

# Appendix 12.11

## Outline Habitat Management Plan

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## 1 Introduction

### 1.1 Background

1.1.1 This Outline Habitat Management Plan (OHMP) has been prepared to document specific mitigation measures identified through the Ecological Impact Assessment (EclA) of Project 8 - Dalwhinnie to Crubenmore, part of the A9 Dualling Programme (hereafter referred to as the Proposed Scheme).

1.1.2 This OHMP has been prepared in principle using the following guidance:

- *Planning for development: What to consider and include in Habitat Management Plans [Ref. B1159444]*
- *Peatland Action: links to guidance on practical peatland restoration [Ref. A1268389]*
- *Heather re-establishment on mechanically-disturbed areas [Ref. Information and Advisory Note 44].*

1.1.3 Further details of the Proposed Scheme are presented in **Chapter 5 in Volume 1**, and findings of the accompanying EclA are presented in **Chapter 12 in Volume 1**.

### 1.2 Ecological Context

1.2.1 Information on important habitats, fauna and flora, including potential impacts and essential mitigation, are presented in **Chapter 12 in Volume 1**; and summarised in **Table 1**. The extent and distribution of NVC communities are shown in **Drawings 12.12a to 12.21 in Volume 3**.

Table 1: Summary of temporary and permanent habitat loss

Habitat feature	Conservation status	Proposed scheme (ha)	
		Temporary	Permanent
<b>European dry heaths</b> (NVC: H10, H12, H16, H18, H21)	Annex 1	27.99	29.47
<b>Northern Atlantic wet heathlands</b> (NVC: M15, M16)	Annex 1	16.20	15.57
<b>Blanket bogs</b> (NVC: M1, M3, M17, M19, M20, M25)	Annex 1	6.85	4.33
<b>Non-priority grasslands</b> (NVC: M2, U1, U2, U4, U5, U6, U20, OV27)	None	14.59	12.95
<b>Upland flushes, fens and swamps</b> (NVC: M6, M11, M23a, M29, M32, M37, S9, S19)	SBL	0.49	0.09
<b>Upland birchwoods</b> (NVC: W11, W17)	SBL	0.52	0.46
<b>Wet grasslands</b> (NVC: MG9, MG10, M23b)	CNAP	0.28	0
<b>Non-priority woodlands</b> (NVC: W18, W23)	None	0.06	0
<b>Transition mires</b> (NVC: M4, M5)	Annex 1	<0.01 (0.002)	0
<b>Non-NVC woodland</b> (Plantation: broadleaved, mixed, coniferous)	None	0	6.18

1.2.2 Candidate habitat reinstatement/ restoration areas are shown on **Drawings 6.1 to 6.7 (Volume 3)**. Candidate peat restoration areas are described in **Appendix 10.6 in Volume 2**, and shown in **Drawings 10.39 to 10.47 (Volume 3)**, and are summarised in **Appendix A**.

1.2.3 In addition, the Cairngorms National Park Authority (CNPA) has identified 14 habitat features that could support wider biodiversity within the National Park (see **Table 2**), but do not currently receive protection through legislation or planning policy. Habitat features relating to CNPA pre-determined Interest Groups should be incorporated into wider habitat restoration where practicable.

