Technical Appendix 6.1: Watercourse Crossing and Buffer Assessment

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Contents

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Introduction

This appendix should be read in conjunction with **Chapter 6: Geology, Hydrology and Peat** and **Chapter 4: Description of Proposed Development** of the Environmental Impact Assessment (EIA) Report for full details of the Proposed Development.

This appendix is supported by the following:

- EIA Report Figure 6.1: Hydrological Features, Main Catchments, Topography, and Private Water Supplies;
- EIA Report Figure 6.2a-d: Watercourses, Crossings and Flood Risk;
- Annex 6.1.1: Details of Watercourse Crossings (provided below); and
- Annex 6.1.2: Details of Buffer Encroachments (provided below).

This appendix presents information on proposed engineering activities in the water environment or close to the water environment for the Proposed Development. This information is required to assess the effects on the water environment and also to inform statutory consultees (e.g. Scottish Environment Protection Agency (SEPA)) on the likely requirements for CAR registrations and authorisations under the CAR Regulations.

Watercourse Crossings

Existing access tracks and watercourse crossings will be used to access the Proposed Development, and new crossings have been minimised as much as practicable. However, six new watercourse crossings are proposed.

There are 48 watercourse crossings on the existing tracks. Existing watercourse crossings will be reviewed for their capacity and structural capability and if possible, will be left in place and used as part of the design. Should the existing crossings be determined to be inadequate, they will be replaced with an appropriately designed crossing (bottomless arched culvert or single span bridge).

Engineering activities on minor watercourses do not normally require authorisation under the SEPA CAR Regulations. SEPA defines minor watercourses as those not shown on the 1:50,000 scale Ordnance Survey (OS) maps. Of the six new crossings required for the Proposed Development, two are over small, minor watercourses and fall under General Binding Rules 6 and 9. These crossings will not require registration or a licence under CAR; however, the work will follow general good construction practice and SEPA GBR 6 and GBR 9. The remaining four watercourse crossings will either require registration or a simple licence under CAR and will require specific mitigation measures. If upgrades to any of the 48 existing crossings are required, the Applicant will consult with SEPA to obtain the relevant CAR authorisation in advance of construction, if required.

Appropriate bridging solutions or bottomless arched culverts will be designed to avoid affecting the bed and banks of watercourses. Fording of watercourses will be avoided. Design and implementation of crossings will follow best practice, including recommendations in Engineering in the Water Environment Good Practice Guide - River Crossings (SEPA, 2010), Good Practice during Windfarm Construction (Scottish Renewables et al. 2024) and Constructed tracks in the Scottish Uplands (SNH, 2015).

During construction, temporary construction Sustainable Drainage Systems (SuDS) will be put in place at each watercourse crossing to ensure no sedimentation from construction works or pollution from plant or machinery can enter the watercourse. This could be a series of settlement ponds or settlement tanks and silt fences.

Annex 6.1.1: Details of Watercourse Crossings presents details and descriptions of the 48 existing watercourse crossings and the six new crossings that will be utilised for the Proposed Development. Their locations are shown in **Figure 6.2: Watercourses and Crossings**, showing watercourse crossings and watercourse buffers in the EIA Report.

Watercourse Buffer Encroachment

The Scottish Environment Protection Agency (SEPA) recommend a buffer of 50 m around each loch / watercourse in their scoping guidance (**Table 6.1** of the EIA Report). This was achieved for most of the watercourses on the Site, with the exception of track watercourse crossings.

There are six locations where a 50 m buffer could not be achieved; these are detailed in **Annex 6.1.2: Details of Buffer Encroachments**, along with photographs and details of potential effects and additional mitigation required. These locations are shown on **Figure 6.2** of the EIA Report. All the locations where a 50 m buffer was not achieved are on small, unnamed watercourses or waterbodies.

Annex 6.1.1: Details of Watercourse Crossings

ID - 1 **Existing track crossing**	**Unnamed watercourse**
Description: Unnamed watercourse culverted underneath existing forestry track. Drains to Magmallach Burn, flowing north-east. The small watercourse is crossed twice by existing track. Track crossing ID1 can be seen in the distance of the photo.	
NGR Ref: 273212 596799	
Photo - watercourse (culvert) viewed from crossing ID2 looking north-east to track in the distance (crossing ID1) 	
Width of watercourse (m)	0.3
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse[1]	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

[1] A minor watercourse is defined by SEPA as one that is not shown on 1:50,000 scale Ordnance Survey maps. SEPA do not normally require an authorisation for engineering activities on minor watercourses with the exception of culverting for land-gain, dredging and permanent diversions/realignments.

