21 Schedule of Environmental Commitments

21.1 Introduction

21.1.1 The Schedule of Environmental Commitments provided below presents the mitigation measures identified throughout **Chapters 8-18**, which have been identified to reduce potentially significant adverse environmental impacts, prior to construction, during construction and/ or during operation of the Proposed Scheme.

21.1.2 This chapter collates the mitigation measures both for ease of reference and for use by those overseeing the relevant Contract Documents.

21.1.3 The Schedule of Environmental Commitments table includes the following information:

- Mitigation Reference Number – a unique identification number assigned to each mitigation item so that it may be easily referenced in the Contract Documents
- Description of the mitigation measure
- Location and timing of mitigation
  - Four principal phases are identified for 'Timing of Measure'
    – Design, Pre-Construction, Construction, Post-Construction/ Operation
    – These identify when the measure shall be implemented, rather than when the mitigation is expected to realise benefits
- Monitoring and consultation (if required)

21.2 Mitigation Schedules

21.2.1 **Table 21-1** to **Table 21-11** below present the required mitigation measures per topic for the Proposed Scheme, split into Standard A9 Mitigation Commitments, Embedded Mitigation and Project Specific Mitigation.

21.2.2 Standard A9 Mitigation Commitments have been assigned reference numbers derived from the environmental topic and mitigation item number, i.e. Standard Mitigation Commitment 1 for Community and Private Assets is referenced **SMC-CP1.**

21.2.3 The mitigation reference numbers for the Embedded and Project Specific Mitigation items are derived from the project number, environmental topic and mitigation item number, i.e. Project 8 Ecology measure 1 is referenced **P08-E1.**

Table 21-1: Schedule of Environmental Commitments – Standard Construction Commitments

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-S1	Throughout Proposed Scheme	Pre-Construction & Construction	A Construction Environmental Management Plan (CEMP) will be prepared by the Contractor. The CEMP will set out how the Contractor intends to operate the construction site, including construction-related mitigation measures identified below in **Tables 21.2 to 21.11**. The relevant section(s) of the CEMP will be in place prior to the start of construction work. The CEMP will include, but not be limited to, subsidiary plans relating to: land (including a specific Soil Management Plan), geology and land contamination; surface water and groundwater (including a Flood Response and Pollution Incident Response Plan); ecology (Ecological Management Plan which will include specific Species Protection Plans and Habitat Management Plans); landscape, cultural heritage, air quality and noise and vibration.	To provide a framework for the implementation of construction activities in accordance with the environmental commitments and mitigation measures in the ES. It will be developed and evolve to avoid, reduce or mitigate construction impacts on the environment and the surrounding community.	Consultation with the relevant local authorities, other statutory bodies and regulatory authorities (Refer to Tables 21.2-21.11)
SMC-S2	Throughout Proposed Scheme	Pre-Construction and Construction	Prior to construction an Environmental Coordinator and team of suitably qualified Environmental Clerk of Works (EnvCoW) (i.e. professionally qualified in a relevant environmental discipline) will be appointed by the Contractor. The EnvCoW(s) will report to the Environmental Coordinator and be present on site, as required, during the construction period to monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.	To monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.	Approval by Transport Scotland
SMC-S3	Throughout Proposed Scheme	Pre-Construction and Construction	Throughout the construction period the Contractor will, as required, contribute towards the overall communications strategy for the A9 Dualling Programme. As part of this the Contractor will appoint a Community Liaison Officer supported by a liaison team as necessary who will: • liaise with the following: relevant local authorities; other statutory bodies and regulatory authorities; community councils and relevant community groups; and businesses and residents in local communities affected by the construction works; • notify occupiers of nearby properties a minimum of two weeks in advance of the nature and anticipated duration of planned construction works that may affect them; • support the production of project communications such as the project website and newsletters; and • establish a dedicated freephone telephone helpline together with a dedicated email address and postal address for enquiries and complaints during the construction phase. The relevant contact numbers, email and postal addresses will as a minimum be displayed on signs around the construction site and will be published on the project website. Enquiries and complaints will be logged in a register and appropriate action will be taken in response to any complaints.	To inform stakeholders and consultees throughout the construction period.	Consultation with the relevant local authorities, other statutory bodies and regulatory authorities, community councils and relevant community groups, and businesses and residents in local communities affected by the construction works
SMC-S4	Throughout Proposed Scheme	Construction	The Contractor will ensure that all site workers receive adequate environmental training relevant to their role prior to working on the construction site, including specific environmental project inductions and 'toolbox talks' on best practice construction methods as appropriate.	To ensure site workers are aware of best practice construction methods, mitigation measures and how they are implemented.	None required

Table 21-2: Schedule of Environmental Commitments – People and Communities – Community and Private Assets

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-CP1	Throughout Proposed Scheme	Pre-Construction and Construction	Access to/ from residential, commercial and industrial and agricultural, forestry and sporting assets will be maintained throughout the construction period by means of signed diversions, where necessary. The estimated duration and location of these diversions will be communicated to affected parties, a minimum of two weeks in advance, before they are put in place.	To maintain access to/ from residential, commercial and industrial and agricultural, forestry and sporting assets	None required
SMC-CP2	Throughout Proposed Scheme	Construction and Operation/ Post-Construction	Existing access arrangements to agricultural and forestry land outwith the land made available (LMA) boundary will not be prevented by the construction works during or post construction, unless alternative access is provided.	To maintain access to/ from residential, commercial and agricultural/ forestry land.	None required
SMC-CP3	Throughout Proposed Scheme	Pre-Construction	Consultation with affected landowners and occupiers will be undertaken on the location and timing of planned construction works to reduce disturbance, as far as practicable, taking into account the overall construction programme.	To reduce disturbance on affected landowners.	Consultation with affected landowners and occupiers
SMC-CP4	All agricultural land	Pre-Construction	Notice of intention to commence construction work will be provided to owners and occupiers of agricultural land adjacent to the Proposed Scheme before works commence.	To ensure owners and occupiers of agricultural land adjacent to the Proposed Scheme are informed of the intention to commence construction work prior to works commencing.	None required
SMC-CP5	All agricultural land	Construction	Where practicable, temporary construction compounds that are required outwith the LMA boundary will not be sited on prime agricultural land or on areas of woodland and forestry.	To reduce potential impacts arising from temporary construction compounds on prime agricultural land or on areas of woodland and forestry.	None required
SMC-CP6	All agricultural land	Construction and Operation	Where appropriate, temporary fences will be provided during construction for the health and safety of the public and animals. Fencing of working areas will be to a standard adequate for excluding any livestock kept on adjoining land. Access by non-authorised personnel will not be permitted, unless prior permission is granted by the Contractor(s).	For the health and safety of the public and animals and to prevent unauthorised site access.	None required
SMC-CP7	All agricultural land	Construction	Where boundary features (e.g. fences, walls and hedges) require temporary or permanent alteration to allow construction, these will be reinstated with appropriate materials to provide a secure boundary.	To provide a secure boundary and reduce disruption to agriculture.	None required
SMC-CP8	Throughout Proposed Scheme	Construction	Soil resources will be managed in accordance with the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (Defra, 2009). This will include the careful excavation, storage and replacement of topsoil and subsoil.	To ensure that soil mitigation measures are fully implemented and soil resources are protected.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-CP9	All agricultural land	Construction	Reasonable precautions will be taken during construction to avoid the spreading of soil-borne pests and diseases; animal and crop diseases; tree pests and diseases; and invasive species. A biosecurity protocol will be developed by the Contractor in consultation with the Animal and Plant Health Agency, the Scottish Government's Environment and Forestry Directorate and the Scottish Government's Agriculture, Food and Rural Communities Directorate, taking cognisance of relevant UK and Scottish Government biosecurity guidance.	To avoid the spreading of soil-borne pests and diseases; animal and crop diseases; tree pests and diseases; and invasive species.	Consultation with the Animal and Plant Health Agency, the Scottish Government's Environment and Forestry Directorate and the Scottish Government's Agriculture, Food and Rural Communities Directorate
SMC-CP10	Throughout Proposed Scheme	Pre-Construction	Pre-construction drainage surveys will be undertaken to reduce the likelihood of damage or disturbance to field and forestry drainage systems during construction. Where required, the integrity of the drainage system will be secured by the contractor as part of pre-construction drainage works. Repairing and reinstatement of drains affected by construction will be agreed with the landowner/ occupier to ensure that land capability is maintained and the risk of flooding is not exacerbated.	To reduce the likelihood of damage or disturbance to field and forestry drainage systems during construction.	Consultation with affected landowners and occupiers
SMC-CP11	Throughout Proposed Scheme	Pre-construction	Water supplies for livestock will be identified pre-construction and where supplies are lost or access is compromised by any construction works, temporary and/ or permanent alternative supplies will be provided as agreed with the landowner/ occupier.	To reduce disruption to landowners/ occupiers.	Consultation with affected landowners and occupiers
SMC-CP12	Throughout Proposed Scheme	Post-construction	LMA that is declared surplus following completion of construction of the Proposed Scheme (including redundant road pavement and/ or access tracks) will be offered back to former owners or their successors in accordance with the Crichel Down Rules.	To return surplus land to former owners or their successors in accordance with the Crichel Down Rules.	Consultation with affected landowners and occupiers
SMC-CP13	Throughout Proposed Scheme	Construction	Where there are sporting or fishing rights adjacent to the working area, reasonable endeavours will be taken to minimise interference with enjoyment of them while recognising the primary objective to maintain a safe working environment for both contractors and users of the land and water.	To reduce interference or enjoyment of sport/ fishing while maintaining a safe working environment for both contractors and users of the land and water.	None required
SMC-CP14	Throughout Proposed Scheme	Pre-Construction	Where stands of trees are to be affected an appropriate arboricultural and/ or windthrow assessment will be undertaken pre-construction by the Contractor. Tree surgery and/ or felling will be carried out as necessary to ensure the safety of land and infrastructure.	To address safety risk to land within the Proposed Scheme and reduce impacts to forestry.	None required
SMC-CP15	Throughout Proposed Scheme	Post-Construction	On completion of works, land required temporarily for construction works will be reinstated as far as practicable and in line with mitigation plans. A record of condition survey is to be undertaken of any land to be returned to agriculture, to ensure all land is restored as near to its original condition as is reasonably practicable.	To ensure appropriate restoration of land following completion of Proposed Scheme.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Embedded Mitigation					
P08-CP01	ch. 22, 800	Design Construction	Provision of sheep creep including a trail/ route through the trees to allow livestock movement to/ from the facility, as shown in **Environmental Mitigation Drawing 6.3**. The trail/ route shown starts at 20m wide at the outer edge and funnels down to 10m wide at the sheep creep, the route has been designed to minimise risk of disturbance to other areas of mitigation (e.g. peat areas)	To minimise impacts on livestock movements and estate operations	None required
P08-CP02	ch. 22,550	Design Construction	Provision of Dalwhinnie Junction underbridge	To minimise impacts on stock movement and estate operations	None required
P08-CP03	ch. 25,880	Design Construction	Provision of Cuaich access underbridge	To minimise impacts on stock movement and estate operations	None required
P08-CP04	ch. 22,000	Design Construction	Provision of sheep pen	To minimise impacts on stock movement and estate operations	None required
P08-CP05	ch. 22,650 to 25,050	Design Construction	Realignment of SSE Aqueduct	To allow the operation of the hydro scheme to continue	None required
P08-CP06	ch. 22, 250 and ch. 22, 265.	Design Construction	Realignment of SSE pipe	To allow the operation of the hydro scheme to continue	None required
Project Specific Mitigation					
P08-CP07	Throughout Proposed Scheme	Pre-Construction	Payment of financial compensation	To mitigate against loss of land and business viability impacts	Consultation with District Valuer and affected landowners and occupiers
P08-CP08	ch. 22,700	Post-Construction	Reinstatement of hotel garden land	To mitigate against loss of land and business viability impacts	Consultation with affected landowners and occupiers
P08—CP09	Throughout Proposed Scheme	Pre-Construction and Construction	An Agricultural and Estates Management Plan will be developed and a Clerk of Works appointed (covered under **Mitigation Item SMC-S2** in **Table 21-1**), in order to employ appropriate mitigation for any impact upon livestock movements and grouse drives at the construction phase, particularly during nesting season and shoot days. This management plan will include details of the estate, its activities in proximity to the A9, specific seasons (such as deer stalking, grouse shooting, sheep dipping), an annotated map of principal activity areas, routes and access points, protocols for notifications required and relevant contact details. In terms of the temporary disturbance to grouse, careful management is required to minimise this disturbance which could incur no works during key times of the year for nesting.	To reduce impact on sporting estates	Consultation with affected landowners and occupiers
P08-CP10	Throughout Proposed Scheme	Pre-Construction	Avoidance and minimisation of earthworks encroachment into property boundaries	To minimise impact on all community and private assets	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-CP11	Throughout Proposed Scheme	Pre-Construction	Location of drainage and Sustainable Drainage Systems (SuDS) features as close to mainline and junction as possible	To minimise impact on all community and private assets	None required
P08-CP12	Throughout Proposed Scheme	Pre-construction	Minimisation of works boundary encroachments into, and provision of access to, local estate land and properties	To minimise impact on all community and private assets	None required

Table 21-3: Schedule of Environmental Commitments – People and Communities – Effects on All Travellers

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-AT1	Throughout Proposed Scheme	Construction	As far as reasonably practicable, the construction programme will take into account the need to minimise the length of closures or restrictions of access for NMUs.	To minimise length of closures or restrictions of access for NMUs.	None required
SMC-AT2	Throughout Proposed Scheme	Construction	Where practicable, temporary diversion routes and/or assisted crossings will be provided to maintain safe access for NMUs throughout the construction works. Any closure or re-routing of routes used by NMUs will take cognisance of the 'Roads for All: Good Practice Guides for Roads' (Transport Scotland, 2013). These will be agreed in advance with the relevant local authorities and will be clearly indicated with signage as appropriate.	To maintain safe access for NMUs throughout the construction works.	Any closures will be agreed with Transport Scotland (Rights of Way), CNPA and/or THC (local and core paths).
SMC-AT3	Throughout Proposed Scheme	Pre-Construction	In consultation with the relevant Roads Authority and public transport provider, bus stops affected by the works will be relocated safely with a safe access route provided for NMUs.	To maintain access to Public Transport facilities.	Consultation with the relevant Roads Authority and public transport provider
SMC-AT4	Throughout Proposed Scheme	Construction	The Contractor will produce a traffic management plan that will include measures to avoid or reduce disruption to the road traffic, and in accordance with the Traffic Signs Manual (Department of Transport, 2009). The plan will include consideration of the timing of works, the location of haul roads to reduce site traffic on the public roads and a well maintained traffic management system with sweeping of roads to reduce construction debris on the carriageway.	To avoid or reduce disruption to the road traffic.	None required
SMC-AT5	Throughout Proposed Scheme	Construction	Reasonable precautions will be taken by the Contractor to avoid or reduce road closures. One lane in each direction will be provided for A9 traffic during peak hours (Mon to Fri) except in exceptional circumstances and for closures which are pre-approved by Transport Scotland e.g. those required during blasting.	To avoid or reduce road closures and resulting disruptions to traffic.	Approval required from Transport Scotland in the event of required A9 lane closures.