Table 2: CNPA draft non-protected priority species within the Proposed Scheme

Phase 1 Habitat Type	Interest Group	CNPA Priority	Location
Valley mire	Lepidoptera	Amber	West of A9 between ch. 22,300 - ch. 22,650
Valley mire	Lepidoptera	Amber	East of A9 between ch. 22,950 - ch. 23,550
Wet heath	Lepidoptera	Amber	West of A9 between ch. 23,450 - ch. 23,750
Wet heath	Lepidoptera	Amber	East of A9 between ch. 24,150 – ch. 24,300
Dry heath/ acid grassland mosaic	Fungi	Amber	West of A9 between ch. 23,950 – ch. 24,550
Dry heath/ acid grassland mosaic	Fungi	Amber	West of A9 between ch. 25,200 – ch. 25,400
Dry dwarf shrub heath – acid	Lepidoptera (if bearberry is present)	Amber	East of A9 between ch. 25,500 – ch. 25,700
Road cutting, abundant bearberry present	Lepidoptera and fungi	Red	East of the A9 at ch. 26,700
Calcareous grassland – semi-improved	Fungi and botanical	Red	West of A9 between ch. 26,900 – ch. 27,700
Dry dwarf shrub heath – basic	Fungi	Amber	East of A9 between ch. 27,850 – ch. 28,000
Calcareous grassland - unimproved	Fungi and botanical	Red	West of A9 between ch. 28,950 – ch.29,050
Dry dwarf shrub heath – acid	Lepidoptera and fungi (if bearberry present)	Amber	East of the A9 between ch. 29,150 – ch. 30,550
Dry dwarf shrub heath – acid	Mature trees have potential for lichen	Amber	East of A9 between ch. 30,350 - 31,050
Dry dwarf shrub heath - acid	Lepidoptera and fungi (if bearberry present)	Amber	East of A9 between ch. 30,350 - 31,050

## 1.3 Aims and Objectives of the OHMP

- 1.3.1 **Table 1** shows that the habitats most affected by the Proposed Scheme are dry heath, wet heath, blanket bog and non-priority grasslands. The three heath and bog vegetation types are listed on Annex 1 of the Habitats Directive<sup>1</sup> and are qualifying features of Drumochter Hills Special Area of Conservation (SAC), which overlaps with the Proposed Scheme. Therefore, the focus of this OHMP is on the three Annex 1 habitat types. Woodland is also addressed, in accordance with the Scottish Government’s Policy on Control of Woodland Removal (Forestry Commission 2009).
- 1.3.2 The aim of this OHMP is to describe, in outline, the restoration, re-creation and management of the important vegetation types, by way of mitigation for habitat loss and other impacts of the Proposed Scheme.

## 1.4 Report Structure

- 1.4.1 The structure of this report is presented as follows:
- Section 2 and 3 (Outline Habitat Management Plan)
  - Appendix A (Peat Restoration Areas)
- 1.4.2 It is the intention of this OHMP to complement planned mitigation identified in the Outline Peat Management Plan (OPMP) (see **Appendix 10.6 in Volume 2**) and contribute to an existing naturalistic mosaic of habitats for integration with, and enhancement of, adjoining areas.

## 2 Scope and Implementation of the Habitat Management Plan

### 2.1 Scope

- 2.1.1 Following consent, the Contractor will develop information contained in this OHMP document to produce a Habitat Management Plan (HMP) that will contain updated baseline information and take into account the detailed design of the scheme and the intended construction methods. The HMP will contain detail on the locations and techniques for creation and restoration of habitats and will be agreed, in advance of construction, with a Steering Group.
- 2.1.2 The HMP will describe management objectives for each vegetation type that will be agreed with the Steering Group in order to establish success criteria for habitat restoration. Based on the findings of the EIA, draft management objectives and restoration techniques have been identified in principle to identify management compartments that will be acquired through the statutory compulsory purchase order (CPO) for the Proposed Scheme.

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<sup>1</sup> Council Directive 92/43/EEC on the Conservation of Natural Habitats of Wild Fauna and Flora (the Habitats Directive)

2.1.3 Monitoring against the agreed management objectives is essential for evaluating effective habitat restoration; as well as identifying the need to undertake adaptive management. On this basis, the agreed Habitat Management Plan will function as a live document where success, criteria and management prescriptions may be subject to revision based on monitoring findings.

## 2.2 Steering Group

2.2.1 A Steering Group will be established to comment and advise on the content of the HMP and to oversee its implementation. The scope of a Steering Group would include meetings and document review, both in advance of construction and at intervals during construction and operation (monitoring) to:

- (i) agree objectives and management prescriptions;
- (ii) review and evaluate monitoring results; and
- (iii) adapt management prescriptions.

