (regardless of number) are listed as being of HIGH potential dependence on groundwater.
4	NVC community/mosaic with dominant community listed as of HIGH potential dependence on groundwater with one or more communities of lesser dependence.
3	NVC community/mosaic with a sub-dominant community listed as of HIGH potential dependence on groundwater with the dominant community listed as lesser dependence.
2	NVC community/mosaic with dominant community listed as of MODERATE potential dependence on groundwater with other communities present of lesser

Potential GWDTE Score 5 = Highest 0 = Lowest	Habitat attributes (adapted from Table 2 of SEPA Land Use Planning System SEPA Guidance Note 4, 2012)
	dependence.
1	NVC community/mosaic with sub dominant community listed as MODERATE and dominant community not listed as potentially dependent on groundwater.
0	NVC community/mosaic supports no communities with potential dependence on groundwater.

In order to confirm whether any of these identified communities were truly groundwater dependent, an evaluation was carried out. In the first instance, this involved identifying whether there was an obvious groundwater feature (i.e., a spring head).

If this was not apparent, plant species that required base-rich conditions were checked for. If these were located, further investigations took place to check whether the community was associated with an obvious rain-fed surface water feature. Obvious surface water features include:

- Watercourses (drains/streams/valleys);
- Waterbodies;
- Floodplains;
- Downslope of a rain-fed community; and
- Adjacent to ponding locations such as marshes or swamps

If any of these features are present, they are followed upstream to establish whether the source of the feature is groundwater dependent or not. If a groundwater source is found, the community is determined to be groundwater dependent.

## 2.3 Limitations

The 2020 surveys were carried towards the end of the NVC survey season. It is therefore possible that early flowering plants may be missed. The effect of this is considered to be negligible on the survey results however and will not have affected the accurate classification of communities. Not least because the 2023 survey was in the early season and no changes in communities were recorded.

No permission could be secured for the buffer areas to the north, east and sections of the western boundary for all surveys. Much of this land is geographically separated by roads or by medium to large sized ravines from the habitats within the Proposed Development Site. As such, they are unlikely to be hydrologically connected to any of the habitats within it.

## 3 Results

### 3.1 NVC Survey Results

The NVC survey recorded a total of fifteen communities which are considered to be of potential conservation interest, or a potential GWDTE. Where these communities were floristically distinct, they were assigned into corresponding sub-communities. The communities recorded during the survey were:

- Mires, springs, and flushes: M2, M4, M6, M9, M19, M20, M23, M25 + M35;
- Dry heath communities: H9, H21; and
- Grasslands and tall herb communities: MG10, U2, U4 U6

A map containing all the recorded NVC communities, and their location can be found on Figure 6-2-1.

### 3.2 Mires, Springs and Flushes

#### *M2 Sphagnum cuspidatum/fallax bog pool community*

This is a community that typically forms in small depressions within saturated wet peat. The pools were small and found as a small cluster within species poor M20 mire community.

The vegetation in the pools lack diversity and are dominated by *Sphagnum fallax* and *S. cuspidatum* with scattered shoots of *Eriophorum angustifolium*. Due to the small size of the community, vegetation from the surrounding habitat often encroaches the edge of the pools. Frequently recorded species occurring toward the margin of the pool include *Sphagnum medium*, *S. papillosum*, *Narthecium ossifragum* and *Erica tetralix*.

Only the M2b *Sphagnum fallax* sub-community was recorded during the survey. It is distinguished from the M2a sub-community by a lack of *Rhynchospora alba* and an abundance of *S. fallax* (Elkington *et al.*, 2001).

#### *M4 Carex rostrata – Sphagnum fallax mire*

M4 communities are sparsely but widely distributed within the Survey Area. They were restricted to permanently wet depressions or gullies where water moves slowly through the vegetation.

All M4 communities within the Proposed Development Site were species poor and dominated almost exclusively by *Carex rostrata* as the vascular plant component and *Sphagnum fallax* as the dominant component of the bryophyte assemblage. Few other species were recorded within these communities, though common sedge *Carex nigra*, *Philonotis fontana* and *Viola palustris* were noted in some stands.

#### *M6 Carex echinata – Sphagnum fallax/denticulatum mire*

This community was found in small to medium sized areas where it was located along the margins of small watercourses and depressions in the landscape. This community is a soligenous mire found on peat substrates that are fed primarily by base-deficient

water. These mires are situated in valley bottoms, sloping valley sides or channels where water flows slowly over a peaty surface.