ID - 2	**Unnamed watercourse**
Existing track crossing	
Description: Unnamed watercourse culverted underneath existing forestry track. Drains to Magmallach Burn, flowing north-east. The small watercourse is crossed twice by existing track.	
NGR Ref: 273213 596785	
Photo - watercourse viewed downstream of track (crossing ID2) to the north-east 	
Width of watercourse (m)	0.3
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 3 **Existing track crossing**	**Magmallach Burn**
Description: The Magmallach Burn is crossed by existing access track as it flows to the north-west. The watercourse lies in a small, well-defined valley upstream of the track, becoming less defined downstream.	
NGR Ref: 273096 596871	
Photo – Culvert upstream of track 	Photo – Watercourse downstream of track 
Width of watercourse (m)	1.2
Bed sediment	Cobble and gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.27
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

<table>
<tr><td>ID - 4
Existing track crossing</td><td>Unnamed tributary of Magmallach Burn</td></tr>
<tr><td colspan="2">Description: Unnamed Tributary of the Magmallach Burn flowing from west to east. A surface water pathway originates in steep forestry to the west before passing through a culvert under the existing track. The watercourse becomes undefined and diffuse after the culvert.</td></tr>
<tr><td>NGR Ref: 273018 596958</td><td></td></tr>
<tr><td>Photo – Watercourse intercepted by existing track
  </td><td>Photo – diffuse surface flow – marked on OS maps as tributary to Magmallach Burn
  </td></tr>
<tr><td>Width of watercourse (m)</td><td>5.0 (diffuse flow)</td></tr>
<tr><td>Bed sediment</td><td>Gravel</td></tr>
<tr><td>Bank erosion</td><td>No</td></tr>
<tr><td>Natural channel</td><td>Yes</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, ~200 mm in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>< 0.01</td></tr>
<tr><td>Minor watercourse</td><td>No</td></tr>
<tr><td>Main river catchment</td><td>Appin Burn</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 5 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing north. The watercourse lies in a steep, well-defined valley and is culverted under the existing track.	
NGR Ref: 272776 597208	
Photo – watercourse looking downstream towards Appin Burn 	
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~200 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.05
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 6 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing north. The watercourse lies in a steep, well-defined valley and is culverted under the existing track.	
NGR Ref: 272706 597266	
Photo - watercourse looking downstream towards Appin Burn 	
Width of watercourse (m)	1.0
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.09
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

<table>
<tr><td>ID - 7
New track crossing</td><td>Headwater of Tributary of Appin Burn</td></tr>
<tr><td colspan="2">Description: Diffuse surface water pathway with artificial drainage in places, flowing north-east towards the Appin Burn.</td></tr>
<tr><td>NGR Ref: 272434 596928</td><td></td></tr>
<tr><td>Photo – Diffuse surface water flow path
  </td><td></td></tr>
<tr><td>Width of watercourse (m)</td><td>0.1 – 3.0</td></tr>
<tr><td>Bed sediment</td><td>Peat</td></tr>
<tr><td>Bank erosion</td><td>No</td></tr>
<tr><td>Natural channel</td><td>Yes</td></tr>
<tr><td>Crossing type</td><td>Proposed – Bottomless arch culvert, single span bridge or suitable drainage (e.g. numerous pipes) within the track.</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>< 0.01</td></tr>
<tr><td>Minor watercourse</td><td>Yes</td></tr>
<tr><td>Main river catchment</td><td>Appin Burn</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 8 **New track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing north-east in a steep, well-defined valley. The tributary is culverted under the existing access track to the south-west of the proposed new crossing.	
NGR Ref: 272109 597296	
Photo – Valley channel of unnamed tributary downstream of existing track. 	Photo – span of valley downstream of existing track. 
Width of watercourse (m)	0.5
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Proposed – bottomless arch culvert or single span bridge set into re-profiled section of new track
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.13
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	Yes