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-AT6	Throughout Proposed Scheme	Construction	Road diversions will be clearly indicated with road markings and signage as appropriate. Any road closures will be notified in advance through road signage and appropriate signage will be provided for the duration of the closure. The Contractor will also be responsible for identifying any notable changes in patterns of road network use during construction, where such changes may cause significant disruption elsewhere (such as drivers re-routing away from the A9), and will review and update traffic management provisions as appropriate in discussion with Transport Scotland.	To reduce disruption to the road users.	None required
SMC-AT7	Throughout Proposed Scheme	Construction	Appropriate lighting will be provided during any necessary night-time working, taking into account the requirements of **Mitigation Items SMC-E10** in **Table 21-6** and **SMC-LV4** in **Table 21-7.**	To mitigate potential impacts on driver stress such as fear of potential accidents due to inadequate lighting provision.	None required
SMC-AT8	NMU facilities	Construction	Access for NMUs will be maintained and improved in accordance with the following principles: • The requirements of the Equality Act 2010 and 'Roads for All: Good Practice Guides for Roads' (Transport Scotland, 2013) shall be incorporated into the proposed scheme wherever practicable; e.g. any bridges, ramps or footpaths will not present potential barriers to disabled people such as the gradient or surfacing. • NMU access shall be provided in accordance with the objectives set out in the A9 Dualling NMU Access Strategy (Transport Scotland, 2016a). • Surfacing of any new paths including alongside roads will be considered on a case by case basis, taking into account factors such as safety, the type of user and should comply with current standards. • Safety of paths will be considered in accordance with the outcome of the Road Restraints Risk Assessment Process and may require provision of barriers. New cycleways/footpaths will use non-frost susceptible materials to reduce risk of degradation.	To maintain access for NMUs and provide appropriate facilities based on use and improve access for NMUs.	None required
n/a (note)	*n/a*	*n/a*	*Further to the above, the mitigation items detailed in Table 21.7 (Landscape and Visual), Table 21.9 (Air Quality) and Table 21.10 (Noise and Vibration) will reduce the adverse amenity impacts on NMU and vehicle travellers during construction.*	*To reduce the adverse amenity impacts on NMU and vehicle travellers during construction.*	*n/a*
Embedded Mitigation					
P08-AT1	ch.20,650-20,800 northbound	Design and Construction	NMU1 (NCN7) and NMU2 have been realigned in the Proposed Scheme around SuDS feature 207	To maintain access to NMU1 and 2 upon operation of the Proposed Scheme.	None required
P08-AT2	ch.22,050	Design and Construction	Allt Coire Bhathaich watercourse crossing with hardstanding ledge for pedestrian access providing access from NCN7 to the east of the A9	To improve NMU safety and maintain NMU access.	None required
P08-AT3	ch.22,550	Design and Construction	Dalwhinnie Junction underpass includes provision for vehicles and NMUs	To improve NMU safety and maintain NMU access.	None required
P08-AT4	ch.22,550 northbound	Design and Construction	A bus turning circle is included along the A889/ Dalwhinnie Junction link road as part of the Proposed Scheme	To maintain and improve public transport stopping points.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-AT5	ch.22,550 northbound	Design and Construction	NMU8 is realigned within the Proposed Scheme along the A889/ Dalwhinnie Junction link road and access track to SuDS feature 225	To maintain access along NMU8 upon operation of the Proposed Scheme.	None required
P08-AT6	ch.23,400-23,700 southbound	Design and Construction	NMU8 is to be realigned along aqueduct diversion as part of the Proposed Scheme	To maintain access along NMU8 upon operation of the Proposed Scheme.	None required
P08-AT7	ch. 24,400	Design and Construction	An NMU link from a Type A Lay-by to SSE Aqueduct track (NMU8)	To improve NMU access to NMU8 and the connected hill walking routes	None required
P08-AT8	ch.25,850	Design and Construction	An NMU and vehicle underpass is provided at Cuaich	To improve NMU safety and maintain NMU access for NMU10 and 11.	None required
P08-AT9	ch.27,825	Design and Construction	An underpass is incorporated into the Proposed Scheme, primarily for estate use	To improve NMU safety and maintain NMU access.	None required
P08-AT10	ch.29,175	Design and Construction	Allt Garbh watercourse crossing with hardstanding ledge for pedestrians, primarily for use by Phoines Estate	To improve NMU safety and maintain NMU access.	None required
P08-AT11	Throughout Proposed Scheme	Design and Construction	Sensitive slope design with input from Landscape Architects to set slope gradients from the A9 verge to the surrounding land; refer mitigation commitment P08-LV1 in **Table 21.7**	To lessen the visual impact of the scheme and blend earthworks into the surrounding landscape.	None required
P08-AT12	Throughout Proposed Scheme	Design and Construction	SuDS design to integrate with roadside slopes at all locations where SuDS are adjacent to these slopes. SuDS basins to look as natural as possible to blend into surrounding open landscape. Refer to specific embedded mitigation commitment P08-LV2 in **Table 21.7**.	To lessen the visual impact and changes in views from the road/ amenity value of NMU routes.	None required
Project Specific Mitigation					
P08-AT13	ch.20,000 - 21, 300 (at A889, Dalwhinnie) northbound	Construction	Suitable NMU diversion must be provided where NMU1 and NMU2 are affected by construction works	To maintain safe access for NMUs throughout the construction works.	Any closures or diversions will be agreed with Transport Scotland (Rights of Way) and the CNPA.
P08-AT14	ch.20,550	Construction	A temporary parking provision from the A9 southbound lane should be provided with access to NMU3 to retain hill walking access to Munros Carn na Caim and A'Bhuidheanach Bheag during construction of the northbound carriageway. Temporary access should be clearly signposted.	To maintain safe access to NMU3 throughout the construction works.	None required
P08-AT15	Ch.20,400 to 22,200 southbound	Design and Construction	Any woodland/ vegetation lost to the existing coniferous tree belt shall be replaced with native mixed woodland species to increase biodiversity and visual amenity. Refer to Specific Mitigation commitment P08-V5 in **Table 21-7,** P08-LV6 in **Chapter 13** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road and NMU visual amenity.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-AT16	ch.22,000 -23,400 northbound and southbound	Design and Construction	Tree, scrub planting and seeding is required around Dalwhinnie Junction and A889 link road to soften embankments and screen views. Refer to Specific Mitigation commitment P08-V4 in **Table 21-7,** P08-LV7 in **Chapter 13** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road and visual amenity of NMU1, NMU2 and NMU8.	None required
P08-AT17	ch.23,400 – 23,700 southbound	Design and Construction	Woodland planting as well as heath and wet and species rich grassland surrounding the proposed aqueduct diversion is required; this will soften and screen views of the embankment from the A9. Refer to Specific Mitigation commitment P08-V6 in **Table 21.7,** P08-LV9 in **Table 21-7** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road and visual amenity of NMU8.	None required
P08-AT18	ch.25,300 – 25,600 northbound and southbound	Design and Construction	Replacement planting at Lechden Wood which will also increase the diversity of species, and riparian planting around SuDS features 258 and 259. Refer to Specific Mitigation commitment P08-V7 in **Table 21.7,** P08-LV10 in **Table 21.7** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road and visual amenity of NMU10 and 11.	None required
P08-AT19	ch.25,400 – 26,200 northbound and southbound	Design and Construction	Woodland and scrub planting is required around Cuaich to soften the embankments and screen views. Refer to Specific Mitigation commitment P08-V7 in **Table 21-7,** P08-LV10 in **Chapter Table 21-7** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road and NMU visual amenity.	None required
P08-AT20	ch.30,400 – 30,850 northbound	Design and Construction	Native woodland and scrub mix is required around SuDS feature 306 west of the HML railway. Refer to Specific Mitigation commitment P08-V9 in **Table 21-7**, P08-LV12 in **Table 21-7** and the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on views from the road.	None required
P08-AT21	Throughout Proposed Scheme	Design/ Construction	Slope treatment to create a natural appearance where slopes are integrated into the sensitive landscape context. This will be detailed with desired contours and cross sections to indicate how slopes should be finished. For further details refer to P08-LV3 in **Table 21-7**. Planting of slopes as specified on the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on visual amenity from NMU routes with views toward the A9.	Transport Scotland
P08-AT22	Throughout Proposed Scheme	Design/ Construction	Refinement of SuDS basin design to integrate SuDS with roadside slopes and access tracks, at SuDS basins 233, 258, 259, 277, 282, 286 and 293. For further details refer to P08-LV13 in **Table 21-7**. Planting to be as specified on the **Environmental Mitigation Drawings 6.1-6.14 (Volume 3)**.	Reduce impact on visual amenity from NMU routes and views from the road.	Transport Scotland

Table 21-4: Schedule of Environmental Commitments – Geology, Soils and Groundwater

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-G1	Throughout Proposed Scheme	Pre-Construction	Prior to construction, consultation will be undertaken with the relevant local authorities and SEPA regarding works in relation to land affected by contamination to support the obligations set out in 'Planning Advice Note 33: Development of Contaminated Land' (Scottish Government, 2000). Any remedial action undertaken in relation to land affected by contamination will be carried out under the appropriate remediation licencing.	To reduce impacts from contaminated land sources.	Consultation with THC (and SEPA as required).
SMC-G2	Throughout Proposed Scheme	Pre-Construction	Prior to construction and where potential contamination has been identified, further site investigations sufficient to determine the extent and type of contaminants present will be undertaken as necessary to inform identification of appropriate construction methods and any additional mitigation.	To determine the extent and type of contaminants present and to inform identification of appropriate construction methods and any additional mitigation.	None required
SMC-G3	Throughout Proposed Scheme	Pre-Construction & Construction	Prior to construction, appropriate health and safety and waste management procedures for working with potentially contaminated soils will be established. Waste management procedures will take account of inter alia: Waste Management Licence (Scotland) Regulations 2011 (as amended by the Waste Management Licensing (Scotland) Amendment Regulations 2016), HSE Guidance Note MS31 (HSE, 2012) and the Health and Safety Commission Approved Code of Practice and Guidance Note. These procedures will be implemented as appropriate during construction.	To ensure appropriate health and safety and waste management procedures for working with potentially contaminated soils are followed.	None required
SMC-G4	Throughout Proposed Scheme	Construction & Post-Construction/ Operation	Risks to construction and maintenance staff working with/near contaminated land will be mitigated by the implementation of **Mitigation Item SMC-G3** in **Table 21-4** in combination with the adoption of appropriate systems of work, including personal protective equipment (PPE) as a last resort. In the event that unrecorded contamination is encountered, works should be stopped and the working procedures reassessed to confirm the working methods remain appropriate. Construction staff will be trained to identify asbestos containing material.	To reduce impacts from contaminated land sources and confirm the safety of construction and maintenance staff.	None required
SMC-G5	Throughout Proposed Scheme	Construction	Appropriate training will be provided for personnel involved in earthworks activities to enable implementation of a watching brief to identify presence of previously unidentified contamination.	To identify potential presence of previously unidentified contamination.	None required
SMC-G6	Throughout Proposed Scheme	Pre-Construction & Construction	Where required, landowner consultation and site visits will be undertaken to confirm the location of septic tanks and associated infrastructure. Where septic tanks are located within the LMA they will be relocated subject to discussion and agreement with the affected landowner(s).	To mitigate the loss of any septic tanks.	Approval from landowners
SMC-G7	Throughout Proposed Scheme	Construction	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination, the Contractor will undertake a Piling Risk Assessment and adhere to appropriate guidance including the 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, National Groundwater and Contaminated Land Centre Report NC/99/77'.	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination.	None required