2.2.2 An effective Steering Group should seek representation from the following stakeholders:

- Transport Scotland (the Client)
- Project Ecologist (the Client's representative)
- The Principal Contractor
- Ecological Clerk of Works (the Principal Contractor's representative)
- Cairngorms National Park Authority
- Scottish Natural Heritage (SNH)
- Scottish Environment Protection Agency (SEPA)
- Landowner's representative

2.2.3 In due course, the Steering Group may include representation from other interest groups including the Deer Commission Scotland and Forestry Commission Scotland, etc., if required.

## 2.3 Deer

2.3.1 Based on the SNH National Deer Vehicle Collision (DVC) data, the Proposed Scheme includes the appropriate sizing of dual-use structures to provide safe crossing opportunities for deer at ch.21,499; ch.22,240; ch.22,550; ch.23,400; ch.25,850; ch.26,050; ch.27,830; ch.29,150 and ch.30,650. On this basis, no significant change to seasonal deer migration is expected to occur.

2.3.2 Given that restoration areas are sympathetic to the existing landscape character and habitat baseline, restoration will not significantly affect ongoing sustainable deer management in the locality; therefore, deer are not discussed further in this document.

### 3 Outline Habitat Management Plan

#### 3.1 Dry heath

3.1.1 Dry heath, representing the Annex 1 habitat 4030 European Dry Heaths, occupy over 240ha (32%) of the study area (see **Chapter 12, Volume 1**). The NVC communities within this habitat type include H10, H12, H16, H18 and H21 (see **Appendix 12.3, Volume 2** and **Drawings 12.12a to 12.21, Volume 3**). Dry heath is one of the qualifying features of Drumochter Hills SAC and is a key component of Drumochter Hills SSSI.

3.1.2 Dry heath is under pressure from ongoing land management (e.g. muirburn, drainage and grazing). The area affected by temporary works during the construction phase of the Proposed Scheme is estimated at 28ha and the permanent habitat loss is approximately 29ha. Dry heath is sensitive to disturbance, but recovers from disturbance more easily than wet heath and blanket bog as it is not dependent on groundwater and surface hydrology.

3.1.3 The objectives for protection, reinstatement and re-creation of dry heath vegetation are as follows:

Objective 1: Minimise disturbance to dry heath

Objective 2: Restore areas of dry heath disturbed during construction

Objective 3: Increase abundance of typical species associated with dry heath

Objective 4: Increase abundance of bearberry *Arctostaphylos uva-ursi* within dry heath

#### Target NVC Communities

- H10 *Calluna vulgaris* – *Erica cinerea* heath
- H12 *Calluna vulgaris* – *Vaccinium myrtillus* heath
- H18 *Vaccinium myrtillus* – *Deschampsia flexuosa* heath
- H21 *Calluna vulgaris* – *Vaccinium myrtillus* – *Sphagnum capillifolium* heath

3.1.4 Measures proposed to meet these objectives and to achieve the target NVC communities are as follows:

- Minimising impacts during construction:
  - In advance of construction, the ECoW will advise the Contractor and relevant specialists to minimise impacts on dry heath; and will establish fixed point quadrats, including photographs, to record pre-construction vegetation communities and habitat condition to aid in the monitoring of habitat restoration
  - The Contractor will plan to minimise works and access within sensitive dry heath communities, avoiding non-essential works within this habitat as far as possible and using alternative areas where available, such as grassland areas within dry heath mosaics
  - The Contractor will use appropriate ground-protection measures to minimise disruption to surface vegetation, hydrology and soil
  - The ECoW will monitor adjoining habitats within the works area for signs of over wetting and desiccation; and liaise with the Contractor to undertake appropriate remediation to ameliorate habitat disturbance