There are four sub-communities associated with M6 mires, three of which were recorded within the Survey Area. This community contains a carpet of base-intolerant *Sphagnum* species such as *S. fallax*, *S. cuspidatum* and *S. palustre*.

Rushes and sedges are the other dominant species commonly found within this community. M6 can be differentiated from similar NVC communities such as M23 *Juncus effusus/acutiflorus* – *Galium palustre* mires as these typically lack the abundance of *Sphagnum* found in M6 communities.

M6c *Juncus effusus* and M6d *Juncus acutiflorus* sub-communities were widely recorded throughout the Proposed Development Site but increased in frequency towards the southern side.

The M6c *Juncus effusus* sub-community is rather species poor with the nominate species dominating the vascular assemblage. The M6c *Juncus effusus* sub-community is dominated by rushes and contains a carpet of common *Sphagnum* species including *S. palustre* and *S. fallax*. Less frequently recorded species include *Ranunculus repens*, *Ranunculus acris* and *Myosotis secunda*.

The M6d *Juncus acutiflorus* community is slightly more varied in its species assemblage and often contained *Viola palustris* and occasional *Carex* species such as *C. echinata* and *C. nigra*.

These sedge species are also an important component of M6a *Carex echinata* sub-community and M6b *Carex nigra* – *Nardus stricta* sub-community although these sub-communities differ from the M6c and M6d sub-communities as *Carex* species are dominant or co-dominant with rushes.

### M9 *Carex rostrata* – *Calliergonella cuspidata/giganteum* mire

This is a mire community that is associated with slightly base rich water conditions and are often dominated by *Carex rostrata*. Two sub-communities are described within M9 mires with M9b the only one to be recorded within the survey area.

The M9b sub-community is rather species poor and is dominated by *Carex rostrata* and does not contain the rich assemblage seen in M9a sub-communities. Other than the overwhelmingly dominant *Carex rostrata*, recorded species included *Calliergonella cuspidata*, *Viola palustris*, *Carex nigra* and *Carex echinata*.

### M19 *Calluna vulgaris* – *Eriophorum vaginatum* blanket mire

This habitat is dominated by large swathes of *Calluna vulgaris*, *Eriophorum vaginatum* and sparse but regular shoots of *Eriophorum angustifolium*. Bryophytes are dominated by common pleurocarpous mosses including *Hylocomium splendens*, *Pleurozium schreberi*, *Rhytidiadelphus loreus* and *Hypnum jutlandicum*.

*Sphagnum* species are not as well represented in this community as either M17 or M18 *Erica tetralix* – *Sphagnum papillosum* blanket mires. *S. capillifolium* is the most common *Sphagnum* species, though *S. papillosum* and *S. tenellum* were also present in small amounts.

One sub-community was recorded within the Proposed Development Site: M19a *Erica tetralix* sub communities. M19a occupies large areas and contained a rather complex



mosaic with dry heath communities in some locations. Muirburn has had a very strong influence upon the composition of vegetation throughout the recorded areas. Sphagnum cover was rather poorly represented within these areas and have been lost as a result of frequent exposure to fire.

The vegetation also occurs as a patchwork of varying floristic compositions depending on the last time certain patches were burnt. *Molinia caerulea* was frequent in recently burnt patches with *Vaccinium myrtillus* and few other associates, these assemblages were recorded as mosaics with M25a communities, although in time the new growth of *Calluna vulgaris* will likely return the recently burned areas to a composition resembling M19a.

In the wetter stands in the valley bottoms species such as *Narthecium ossifragum*, *Empetrum nigrum* and *Drosera rotundifolia* became more frequent. In the least degraded sections of the community, *Vaccinium vitis-idea* was recorded but rare.

### M20 *Eriophorum vaginatum* Blanket and raised mire

This is a community where *Eriophorum vaginatum* is overwhelmingly dominant and contains thick tussocks that allows few other species to compete. The habitat is found in a wide variety of locations throughout the Proposed Development Site, but mainly derived from degraded blanket bog communities.

This is a habitat is characteristic of ombrogenous peatland habitats that have been negatively affected by long term grazing and burning management regimes. These practices render the habitats floristically species poor and are often found adjacent to erosion channels which will have also contributed to water loss from the peatland surface further degrading the habitat.