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-G8	Throughout Proposed Scheme	Construction	Excavated soils deemed unsuitable for reuse will be assessed in line with the 'Waste Classification: Guidance on the Classification and Assessment of Waste' (Technical Guidance WM3) (Natural Resources Wales, SEPA, Northern Ireland Environment Agency, Environment Agency, May 2015) to determine whether they are hazardous or non-hazardous. This will establish the most appropriate and cost effective waste stream for the waste materials.	To determine whether disposed soils are hazardous or non-hazardous.	None required
SMC-G9	Throughout Proposed Scheme	Pre-Construction	To maximise the reuse of site-won materials on-site (and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy") whilst ensuring that no risks are posed to human health nor the water environment a soil reuse assessment will be undertaken prior to construction. The soil reuse assessment will identify any potential risks posed to both human health and the water environment from potentially contaminated soils reused throughout the proposed scheme.	To identify any potential risks posed to human health and the water environment. In addition, this mitigation item would maximise re-use of site-won materials on-site and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy" through re-use of excavation arisings (refer to **Mitigation Item SMC-M3 –**in **Table 21-11**).	None required
SMC-G10	*Throughout Proposed Scheme*	*Construction*	*Where peat is encountered during construction, it will be excavated, stored and re-used if possible, taking cognisance of 'Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables and SEPA, 2012) and The Waste Management Licensing (Scotland) Regulations 2011. This will be captured in a Peat Management Plan that will be developed by the Contractor.* ***Does not apply to Project 8, more specific mitigation required for this Scheme.***	*To comply with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011 and reduce impacts on peatlands.*	*Consultation with SEPA*
SMC-G11	Throughout Proposed Scheme	Pre-Construction & Construction	Where concrete materials are proposed to be used, appropriate guidance such as 'Building Research Establishment (BRE) SD1:2005' and 'British Standard (BS) BS8500' should be followed to ensure that ground conditions are appropriate for the use of concrete at each given location.	To ensure that ground conditions are appropriate for the use of concrete at each given location.	None required
SMC-G12	Contamination sources: DC-15 and DC-53	Pre-Construction, Construction & Post-Construction/ Operation	Where potential pollutant pathways for ground gas have been identified, a ground gas monitoring programme will be developed prior to construction in adherence to 'BS 8485:2015 - Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings''. This will include an assessment of gassing issues following receipt of additional ground gas monitoring results at selected boreholes. Appropriate working methods will be developed and adopted during below ground site construction works (including piling works and excavations). This should include as a minimum, gas monitoring undertaken prior to any entry into excavations, confined spaces or below ground structures and use of PPE as a last resort. If ground gas issues are identified during construction, further post construction monitoring will be undertaken and/or appropriate gas protection measures will be incorporated into the final design.	To mitigate against potential impacts on human health during construction and Off Site Receptors (Local residents, transient traffic (foot, road and rail traffic) in the surrounding area) due to ground gas.	None required

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-G13	Throughout Proposed Scheme	Construction	Unless it can be demonstrated by the Contractor via a Quantitative Risk Assessment that no water quality impacts will occur due to leaching from SuDS retention ponds and detention basins, operational SuDS features will be lined.	To mitigate against potential impacts on water quality due to leaching from SuDS features.	SEPA
SMC-G14	Throughout Proposed Scheme	Construction	Storage of excavated soils and made ground will be minimised on site (spatially and in duration) and storage areas will be appropriately lined, with adequate drainage management in place.	To ensure that no polluted water percolates into the ground or contaminated run-off is generated.	None required
SMC-G15	Throughout Proposed Scheme	Pre-Construction	Risk assessments will be undertaken before explosives can be used on site.	To minimise or control the impact of blasting on bedrock geology.	None required
n/a (note)	*n/a*	*n/a*	*Further to the above, the implementation of Mitigation Items detailed in Chapter 11 (Road Drainage and the Water Environment) and the measures detailed in Chapter 16 (Air Quality).*	*To mitigate the water pollution risk to groundwater and avoid the creation of a statutory nuisance associated with dust and air pollution when working with contaminated land.*	*n/a*
Project Specific Mitigation					
P08-G1	Throughout Proposed Scheme	Pre-Construction & Construction	Prior to construction, a suitably qualified and experienced (or team of suitably qualified and experienced) Environmental Clerk of Works (EnvCoW) shall be appointed by the Contractor to oversee implementation of mitigation and monitoring relating to soils, potential contamination, groundwater, PWS and the management of waste materials. A qualified and experienced Ecological Clerk of Works (ECoW) shall also be appointed prior to construction, to oversee and provide specific inputs to the implementation of proposed mitigation and monitoring relating to peat and GWDTE.	To oversee implementation of mitigation and monitoring relating to soils, potential contamination, groundwater, PWS, the management of waste materials, peat and GWDTE.	None required
P08-G2	ch. 22,400 to ch. 22,700 ch.26,050 to ch.27,460	Design, Pre-Construction & Construction	Naturalistic rock cutting may be possible in areas of widening and cutting identified as being likely to intercept bedrock, the extent of which shall be determined during the detailed design by the Contractor, following risk assessment (**Mitigation Item SMC-G15** in **Table 21-4**). During construction, rock mapping and inspections shall be undertaken by a suitably qualified and experienced engineering geologist appointed by the Contractor in those areas determined, with the cuts being profiled to be as natural as possible with no visible engineered elements.	To review stability and minimise the requirement for meshing or other stabilisation measures within final rock cut profiles.	None required
P08-G3	ch.-500 to ch.20,800	Construction	During construction or delivery of upgrades to the existing BDL track, the Contractor shall minimise disturbance of the natural soil profile and landform across the area of Allt Coire Chuirn as far as is practicable. Damage to partial alluvial fan exposure areas at bar locations on Allt Coire Chuirn shall be avoided through set-backs as required and appropriate working procedures shall be adopted as per **Mitigation Items SMC-W1** to **SMC-W5** and **SMC-W13** to **SMC-W17** in **Table 21.5** in relation to in-channel works and hydromorphology.	To minimise additional potential disturbance to soils and landform across the area, partial exposures and active channel morphology	Consultation with SNH

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-G4	Throughout Proposed Scheme	Pre-Construction & Construction	The Contractor shall develop a Soil Management Plan prior to construction, for implementation during construction, with cognisance of the requirements identified in relation to peaty soils and peat (**Mitigation Item P08-G6 in Table 21.4**) and adopting principles from the 'Scottish Soil Framework' (Scottish Government, 2009) and other voluntary or industry regulated Codes of Practice, including 'Promoting the Sustainable Reuse of Greenfield Soils in Construction' (SEPA, 2010) and the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (DEFRA, 2009).	To document and ensure that soil resources and soils of conservation value are excavated, managed, re-used and replaced sustainably and appropriately	Consultation with SEPA
P08-G5	Throughout Proposed Scheme	Design, Pre-Construction & Construction	Where peat conditions and depths permit, the Contractor shall consider and include appropriate design measures (such as floated access tracks and piled or bridged solutions for embankments or structures) to further avoid and/ or minimise peat excavation and disturbance. This shall take account of the unique peat characteristics and follow guidance on the design, duration and timing of construction, the sequencing of construction and hydrology set out in 'Floating Roads on Peat: A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland' (SNH/ FCS, 2010) and others, as necessary.	To reduce peaty soil and peat disturbance and resultant excavation volumes	None required
P08-G6	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	Prior to construction, the Contractor shall refine the OPMP (**Appendix 10.6** (**Volume 2**)) of the ES) for implementation prior to, during and following construction as the Construction stage Peat Management Plan (PMP). The Construction stage PMP shall adopt the principles and outline best practice measures detailed in the OPMP, with refinements made by the Contractor to include the establishment of detailed site-specific method statements related to construction techniques and locations, estimated excavation volumes, excavation procedures, temporary works activities, temporary storage, transportation, handling, proposed peat re-use areas and activities within those. Monitoring requirements and timescales for prior to, during and following construction, particularly with regards re-use and restoration works, shall be established and implemented by the Contractor as necessary, with all refinements made taking cognisance of best practice in 'Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables and SEPA, 2012) and others, as necessary.	To comply with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011 and manage, reduce and monitor impacts on peat and peaty soils	Consultation with SNH, SEPA and CNPA required to agree on the Construction stage Peat Management Plan (PMP) and any proposed peat re-use
P08-G7	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	Through adoption and refinement of the OPMP, the Contractor shall identify and propose environmentally beneficial re-uses of peat that is excavated during construction. Provisional candidate areas for this have been identified as detailed in the OPMP (**Appendix 10.6** (**Volume 2**) of the ES) and illustrated in **Drawings 10.39** to **10.47** (**Volume 3**), though the Contractor may identify additional areas to this within the LMA or elsewhere, by agreement prior to or during construction. Following re-use, dedicated monitoring of water table and vegetation in the re-use areas adopted shall be undertaken by the Contractor (**Mitigation Item P08-G6 in Table 21.6**) and the requirements for additional treatment work such as but not limited to, seeding, compaction, tapering and removal of invasive species, established on an ongoing basis in consultation with SEPA, SNH and CNPA.	To provide mitigation for peat excavation and disturbance	See **Mitigation Item P08-G6** in **Table 21.4**

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-G8	Throughout Proposed Scheme	Design, Pre-Construction & Construction	Temporary storage of excavated peat shall be avoided wherever possible by transporting it to identified re-use locations as soon as is practicable, and the time spent in storage shall be kept to a minimum where possible. Where this is not possible during construction, the Contractor shall take account of the Preliminary Peat Landslide Risk Assessment findings (**Appendix 10.5** (**Volume 2**) of the ES), undertake additional quantitative assessment where necessary and identify appropriate storage areas for excavated peat, including, varying or additional to those provisionally highlighted in **Drawings 10.39** to **10.47** (**Volume 3**).	To minimise peat volumes in storage and the likelihood of drying.	See **Mitigation Item P08-G6 in Table 21.4**
P08-G9	Throughout Proposed Scheme	Pre-Construction & Construction	Where excavated peat does require temporary storage, the areas for this shall avoid being near watercourses through appropriate set backs. Areas of GWDTE assessed as likely moderate and/ or highly dependent on groundwater in **Appendix 10.2** (**Volume 2**) of the ES shall also be avoided where possible – particularly areas of or containing discrete M6, M10, M11 and M15a flushes and M32 or M37 springs identified on **Drawings 10.21** to **10.29** (**Volume 3**). Where possible, peat will be extracted and relocated as 300mm to 500mm deep turves. If peat turves need to be stored for any length of time, they will be stored vegetation side up, stacked no more than 1.00m high, and monitored during all weather conditions and kept wet as necessary to prevent them from drying out.	To minimise peat volumes in storage, the likelihood of drying and potential effects on GWDTE	See **Mitigation Item P08-G6 in Table 21.4**
P08-G10	Throughout Proposed Scheme	Design, Pre-construction, Construction & Post-Construction	For temporary construction-stage SuDS and related drainage, the Contractor shall avoid areas of peat and areas of GWDTE assessed as being likely moderate and/ or highly dependent on groundwater in **Appendix 10.2** (**Volume 2**) of the ES. This shall be achieved through micrositing during detailed design and the use of above-ground solutions requiring no or limited excavation, such as siltbusters, where possible during construction. Areas of peat or GWDTE habitat which are unavoidable and in which excavation is required for temporary SuDS and drainage shall be re-instated by the Contractor as soon as possible following the completion of construction works. Such re-instatement shall return the areas to their former habitat type as far as is practicable using species appropriate to the environment and of local provenance.	To reduce peaty soil and peat disturbance, resultant excavation volumes and re-instate those areas which are temporarily disturbed	See **Mitigation Item P08-G6 in Table 21.4**
P08-G11	Throughout Proposed Scheme	Design, Construction & Post-Construction	For temporary haul roads or access tracks required during construction, the Contractor shall avoid areas of peat and areas of GWDTE assessed as being likely moderate and/ or highly dependent on groundwater in **Appendix 10.2** (**Volume 2**) of the ES. Where unavoidable, floated track construction shall be considered where conditions and depths permit, with guidance from 'Floating Roads on Peat: A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland' (SNH/ FCS, 2010) and others, as necessary. All temporary haul roads and access tracks created during construction shall be fully re-instated by the Contractor following construction.	To reduce peaty soil and peat and GWDTE disturbance, resultant excavation volumes and re-instate those areas which are temporarily disturbed	See **Mitigation Item P08-G6 in Table 21.4**

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-G12	Throughout Proposed Scheme	Design, Pre-Construction, Construction and Post-Construction	Where potential peat landslide or bog burst risks have been identified in the Preliminary Peat Landslide Risk Assessment and Preliminary Risk Register in **Appendix 10.5** (**Volume 2**) of the ES, the Contractor shall undertake additional quantitative assessment of these prior to construction and follow guidance within 'Peat Landslide Hazard and Risk Assessments: Best Practice for Proposed Electricity Generation Developments' (Scottish Executive, 2006) for the implementation of additional micrositing of Proposed Scheme elements during detailed design, and to determine and implement any required mitigation such as catch ditches, fences, walkovers and inspections during and following construction.	To identify and mitigate against potential peat landslide risks	Consultation with SNH, SEPA and CNPA
P08-G13	Throughout Proposed Scheme	Pre-Construction	A number of widening or other cuttings have been identified as having the potential to intercept groundwater. Volumes of groundwater drainage will need to be considered in the context of potential groundwater abstraction CAR licenses prior to construction commencing.	To comply with CAR license requirements and protect the water environment	Consultation with and approval from SEPA
P08-G14	Throughout Proposed Scheme	Design, Pre-Construction & Construction	A detailed assessment will be undertaken for areas of widening or cutting anticipated to result in groundwater-related impacts on GWDTE and surface water receptors. This shall be completed prior to construction using all available GI data, including additional groundwater monitoring and testing data from the Preliminary and Detailed GI. If impacts are confirmed as significant, a specific GWDTE monitoring and mitigation plan will be developed, with drainage designs, groundwater exclusion, containment or other control measures determined by the Contractor during detailed design and implemented during construction to reduce drawdown at sensitive receptors where appropriate and practicable. Drainage and pumping from excavations will be carefully monitored during construction, with additional mitigation such as redirecting abstracted water to affected receptors implemented as necessary.	To check GWDTE and surface water risks, assess changes in groundwater level and quality and ensure that GWDTE and surface waters are protected	Consultation with SEPA
P08-G15	Throughout Proposed Scheme	Design, Pre-Construction & Construction	A differential settlement assessment shall be undertaken by the Contractor prior to construction in excavation areas identified as having the potential to intercept groundwater and which are located in the vicinity of existing structures and infrastructure. This shall be completed using all available GI data, including additional groundwater monitoring data from the Preliminary and Detailed GI. Should potential settlement risks be identified, mitigation measures shall be implemented by the Contractor during construction where necessary and may include monitoring of groundwater level variations, implementation of condition surveys and monitoring of infrastructure.	To determine if adjacent or surrounding infrastructure is at risk of settlement and implement mitigation where required	None required
P08-G16	Throughout Proposed Scheme	Pre-Construction & Construction	The Contractor shall review areas of groundwater likely to be intercepted by excavations and implement treatment as required prior to discharge. This shall be completed using all available GI data, including additional groundwater monitoring and testing data from the Preliminary and Detailed GI; in the preparation of discharge licensing considerations. Containment facilities and discharge locations for abstracted groundwater during construction shall be defined by the Contractor taking water quality characteristics into account.	To determine treatment and discharge requirements for intercepted groundwater	Consultation with SEPA