ID - 9 **Existing track crossing**	**Unnamed watercourse**
Description: Unnamed watercourse originating from artificial drainage in steep felled forestry to the west. Flows east to steep gully.	
NGR Ref: 272128 597463	
Photo – unnamed watercourse viewed upstream 	Photo – Culvert mouth downstream of existing track 
Width of watercourse (m)	0.2
Bed sediment	Gravel and sand
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 10 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn originating from artificial drainage in steep felled forestry to the west. Culverted underneath existing track before flowing north-east towards the Appin Burn.	
NGR Ref: 272148 597670	
Photo – Watercourse viewed downstream flowing northeast 	
Width of watercourse (m)	0.4
Bed sediment	Gravel and sand
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 11 **Existing track crossing**	**Unnamed watercourse**
Description: Unnamed watercourse originating in steep forestry drainage to the west. Travels through commercial forestry before eventually reaching the Appin Burn.	
NGR Ref: 272105 597754	
Photo – Valley channel of the watercourse looking downstream 	
Width of watercourse (m)	0.1
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 12 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing north to the Appin Burn. Culverted under existing track.	
NGR Ref: 271689 598013	
Photo – Unnamed tributary viewed downstream 	
Width of watercourse (m)	2.1
Bed sediment	Cobble and gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.09
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 13 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing west to the Appin Burn. The tributary is culverted under the existing access track.	
NGR Ref: 271573 598098	
Photo – Tributary viewed north, flowing downstream to existing culvert 	
Width of watercourse (m)	2.0
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.07
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 14 **Existing track crossing**	**Unnamed tributary of Appin Burn**
Description: Unnamed Tributary of the Appin Burn flowing north-west. Culverted under existing access track.	
NGR Ref: 271446 598133	
Photo – Tributary viewed downstream, culverted underneath existing access track. 	
Width of watercourse (m)	2.0
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.27
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 15 **New track crossing**	**Unnamed watercourse**
Description: Unnamed watercourse flowing to the south-east to join a tributary of the Appin Burn.	
NGR Ref: 271140 598083	
Photo – unnamed watercourse viewed downstream 	
Width of watercourse (m)	0.4
Bed sediment	Cobble and silt
Bank erosion	Yes
Natural channel	Yes
Crossing type	Proposed – bottomless arch culvert or single span bridge
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	Yes

ID - 16 **New track crossing**	**Conrick Burn**
Description: The Conrick Burn is a tributary of the Dalwhat Water and originates on the south-east slope of Blackcraig Hill. The watercourse flows to the south-east and is a diffuse surface water pathway at the proposed crossing location.	
NGR Ref: 270871 597927	
Photo – Conrick Burn originating as a diffuse surface water pathway 	
Width of watercourse (m)	0.2
Bed sediment	Gravel
Bank erosion	No
Natural channel	No
Crossing type	Proposed – bottomless arch culvert or single span bridge
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.04
Minor watercourse	No
Main river catchment	Appin Burn
CAR authorisation required	Yes

ID - 17 **Existing track crossing**	**Unnamed tributary of Conrick Burn**
Description: Unnamed Tributary of the Conrick Burn flows south in a steep, tightly meandering valley. Culverted where crossed by the existing track.	
NGR Ref: 270534 597722	
Photo – Valley channel of the watercourse after track crossing. 	Photo – Watercourse culverted underneath existing track. 
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~1 m in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.08
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 18 **Existing track crossing**	**Unnamed tributary of Lagdubh Burn**
Description: Road drainage along the existing access track joins an OS marked, unnamed tributary of the Lagdubh Burn.	
NGR Ref: 270140 598122	
Photo – Heavily vegetated tributary channel. 	
Width of watercourse (m)	0.2
Bed sediment	Gravel
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.04
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 19 **New track crossing**	**Artificial drainage**
Description: Unnamed artificial field drain located near Colt Hill. Highly vegetated with standing water and minimal flow.	
NGR Ref: 270070 598869	
Photo - Artificial field drain cut into shallow peat. 	
Width of watercourse (m)	0.3
Bed sediment	Peat
Bank erosion	No
Natural channel	No
Crossing type	Proposed – Bottomless arch culvert
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Appin Burn
CAR authorisation required	No

ID - 20 **Existing track crossing**	**Unnamed tributary of Fingland Burn**
Description: Unnamed Tributary of the Fingland Burn crossed by existing track.	
NGR Ref: 269229 598991	
Photo – Culvert outlet facing west 	
Width of watercourse (m)	0.8
Bed sediment	Gravel and silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 21	**Unnamed tributary of Fingland Burn**
Existing track crossing	
Description: Unnamed Tributary of the Fingland Burn crossed by existing track.	
NGR Ref: 269197 598717	
Photo – Unnamed tributary of the Fingland Burn viewed upstream to the west 	
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

<table>
<tr><td>ID - 22
Existing track crossing</td><td colspan="2">Unnamed tributary of Fingland Burn</td></tr>
<tr><td colspan="3">Description: An OS marked tributary of the Fingland Burn is crossed by the existing track. Upstream of the crossing sheet flow enters a 600 mm culvert, for which a downstream outlet could not be identified. Downstream of the track, diffuse surface water flows to the east to eventually join the Fingland Burn.</td></tr>
<tr><td>NGR Ref: 269077 598394</td><td colspan="2"></td></tr>
<tr><td>Photo – Culvert inlet above track
  </td><td colspan="2">Photo – Downstream of track – no culvert outlet identified, however flow path still established.
  </td></tr>
<tr><td>Width of watercourse (m)</td><td colspan="2">0.5 – 2.0</td></tr>
<tr><td>Bed sediment</td><td colspan="2">Clay</td></tr>
<tr><td>Bank erosion</td><td colspan="2">No</td></tr>
<tr><td>Natural channel</td><td colspan="2">Yes</td></tr>
<tr><td>Crossing type</td><td colspan="2">Existing pipe in poor condition – no obvious outlet but inlet identified.</td></tr>
<tr><td>Additional mitigation</td><td colspan="2">Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td colspan="2">0.04</td></tr>
<tr><td>Minor watercourse</td><td colspan="2">No</td></tr>
<tr><td>Main river catchment</td><td colspan="2">Dalwhat Water</td></tr>
<tr><td>CAR authorisation required</td><td colspan="2">No</td></tr>
</table>