There are two sub-communities associated with this habitat type, one of which was recorded in the Proposed Development Site. The M20a species poor sub-community lacks diversity and is largely dominated by *Eriophorum vaginatum*. Other species do occur but are only present in small amounts, including *Deschampsia flexuosa*, *Eriophorum angustifolium* and sparse amounts of *Calluna vulgaris* or *Vaccinium myrtillus*.

### M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture

There are two sub-communities associated with this habitat type, both of which were recorded within the Proposed Development Site. The M23a *Juncus acutiflorus* sub-community is the more floristically diverse of the two sub-communities.

The community is dominated by *Juncus acutiflorus* but contains a range of forbs including *Viola palustris*, *Carex nigra*, *Rumex acetosa* and *Cardamine pratensis*. A few small areas to the south were more diverse and contained species such as *Caltha palustris*, *Comarum palustre* and *Lotus pedunculatus*.

The M23b *Juncus effusus* sub-community is more impoverished and lacks the diversity of species seen in M23a communities. It is dominated by *Juncus effusus* and is often found in drier areas than M23a. Species that are recorded in higher frequency than M23a include *Holcus lanatus* and *Cirsium palustre*.

### M25 *Molinia caerulea – Potentilla erecta* mire

This community occurs on moderately wet, shallow peat and is found where there is a transition from the areas of deeper peat (M19 + M20 communities) and the more

improved marshy grasslands or heath. *Molinia caerulea* is the most dominant species within this community and can form large conspicuous tussocks. Bryophyte diversity is poor and restricted to robust common pleurocarpous mosses such as *Hylocomium splendens*, *Pleurozium schreberi* and *Hypnum jutlandicum*.

The M25a was the one of two sub-communities to be recorded within the survey area. M25a contains a flora that is consistent of a community that is derived from peatland habitats and contained a similar range of species, though they are normally very restricted in their distribution.

Typical peatland associates include *Erica tetralix*, *Calluna vulgaris*, *Trichophorum germanicum*, *Sphagnum palustre* and *Potentilla erecta*. The more floristically impoverished stands where *Molinia caerulea* was the overwhelmingly species cannot be assigned to a sub-community.

One area of M25c was recorded where it was found to be herb rich. Species such as *Parnassia palustris*, *Succisa pratensis*, *Angelica sylvestris*, *Lotus pedunculatus*, *Epilobium palustre*, *Juncus acutiflorus* and *Mentha aquatica* were all recorded.

### M35 *Ranunculus omiophyllus* – *Montia fontana* rill

This is a diverse community that is often small in size and found in wet runnels, springs or depressions in the landscape. Species recorded include *Montia fontana*, *Carex rostrata*, *Carex nigra*, *Potamogeton polygonifolius*, *Chrysosplenium oppositifolium* and *Ranunculus omiophyllus*.

Bryophytes were well represented within the community with *Calliergonella cuspidata*, *Philonotis fontana* and *Warnstorfia exannulata*. Notably, the Nationally Scarce (Pescott, 2016) *Hamatocaulis vernicosus* was also recorded within this community at grid reference: NS 74668 87396, 83m from proposed infrastructure.

This is a species that is protected under Schedule 8 of the Wildlife & Countryside Act 1981 (as amended) it is also listed on Annex II of the EC Habitats & Species Directive, and Appendix I of the Bern Convention. No sub-communities are described for this community.

## 3.3 Dry heath Communities

### H9 *Calluna vulgaris* – *Deschampsia flexuosa* heath

This is a dry heath community that is derived from other heath and mire communities that have been subjected to long term muirburn management. Muirburn has led to a drier, less diverse peatland than many of the other described peatland communities. *Calluna vulgaris* is abundant to dominant throughout most places within the community and varies in composition depending on when the area was last burnt.

Recently burnt areas are rather bare and mainly composed of common bryophytes including *Hypnum jutlandicum*, *Pleurozium schreberi* and *Dicranum scoparium*. *Vaccinium myrtillus* dominates the dwarf shrub layer recently burning but this dominance is lost as the heather regenerates.

Two sub-communities were recorded within the survey area, the H9a *Hypnum cupressiforme* and the H9d *Galium saxatile* sub-communities. H9a is found where *Calluna vulgaris* is dominant with *Hypnum jutlandicum* on the ground layer. The H9d

community is slightly grassier in assemblage but also has forbs including *Potentilla erecta*, *Galium saxatile* and *Rumex acetosella*.