- Construction requisite (e.g. imported stone/ material to create temporary access tracks) will be removed from site upon completion of works to facilitate habitat reinstatement/ restoration
- Restoration:
  - Vegetation from areas of dry heath that are to be permanently lost to the Proposed Scheme should be harvested in advance of the construction, from mid-October to December when the Ericaceous shrubs are ready to set seed (The ECoW should advise when this is by inspecting seed pods). The harvested material should be temporarily stored for re-use as a seed source for restoration of dry heath communities. Cut heather could also be baled and used for sediment control and bog restoration, in accordance with the OPMP. Further guidance on harvesting and heather is provided in guidance notes: Flora Locale (2003)<sup>2</sup> and SNH Information and Advisory Note Number 44<sup>3</sup>
  - Dry heath restoration will cover an area of approximately 24.15ha, as shown in **Drawings 6.1 to 6.7 (Volume 3)**
  - Excavated peaty soils will be used to reinstate disturbed ground; as well as dress road embankments and cuttings, typically no more than 0.5m in depth, as described in the OPMP
  - The Contractor will programme restoration to avoid back-tracking over restoration areas
  - The harvested heather shoots, or suitable alternative seed source, will be applied to restoration areas at an appropriate application rate, in accordance with guidance (e.g. Flora Locale and SNH)
  - As directed by the ECoW, additional planting (e.g. ericoids, including bearberry) and deer-fencing will be provided to help surface vegetation become established
  - Tree planting will be prohibited from dry heath restoration areas; as will be the application of any treatments that would alter soil acidity
  - Grazing and muirburn will be prohibited from restoration areas until shrubs are suitably established
- Monitoring:
  - Post-construction monitoring will be carried out from fixed point quadrats of an appropriate scale at timescales agreed between Transport Scotland, the statutory consultees and relevant landowners. As required, Transport Scotland will be responsible for securing any additional longer-term monitoring and adaptive management of dry heath restoration.

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<sup>2</sup> <https://www.floralocale.org/Harvesting+and+using+heather+seed>

<sup>3</sup> <http://www.snh.org.uk/publications/on-line/advisorynotes/44/44.htm>



## 3.2 Wet heath

3.2.1 Wet heath, representing the Annex 1 habitat 4010 Northern Atlantic Wet Heaths with *Erica tetralix*, occupies approximately 208ha (27%) of the study area (see **Chapter 12, Volume 1**). This vegetation type is represented by the NVC communities M15 and M16 (see **Appendix 12.3, Volume 2** and **Drawings 12.12a to 12.21, Volume 3**). Wet heath is one of the qualifying features of Drumochter Hills SAC and is a key component of Drumochter Hills SSSI.

3.2.2 Wet heath is subject to degradation from ongoing land management (e.g. muirburn, drainage and grazing). The total area affected by the Proposed Scheme is approximately 32ha, with similar extents affected by temporary works and by permanent habitat loss. Wet heath is sensitive to disturbance, as it is dependent on surface hydrology.

3.2.3 The objectives for protection, reinstatement and re-creation of wet heath vegetation are as follows:

Objective 1: Minimise disturbance to wet heath

Objective 2: Restore areas of wet heath disturbed during construction

Objective 3: Restore wet heath communities over peat restoration areas

Objective 4: Increase abundance of typical species associated with wet heath

### Target NVC Communities

- M15 *Trichophorum germanicum* – *Erica tetralix* wet heath
- M16 – *Erica tetralix* – *Sphagnum compactum* wet heath