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-G17	Throughout Proposed Scheme	Construction	Any excavations within or alongside areas of deep peat or blanket bog habitat should be bunded with sheets of plastic or metal sheet pilings to assist retaining water and preventing local drainage of the adjacent or surrounding peat mass margins where practicable.	To minimise dewatering of areas of peat	None required
P08-G18	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	A groundwater monitoring network shall be established within and adjacent to areas of GWDTE identified to be at potential risk of impact following **Mitigation Item P08-G14** in **Table 21-4** with monitoring completed in accordance with 'LUPS-GU31 Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems, Version 2' (SEPA, 2014). Such monitoring shall involve groundwater level and quality readings, as well as repeated NVC surveys based on the GWDTE monitoring and mitigation plan developed in **Mitigation Item P08-G14** in **Table 21-4** and in consultation with SEPA.	To monitor GWDTE risks, assess changes in groundwater level and quality and ensure that GWDTE are protected	Consultation with SEPA
P08-G19	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	The Contractor shall establish a Groundwater and Surface Water Management Plan with associated monitoring programme prior to construction, to be adhered to during construction, and post construction, as required by the relevant regulatory bodies. This shall be prepared with cognisance of **Mitigation Items SMC-W1** to **SMC-W17** detailed in **Table 21-5** and monitoring requirements related to GWDTE where necessary (**Mitigation Item P08-G14** in **Table 21.4**).	To document and ensure that mitigation and monitoring measures are in place to protect the water environment and associated receptors	Consultation with SEPA
P08-G20	Throughout Proposed Scheme	Construction	To maintain hydrological connectivity between and within wetland habitats, particularly springs, flushes and GWDTE; works around areas containing discrete M10, M11 and M15a flushes and M32 or M37 springs, shall be carried out carefully, with a buffer zone of at least 10m from such features within the LMA marked out on the ground where necessary and as far as possible, additional works micrositing during construction to avoid them. Any works within the buffer zone shall be supervised by a suitably qualified and experienced ECoW appointed by the Contractor and shall be planned to maintain unpolluted water flows.	To mitigate and control potential effects on GWDTE during construction	Consultation with SEPA
P08-G21	Drumochter Estate Access Track (former Beauly to Denny Power Line track)	Design, Construction & Post-Construction	For construction and delivery of upgrades to the former BDL track at Drumochter, trackside drainage will include a lateral channel cut along the uphill side of the track to intercept natural run-off and shallow flush and groundwater flow. This shall be conducted under the track at regular intervals through cross-drains. Within the LMA, the trackside drain shall be broad and shallow with moderate gradients to prevent scouring, and flows from this drainage will be treated and controlled by filtration through check dams and dispersal trenches. During operation, drains associated with the track shall be inspected periodically and cleaned out as necessary.	To maintain hydrological connectivity between up-gradient and down-gradient GWDTE and prevent/ alleviate overland water flow disruptions	None required

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-G22	Dalwhinnie Water Treatment Works Groundwater Abstractions (ABS 8.5)	Pre-Construction & Construction	The groundwater abstractions at Dalwhinnie Water Treatment Works (ABS 8.5) shall be monitored by the Contractor for yield and quality during the construction phase in consultation with Scottish Water. Works proposed nearby to the River Truim and up-stream of the abstraction locations, shall have due regard of **Mitigation Items SMC-W6, SMC-W7, SMC-W8, SMC-W11** (**Chapter 11**) and **SMC-S1** (**in Table 21-1**) in relation to protection of the water environment, service disruption and implementation of a Pollution Incident Control Plan. Specific monitoring and mitigation requirements for the abstractions, including corrective action in response to significant effects on yield or quality, should they occur, will be determined and implemented by the Contractor via a specific monitoring plan and mitigation strategy in consultation with SEPA and Scottish Water.	To monitor and safeguard yield/ quality of abstractions	Consultation with Scottish Water and SEPA
P08-G23	Cuaich Farm Settlement PWS (ABS 8.24)	Pre-Construction & Construction	Additional surveys shall be undertaken by the Contractor prior to construction, to confirm the exact location and extent of the PWS supply network within the LMA for the Cuaich farm settlement (ABS 8.24). If impacts to the network are confirmed, the Contractor shall incorporate protective measures to ensure the infrastructure does not get damaged during construction or in the long-term by the Proposed Scheme. If this is not possible, an alternative source of water and/ or replacement/ diverted network shall be put in place. Specific monitoring and mitigation requirements for the supply will be determined and implemented by the Contractor in consultation and communication with landowners, residents, THC and SEPA.	To protect existing PWS or provide an alternative, replacement or diverted supply network	Consultation with landowner, residents, THC and SEPA
n/a (note)	*n/a*	*n/a*	*Further to the above, Mitigation Items P08-E5, P08-E6, P08-E11, P08-E19, P08-E20, P08-E21, P08-E22 and P08-E25 detailed in Chapter 12 will be implemented in relation to temporary works and sensitive peatland and GWDTE habitats, and habitat re-instatement and restoration works within the Outline Habitat Management Plan (OHMP) in Appendix 12.11 (Volume 2) of the ES.* *The implementation of Mitigation Items detailed in Chapter 11 will also mitigate water pollution-related risks to groundwater and GWDTE.*	*To reduce temporary impacts on peatland or GWDTE habitats and deliver specific mitigation measures to re-instate and restore notable habitats that are impacted*	*n/a*

Table 21-5: Schedule of Environmental Commitments – Road Drainage and the Water Environment

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-W1	Throughout proposed scheme	Design, Pre-Construction & Construction	In relation to authorisations under CAR, the Contractor will be required to provide a detailed Construction Method Statement which will include proposed mitigation measures for specific activities including any requirements identified through the pre-CAR application consultation process.	To mitigate construction impacts on the water environment.	CAR applications require approval from SEPA
SMC-W2	Throughout proposed scheme	Pre-Construction & Construction	In relation to flood risk, the Contractor will implement the following mitigation measures during construction: • The Flood Response Plan (as part of the CEMP, refer to Mitigation Item SMC-S1 in **Table 21-1** of **Chapter 21** (Schedule of Environmental Commitments)) will set out the following mitigation measures to be implemented when working within the functional floodplain (defined here as the 0.5% AEP (200-year) flood extent): ➢ Routinely check the Met Office Weather Warnings and the SEPA Floodline alert service for potential storm events (or snow melt), flood alerts and warnings relevant to the area of the construction works. ➢ During periods of heavy rainfall or extended periods of wet weather (in the immediate locality or wider river catchment) river levels will be monitored using for example SEPA Water Level Data when available/ visual inspection of water features. The Contractor will assess any change from base flow condition and be familiar with the normal dry weather flow conditions for the water feature, and be familiar with the likely hydrological response of the water feature to heavy rainfall (in terms of time to peak, likely flood extents) and windows of opportunity to respond should river levels rise. ➢ Should flooding be predicted, works close or within the water features should be immediately withdrawn (if practicable) from high risk areas (defined as: within the channel or within the bankfull channel zone - usually the 50% (2-year) AEP flood extent). Works should retreat to above the 10% AEP (10-year) flood extent) with monitoring and alerts for further mobilisation outside the functional floodplain should river levels continue to rise. • Plant and materials will be stored in areas outside the functional floodplain where practicable, with the aim for temporary construction works to be resistant or resilient to flooding impacts, to minimise/ prevent movement or damage during potential flooding events. Where this is not possible, agreement will be required with the Environmental Clerk of Works (EnvCoW). • Stockpiling of material within the functional floodplain, if unavoidable, will be carefully controlled with limits to the extent of stockpiling within an area, to prevent compartmentalisation of the floodplain, and stockpiles will be located >10m from watercourse banks. • Temporary drainage systems will be implemented to alleviate localised surface water flood risk and prevent obstruction of existing surface runoff pathways. Where practicable, temporary haul routes will be located outside of the functional floodplain.	To reduce the risk of flooding impacts on construction works.	None required

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W3	Throughout proposed scheme	Pre-Construction Construction & Post-Construction/ Operation	In relation to construction site runoff and sedimentation, the Contractor will adhere to GPPs/ PGGs (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • avoiding unnecessary stockpiling of materials and exposure of bare surfaces, limiting topsoil stripping to areas where bulk earthworks are immediately programmed • installation of temporary drainage systems/ SuDS systems (or equivalent) including pre-earthworks drainage • pre-earthworks drainage/ SuDS with appropriate outfalls to be in place prior to any earthworks activities • treatment facilities to be scheduled for construction early in the programme, to allow settlement and treatment of any pollutants contained in site runoff and to control the rate of flow before water is discharged into a receiving watercourse • the adoption of silt fences, check dams, settlement lagoons, soakaways and other sediment trap structures as appropriate • the maintenance and regrading of haulage route surfaces where issues are encountered with the breakdown of the existing surface and generation of fine sediment • provision of wheel washes at appropriate locations (in terms of proposed construction activities) and >10m from water features • protecting soil stockpiles using bunds, silt fencing and peripheral cut-off ditches, and location of stockpiles at distances >10m from water features; and • restoration of bare surfaces (seeding and planting) throughout the construction period as soon as possible after the work has been completed, or protecting exposed ground with geotextiles if to be left exposed	To implement appropriate controls for site runoff and sedimentation and reduce impacts on the water environment.	If flocculants are considered necessary to aid settlement of fine suspended solids, such as clay particles, the chemicals used must first be approved by SEPA. Where required, temporary discharge consents to be obtained from SEPA through the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended).
SMC-W4	Throughout proposed scheme	Pre-Construction & Construction	In relation to in-channel working, the Contractor will adhere to GPPs/ PPGS (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • undertaking in-channel works during low flow periods (i.e. when flows are at or below the mean average) as far as reasonably practicable to reduce the potential for sediment release and scour • no in-channel working during the salmonid spawning seasons unless permitted within any CAR licence • minimise the length of channel disturbed and size of working corridor, with the use of silt fences or bunds where appropriate to prevent sediment being washed into the water feature • limit the removal of vegetation from the riparian corridor, and retaining vegetated buffer zone wherever reasonably practicable • limit the amount of tracking adjacent to watercourses and avoid creation of new flow paths between exposed areas and new or existing channels.	To reduce impacts on the water environment during in-channel working.	Method statements for any in-channel working require approval by SEPA

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W5	Throughout proposed scheme	Construction	Where channel realignment is necessary, the Contractor will adhere to good practice guidance (Section 11.2) and implement appropriate measures which will include, but may not be limited to: • Once a new channel is constructed, the flow should, where practicable, be diverted from the existing channel to the new course under normal/ low flow conditions • diverting flow to a new channel should be timed to avoid forecast heavy rainfall events at the location and higher up in the catchment (the optimum time will be the spring and early summer months to allow vegetation establishment to help stabilise the new channel banks) • with offline realignments, the flow will be diverted with a steady release of water into the newly constructed realignment to avoid entrainment of fine sediment or erosion of the new channel • any proposed realignment works will be supervised by a suitably qualified fluvial geomorphologist.	To reduce impacts on the water environment where channel realignment is proposed.	Consultation with SEPA
SMC-W6	Throughout proposed scheme	Construction	In relation to refuelling and storage of fuels, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • only designated trained and competent operatives will be authorised to refuel plant • refuelling will be undertaken at designated refuelling areas (e.g. on hardstanding, with spill kits available, and >10m from water features) where practicable • appropriate measures will be adopted to avoid spillages (refer to Mitigation Item **SMC-W7**) • compliance with the Pollution Incident Control Plan (refer to Mitigation Item **SMC-S1**).	To avoid spillages and reduce impacts on the water environment in relation to refuelling.	None required
SMC-W7	Throughout proposed scheme	Construction	In relation to oil/ fuel leaks and spillages, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • stationary plant will be fitted with drip trays and emptied regularly • plant machinery will be regularly inspected for leaks with maintenance as required • spillage kits will be stored at key locations on-site and detailed within the Construction Environmental Management Plan (CEMP) (refer to Mitigation Item S1) • construction activities will comply with the Pollution Incident Control Plan (refer to Mitigation Item **SMC-S1)**.	To reduce impacts on the water environment in relation to oil/ fuel leaks and spillages.	None required

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W8	Throughout proposed scheme	Construction	In relation to chemical storage, handling and reuse, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • chemical, fuel and oil storage will be undertaken within a site compound, which will be located on stable ground at a low risk of flooding and >10m from any watercourse • chemical, fuel and oil stores will be locked and sited on an impervious base within a secured bund with 110% of the storage capacity • pesticides, including herbicides, will only be used if there are no alternative practicable measures, and will be used in accordance with CAR requirements, the manufacturer's instructions and application rates.	To reduce impacts on the water environment in relation to chemical storage, handling and reuse.	None required
SMC-W9	Throughout proposed scheme	Construction	In relation to concrete, cement and grout, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (Section 11.2), and implement appropriate measures which will include, but may not be limited to: • concrete mixing and washing areas will: ➢ be located more than 10m from water bodies ➢ have settlement and re-circulation systems for water reuse ➢ have a contained area for washing out and cleaning of concrete batching plant or ready-mix lorries. • wash-water will not be discharged to the water environment and will be disposed of appropriately either to the foul sewer (with permission from Scottish Water), or through containment and disposal to an authorised site • where concrete pouring is required within a channel, a dry working area will be created • where concrete pouring is required within 10m of a water feature or over a water feature, appropriate protection will be put in place to prevent spills entering the channel (e.g. isolation of working area, protective sheeting) • quick setting products (cement, concrete and grout) will be used for structures that are in or near to watercourses.	To reduce impacts on the water environment in relation to concrete, cement and grout.	Permission required from Scottish Water. Consultation with SEPA.
SMC-W10	Site Compound/ Facilities	Construction	Sewage from site facilities will be disposed of appropriately either to a foul sewer (with the permission of Scottish Water) or via appropriate treatment and discharge agreed with SEPA in advance of construction and in accordance with 'PPG04 Treatment and Disposal of Sewage' (SEPA, 2003 – 2013).	To ensure sewage from site facilities is disposed of appropriately.	Permission required from Scottish Water for disposal to foul sewer or SEPA, in advance of construction, for appropriate treatment and discharge to a water course