<table>
<tr><td>ID - 23
New track crossing</td><td>Dalwhat Water</td></tr>
<tr><td colspan="2">Description: The Dalwhat Water is one of the largest watercourses within the Site and is crossed by existing track upstream of the proposed new crossing location.</td></tr>
<tr><td>NGR Ref: 268598 597945</td><td></td></tr>
<tr><td>Photo – Dalwhat Water upstream of existing track crossing.
  </td><td>Photo – Dalwhat Water downstream of existing track crossing, with view of proposed new crossing area.
  </td></tr>
<tr><td>Width of watercourse (m)</td><td>2.0</td></tr>
<tr><td>Bed sediment</td><td>Bedrock</td></tr>
<tr><td>Bank erosion</td><td>Yes</td></tr>
<tr><td>Natural channel</td><td>Yes</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, ~2 m in size.

Proposed new crossing – Bottomless arch culvert or single span bridge</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>0.81</td></tr>
<tr><td>Minor watercourse</td><td>No</td></tr>
<tr><td>Main river catchment</td><td>Dalwhat Water</td></tr>
<tr><td>CAR authorisation required</td><td>Yes</td></tr>
</table>

ID - 24	**Unnamed tributary of the Dalwhat Water**
Existing track crossing	
Description: Unnamed Tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.	
NGR Ref: 268695 597719	
Photo – Unnamed tributary viewed upstream to the west 	
Width of watercourse (m)	0.8
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.13
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

<table>
<tr><td>ID - 25
Existing track crossing</td><td>Ramscleuch Burn</td></tr>
<tr><td colspan="2">Description: The Ramscleuch Burn is a tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.</td></tr>
<tr><td>NGR Ref: 268727 597685</td><td></td></tr>
<tr><td>Photo – Ramscleuch Burn viewed upstream to the west
  </td><td>Photo – Ramscleuch Burn culvert mouth downstream of the existing crossing.
  </td></tr>
<tr><td>Width of watercourse (m)</td><td>2.0</td></tr>
<tr><td>Bed sediment</td><td>Gravel</td></tr>
<tr><td>Bank erosion</td><td>No</td></tr>
<tr><td>Natural channel</td><td>Yes</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, ~600 mm in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>0.32</td></tr>
<tr><td>Minor watercourse</td><td>No</td></tr>
<tr><td>Main river catchment</td><td>Dalwhat Water</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 26 **Existing track crossing**	**Unnamed tributary of the Dalwhat Water**
Description: Unnamed Tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.	
NGR Ref: 269153 597514	
Photo – Unnamed tributary viewed upstream to the west 	
Width of watercourse (m)	0.1
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 27 **Existing track crossing**	**Unnamed tributary of the Dalwhat Water**
Description: Unnamed Tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.	
NGR Ref: 269261 597441	
Photo – Unnamed tributary viewed upstream to the west 	
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID – 28 **Existing track crossing**	**Unnamed tributary of the Dalwhat Water**
Description: Unnamed Tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.	
NGR Ref: 269362 597288	
Photo – Unnamed tributary viewed upstream to the west 	
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 29 **Existing track crossing**	**Unnamed tributary of the Dalwhat Water**
Description: Unnamed Tributary of the Dalwhat Water that flows to the north-east and is crossed by the existing track.	
NGR Ref: 269385 597233	
Photo – Unnamed tributary viewed upstream to the west 	
Width of watercourse (m)	0.1
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