3.2.4 Measures proposed to meet these objectives and to achieve the target NVC communities are as follows:

- Minimising impacts during construction:
  - In advance of construction, the ECoW will advise the Contractor and relevant specialists to minimise impacts on dry heath; and will establish fixed point quadrats, including photographs, to record pre-construction vegetation communities and habitat condition to aid in the monitoring of habitat restoration
  - The Contractor will plan to minimise works/ access within sensitive wet heath communities, avoiding non-essential works within this habitat as far as possible and using alternative areas where available, such as grassland areas within wet heath mosaics
  - The Contractor will use appropriate ground-protection measures to minimise disruption to surface vegetation, hydrology, soils and peat
  - Peaty soils, peat and turves will be excavated, stored and re-used in line with the OPMP
  - The ECoW will monitor adjoining habitats within the works area for signs of over wetting and desiccation; and liaise with the Contractor to undertake appropriate remediation to ameliorate habitat disturbance
  - Construction requisite (e.g. imported stone/ material to create temporary access tracks) will be removed from site upon completion of works to facilitate habitat reinstatement/ restoration

- Restoration:
  - Vegetation from areas of wet heath that are to be permanently lost to the Proposed Scheme should be harvested in advance of the construction, from mid-October to December when the Ericaceous shrubs are ready to set seed (The ECoW should advise when this is by inspecting seed pods). The harvested material should be temporarily stored for re-use as a seed source for restoration of wet heath communities. Cut heather could also be baled and used for sediment control and bog restoration, in accordance with the OPMP. Further guidance on harvesting and heather is provided in guidance notes: Flora Locale (2003)<sup>4</sup> and SNH Information and Advisory Note Number 44<sup>5</sup>
  - Wet heath restoration will cover an area of approximately 26.09ha as shown in **Drawings 6.1 to 6.7 (Volume 3)**
  - Excavated peaty soils, peat and turves will be used to reinstate disturbed ground, as well as dress bare ground in areas of the former BDL construction track, typically between 0.50 m and 1.00 m in depth, as described in the OPMP
  - The Contractor will programme restoration to avoid back-tracking over habitat and peat restoration areas
  - The harvested heather shoots, or suitable alternative seed source, will be applied to restoration areas at an appropriate application rate, in accordance with guidance (e.g. Flora Locale and SNH)
  - As directed by the ECoW, additional planting (e.g. ericoids) and deer-fencing will be provided to help surface vegetation become established
  - Tree planting, grazing and muirburn shall be prohibited from restoration areas, as will be the application of any treatments that would alter soil acidity
  - Temporary fencing, mulching and re-seeding shall be carried out where suitable to aid the restoration process
- Monitoring:
  - Post-construction monitoring will be carried out from fixed point quadrats of an appropriate scale at timescales agreed between Transport Scotland, the statutory consultees and relevant landowners. As required, Transport Scotland will be responsible for securing any additional longer-term monitoring and adaptive management of wet heath restoration.

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<sup>4</sup> <https://www.floralocale.org/Harvesting+and+using+heather+seed>

<sup>5</sup> <http://www.snh.org.uk/publications/on-line/advisorynotes/44/44.htm>

### 3.3 Blanket bog

- 3.3.1 Blanket bog, if actively peat-forming, is a priority habitat under Article 1 of the Habitats Directive. Priority natural habitat types are natural habitat types in danger of disappearance. The OPMP reports that much of the peatland habitats across the Proposed Scheme are not thought to be actively peat-forming, apart from an area adjacent to the Proposed Scheme at Dalwhinnie.
- 3.3.2 Blanket bog covers approximately 48ha (3%) of the study area and corresponds with the Annex 1 habitat 7130 Blanket Bogs (see **Chapter 12, Volume 1**). This vegetation type is represented by the NVC communities M1, M3, M17, M19, M20 and M25. Blanket bog is one of the qualifying features of Drumochter Hills SAC and is a key component of Drumochter Hills SSSI.
- 3.3.3 Blanket bog is subject to degradation from ongoing land management (e.g. muirburn, drainage and grazing). Blanket bogs are very sensitive to disturbance, particularly where the acrotelm (e.g. surface peat and vegetation layer) is damaged or the local hydrology is altered.
- 3.3.4 The area affected by temporary works during the construction phase of the Proposed Scheme is estimated at 7ha and the permanent habitat loss is approximately 4ha.
- 3.3.5 The objectives for protection, reinstatement and re-creation of blanket bog are as follows:

Objective 1: Minimise disturbance to blanket bogs

Objective 2: Restore areas of blanket bog disturbed/ degraded during construction

Objective 3: Increase abundance of typical species associated with blanket bog

#### Target NVC Communities

- *M17 Scirpus cespitosus – Eriophorum vaginatum*
- *M19 Calluna vulgaris – Eriophorum vaginatum* blanket mire
- *M20 Eriophorum vaginatum* blanket mire.