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W11	Throughout proposed scheme	Construction	In relation to service diversions and to avoid damage to existing services from excavations and ground penetration, including temporary severance of public and private water supplies through damage to infrastructure, the Contractor will: • locate and map all private or public water supply assets and other service infrastructure prior to construction • take measures to prevent damage to services and to avoid pollution during service diversions, excavations and ground works • provide a temporary alternative water supply (e.g. bottled or tankered) if services are to be disrupted or diverted by the works.	To mitigate service diversions and disruptions from excavations and ground penetration.	Consultation with SEPA
SMC-W12	Throughout proposed scheme	Construction	For works within areas identified as potentially containing contaminated land and sediment the Contractor will reduce the risk of surface water pollution to an acceptably low level through: • further site investigation to determine the level of contamination prior to construction to beginning • the installation of temporary treatment facilities to enable removal of pollutants from surface waters • adoption of mitigation measures relating to contaminated land as outlined in **Table 21-4**	To reduce risk of surface water pollution from areas identified as potentially contaminated land to an acceptably low level.	Details of any temporary treatment measures to be agreed with SEPA prior to commencement of construction
SMC-W13	Throughout proposed scheme	Design	In relation to bank reinforcement, design principles and mitigation measures will adhere to good practice (SEPA, 2008), which will include, but may not be limited to: • non-engineering solutions and green engineering (e.g. vegetation, geotextile matting) to be the preference during options appraisal • requirements for grey engineering to control/ prevent scour (e.g. rock armour, rip-rap, gabion baskets) to be minimised • post project appraisal to identify if there are issues that can be investigated and addressed at an early stage	To reduce impacts of in-channel structures on the water environment.	Consultation with SEPA
SMC-W14	Throughout proposed scheme	Design	In relation to outfalls, specimen and detailed design will ensure compliance with good practice (e.g. CIRIA, 2015; The Highways Agency et al., 2004; SEPA, 2008), which will include, but may not be limited to: • directing each outfall downstream to minimise impacts to flow patterns • avoiding projecting the outfall into the watercourse channel • avoid installation of outfalls at locations of known historical channel migration • avoid positioning in flow convergence zones or where there is evidence of active bank erosion/ instability • directing an outfall away from the banks of a river to minimise any potential risk of erosion (particularly on the opposite bank) • minimising the size/ extent of the outfall headwall where possible to reduce the potential impact on the banks • post project appraisal to identify if there are issues that can be investigated and addressed at an early stage	To reduce impacts of outfalls on the water environment.	Consultation with SEPA

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W15	Throughout proposed scheme	Design	In relation to watercourse crossings, specimen and detailed design will ensure compliance with good practice (SEPA, 2010), which will include, but may not be limited to: • Detailed design will mitigate flood risk impacts through appropriate hydraulic design of culvert structures. Flood risk will be assessed against the 0.5%AEP (200-year) plus an allowance for climate change design flood event. Detailed design will mitigate any loss of existing floodplain storage volume where required by appropriate provision of compensatory storage. Where culvert extension is not practicable or presents adverse impact on the water environment, appropriately designed replacement culverts may be installed. • Detailed design will mitigate impacts on the water environment through appropriate design of culvert structures and watercourse modifications (e.g. realignments) with respect to fluvial geomorphology, and both riparian and aquatic ecology. • Detailed design of culverts and associated watercourse modifications will incorporate wherever practical: ➢ adherence to design standards and good practice guidance (Section 11.2) ➢ allowance for the appropriate conveyance of water and sediment for a range of flows (including at low flow conditions) ➢ maintenance of the existing channel gradient to avoid erosion at the head (upstream) or tail (downstream) end of a culvert ➢ avoidance of reduction of watercourse length through shortening of watercourse planform ➢ minimisation of culvert length ➢ close alignment of the culvert with the existing water feature ➢ depressing the invert of culverts to allow for formation of a more natural bed (embedment of the culvert invert to a depth of at least 0.15m to 0.3m) ➢ roughening of culvert inverts to help reduce water velocities. • Post project appraisal of watercourse crossings will be undertaken to identify if there are issues that can be investigated and addressed at an early stage.	To reduce impacts of culverts on the water environment.	Consultation with SEPA

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W16	Throughout proposed scheme	Design & Construction	In relation to channel realignments, specimen and detailed design will ensure compliance with good practice (Section 11.2), which will include, but may not be limited to: • minimising the length of the realignment, with the existing gradient maintained where possible • design of the realignment in accordance with channel type and gradient; • if required, low flow channels or other design features to reduce the potential for siltation and provide an opportunity to improve the geomorphology of the water feature • realignment designs will be led by a suitably qualified fluvial geomorphologist • where realignments result in an increase or decrease of channel gradient, the following principles will be applied: ➢ an increased gradient within the channel (resulting in higher stream energies) will require mitigation in the form of energy dissipation, which could include the creation of a step-pool sequence; boulder bed-checks; plunge pools at realignment outfalls; and/ or; increased sinuosity ➢ a decrease in gradient within the channel will require mitigation in the form of the construction of a low flow channel to minimise the impacts on locally varying flow conditions and reduce the risk of siltation of the channel • Post project appraisal to identify if there are issues that can be investigated and addressed at an early stage.	To reduce impacts of channel realignment on the water environment.	Consultation with SEPA
SMC-W17	Throughout proposed scheme	Design & Construction	In relation to SuDS, the following mitigation measures will be implemented: • detailed design to adhere to design standards and good practice guidance (Section 11.2 of **Chapter 11** Road Drainage and the Water Environment), including The SuDS Manual (CIRIA, 2015) and SuDS for Roads (SCOTS, 2010) • for each drainage run, a minimum of two levels of SuDS treatment within a 'treatment train' (see Table 1 of Appendix 11.2 for further details) to limit the volume of discharge and risk to water quality • management of vegetation within ponds and drains through grass cutting, pruning of any marginal or aquatic vegetation (as appropriate to the SuDS component) and removal of any nuisance plants, especially trees • SuDS retention ponds will be designed with an impermeable liner to maintain a body of standing water and provide treatment volume • inspect inlets, outlets, banksides, structures and pipework for any blockage and/or structural damage and remediate where appropriate • regular inspection and removal of accumulated sediment, litter and debris from inlets, outlets, drains and ponds to avoid sub-optimal operation of SuDS • adherence to the maintenance plans specific to each SuDS component type as detailed within the SuDS Manual (CIRIA, 2015)	To reduce impacts of drainage discharges on the water environment.	Where required, authorisation for the road drainage discharge under CAR 2011 (as amended) would be obtained from SEPA

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Embedded Mitigation					
P08-W1	ch. 20,700/ west of A9 ch. 21,300/ west of A9 ch. 21,400/ west of A9 ch. 22,200/ east of A9 ch. 22,500/ west of A9 ch. 23,300/ west of A9 ch. 25,800/ east of A9 ch. 25,900/ east of A9 ch. 30,600/ west of A9	Design and Construction	**SuDS basin/ pond** Basins or ponds shall be sized to attenuate and store extreme flood events and restrict outflow to 'greenfield' runoff rates and provide long-term storage[1]. Spillage containment features shall be included in SuDS facilities (emergency shut-off valve chambers on basin outlet); SuDS are to be lined to prevent adverse impacts to groundwater	Water quality treatment to road runoff as well as providing attenuation and storage to offset increased runoff area, reducing potentially adverse hydrological/ flood risk issues.	The Water Environment (Controlled Activities) (Scotland) Regulations (CAR) 2011 authorisation; SEPA consultation/ approval
P08-W2	ch. 25,400/ west of A9 ch. 27,700/ west of A9 ch. 28,200/ west of A9 ch. 28,600/ west of A9 ch. 29,300/ west of A9	Design and Construction	**SuDS basin/ pond** Enhanced treatment by inclusion of a micro-pool and/ or grassed channel (swale) to outfall	Providing additional/ enhanced treatment where required to meet water quality thresholds. Where SuDS encroach into sensitive habitat provision of micro pool mitigates potential impact by providing compensatory habitat	SEPA consultation/ approval; CAR authorisation; CNPA consultation
P08-W2a	ch. 30,900/ west of A9	Design and Construction	**Tank Sewer & Vortex separator** Use of proprietary SuDS where conventional treatment cannot be accommodated due to spatial constraints (in line with the SuDS Manual)	Providing additional/ enhanced treatment where required to meet water quality thresholds.	SEPA consultation/ approval; CAR authorisation

[1] 'Long term storage' is to hold back any additional volume of runoff (i.e. the difference between the predicted development runoff volume and the estimated greenfield volume) until floodwaters have abated

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-W3	ch. 20,750 downstream of Hydro ID 72 ch. 21,350/ downstream of Hydro ID 76 ch. 21,400/ downstream of Hydro ID 76 ch. 22,250/ upstream of Hydro ID 82 ch. 22,550/ right bank of River Truim ch. 22,550/ left bank of River Truim ch. 22,600/ left bank of River Truim ch. 22,600/ right bank of River Truim ch. 23,330/ upstream of Hydro ID 89 ch. 25,300/ right bank of River Truim ch. 25,900/ upstream of Hydro ID 104 ch. 27,650/ downstream of Hydro ID 111 ch. 28,100/ downstream of Hydro ID 115 ch. 28,750/ downstream of Hydro ID 118 ch. 29,350/ downstream of Hydro ID 122 ch. 30,700/ downstream of Hydro ID 130	Design and Construction	**SuDS outfall** Appropriate positioning of SuDS outfalls to minimise scour and erosion of channel bed and banks in line with SEPA guidance.	To ensure integrity of structure and natural channel is not compromised and SuDS remain operational.	CAR authorisation; Any outfalls to the River Truim (River Spey SAC) may need SNH approval
P08-W4	ch. 20,150/ upstream of Hydro ID 65 ch. 20,550 to 20,600/ downstream of Hydro ID 70 ch. 21,300 to 21,350/ upstream of Hydro ID 76 ch. 21,650 to 21,800/ upstream of Hydro 79 ch. 21,950 to 22,100/ downstream of Hydro ID 81 ch. 25,400/ upstream of Hydro ID100 ch. 27,930/ upstream of Hydro ID 114 ch. 28,370 to 28,450/ downstream of Hydro ID 116 ch. 28,900/ downstream of Hydro ID 119 ch. 30,500 and 30,550/ right bank of River Truim	Design and Construction	**Compensatory storage areas** Size compensatory flood storage to compensate for loss of 200yr functional floodplain	Included to offset any flood storage volume lost due to encroachments (mainline, access, SuDS) into the functional floodplain and avoid increased flood risk downstream	SEPA consultation/ approval
P08-W5	ch. 20,750 at Hydro ID 72 ch. 21,450 at Hydro ID 77 ch. 22,250 at Hydro ID 82 ch. 26,050 at Hydro ID 104 ch. 29,200 at Hydro ID 121	Design and Construction	**Structures** Set back bridge abutments from river banks to limit amount of erosion and scour protection required Low flow channels to maintain minimum depth of water Contractor should evaluate potential of setting back abutments further from river banks to limit amount of erosion and scour protection required by carrying out detailed environmental and engineering assessments during detailed design	Allow natural migration/ evolution of river morphology, allow natural channel migration and encourage sediment transfer through the catchment without compromising structural integrity	CAR authorisation

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-W6	ch. 20,140/ Hydro ID 65 ch. 20,210/ Hydro ID 66 ch. 20,355/ Hydro ID 67 ch. 20,430/ Hydro ID 68 ch. 20,470/ Hydro ID 69 ch. 20,530/ Hydro ID 70 ch. 20,630 Hydro ID 71 ch. 20,880/ Hydro ID 74 ch. 20,010/ Hydro ID 75 ch. 22,770/ Hydro ID 86 ch. 22,950/ Hydro ID 87 ch. 23,440/ Hydro ID 90 ch. 23,975/ Hydro ID 94 ch. 24,155/ Hydro ID 95 ch. 24,220/ Hydro ID 96 ch. 24,550/ Hydro ID 97 ch. 24,620/ Hydro ID 98 ch. 24,870/ Hydro ID 99 ch. 25,420/ Hydro ID 100 ch. 25,540/ Hydro ID 101 ch. 25,790/ Hydro ID 102 ch. 26,200/ Hydro ID 106 ch. 26,600/ Hydro ID 107 ch. 26,920/ Hydro ID 109 ch. 27,230/ Hydro ID 110 ch. 27,460/ Hydro ID 111 ch. 27,970/ Hydro ID 114 ch. 28,050/ Hydro ID 115 ch. 28,300/ Hydro ID 116 ch. 28,440/ Hydro ID 117 ch. 28,550/ Hydro ID 118 ch. 28,800/ Hydro ID 119 ch. 29,090/ Hydro ID 120 ch. 29,350/ Hydro ID 122 ch. 29,425/ Hydro ID 123 ch. 29,510/ Hydro ID 124 ch. 29,590/ Hydro ID 125 ch. 29,670/ Hydro ID 126	Design and Construction	**Culverts** Scour pools shall be provided upstream (at the inlet) of steep culverts crossing the A9 mainline (For oversizing of culverts to allow provision of mammal crossing and embedment of culvert invert for inclusion/ development of natural bed material see Mitigation Items P08-E1 and P08-E2 **Table 21-6**)	To dissipate energy and reduce risk of erosion in line with current standards	SEPA consultation/ approval; CAR authorisation