<table>
<tr><td>ID - 30
Existing track crossing</td><td>Back Burn</td></tr>
<tr><td colspan="2">Description: The Back Burn flows to the east in a steep valley and is a tributary of the Dalwhat Water. The watercourse is crossed by the existing track.</td></tr>
<tr><td>NGR Ref: 269430 597141</td><td></td></tr>
<tr><td>Photo – Back Burn viewed downstream of existing crossing.
  </td><td>Photo – Back Burn in steep valley above track
  </td></tr>
<tr><td>Width of watercourse (m)</td><td>2.8</td></tr>
<tr><td>Bed sediment</td><td>Gravel</td></tr>
<tr><td>Bank erosion</td><td>Yes</td></tr>
<tr><td>Natural channel</td><td>Yes</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, ~300 mm in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>0.6</td></tr>
<tr><td>Minor watercourse</td><td>No</td></tr>
<tr><td>Main river catchment</td><td>Dalwhat Water</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 31 **Existing track crossing**	**Unnamed Watercourse**
Description: Unnamed watercourse with heavily vegetated channel and low flow. Crossed by existing track.	
NGR Ref: 268294 596116	
Photo – unnamed watercourse viewed upstream to the north 	
Width of watercourse (m)	0.2
Bed sediment	Gravel
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, 250 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.05
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 32 **Existing track crossing**	**Unnamed Watercourse**
Description: Unnamed watercourse with heavily vegetated channel and low flow. Crossed by existing track.	
NGR Ref: 268261 596131	
Photo – unnamed watercourse viewed upstream to the north 	
Width of watercourse (m)	0.2
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~200 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 33 **Existing track crossing**	**Unnamed Watercourse**
Description: Unnamed watercourse lying in steep, highly eroded, tightly meandering valley. Crossed by existing track.	
NGR Ref: 268210 596147	
Photo – unnamed watercourse viewed upstream to the north 	Photo – unnamed watercourse culvert outlet 
Width of watercourse (m)	3
Bed sediment	Gravel and cobble
Bank erosion	Yes
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~1.2 m in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.31
Minor watercourse	No
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 34 **Existing track crossing**	**Unnamed Watercourse**
Description: Road drainage is passed under the existing track through a culvert which leads to a vegetated channel with minimal flow.	
NGR Ref: 268053 596144	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.8
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~250 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 35	**Unnamed Watercourse**
Existing track crossing	
Description: Road drainage is passed under the existing track through a culvert which leads to a vegetated channel with low flow.	
NGR Ref: 267827 596148	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~250 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Dalwhat Water
CAR authorisation required	No

ID - 36	**Unnamed Watercourse**
Existing track crossing	
Description: Road drainage is passed under the existing track through a culvert which leads to a vegetated channel with low flow.	
NGR Ref: 267665 596119	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~250 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 37	**Unnamed Watercourse**
Existing track crossing	
Description: Road drainage is passed under the existing track through a culvert which leads to a vegetated channel with low flow.	
NGR Ref: 267665 596119	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~ 350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 38 **Existing track crossing**	**Unnamed Watercourse**
Description: The unnamed watercourse originating from high ground to the north is passed under the existing track through a culvert which leads to a vegetated channel.	
NGR Ref: 267441 596141	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.5
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.37
Minor watercourse	No
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID – 39 **Existing track crossing**	**Unnamed Watercourse**
Description: The unnamed watercourse is passed under the existing track through a culvert which leads to a vegetated channel.	
NGR Ref: 267327 596110	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 40	**Unnamed Watercourse**
Existing track crossing	
Description: The unnamed watercourse is passed under the existing track through a culvert which leads to a vegetated channel.	
NGR Ref: 267255 596064	
Photo – unnamed watercourse viewed upstream of existing track 	Photo – unnamed watercourse viewed downstream of existing track. 
Width of watercourse (m)	0.6
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~600 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	0.26
Minor watercourse	No
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

<table>
<tr><td>ID - 41

Existing track crossing</td><td>Unnamed Watercourse</td></tr>
<tr><td colspan="2">Description: A highly vegetated channel leads to a culvert under the existing track</td></tr>
<tr><td>NGR Ref: 267155 595959</td><td></td></tr>
<tr><td>Photo – Unnamed watercourse upstream of existing culvert

  </td><td></td></tr>
<tr><td>Width of watercourse (m)</td><td>0.35</td></tr>
<tr><td>Bed sediment</td><td>Silt</td></tr>
<tr><td>Bank erosion</td><td>No</td></tr>
<tr><td>Natural channel</td><td>No</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, ~350 mm in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>< 0.01</td></tr>
<tr><td>Minor watercourse</td><td>No</td></tr>
<tr><td>Main river catchment</td><td>Stroanfreggan Burn</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 42	**Unnamed Watercourse**
Existing track crossing	
Description: A highly vegetated channel leads to a culvert under the existing track	
NGR Ref: 267044 595910	
Photo - Unnamed watercourse upstream of existing culvert 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 43	**Unnamed Watercourse**
Existing track crossing	
Description: A highly vegetated channel leads to a culvert under the existing track	
NGR Ref: 266961 595898	
Photo - Unnamed watercourse upstream of existing culvert 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 44 **Existing track crossing**	**Unnamed Watercourse**
Description: A highly vegetated channel leads to a culvert under the existing track	
NGR Ref: 266826 595861	
Photo - Unnamed watercourse upstream of existing culvert 	
Width of watercourse (m)	0.35
Bed sediment	Silt
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~350 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 45 **Existing track crossing**	**Unnamed Watercourse**
Description: Flows from a highly vegetated channel are intercepted by road drainage before being passed under the existing track by a culvert.	
NGR Ref: 266713 595861	
Photo – Watercourse north of existing track 	
Width of watercourse (m)	0.4
Bed sediment	Gravel
Bank erosion	Yes
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 46 **Existing track crossing**	**Unnamed Watercourse**
Description: This unnamed watercourse consists of a wide, vegetated, artificial channel and is culverted under the existing track.	
NGR Ref: 266658 595803	
Photo – Unnamed watercourse downstream of existing track crossing 	
Width of watercourse (m)	2.7
Bed sediment	Peat
Bank erosion	Yes
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Stroanfreggan Burn
CAR authorisation required	No