### H21 *Calluna vulgaris* - *Vaccinium myrtillus* - *Sphagnum capillifolium* heath

This dry heath community has many similarities with blanket bog vegetation, though it occurs on shallow peatland habitats (often <50cm in depth). *Calluna vulgaris* is frequent to abundant but also contains a mixture of *Deschampsia flexuosa* and *Vaccinium myrtillus* throughout the community.

*Sphagnum capillifolium* is the most frequent *Sphagnum* species which can form low humps or hummocks, though *Sphagnum subnitens* was also occasionally recorded. Robust pleurocarpous mosses such as *Hylocomium splendens*, *Pleurozium schreberi*, *Hypnum jutlandicum* and *Rhytidiadelphus loreus* were frequent to abundant.

No sub-communities were recorded within the Proposed Development Site as there were none which were floristically distinct.

## 3.4 Grassland Communities

### MG10 *Juncus effusus* – *Holcus lanatus* rush pasture

This community is frequently recorded in the eastern half of the survey area. *Juncus effusus* tussocks are the most obvious feature of this community, though *Juncus acutiflorus* was also recorded occasionally. Between these tussocks is a species poor sward of *Holcus lanatus*, *Agrostis stolonifera* and *Poa trivialis*.

Forb species included *Ranunculus repens*, *Ranunculus acris* and *Cardamine pratensis*. It is distinct from other rush dominated communities by the higher frequency of grasses that are frequently grazed which maintains the open, short sward of the grass pasture between the tussocks of rush species.

All MG10 communities were assigned to the MG10a typical sub-community.

### U2 *Deschampsia flexuosa* grassland

This grassland was found occurring as a small area to the north of the site. It is a rather heathy grassland that often occurs on thin peaty soils. *Deschampsia flexuosa* was dominant but other species were infrequently recorded including *Agrostis capillaris*, *Potentilla erecta*, *Juncus squarrosus* and small amounts of *Vaccinium myrtillus*. This is a habitat of little biodiversity or conservation value.

### U4 *Festuca ovina*-*Agrostis capillaris*-*Galium saxatile* grassland

This grassland was found on many of the summits and occurred as closely grazed which showed evidence of improvement as a result of sheep manure. As such the more improved sub-community, U4b, was found although elsewhere it was only possible to categorise to community level due to a lack of distinction possible from the species observed.

*Festuca ovina*, in tandem with *Agrostis capillaris* and *Anthoxanthum odoratum* were dominants. In U4b *Holcus lanatus* and *Trifolium repens* had a stronger influence. *Galium saxatile* was rare in both U4 and U4b, most likely due to the exposure of these summits in addition to the grazing pressure.

### U6 *Juncus squarrosus* – *Festuca ovina* grassland

This is a habitat found on mineral deficient soils, often on shallow, moist, peaty substrates. This is another habitat which is formed normally through a combination of intensive grazing and burning practices. The thick, dark green basal rosettes of *Juncus squarrosus* are the most prominent feature of this habitat type.

These are mixed with *Anthoxanthum odoratum*, *Agrostis canina*, *Deschampsia flexuosa*, *Galium saxatile* and *Potentilla erecta* shoots growing through bryophytes including *Hylocomium splendens*, *Pleurozium schreberi*, *Rhytidiadelphus squarrosus* and *Calliergonella cuspidata*.

There was only one area recorded as U6 community within the Survey Area which was variable in its botanical composition. As such it does not conform to either of the four sub-communities associated with this habitat type.

## 3.5 NVC community summary

A number of the recorded communities are considered to have conservation value at a European level (Annex 1) or at a national level (Scottish Biodiversity List). A summary of habitats which have conservation designations assigned to them can be found in Table A6-2-2.

**Table A6-2- 2: Annex 1 and UK BAP Habitats**

NVC Code	Annex 1	Scottish Biodiversity List
M2	N/A	Blanket Bog
M4	H7140	Lowland Flush + Upland flush
M6	N/A	Upland flush
M9	H7230	Lowland flush + upland flush
M19	H7130 (Only applicable on peat >50cm deep)	Blanket bog
M20	H7130 stands on blanket bogs (Only applicable on peat >50cm deep)	Blanket bog
M25	H7130 (Only applicable on peat >50cm deep)	Blanket bog
M35	N/A	Lowland flush + upland flush
H9	H4030	Lowland heathland
H21	H4030	Lowland heathland

The communities are only classed as Annex 1 quality if they adhere to certain criteria for each Annex 1 type. All the peatland habitats within the Survey Area are degraded in nature. There are some very small areas within the communities that occur as near natural in their composition, though these areas are infrequent and very small in size.