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
	ch. 30,190/ Hydro ID 127 ch. 30,270/ Hydro ID 128 ch. 30,500/ Hydro ID 129 ch. 30,900/ Hydro ID 132				
P08-W7	ch. 20,630/ Hydro ID 71 ch. 25,410/ Hydro ID 100 ch. 25,760/ Hydro ID 102 ch. 28,850/ Hydro ID 118 ch. 28,800/ Hydro ID 119 ch. 29,100/ Hydro ID 120 ch. 30,900/ Hydro ID 132	Design and Construction	**Culverts** Scour pools shall be provided upstream (at the inlet) of steep culverts crossing access tracks (AT)	To dissipate energy and reduce risk of erosion in line with current standards	SEPA consultation/ approval; CAR authorisation
P08-W8	ch. 22,450/ west of River Truim by A889 (access track) ch. 22,550/ west of River Truim by A889 (access track) ch. 22,650/ west of River Truim by A889 (access track)	Design and Construction	**Access track treatment (Swales/ Filter Drain)** Water quality treatment to road runoff as well as providing attenuation and storage to offset increased runoff area, reducing potentially adverse hydrological/ flood risk issues	Providing water quality treatment to road runoff before discharging to SAC	SEPA consultation/ approval; CAR authorisation; CNPA consultation
P08-W9	ch. 25,950/ upstream of Hydro ID 104	Design and Construction	The underpass track adjacent to Hydro ID 104 moved southwards and set above 200 year plus climate change flood level. Inclusion of bund/ wall or similar structure (designed as a flood defence) upstream to provide 600mm freeboard above 200 year plus climate change flood level	Reducing potential flood risk to properties downstream	SEPA consultation/ approval
P08-W10	Access track east of A9 (between Hydro IDs 55 and 71)	Design and Construction	Dispersal trenches on the downstream side of Beauly to Denny Power Line access track	To maintain surface water supply to potentially sensitive habitats	SNH consultation; CNPA consultation
P08-W11	Multiple discrete locations throughout Proposed Scheme extent – all un-kerbed roads	Design and Construction	All un-kerbed roads to be provided with 'over-edge' drainage via filter drains (or conveyance swales)	Providing source control and first treatment stage	N/A

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Project Specific Mitigation					
P08-W12	ch. 20,750 at Hydro ID 72 ch. 21,450 at Hydro ID 77 ch. 22,250 at Hydro ID 82 ch. 26,050 at Hydro ID 104 ch. 29,200 at Hydro ID 121	Design and Construction	**Structures** Contractor should evaluate potential of setting back abutments further from river banks to limit amount of erosion and scour protection required by carrying out detailed environmental and engineering assessments during detailed design	Allow natural migration/ evolution of river morphology, allow natural channel migration and encourage sediment transfer through the catchment without compromising structural integrity	CAR authorisation
P08-W13	ch.22,050/ south (approx. 30m) of unnamed watercourse W8.7/ hydro ID 81 (east of A9)	Design and Construction	**Sheep Hardstanding** A constructed farm wetland (CFW), or similar, to be included in the design adjacent to the sheep hardstanding	Wetland will receive and treat lightly contaminated surface water runoff from hardstanding, in such a manner that any discharge from the wetland will not pollute the water environment	SEPA consultation/ approval
P08-W14	All watercourse diversions throughout the Project 8 Proposed Scheme extent	Design and Construction	**Watercourse diversions** Ensure natural channel dimensions are maintained. All watercourse diversions are to have a "low flow" channel, design to accommodation the 1:2 year flows on a site by site basis. Create channel with diverse bed and bank morphology suitable for bed slope to create a more stable channel	To maintain a minimal depth of flow and to allow for natural process and stability of new channels	CAR authorisation
P08-W15	Allt Garbh (ch. 29,150/ Hydro ID 121)	Design and Construction	Alter long profile create more stable step-pool or cascade morphology in order to remove the need for gabion mattress and banks; Provision of low flow channel under bridge; (designed to take the 1:2 year flow and reinstate channel width; Ensure continued transfer of natural bed sediments	Improve stability of channels and protect road bridge from ongoing current erosion due to unstable gabion structure; Reduce risk of damage to bridge; Reduce excessive sediment supply downstream; Mimic natural sediment regime/ morphological conditions and encourage establishment of more natural sediment transfer/ processes	CAR authorisation
P08-W16	ch. 20,150 (Hydro ID 65) ch. 21,750 (Hydro ID 79) ch. 22,150 (Hydro ID 81) ch. 25,400 (Hydro ID 100) ch. 25,950 (Hydro ID103) ch. 27,950 (Hydro ID 114)	Design and Construction	**Structures & Culverts** Retain existing capacity (departure from design standard of conveying 200yr flow) to mitigate potential impacts identified in the FRA* *specifics of impacts are detailed in the FRA (**Appendix 11.3**)	Utilise existing upstream storage and/or protect downstream receptors.	SEPA consultation/ approval; CAR authorisation

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-W17	ch. 26,000 (Aqueduct/ Allt Cuaich)	Construction	**Temporary watercourse diversion** Sensitive timing of work (i.e. diverting water from the SSE aqueduct into the Allt Cuaich)	Avoiding the autumn upstream salmon migration; construction should only be undertaken between January - June/ July.	SNH consultation; CAR authorisation
P08-W18	Multiple discrete locations through the Project 8 Proposed Scheme extent	Design and Construction	Ensure that any imported bed material for all diversions is of the same size and geology as the existing and re-use existing bed material where possible and suitable	Encourage re-establishment of natural fluvial form and processes	CAR authorisation
P08-W19	ch. 20,750/ Hydro ID 72 ch. 21,450/ Hydro ID 77 ch. 26,050/ Hydro ID 104 ch. 29,150/ Hydro ID 121	Design and Construction	**Structures** Low flow channels (design to take the 1:2 year flow and retain/reinstate natural channel dimensions) to maintain minimum depth of water	Ensure low flows under bridges for ecological permeability	CAR authorisation
P08-W20	ch. 20,150 to 20,300/ downstream of Hydro IDs 65 & 66 ch. 20,470 to 20,490/ downstream of Hydro ID 69 ch. 20,890/ downstream of Hydro ID 74 ch. 21,000/ downstream of Hydro ID 75 ch. 21,350/ downstream of Hydro ID 76 ch. 26,200/ downstream of Hydro ID 106 ch. 27,730/ upstream of Hydro ID 112 ch. 28,050/ downstream of Hydro ID 115 ch. 28,380/ upstream of hydro ID 116 ch. 28,800/ downstream of Hydro ID 119 ch. 29,450/ downstream of Hydro ID 123 ch. 29,510/ upstream of Hydro ID 124 ch. 29,550/ upstream of Hydro ID 125	Design and Construction	**Watercourse diversions** Back fill valley (redundant channel) after watercourse has been diverted into the new channel	Ensure high flows do not overtop into old channel causing erosion/ avulsion/ scour	CAR authorisation
P08-W21	ch. 29,150/ Hydro ID 121	Design and Construction	**Watercourse diversions** Resection channel(s) (alter bed slope, banks and morphology) currently experiencing excessive incision, to create more sustainable and reduce excessive downstream sediment supply	Improve stability of channels and protect road from erosion; Reduce excessive sediment supply	CAR authorisation

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-W22	ch. 20,775/ upstream of Hydro ID 72 ch. 25,925/ upstream of Hydro ID 104 ch. 25,930/ upstream of Hydro ID 104 ch. 27,450/ upstream of Hydro ID 111 ch. 29,350/ downstream of Hydro ID 121 ch. 30,800/ downstream of Hydro 130 ch. 30,825/ downstream of Hydro 130 ch. 30,875/ downstream of Hydro 130 ch. 30,925/ downstream of Hydro 130	Design and Construction	**Drainage channel** Outfall at risk of erosion, therefore, design outfall using green engineering to allow for channel adjustment in receiver channel (change in bed and bank position); Low velocity outfall	Reduce potential scour/ erosion around drainage outfalls due to alterations in fluvial processes. Ensure integrity of structure is not compromised and remain operational.	CAR authorisation; CNPA consultation
P08-W23	All culverts throughout the Project 8 Proposed Scheme extent	Design and Construction	**Culverts** All culverts are to have a "low flow" channel, design to accommodation the 1:2 year flow on a site by site basis	To maintain a minimal depth of flow and to allow for natural process and stability through culvert	SEPA consultation/ approval; CAR authorisation
P08-W24	All watercourse diversions throughout the Project 8 Proposed Scheme extent	Design and Construction	**Channel material** All material that is to be placed within the channel (realignment, structure, culvert) should be specified (i.e. grain size and composition) and clearly justified. The calibre and quantity of material should be determined on a site by site basis and this should take into account changes in the energy regime within the river.	To allow the ongoing downstream transfer of sediment	CAR authorisation
P08-W25	All culverts throughout the Project 8 Proposed Scheme extent	Design and Construction	**Culverts** All culverts are to have a scour pools at the outlet	Dissipate energy and reduce risk of scour to structures	SEPA consultation/ approval; CAR authorisation
P08-W26	All culverts throughout the Project 8 Proposed Scheme extent	Design and Construction	**Culverts** Identify and design energy dissipation in culverts on a site by site basis. This could take the form of step-pool like structures, which will also aid in retention of bed material.	Dissipate energy and reduce risk of scour to structures. Aid with sediment retention in culvert.	SEPA consultation/ approval; CAR authorisation
P08-W27	Multiple discrete locations through the Project 8 Proposed Scheme extent	Design, Construction and Post-construction/ Operation	**Riparian planting** Awareness of flood risk should be taken into account when selecting species for riparian planting in the circa 5m buffer along watercourse channel banks	Avoid potential blockage of downstream crossings from large vegetation species (i.e. fallen trees and branches)	CNPA consultation

Table 21-6: Schedule of Environmental Commitments – Ecology and Nature Conservation

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-E1	Throughout Proposed Scheme	Pre-Construction	Pre-construction surveys will be undertaken to verify and, where required, update the baseline ecological conditions set out in the ES. The scope of the pre-construction surveys will be confirmed with SNH prior to them being undertaken.	To update the baseline ecological conditions set out in the ES	SNH
SMC-E2	Throughout Proposed Scheme	Pre-Construction	Prior to construction a suitably qualified (or team of suitably qualified) Ecological Clerk of Works (ECoW) will be appointed by the Contractor and will be responsible for implementation of the Ecological Management Plan. The ECoW will: • provide ecological advice over the entire construction programme • undertake or oversee pre-construction surveys for protected species in the areas affected by the proposed scheme; and ensure mitigation measures are implemented to avoid and reduce impacts on ecological features • monitor the implementation of the mitigation measures during the construction phase to ensure compliance with protected species legislation and commitments within the ES. The ECoW will be a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and will have previous experience in similar ECoW roles. All ECoWs will be approved by Transport Scotland to be appropriately qualified for the role and compliance will be monitored by the employer's ecologist. The ECoW will be appointed in advance of the main construction programme commencing to ensure pre-construction surveys are undertaken and any advance mitigation measures required are implemented.	To ensure the implementation of the Ecological Management Plan.	Consultation with the relevant salmon fisheries board
SMC-E3	At watercourses throughout Proposed Scheme	Construction	Noise and vibration will be reduced by working back from the river bank where possible or working within a dry area to avoid implications to fish, such as behavioural changes e.g. avoidance of areas or physical damage e.g. to hearing. In addition, soft-start techniques will be applied to piling work procedures to enable sensitive species to evacuate the area.	To protect fish species from noise and vibration.	None required.
SMC-E4	At watercourses throughout Proposed Scheme	Construction	Where areas are required to be temporarily dewatered to permit construction activities, fish will be removed by means of electrofishing and relocated prior to dewatering (SFCC, 2007).	To protect fish species during de-watering of watercourse sections and in-stream works.	CAR Licence approved by SEPA
SMC-E5	At watercourses throughout Proposed Scheme	Construction	Water flow/passage will be sufficiently maintained to permit movement of all fish species past areas of dewatering and/or significant alteration of water movement during any construction works within the watercourses. Suitable temporary channels or gravity fed flumes/pipes may be implemented so that movement between areas of habitat can be maintained. Where any over pumping is required, screens will be used to prevent fish from entering pumps.	To protect fish species during de-watering of watercourse sections and in-stream works.	CAR Licence approved by SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-E6	Throughout Proposed Scheme	Pre-Construction	The Contractor will obtain and comply with the requirements of any protected species derogation licences in respect of works necessary to construct the proposed scheme that are likely to breach applicable conservation legislation. Licensing may be for the UK and/or European protected species.	To comply with conservation legislation.	SNH
SMC-E7	Throughout Proposed Scheme	Pre-Construction & Construction	Tree felling and vegetation clearance to be reduced as far as practicable and undertaken outside the core bird nesting season (01 March to 31 August) to avoid damage or destruction of occupied nests or harm to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for nesting birds by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey, they will be left in situ for their entire nesting period until the young birds have fledged. Alternative approaches to the work will need to be proposed e.g. leaving an exclusion zone around the nest to avoid disturbance. All cleared vegetation will be rendered unsuitable for nesting birds, for example, by covering or chipping depending on the end purpose of the vegetation, or will be removed from the works area.	To protect habitat and fauna during bird nesting season.	None required
SMC-E8	Throughout Proposed Scheme	Pre-Construction & Construction	Any tree felling will be carried out by experienced contractors to reduce direct mortality of protected species according to agreed felling methods between contractors and the ECoW.	To protect fauna during removal of habitat.	None required
SMC-E9	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	Plant and personnel will be constrained to a prescribed working corridor through the use of, where practicable, temporary barriers to minimise the damage to habitats and potential direct mortality and disturbance to animals located within and adjacent to the proposed scheme working corridor.	To protect habitats and fauna.	None required
SMC-E10	Throughout Proposed Scheme	Construction	A construction lighting plan and method statement will be developed by the Contractor. The plan, part of the Species Protection Plans, will detail specific mitigation requirements and taking into account guidance on lighting (e.g. Bat Conservation Trust (2009), Institution of Lighting Professionals (2001) and the Royal Commission on Environmental Pollution (2009)). The construction lighting design will take into account the need to avoid illuminating sensitive fish and mammal (e.g. for bats, otter and badger) habitats in locations such as: adjacent to watercourses; along woodland edges; and, where there is known activity identified through pre-construction ecological surveys (refer to Mitigation Item **SMC-E1**). Where this is not possible the Contractor will agree any exceptions with SNH.	To protect sensitive mammal habitats from illumination.	Exceptions to be agreed with SNH