ID - 47 **Existing track crossing**	**Unnamed Watercourse**
Description: Flows from a highly vegetated channel are intercepted by road drainage before being passed under the existing track by a culvert.	
NGR Ref: 266445 595330	
Photo – Unnamed watercourse to the southeast, upstream of culvert 	
Width of watercourse (m)	0.2
Bed sediment	Gravel
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~300 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Water of Ken
CAR authorisation required	No

<table>
<tr><td>ID - 48

Existing track crossing</td><td>Artificial drainage</td></tr>
<tr><td colspan="2">Description: Artificial forestry drainage with low flow and peaty water quality</td></tr>
<tr><td>NGR Ref: 265573 594942</td><td></td></tr>
<tr><td>Photo – Forestry drainage viewed upstream from existing culvert
  </td><td></td></tr>
<tr><td>Width of watercourse (m)</td><td>0.2</td></tr>
<tr><td>Bed sediment</td><td>Peat</td></tr>
<tr><td>Bank erosion</td><td>No</td></tr>
<tr><td>Natural channel</td><td>No</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, variable in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>< 0.01</td></tr>
<tr><td>Minor watercourse</td><td>Yes</td></tr>
<tr><td>Main river catchment</td><td>Water of Ken</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 49 **Existing track crossing**	**Artificial drainage**
Description: Artificial drainage through heavily modified peatland area. Intercepted by existing track, with all flow diverted north-west towards the Auchrae Burn. Existing culvert passes no flow.	
NGR Ref: 265550 594967	
Photo – Artificial drainage channel viewed upstream 	
Width of watercourse (m)	2.0
Bed sediment	Peat
Bank erosion	Yes
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	No
Main river catchment	Water of Ken
CAR authorisation required	No

<table>
<tr><td>ID - 50
Existing track crossing</td><td colspan="2">Artificial drainage</td></tr>
<tr><td colspan="3">Description: Artificial drainage through heavily modified peatland area. Intercepted by existing track, with all flow diverted north-west towards the Auchrae Burn. Existing culvert passes no flow.</td></tr>
<tr><td>NGR Ref: 265505 595030</td><td colspan="2"></td></tr>
<tr><td>Photo – Artificial drainage viewed upstream to the north
  </td><td colspan="2">Photo – Track redirecting flows towards the Auchrae Burn
  </td></tr>
<tr><td>Width of watercourse (m)</td><td colspan="2">1.1</td></tr>
<tr><td>Bed sediment</td><td colspan="2">Peat</td></tr>
<tr><td>Bank erosion</td><td colspan="2">No</td></tr>
<tr><td>Natural channel</td><td colspan="2">No</td></tr>
<tr><td>Crossing type</td><td colspan="2">Existing track crossing with pipe culvert, variable in size</td></tr>
<tr><td>Additional mitigation</td><td colspan="2">Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td colspan="2">< 0.01</td></tr>
<tr><td>Minor watercourse</td><td colspan="2">No</td></tr>
<tr><td>Main river catchment</td><td colspan="2">Water of Ken</td></tr>
<tr><td>CAR authorisation required</td><td colspan="2">No</td></tr>
</table>