- 3.3.6 Measures proposed to meet these objectives and to achieve the target NVC communities are as follows:
- Minimising impacts during construction:
    - In advance of construction, the ECoW will advise the Contractor and relevant specialists to minimise impacts on blanket bog and areas of deep peat; and will establish fixed point quadrats, including photographs, to record pre-construction vegetation communities and habitat condition to aid in the monitoring of habitat restoration
    - The Contractor will plan to minimise works/ access within blanket bogs and areas of deep peat, avoiding non-essential works within this habitat as far as possible
    - The Contractor will use appropriate ground-protection measures (e.g. low ground pressure vehicles and bog matting) to minimise disruption to surface vegetation, hydrology and avoid compaction of peat
    - Peaty soils, peat and turves will be excavated, stored and re-used in line with the OPMP
    - The ECoW will monitor adjoining habitats within the works area for signs of over wetting and desiccation; and liaise with the Contractor to undertake appropriate remediation to ameliorate habitat disturbance

- Construction requisite (e.g. imported stone/ material to create temporary access tracks) will be removed from site upon completion of works to facilitate habitat reinstatement/ restoration
- Restoration:
  - Blanket bog restoration will cover an area of approximately 5.20ha
  - Excavated peat and turves will be used to re-instate disturbed blanket bog and areas of deep peat, as described in the OPMP
  - The Contractor will programme restoration to avoid back-tracking over habitat and peat restoration areas
  - As directed by the ECoW, additional planting and deer fencing shall be provided to help surface vegetation become established
  - Tree planting, grazing and muirburn shall be prohibited from restoration areas; as will be the application of any treatments that would alter soil acidity
  - Temporary fencing, mulching and re-seeding shall be carried out where suitable to aid the restoration process
  - Where appropriate, drains will be blocked using peat and plastic piling dams, in accordance with the OPMP. Blocking drains helps to re-wet the peat and encourages the growth of peat-forming species
- Monitoring:
  - Post-construction monitoring will be carried out from fixed point quadrats of an appropriate scale at timescales agreed between Transport Scotland, the statutory consultees and relevant landowners. As required, Transport Scotland will be responsible for securing any additional longer-term monitoring and adaptive management of blanket bog restoration. as shown in **Drawings 6.1 to 6.7 (Volume 3)**.

### 3.4 Woodland and scrub

- 3.4.1 In line with current Scottish Government's Policy on Control of Woodland Removal (Forestry Commission 2009), the Proposed Scheme seeks to avoid woodland loss as far as possible. Most woodland areas affected by the Proposed Scheme are characterised by conifer thicket plantations and generally of limited biodiversity interest. Therefore, landscape planting will seek to increase cover of appropriate native and broadleaved species of local provenance. The rationale for tree and shrub planting proposals are described in **Appendix 13.3** in **Volume 2**; and shown in **Drawings 6.1** to **6.7** in **Volume 3**.