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-E11	Throughout Proposed Scheme	Construction	During construction trees will be protected in line with guidelines provided in 'BS 5837 Trees in relation to Construction' (British Standards Institute, 2012). This includes the following: • establishment of Root Protection Areas (RPA); • protective fencing will be erected around the RPA to reduce risks associated with vehicles trafficking over root systems or beneath canopies; • selective removal of lower branches of trees to reduce risk of damage by construction plant and vehicles; • prevent soil compaction measures; and • maintain vegetation buffer strips (where practicable).	To comply with guidelines provided in 'BS 5837 Trees in relation to Construction' (British Standards Institute, 2012).	None required
SMC-E12	Throughout Proposed Scheme	Construction & Post-Construction	Planting will be undertaken to replace any trees that were intended to be retained which are felled or die as a result of construction works. The size, species and location of replacement trees will be approved by Transport Scotland and other relevant stakeholders.	Replacement of trees lost that are to be retained.	Transport Scotland and other relevant stakeholders
SMC-E13	Throughout Proposed Scheme	Construction	Trenches, holes and pits will be kept covered at night or provide a means of escape for mammals that may become entrapped. Gates to compound areas will be designed sensitively to prevent mammals from gaining access and will be closed at night.	To avoid mammals becoming entrapped in and around compound areas during construction.	None required
SMC-E14	Throughout Proposed Scheme	Construction	Temporary mammal-resistant fencing will be provided around construction compounds following a specification agreed through consultation with Transport Scotland.	To avoid mammals becoming entrapped in and around compound areas during construction.	Transport Scotland
SMC-E15	Throughout Proposed Scheme	Construction	The Contractor will describe within the CEMP (**Mitigation Item SMC-S1**) the biosecurity strategy to be implemented for the appropriate treatment of invasive, non-native species (INNS). The strategy will set out appropriate construction, handling, treatment and disposal procedures to prevent the spread of INNS in line with recognised best practice.	To prevent the spread of INNS.	None required
n/a (note)	Throughout Proposed Scheme	Construction	*Further to the above, the mitigation detailed in Table 21.5 (Road Drainage and the Water Environment), Table 21.7 (Landscape and Visual), Table 21.9 (Air Quality) and Table 21.10 (Noise and Vibration) will be implemented to protect aquatic and terrestrial habitats and species.*	*To protect aquatic and terrestrial habitats and species.*	*n/a*

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Embedded Mitigation					
P08 – E1	ch. 20,750/ Hydro ID 72 ch. 21,400/ Hydro ID 77 ch. 22,100/ Hydro ID 81 ch. 22,240/ Hydro ID 82 ch 22,780 ch. 25,400/ Hydro ID 100 ch. 26,600/ Hydro ID 107 ch. 26,920/ Hydro ID 109 ch. 27,460/ Hydro ID 111 ch. 27,725/ Hydro ID 112 ch. 27,900/ Hydro ID 114 ch. 28,550/ Hydro ID 118 ch. 29,425/ Hydro ID 123 ch. 29,510/ Hydro ID 124 ch. 29,590/ Hydro ID 125 ch. 30,510/ Hydro ID 129	Design Construction	Mammal crossings to be provided in the form of a dry ledge or dry crossing (where no watercourse is present) above the 1 in 50 flood level. Mammal crossings large enough for deer passage provided at the Allt Coire Uilleim (ch. 21,400) and the Allt Coire Bhathaich (ch. 22,250) (shown in **Drawing 12.46 to Drawing 12.54**, **ES Volume 3**)	To reduce the risk of mortality, allow safe passage of mammals and prevent habitat severance.	None required
P08– E2	ch. 20,150/ Hydro ID 65 ch. 21,350/ Hydro ID 76 ch. 21,750/ Hydro ID 79 ch. 22,100/ Hydro ID 81 ch. 22,700/ Hydro ID 85 ch. 23,400/ Hydro ID 90 ch. 25,400/ Hydro ID 100 ch. 25,750/ Hydro ID 102 ch. 26,200/ Hydro ID 106 ch. 26,600/ Hydro ID 107 ch. 26,900/ Hydro ID 109 ch. 27,450/ Hydro ID 111 ch. 27,800/ Hydro ID 112 ch. 27,900/ Hydro ID 114 ch. 28,050/ Hydro ID 115 ch. 28,300/ Hydro ID 116 ch. 28,550/ Hydro ID 118 ch. 28,800/ Hydro ID 119 ch. 29,450/ Hydro ID 123 ch. 29,500/ Hydro ID 124 ch. 29,600/ Hydro ID 125 ch. 30,500/ Hydro ID 129	Design Construction	Watercourse/ culvert crossings where natural bed material will be incorporated.	To create suitable hydro-morphological habitat for aquatic species.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Project Specific Mitigation					
P08-E3	ch. 20,400 to ch. 20,900 ch. 21,400 to ch. 21,800 ch. 22,400 to ch. 22,600 (Truim crossing) ch. 24,400 to ch. 25,000 ch. 26,000 to ch. 26,200 (Allt Cuaich) ch. 26,700 to ch. 27,400 ch. 30,300 to ch. 31,050	Construction Works avoided: October to June for Atlantic salmon June to July for sea lamprey	Where temporary in-channel works are required in the Spey catchment, sensitive Atlantic salmon migration/ spawning/ breeding seasons must be avoided (October to June). Percussive construction works must be avoided in proximity to suitable watercourses during sensitive salmon and sea lamprey migration/ spawning periods (October to June for Atlantic salmon; June to July for sea lamprey). Should avoidance of works/ works rescheduling not be possible during these seasons, suitable exclusion zones should be defined and implemented through consultation with SNH. Upstream/ downstream permeability should be maintained throughout any in-channel works. Works associated with the re-wetting of the Allt Cuaich will be programmed to minimise the risk of Atlantic salmon migrating upstream of the crossing and becoming trapped when water levels return to normal conditions. Atlantic salmon could become trapped between October and June and therefore electrofishing should be undertaken and any fish found should be translocated to an appropriate receptor site downstream. Riparian vegetation must be retained where practicable. Fish rescue plan prepared to outline relevant control measures for encountering fish where working in water is unavoidable. The Spey Fishery Board will be provided with advance notice of any proposed in-channel working.	To prevent disturbance and mortality to Atlantic salmon and sea lamprey during important life stages and to prevent adverse effects on site integrity to the River Spey SAC.	Consultation with SNH and Spey Fisheries Board
P08-E4	Throughout Proposed Scheme	Design Construction	Temporary construction stage SuDS features will comply with current standards: Scottish Planning Policy (SPP), 2014 and Planning Advice Note (PAN) 61: Planning & SUDS; The SuDS Manual, Construction Industry Research and Information Association (CIRIA) C753, 2015 SUDS for Roads, WSP, 2009; Regulatory Method (WAT-RM-08), Sustainable Urban Drainage Systems (SUDS or SUD Systems), Scottish Environment Protection Agency (SEPA), v6, 2014 and Supporting Guidance (WAT-SG-53) Environmental Standards for Discharges to Surface Waters 6, SEPA, 2015 Any within-channel works must adopt appropriate sediment control measures to prevent a reduction in water quality downstream Sediment control barriers will be used in works areas adjacent to all watercourses to prevent sediment runoff These barriers will be regularly inspected and maintained; removing large sediment build up and repairing fencing when compromised More information on water quality management and control can be found in **Chapter 11**	To prevent pollution events in the Tay Catchment, and in the Spey Catchment to prevent adverse effects on site integrity to the River Spey SAC and River Garry	Consultation with SEPA
P08-E5	Throughout Proposed Scheme	Pre-construction	Minimise disturbance of habitats through careful siting of construction compounds and storage of construction materials, particularly avoiding blanket mire or wet heath The siting of compounds, storage areas and working areas will be reviewed by the ECoW at the planning stage of the construction works	To reduce impact on notable habitats within the temporary works boundary	Consultation with SNH

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-E6	Throughout Proposed Scheme	Pre-construction Construction	Restrict movement of traffic and personnel to working corridor using temporary barriers to minimise damage to habitats, avoiding sensitive habitats such as blanket bog, flushes and springs	To reduce impact on notable habitats within the temporary works boundary	N/A
P08-E7	Throughout Proposed Scheme	Pre-construction Construction	Avoid hydrological damage through control of sediment and chemical run-off using filter drains, soakaways and oil separators The use of sediment capture barriers will be in place around all areas of exposed soil/ peat to prevent sedimentation runoff into surrounding habitats. These barriers will be inspected monthly by the site ECoW in areas beyond 10m of a watercourse and weekly within 10m of a watercourse and will be maintained by the Contractor; removing large sediment build up and repairing fencing when compromised Water quality monitoring will continuously be in place in strategically important areas downstream of working areas. These water quality stations will be in permanent place throughout construction, data will be logged and reviewed weekly by the site ECoW. In the event pollution incidents occur, this will be investigated to ensure the cause is determined and prevented in future construction works A visual water quality assessment will be made on all tributaries where in-channel works or works are required within 10m of the watercourse where turbidity will be monitored as well as any leaks/ spills from construction works. In the event water becomes turbid or a leak/ spill is suspected, all works must cease and the water quality stations reviewed for significant increases Refuelling and machinery maintenance will only be permitted in designated areas in site compounds with containment facilities to manage leaks and spills More information on water quality management and control can be found in **Chapter 11**	To reduce impact on notable habitats within the temporary works boundary and prevent adverse effects on site integrity of Drumochter Hills SAC, Drumochter Hills SSSI and River Spey SAC	N/A
P08-E8	Throughout Proposed Scheme	Pre-construction Construction	A minimum buffer zone of 10m will be in place around watercourses where there are no works currently being undertaken to reduce risk of pollution events or sedimentation Any works within the 10m buffer zone should be supervised by an ECoW and works should be planned to maintain water flow through the area This buffer zone will also include areas of flowing surface water such as flushes and springs, which should be marked out and avoided if possible, to prevent loss of hydro-connectivity	To prevent pollution events in watercourses and to prevent adverse effects on site integrity to the River Spey SAC	N/A
P08-E9	Throughout Proposed Scheme	Construction	Maintain hydrological connectivity through retention of natural water channels, flushes and wet habitats Where watercourses require in channel works that involve the alteration of the channel, a temporary watercourse diversion will be built to ensure channel connectivity, the diversion will be supervised by the ECoW and a fish rescue undertaken when the diversion takes place	To prevent pollution events in watercourses and to prevent adverse effects on site integrity to the River Spey SAC	N/A
P08-E10	Throughout Proposed Scheme	Construction	Any extraction of peat would require careful handling and storage to retain structure and integrity Store peat separately from other excavated material and keep wet, in line with **Chapter 10, Appendix 10.6 (Outline Peatland Management Plan)**	To allow the successful reinstatement of peat habitats such as blanket bog and heath habitats	N/A

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-E11	Throughout Proposed Scheme	Construction Post-construction	To facilitate the restoration of blanket bog and wet heath in areas which have been impacted by the Proposed Scheme, the water table will be maintained by the blocking of grips and drains by peat turve dams or plastic piling and restriction of grazing in these areas, is essential at least until the vegetation is established again. Temporary fencing and cessation of burning is required to aid vegetation establishment. Mulching and re-seeding should be carried out where suitable to aid the restoration process.	To reduce impact on notable habitats within the temporary works boundary and prevent adverse effects on site integrity of Drumochter Hills SAC and the Drumochter Hills SSSI	Consultation with SNH and SEPA
P08-E12	Throughout Proposed Scheme	Pre-Construction, Construction & Post-Construction	The Contractor will develop information presented in the Outline Species Protection Plan (see **Appendix 12.12** (**Volume 2**)), including an update from pre-construction surveys/ activities, to detail the works methods, control measures and monitoring requirements for works affecting protected species and their habitats.	To avoid damage or destruction of structures used for temporary shelter or protection; and avoid disturbance to protected species.	Consultation with SNH
P08-E13	Throughout Proposed Scheme	Pre-construction Construction	The ECoW will monitor ground nesting bird activity before and during the works, and advise on any further control measures which should be adopted by The Contractor	To prevent the unlawful damage or destruction of active nests and breeding birds.	N/A
P08-E14	Throughout Proposed Scheme	Pre-construction Construction	Clearance work of all woodland will be programmed to be undertaken between September – December Immediately (within 24 hours) prior to woodland removal these will be surveyed for crossbill due to their varied breeding activity If the presence of breeding crossbill is identified, the ECoW will follow the **Outline Species Protection Plan** (see **Appendix 12.12**)	To prevent the unlawful damage or destruction of active nests and breeding birds and to prevent disturbance to breeding crossbill	N/A
P08-E15	Throughout Proposed Scheme ch. 23,600 – ch.30,000 on the western extent	Pre-construction Construction	Access track construction between ch. 0 and ch. 20,700 which are present within the SSSI and near to the SPA will be undertaken outside of the breeding season Phasing construction activities will be required to avoid works near any reported merlin nest site during the breeding season Site clearance and particularly disruptive activities will be programmed to minimise disturbance to breeding birds during the nesting season (March to August inclusive). Applying visual screening according to BS 5228-1:2009+A1:2014 – code of practice for noise and vibration on construction and open sites, noise: to avoid disturbance to breeding merlin along an appropriate area (as defined through consultation with SNH) The location of potential mitigation for this species will be determined where necessary following pre-construction surveys / during construction phase monitoring The extent of visual screening required is likely to be in the region of 500m from an active nest	To prevent disturbance to breeding merlin and to ensure no adverse effects on site integrity of Drumochter Hills SPA. To prevent disturbance to breeding bird species associated with Drumochter Hills SSSI.	Consultation with SNH