<table>
<tr><td>ID - 51

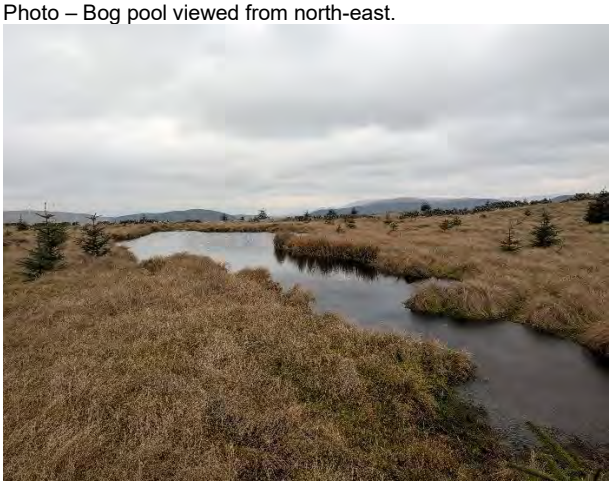
Existing track crossing</td><td>Artificial drainage</td></tr>
<tr><td colspan="2">Description: Artificial drainage through heavily modified peatland area. Intercepted by existing track, with all flow diverted north-west towards the Auchrae Burn. Existing culvert passes no flow.</td></tr>
<tr><td>NGR Ref: 265495 595048</td><td></td></tr>
<tr><td>Photo – Artificial drainage viewed upstream to the north
  </td><td>Photo – Dry channel downstream of existing track
  </td></tr>
<tr><td>Width of watercourse (m)</td><td>0.8</td></tr>
<tr><td>Bed sediment</td><td>Peat</td></tr>
<tr><td>Bank erosion</td><td>Yes</td></tr>
<tr><td>Natural channel</td><td>No</td></tr>
<tr><td>Crossing type</td><td>Existing track crossing with pipe culvert, variable in size</td></tr>
<tr><td>Additional mitigation</td><td>Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.</td></tr>
<tr><td>Catchment (km^2)</td><td>< 0.01</td></tr>
<tr><td>Minor watercourse</td><td>Yes</td></tr>
<tr><td>Main river catchment</td><td>Water of Ken</td></tr>
<tr><td>CAR authorisation required</td><td>No</td></tr>
</table>

ID - 52 **Existing track crossing**	**Auchrae Burn**
Description: The Auchrae Burn lies in a wide, shallow valley and flows to the south-west. The Auchrae Burn is crossed by the existing access track.	
NGR Ref: 265460 595096	
	
Width of watercourse (m)	1.5
Bed sediment	Gravel and cobble
Bank erosion	No
Natural channel	Yes
Crossing type	Existing track crossing with pipe culvert, ~1.5 m in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	1.42
Minor watercourse	No
Main river catchment	Water of Ken
CAR authorisation required	No

ID - 53 **Existing track crossing**	**Unnamed Watercourse**
Description: An unnamed watercourse flows through a heavily vegetated channel with low flow. The watercourse is crossed by the existing track.	
NGR Ref: 265346 595189	
Photo – unnamed watercourse viewed downstream to the south 	
Width of watercourse (m)	0.8
Bed sediment	Gravel
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, variable in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Water of Ken
CAR authorisation required	No

ID - 54 **Existing track crossing**	**Artificial Drainage**
Description: Artificial road drainage is crossed by the existing track before joining a forestry drain that enters the Water of Ken. Culvert ~50% blocked.	
NGR Ref: 264823 595846	
Photo – Highly sedimented drainage channel 	
Width of watercourse (m)	2.0
Bed sediment	Gravel
Bank erosion	No
Natural channel	No
Crossing type	Existing track crossing with pipe culvert, 450 mm in size
Additional mitigation	Additional SuDS and pollution control measures (e.g. silt fences) at this location during construction phase.
Catchment (km^2)	< 0.01
Minor watercourse	Yes
Main river catchment	Water of Ken
CAR authorisation required	No

Annex 6.1.2: Details of Buffer Encroachments

ID – A	**Bog pool**
Description: A bog pool lies to the north of Green Hill, close to the headwaters of the Magmallach Burn. The pool is oblong in shape and faces south-west to north-east. The surrounding peatland has been heavily modified by artificial drainage.	
NGR Ref: 272527 596692	
Photo – Bog pool viewed from north-east. 	
Pool area (m^2)	~ 180
Infrastructure and Ancillary Works Description	Access Track
Temporary or Permanent	Permanent
Width of Buffer Strip Achieved (m)	44
Water feature upgradient or downgradient of proposed infrastructure	No elevation difference
Main river catchment	Appin Burn
Potential Effect/Comment	The bog pool is at the same elevation as the track and over 40 m from the proposed access track. Flow path analysis does not suggest surface water connectivity between the pool and the proposed track. Embedded Mitigation (i.e. construction and permanent SuDS) will be included in the design. Surface water runoff will be treated and attenuated. The buffer width of 44 m is considered adequate for size of water feature.
Additional Mitigation	Additional Mitigation (e.g. silt fences) will be installed between the track and the watercourse to reduce the risk of sediment/silt runoff during construction.