## Appendix A – Peat Restoration Areas

Area Ref.	Area (ha)	Existing Vegetation	Objectives	Potential Re-use Activities	Comments/ Considerations for Re-use	Target Habitat Restoration
P01	0.33	Degraded bog (M25) and heath (H12) over peaty soil and shallow peat	Re-instate and restore to wet heath within and adjacent to permanent works boundary	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Channel at south-end of area too incised to realistically provide water. However, minor drains cross afforested area to the east and could provide hydrological connectivity from upslope areas. Cut-off drain at top of proposed low cutting adjacent to the area would be proposed to be lined, so that it only carries excess surface run-off and does not lower water table under normal conditions.	Wet heath
P02a and P02b	0.25 (2a) and 0.05 (2b)	Mosaic of heath (H12), grassland (U5) and degraded bog (M25) over peaty soils	Re-instate and create wet heath within and adjacent to permanent works boundary	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Inclusion of check-dams in proposed watercourse diversion and the existing drain to the east would be required to maintain high groundwater levels during normal conditions, but allow flood flows to pass through.	Wet heath
P03	0.16	Area of wet heath (M15), mire (M6) and degraded bog (M25 over peaty soils	Re-instate and restore to wet heath within and adjacent to permanent works boundary	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Site observations indicate the northern part of the area is likely to be most suitable for re-use, with the southern part likely to require tapering of any peat placed to tie-in with existing slopes. However, minor drains cross afforested area to the east and could provide hydrological connectivity from upslope areas. Cut-off drain at the base of the proposed low embankment (or removal of this entirely if possible) adjacent to the area would be proposed to be lined, so that it only carries excess surface run-off and does not lower water table under normal conditions.	Wet heath
P04	0.53	Area of fragmented shallow and deep peat, wet heath (M15), degraded bog (M25a), dry heath (H12) and grassland (U4) adjacent to the proposed Dalwhinnie junction	Join and extend fragmented areas of shallow and deep peat-based habitats and create wet heath within and adjacent to permanent and temporary works boundaries	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Water supply from plans appears difficult. However, site observations of the area indicate that this is part of a wide north-south hydrological pathway draining toward Allt Coire Bhatthaich. The area is low lying and likely to be a natural recipient of precipitation and run-off from surrounding and slightly more elevated areas.	Wet heath

Area Ref.	Area (ha)	Existing Vegetation	Objectives	Potential Re-use Activities	Comments/ Considerations for Re-use	Target Habitat Restoration
P05 and P07	0.78 (P05) and 0.18 (P07)	Areas of fragmented shallow and deep peat, wet heath (M15), degraded bog (M25), grassland (U4) and blanket mire (M19) adjacent to the proposed Dalwhinnie junction	Join and extend fragmented areas of shallow and deep peat-based habitats and create wet heath within and adjacent to permanent and temporary works boundaries	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required. Existing minor drainage channels within the area to be blocked using peat turves, plastic piling and/ or heather bales to restrict outflows from the area and raise water levels as high as possible during normal conditions.	The area is crossed by drainage channels, some of which will be cut off from the upstream water supply on the east side of the Proposed Scheme. However, the hydrology of the area will continue to be supplied from embankment slopes. Cut-off drains at the toe of the proposed embankment would be recommended to be removed if possible, to allow more natural drainage through and towards the area.	Wet heath
P06a and P06b	2.71	Large area of mire (M17) and wet heath (M15) adjacent to expanse of drained but locally good condition blanket bog at Dalwhinnie junction	Reinstate and extend deep peat cover, improve and restore to blanket bog within and adjacent to permanent and temporary works boundaries	Placement of peat to a depth of up to 1.00m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required. Existing minor drainage channels within the area to be blocked using peat turves, plastic piling and/ or heather bales to restrict outflows from the area and raise water levels as high as possible during normal conditions.	The area is relatively flat and wet, with several hollows which may be able to receive deeper peat if undulating topography precludes it in other areas. Numerous small artificial drains cross the area as noted, the blocking of which will assist in retaining high groundwater levels.	Blanket bog
P08	0.15	Mixture of dry (H12) and wet heath (M15)	Reinstate, join and extend fragmented areas of shallow and deep peat-based habitats and create wet heath/ blanket bog within and adjacent to permanent and temporary works boundaries	Placement of peat or peaty soils to a depth of up to 0.50m or less, with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Off-takes from the proposed pre-earthworks drainage to the east and watercourse diversion to the north could supply water to the area, but this may be locally difficult due to sloping ground. The area is also upslope of the SSE aqueduct and specific further assessment and consideration of stability will be required as a result, as should a failure of placed peat occur, it may run-out into this. Peaty soil re-use may therefore be more appropriate.	Wet heath
P09	0.32	Area of dry heath (H12), grassland (U4) and degraded blanket bog (M25) over peat soils and adjacent to fragmented pockets of shallow and deep peat	Join and extend fragmented areas of shallow and deep peat-based habitats and re-instate and create wet heath within temporary works boundary	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Some surface water is evident in the wetter parts of this area. However, off-takes from proposed watercourse diversions and check-dams in the channels may be necessary ensure the area is sufficiently wet. Lining of the proposed cut off drain at the top of the proposed cutting would assist in maintaining high groundwater levels during normal conditions.	Wet heath