H7130 Annex 1 codes applying to M19, M20 and M25 communities can only apply where there is a peat depth exceeding 50cm in depth and is capable of regenerating within a 30-year time frame.

The scarcity of the important peat building *Sphagna* such as *S. medium* and *S. papillosum* within these communities will inhibit the opportunity to return these communities to a functioning blanket bog within 30 years. As such, none of the peatland habitats found within the survey area are considered to be of Annex 1 quality.

The flushes were all species poor in their composition and have limited conservation value other than adding diversity to the landscape within the survey area and inherent scarcity value nationally.

### 3.6 Non-NVC Communities

Non NVC habitats were agriculturally improved, or poor acidic grasslands dominated by Yorkshire fog *Holcus lanatus* and/or red fescue *Festuca rubra*, with smooth meadow-grass *Poa pratensis* and as described in Averis *et al.* (2004) as lush, species-poor grasslands.

### 3.7 GWDTE Survey Results

GWDTEs are classified according to SEPA (2017), defining each NVC community on their potential dependency on groundwater. Groundwater dependency is often linked to wetlands that contain flora that is dependent upon the chemical composition of the water fed from a groundwater source. SEPA defines the habitats with regard to their potential for groundwater dependency, therefore not all communities listed may be truly groundwater dependent.

Table A6-2-3 lists the NVC communities that have a potential for groundwater dependency. The table categorises each habitat type according to whether they are likely to be moderately or highly groundwater dependent as defined by SEPA (2012). In total, there are two communities listed as moderate and four communities listed as high potential for groundwater dependency.

**Table A6-2-3: Potential GWDTE Communities Recorded within the Proposed Development Site**

NVC code	NVC community name	GWDTE potential
MG10	<i>Holcus lanatus</i> - <i>Juncus effusus</i> rush pasture	Moderate
M25	<i>Molinia caerulea</i> – <i>Potentilla erecta</i> mire	Moderate
M6	<i>Carex echinata</i> – <i>Sphagnum fallax</i> mire	High
M9	<i>Carex rostrata</i> – <i>Calliergonella cuspidata/gigantea</i> mire	High
M23	<i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush pasture	High
M35	<i>Ranunculus omiophyllus</i> – <i>Montia fontana</i> rill	High

One small area, within M35 *Ranunculus omiophyllus* – *Montia fontana* rill, contains a rich assemblage of species (including the legally protected *Hamatocaulis vernicosus*) that require base-rich conditions (the moss is 83m from infrastructure and the M35 in which it is found, 29m).

The source of the water could not be identified but looked as though water collected from surface runoff. There is a small quarry which has exposed rock that may be enriching surface water and flushing the communities providing base-rich conditions.

Where there is doubt, these habitats should be considered as actual groundwater dependent until proven otherwise. As such, no special mitigation should be required, unless the development area or plans change.

Another of the M35 communities located in the north-west of the Proposed Development Site is species poor in its composition, though the source of the water derives from an obvious springhead. As such, this is a groundwater dependent community. This habitat is recorded within the Proposed Development Site, though it is

located around 442m from any proposed works. Mitigation is therefore not required unless the development plan changes.

Chapter 6: Ecology and Chapter 8: Hydrology, Geology and Hydrogeology (Volume 2 of the EIA Report) should be consulted for further information.



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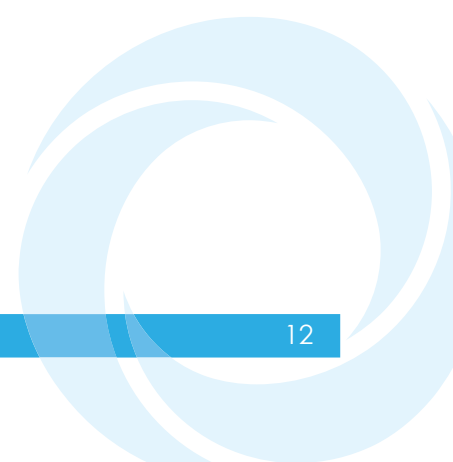
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## 5 Appendices