ID – B	**Headwater of unnamed tributary of Appin Burn**
Description: Diffuse surface water flow with artificial drainage in places, flowing north-east to join an OS marked tributary of the Appin Burn.	
NGR Ref: 272460 596909	
Photo – Headwater viewed downstream to the north-east 	
Width of watercourse (m)	0.1 – 3.0
Infrastructure and Ancillary Works Description	Access Track, Turbine 8 hardstanding and fill earthworks for Turbine 8 hardstanding
Temporary or Permanent	Permanent
Width of Buffer Strip Achieved (m)	21 m from hardstanding
Water feature upgradient or downgradient of proposed infrastructure	Downgradient ~ 0.3 m elevation difference
Main river catchment	Appin Water
Potential Effect/Comment	Flow path analysis indicates that surface water runoff paths are from the infrastructure towards the headwater. Embedded Mitigation (i.e. construction and permanent SuDS) will be included in the design. Surface water runoff will be treated and attenuated. The Proposed Development is higher than the drain and is not considered to be at flood risk. Flood flows would flow down gradient and away from the Proposed Development. Buffer width is considered adequate for size of water feature.
Additional Mitigation	Additional Mitigation (e.g. silt fences) will be installed between the track and the drain to reduce the risk of sediment/silt runoff during construction.

ID – C	**Headwater of unnamed tributary of Appin Burn**
Description: Diffuse surface water flow with artificial drainage in places, flowing north-east to join an OS marked tributary of the Appin Burn. Joins the Appin Burn ~ 420 m east of the infrastructure.	
NGR Ref: 271531 597507	
Photo – Headwater viewed downstream to the north-east 	
Width of watercourse (m)	0.1 – 2.5
Infrastructure and Ancillary Works Description	Fill earthworks for Turbine 6 hardstanding
Temporary or Permanent	Permanent
Width of Buffer Strip Achieved (m)	39 m
Water feature upgradient or downgradient of proposed infrastructure	Downgradient ~ 3 m elevation difference
Main river catchment	Appin Water
Potential Effect/Comment	Flow path analysis indicates that surface water runoff paths are from the infrastructure towards the drain. Embedded Mitigation (i.e. construction and permanent SuDS) will be included in the design. Surface water runoff will be treated and attenuated. Buffer width is considered adequate for size of water feature.
Additional Mitigation	Additional Mitigation (e.g. silt fences) will be installed between the track and the watercourse to reduce the risk of sediment/silt runoff during construction.

ID – D	**Headwater of unnamed tributary of Appin Burn**
Description: Heavily vegetated, naturalising drainage channel on the northern slope of the Appin Burn valley.	
NGR Ref: 270358 598857	
Photo – Headwater viewed downstream to the north-east 	
Width of watercourse (m)	0.9
Infrastructure and Ancillary Works Description	Fill earthworks for Turbine 2 hardstanding
Temporary or Permanent	Permanent
Width of Buffer Strip Achieved (m)	42
Water feature upgradient or downgradient of proposed infrastructure	Downgradient ~ 10 m elevation difference
Main river catchment	Appin Water
Potential Effect/Comment	Flow path analysis indicates that surface water runoff paths are from the infrastructure towards the drain. Embedded Mitigation (i.e. construction and permanent SuDS) will be included in the design. Surface water runoff will be treated and attenuated. The Proposed Development is higher than the drain and is not considered to be at flood risk. Flood flows would flow down gradient and away from the Proposed Development. Buffer width is considered adequate for size of water feature.
Additional Mitigation	Additional Mitigation (e.g. silt fences) will be installed between the track and the watercourse to reduce the risk of sediment/silt runoff during construction.

ID – E	**Headwater of unnamed tributary of Appin Burn**
Description: OS marked artificial forestry drainage which leads north towards the Auchrae Burn. During hydrological survey, this watercourse was noted to be dry. The heavily vegetated, unsaturated channel indicates that there is typically minimal flow in this portion of the watercourse.	
NGR Ref: 272109 597296	
Photo – channel viewed at origin looking north 	
Width of watercourse (m)	0.4
Infrastructure and Ancillary Works Description	Proposed new access Track
Temporary or Permanent	Permanent
Width of Buffer Strip Achieved (m)	35
Water feature upgradient or downgradient of proposed infrastructure	Downgradient ~ 6 m elevation difference
Main river catchment	Water of Ken
Potential Effect/Comment	Flow path analysis indicates that surface water runoff paths are from the infrastructure towards the drain. Embedded Mitigation (i.e. construction and permanent SuDS) will be included in the design. Surface water runoff will be treated and attenuated. The Proposed Development is higher than the drain and is not considered to be at flood risk. Flood flows would flow down gradient and away from the Proposed Development. Buffer width is considered adequate for size of water feature.
Additional Mitigation	Additional Mitigation (e.g. silt fences) will be installed between the track and the watercourse to reduce the risk of sediment/silt runoff during construction.