Area Ref.	Area (ha)	Existing Vegetation	Objectives	Potential Re-use Activities	Comments/ Considerations for Re-use	Target Habitat Restoration
P10	0.50	Area of wet heath (M15) and degraded bog (M25) over peaty soil adjacent to Cuaich farm settlement	Re-instate and restore area to wet heath within temporary works boundary	Placement of peat to a depth of up to 1.00m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Water is already present at the surface of the area. However, inclusion of an off-take from the watercourse near the northern end may provide additional supply. Removal of cut-off drains from the base of proposed embankments adjacent to the area, and bunding around the northwestern and northern edges may also assist retention of water.	Wet heath
P11	1.81	Mixture of wet heath (M15), dry heath (H12) and grassland (U5) over peaty soils adjacent to upslope areas of wet heath (M15) and blanket bog (M17)	Re-instate, create and extend areas of wet heath	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Water supply to the area would be from upslope, with a number of visible small channels present which would bring water into the area.	Wet heath
P12	0.75	Area of wet heath (M15 and M16), degraded bog (M25) and grassland (U5) over peaty soils	Improve existing wet heath and create wet area which may be beneficial for reducing the speed of flood flows to larger watercourses.	Placement of peat to a depth of up to 0.50m with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required. Existing minor drainage channels within the area to be blocked using peat turves, plastic piling and/ or heather bales to restrict outflows from the area and raise water levels as high as possible during normal conditions.	A bund was observed running through the north-western part of the site which would require further investigation. However, removal or breach of this feature may enable wetter conditions to be maintained combined with the inclusion of check dams in the watercourse which passes through the area.	Wet heath
P13	0.36	Area of wet heath (M15) and local dry heath (H12) over peaty soils	Re-instate, join and extend locally fragmented areas of wet heath	Placement of peat or peaty soils to a depth of up to 0.50m or less, with appropriate profiling, tapering and capping with acrotelm turves, suitable vegetation or seeding as required.	Site observations have indicated that the nature of the ground is sloping, with water likely to be received upslope and some minor drainage channels which may be blocked. While the Proposed Scheme design shows the area adjacent to a small embankment, the lie of the natural ground would place the area identified above the road, so specific further assessment and consideration of stability would be required, which may inform that peaty soil re-use here is more appropriate.	Wet heath
P14a and P14b	0.22 (14a) and 0.19 (14b)	Areas of wet heath (M15) and dry heath (H12) over peaty soil in hollow, where proposed wide and shallow embankment will be created	Improve and extend with adjacent wet heath areas and create a wetland area in the topographic low created by the Proposed Scheme	Placement of peat to a depth sufficient to create the low embankment form, removing cut-off drain from the design and creating off-takes from the adjacent watercourses if necessary.	Area is likely to receive water from upslope. However, detailed design of the central watercourse culvert entrance should take account of the requirement to prevent erosion and deposition of peat in the culvert. Ways to prevent and slow drainage from these areas to the surrounding watercourses should also be considered.	Wet heath