### Appendix A. Target Notes

**Table A6-2-4: Target Notes from Surveys**

TN number	Notes	Grid reference
1	<i>Vaccinium vitis-idaea</i> population	NS7210886955
2	Homogenous stands of M20 - species poor	NS7216486855
3	M2 bog pool community	NS7242187348
4	M20 - species poor in wet depression	NS7228987335
5	Species poor M35 - <i>Chrysosplenium oppositifolium</i> dominant.	NS7256687986
6	M6d - not floristically diverse	NS7341088006
7	<i>Comarum palustre</i> and <i>Caltha palustris</i> populations	NS7369086775
8	M4 - species poor	NS7353187966
9	M23a communities with some <i>Comarum palustre</i> and <i>Caltha palustris</i>	NS7331686817
10	U6 / U2 - 50/50%	NS7421187496
11	<i>Hamatocaulis vernicosus</i> population.	NS7465787404
12	Species rich M25 with lots of herbaceous species	NS7478087375
13	Species poor M9	NS7469787412



# Drummarnock Wind Farm



Figure 6-2-1a  
NVC - Overview

### Key

- Site boundary
  - ▲ Proposed turbine
  - ⊗ New watercourse crossing
- Proposed infrastructure**
- Crane and auxiliary hardstandings
  - Storage and working areas
  - Turning head
  - Borrow pit
  - Substation
  - Construction compound
  - Earthworks - cut
  - Earthworks - fill
  - Onsite access track - cut
  - Onsite access track - floating
  - Onsite access track - upgraded

### NVC Community

- |  |  |
|--|--|
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H9a  | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, red 2px, red 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a        |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H9d  | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, red 2px, red 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a/M20    |
| <span style="background-color: #3CB371; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H21  | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M23  |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> MG10   | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M23b |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> MG10a  | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23b   |
| <span style="background-color: #800080; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M2b  | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a/b   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M4   | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6c  | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M19   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6c/d  | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25c   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6d  | <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M35  |
| <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, green 2px, green 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6d/M23a | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U4        |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M19a   | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U4b       |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M19a/M25a  | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U6        |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M20a   | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U6/U2     |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23/M25  | <span style="background-color: grey; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Non-NVC   |



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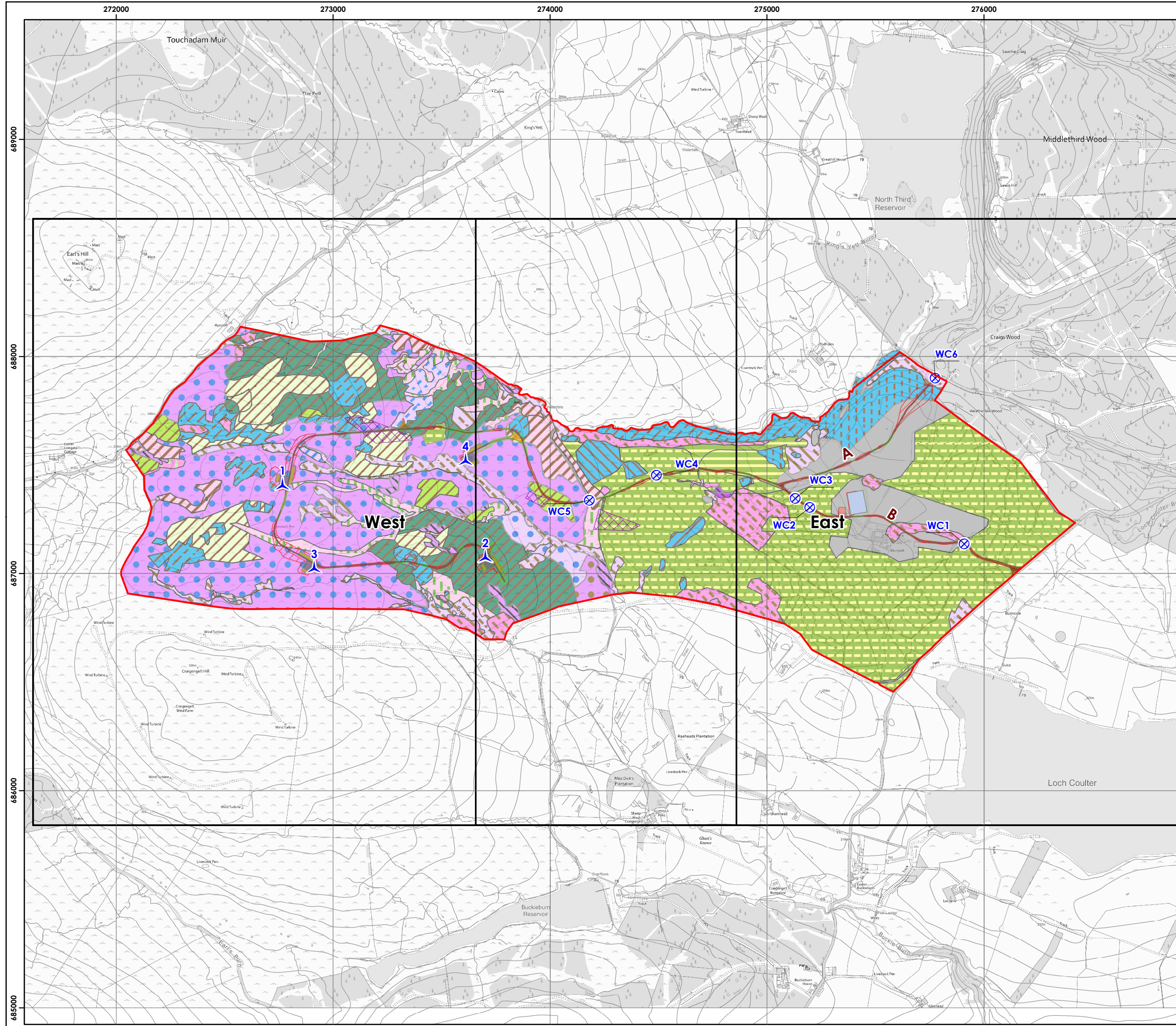


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29/05/2024 TL026 40419/HB/036i  
Drawn by: LB Checked by: TH Approved by: SM



# Drumarnock Wind Farm



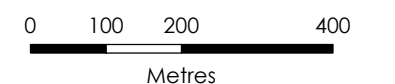
Figure 6-2-1b  
NVC - West

### Key

- Site boundary
  - ▲ Proposed turbine
  - ⊗ New watercourse crossing
- Proposed infrastructure**
- Crane and auxiliary hardstandings
  - Storage and working areas
  - Turning head
  - Borrow pit
  - Earthworks - cut
  - Earthworks - fill
  - Onsite access track - cut
  - Onsite access track - floating
  - Onsite access track - upgraded
  - Turbine foundation

### NVC Community

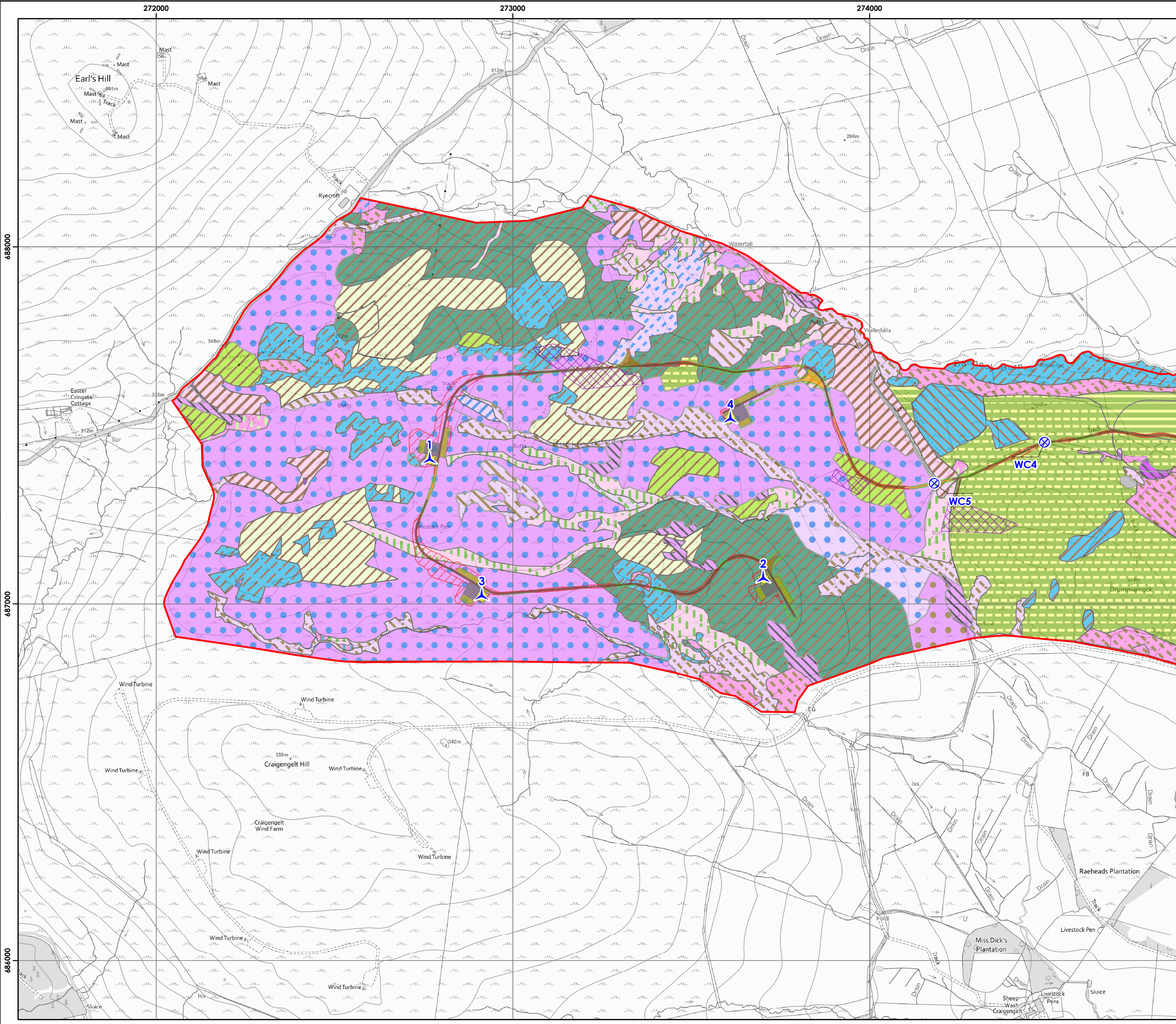
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|---|--|
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H9a       | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23/M25   |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H9d       | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a     |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> H21       | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a/M20  |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> MG10      | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M23 |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> MG10a     | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M23b |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M2b       | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23b     |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M4        | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M23a/b    |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6c       | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a     |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6c/d     | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25a/M19  |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6d       | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M25c     |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M6d/M23a  | <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M35  |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M9b       | <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U4   |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M19a      | <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U6   |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M19a/M25a | <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> U6/U2  |
| <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> M20a      | <span style="background-color: #90EE90; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Non-NVC  |



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# Drummarnock Wind Farm



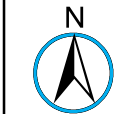
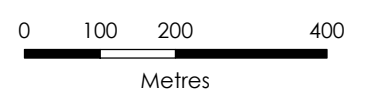
Figure 6-2-1c  
NVC - East

**Key**

- Site boundary
  - ▲ Proposed turbine
  - ⊗ New watercourse crossing
- Proposed infrastructure**
- Crane and auxiliary hardstandings
  - Storage and working areas
  - Turning head
  - Borrow pit
  - Substation
  - Construction compound
  - Earthworks - cut
  - Earthworks - fill
  - Onsite access track - cut
  - Onsite access track - floating
  - Onsite access track - upgraded
  - Turbine foundation

**NVC Community**

- |   |  |
|---|--|
| <span style="background-color: #90EE90; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> H9a       | <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M23b    |
| <span style="background-color: #3CB371; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> H21       | <span style="background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px); width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M23a/b |
| <span style="background-color: #9ACD32; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> MG10      | <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M25a   |
| <span style="background-color: #3CB371; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> MG10a     | <span style="background-color: #800080; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M25a/M19   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M6c       | <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M25c   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M6d       | <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M35  |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M9b       | <span style="background-color: #00CED1; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> U4   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M19a      | <span style="background-color: #00CED1; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> U4b  |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M19a/M25a | <span style="background-color: #00CED1; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> U6   |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M20a      | <span style="background-color: #00CED1; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> U6/U2  |
| <span style="background-color: #FF69B4; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> M23a      | <span style="background-color: grey; width: 15px; height: 10px; display: inline-block; margin-right: 5px;"></span> Non-NVC   |



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