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-E16	Throughout Proposed Scheme	Pre-construction Construction	To mitigate impacts on reptiles, if works are carried out between 1st April and 31st October, phased strimming/ mowing down of any rough grassland, tall herb and heath and removal of all arisings should be carried out prior to commencement of works, under the supervision of the ECoW Once cut, any holes on exposed ground should be hand dug under supervision of the ECoW to ensure no reptiles are sheltering within Prior to movement, any machinery, stored materials and objects should be checked throughout construction operations, especially in the spring and summer months as reptiles may use these as refuges and basking Storage of materials and equipment should be kept on pallets and not on ground level or suitable habitat, this is to reduce the likelihood of them being used by reptiles for shelter Should reptiles or amphibians be found during clearance works, the ECoW will carefully move them from the works area to a nearby area of quality habitat with suitable linkages to the wider area where they can disperse from construction activities	To ensure no reptile or amphibian mortality during construction	N/A
P08-E17	Throughout Proposed Scheme	Pre-Construction Construction	Work on major watercourses within the Proposed Scheme should be staggered to allow otter alternative major watercourses for movement and so their commuting routes and habitat does not become fragmented, potentially pushing them up and over the road as an alternative where they run the risk of road mortality	To reduce risk of otter road mortality as a result of working on watercourse crossings where otter would otherwise cross	N/A
P08-E18	ch. 20,750/ Hydro ID 72 ch. 21,400/ Hydro ID 77 ch. 22,100/ Hydro ID 81 ch. 22,250/ Hydro ID 82 ch. 23,240 ch. 25,400/ Hydro ID 100 ch. 26,600/ Hydro ID 107 ch. 26,920/ Hydro ID 109 ch. 27,460/ Hydro ID 111 ch. 27,725/ Hydro ID 112 ch. 27,900/ Hydro ID 114 ch. 28,550/ Hydro ID 118 ch. 29,425/ Hydro ID 123 ch. 29,510/ Hydro ID 124 ch. 29,590/ Hydro ID 125 ch. 30,510/ Hydro ID 129	Construction Post-construction	To ensure effective use of underpasses, minimum of 100m otter-proof fencing will be provided in advance of the operational stage for crossing where mammal ledges are provided Deer-proof fencing 500m either side will be incorporated into boundary fencing installed at the Allt Coire Uilleim (ch. 21,400) and the Allt Coire Bhathaich (ch. 22,250) as shown on **Drawing 12.47** and **Drawing 12.48 (ES Volume 3)**, designed to allow for permeability of small mammals, to access culverts and underpasses.	To reduce risk of otter road mortality and DVC	N/A

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-E19	Throughout Proposed Scheme	Pre-construction Construction Trapping or fencing requirements, can only be undertaken between March - April	As a large amount of water vole habitat has been identified within the Proposed Scheme, displacement or translocation will be required during construction The preferred method and the details needs to be discussed and agreed with SNH, and suitable receptor sites need to be found Any translocation undertaken will be done under a mitigation licence and in agreement with SNH Preconstruction surveys for water vole will be required to be undertaken in the active season prior to construction, this will allow the planning and implementation of any trapping or fencing requirements, which can only be undertaken between March - April (dependent on weather conditions) in advance of works (Dean, M. et al, 2016). Any site works will need to be planned to take account of this narrow time-frame. No tracking with heavy machinery should be undertaken until it can be confirmed by the ECoW, as far as reasonably practicable, that water vole are no longer present in the works area This will ensure water vole are not affected by direct mortality or indirect mortality through being trapped inside a burrow All watercourse diversions and works around watercourses will ensure that all remediation of the banksides and morphology be suitable for water vole re-establishment once works in these areas are complete This will include but not be limited to; slow flowing water where possible as this is more favourable to water vole, densely planted banksides (suitable to the local area) to provide vegetation cover, large rocks placed at regular intervals within the watercourse for territory marking and soft banksides for burrow establishment	To prevent unlawful destruction of water vole burrows and risk of mortality to water vole	Consultation and licence obtained from SNH
P08-E20	Throughout Proposed Scheme	Construction Post-construction	An **Outline Habitat Management Plan (OHMP)** has been prepared to detail specific mitigation measures to reinstate and restore notable habitats impacted by the Proposed Scheme (see **Appendix 12.11**, **ES Volume 2**) where they are already present. Prior to construction, the Contractor will refine, develop and implement the OHMP for implementation during construction as the construction stage Habitat Management Plan (HMP)	To prevent the loss of notable habitat throughout the Proposed Scheme	Consultation with SNH
P08-E21	Throughout Proposed Scheme ch. 0 – 22,200	Construction Post-construction	Restore dry heath on embankments and in temporary works areas by increasing the abundance and distribution of ericoid shrubs and restoring peaty soils on embankments by the planting of heather and bearberry and/ or the placement of turves of peaty soil from dry heath areas. Prohibit tree planting, grazing and muirburn until habitat is established.	To reduce the loss of notable habitat throughout the Proposed Scheme and prevent adverse effects on site integrity of the Drumochter Hills SAC and SSSI	N/A
P08-E22	Throughout Proposed Scheme and Drumochter Estate access track ch. 0 – 22,200	Construction Post-construction	Restore wet heath on embankments and in temporary works areas by increasing the abundance and distribution of ericoid shrubs, particularly cross-leaved heath *Erica tetralix* and re-use of peaty soils/ shallow peat. Prohibit tree planting, grazing and muirburn until habitat is established.	To reduce the loss of notable habitat throughout the Proposed Scheme and prevent adverse effects on site integrity of the Drumochter Hills SAC and SSSI	N/A

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-E23	Throughout Proposed Scheme and Drumochter Estate access track ch. 0 – 22,200	Construction Post-construction	Reinstate/ restore blanket mire/ degraded blanket mire by re-use of shallow/ deep peat within and adjacent to areas of degraded blanket mire. Increase the abundance of *Sphagnum* sp.	To reduce the loss of notable habitat throughout the Proposed Scheme and prevent adverse effects on site integrity of the Drumochter Hills SAC and SSSI	N/A
P08-E24	ch. 30,600 to 31,050	Post-construction	Increase abundance and distribution of native tree species such as downy birch *Betula pubescens*, aspen *Populus tremula* and Scot's pine *Pinus sylvestris*. Areas for potential planting include ch. 30,600 to ch. 31,050 and ch. 25,400	To reduce the loss of broadleaved woodland and native tree species	N/A
P08-E25	Throughout Proposed Scheme	Post-construction	In line with the Control of Woodland Removal Policy and in-conjunction with landscape plans (see Chapter 12), tree planting will take place, in the locations identified within **Environmental Mitigation Drawings 6.1- 6.8** (**Volume 3**)	To prevent loss of woodland habitats and encourage woodland regeneration	Consultation with SNH
Project Monitoring Requirements					
P08-E26	Throughout Proposed Scheme	Post-construction	Inspections of mammal ledges and tunnels will be undertaken during operational years 1,3, 5 and 10 Inspections need to include checking for evidence of use on the lead up to and in and around the ledges This will include footprints, spraint, feeding remains and any other field signs which will indicate their use	To understand the suitability and usage of the mammal mitigation.	N/A
P08-E27	Throughout Proposed Scheme	Post-Construction	Reinstated and restored habitats will be monitored for compliance with the managed objectives set out in the **Outline Habitat Management Plan** (OHMP). It is anticipated that this will be required during operational years 1, 3 and 10 Monitoring for compliance with the managed objectives will also be required during the operational years 6, 12 and 18	To identify trends in habitat condition in line with site condition monitoring (SCM) cycles.	SNH Transport Scotland/ Operating Company

Table 21-7: Schedule of Environmental Commitments – Landscape and Visual

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC - LV1	Throughout Proposed Scheme	Construction	The construction programme will be kept to the minimum practicable time to reduce the duration of any landscape and visual impacts and areas will be cleared for construction as close as possible to works commencing and topsoiling, reseeding and planting shall be undertaken as soon as practicable after sections of work are complete.	To reduce the duration of any landscape and visual impacts	None required
SMC - LV2	Throughout Proposed Scheme	Pre-Construction & Construction	As far as practicable, construction plant and materials storage areas will be appropriately sited to minimise their landscape and visual impact.	To reduce landscape and visual impact of plant and material storage areas.	None required
SMC - LV3	Throughout Proposed Scheme	Construction	Construction sites will be kept tidy (e.g. free of litter and debris).	To reduce visual impact of construction sites	None required
SMC - LV4	Throughout Proposed Scheme	Construction	Work during hours of darkness will be avoided as far as practicable, and where necessary, directed lighting will be used to minimise light pollution/glare. Lighting levels will be kept to the minimum necessary for security and safety.	To reduce light pollution/glare during night-time working.	None required
SMC - LV5	Throughout Proposed Scheme	Construction	To protect soil quality for the purposes of landscape planting, the following measures will be implemented: • Uncontaminated topsoil for re-use shall be stored in un-compacted mounds no more than 2m in height, and stored separately from subsoil material. Topsoil stripped from areas designated as Ancient Woodland shall be stored separately to all other topsoil and sub-soil material, in un-compacted mounds no more than 2m in height. • Stripped topsoil shall be used in areas of the same proposed vegetation type to utilise the existing natural seed bank. • Subsoil in planting areas shall be replaced after construction and ripped to a minimum of 450 mm prior to topsoiling and planting. • Proposed planting areas in existing arable and pasture land, not subject to construction activity, will be ripped to 600 mm to alleviate compaction.	To protect soil quality for the purposes of landscape planting.	None required
SMC - LV6	Throughout Proposed Scheme	Construction	The construction will be managed such that the loss of any existing woodland, scrub, heath, mire, grassland vegetation, marshland, swamps and isolated trees and shrubs not affected by the permanent works is minimised.	To limit vegetation loss as far as practicable.	None required
SMC - LV7	Throughout Proposed Scheme	Pre-Construction	All existing trees and shrubs not affected by the construction of the permanent works shall be fenced off with a suitable type of temporary fencing in accordance with BS5837. Fencing shall extend to the drip line of the tree canopies (unless otherwise agreed by an arboricultural advisor), and shall be erected prior to any construction activities in that area and shall remain for the entire period of construction in that area.	To protect existing trees and shrubs unaffected by the proposed scheme.	None required
n/a (note)	n/a	n/a	*Further to the above, mitigation items SMC-E7 and SMC-E8 (as detailed in **Table 21-6**: Ecology and Nature Conservation) will be implemented to protect vegetation which is identified to be retained.*	*To protect vegetation which is identified to be retained*	*n/a*

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Embedded Mitigation					
P08-LV1	Throughout Proposed Scheme	Design/ Construction	**Slope and retaining wall treatment** The whole of the Proposed Scheme is landform sensitive to varying degrees of importance, as landform creates the main interface between the surrounding character and the mainline. Landscape Architects have assisted in setting the slope gradients from the A9 verge to the surrounding land. This assessment and initial design work has identified three levels of landform sensitivity as follows: • Level 1: Slopes where it is appropriate to plant trees/ shrubs/ scrub • Level 2: Open landscapes that have relatively minor topographic variation that only require specification to ensure that the earthworks are softened and reflect the surrounding landform to some extent • Level 3/ Priority Areas: specific locations within landform sensitive areas that will require a detailed specification of slope. Level 1 areas are identified between the following chainages, north and southbound: • Tie in with Project 7 and ch. 20,000 – 23,650 • 29,975 – 31,050 Level 2 areas are identified between the following chainages, north and southbound: • 23,650 – 29,975 Level 3/ Priority areas northbound have been identified between the following chainages: • 23,650 – 24,100 • 26,250 – 26,500 • 27,300 – 30,175 Level 3/ Priority areas southbound have been identified between the following chainages: • 23,700 – 25,325 • 26,225 – 26,475 • 27,350 – 27,450 • 27,650 – 27,825 • 27,900 – 28,125 • 29,190 – 29,700 • 29,775 – 29,975 See mitigation item **P08-LV3** for further information.	To mitigate adverse landscape and visual effects of the Proposed Scheme from sensitive receptors/ users, slopes shall have a natural appearance so that they blend into the very open surrounding landscape and contain appropriate planting as shown on the **Environmental Mitigation Drawings 6.1 to 6.11** in **Volume 3**. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-LV2	Throughout Proposed Scheme	Design/ Construction	**SuDS basins** Landscape Architects have influenced the design of the SuDS that form part of the Proposed Scheme. These have been shaped as best possible to blend into surrounding topography and to look like natural features within this open landscape. See mitigation item **P08-LV13 in Table 21-7** for further information.	To mitigate adverse landscape and visual effects of the SuDS basins from sensitive receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
Project Specific Mitigation					
P08-LV3	Throughout Proposed Scheme	Design/ Construction	**Slope treatment** As noted within embedded mitigation item **P08-LV1 in Table 21-7**, the whole of Project 8 is landform sensitive to varying degrees of importance. New embankments and cuttings for all level 1, 2 and 3 slopes shall be feathered into the toe/ top of existing gradients at varying profiles to form slopes of natural appearance that integrate into the sensitive landscape context, where indicated on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3** of this report**,** subject to detailed design as additional mitigation. For level 3 priority areas, drawings and specifications for each location shall be produced as part of the contract documents, subject to detailed design. This will detail the desired contours, with cross sections to indicate how these slopes should be constructed. Landscape and visual considerations shall be coordinated with structural engineering and geotechnical advice for design in relation to stability and appearance of retaining walls and rock cuts subject to detailed design. Level 3/ Priority areas northbound have been identified between the following chainages: • 23,650 – 24,100 • 26,250 – 26,500 • 27,300 – 30,175 Level 3/ Priority areas southbound have been identified between the following chainages: • 23,700 – 25,325 • 26,225 – 26,475 • 27,350 – 27,450 • 27,650 – 27,825 • 27,900 – 28,125 • 29,190 – 29,700 • 29,775 – 29,975 Types of planting will be location specific and in line with the developed **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3** of this report.	To mitigate adverse landscape and visual effects of the Proposed Scheme from sensitive receptors/ users, slopes shall have a natural appearance so that they blend into the very open surrounding landscape and contain appropriate planting as shown on the **Environmental Mitigation Drawings 6.1 to 6.11** in **Volume 3**. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Transport Scotland

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-LV4	Throughout Proposed Scheme	Design/ Construction/ Operational Phase	**Planting (including seeding) to either side of the road** Planting should be as specified on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3** of this report. All planting has been designed to be appropriate to the setting of the scheme and to reduce adverse visual effects from sensitive receptors. Specific elements of this are detailed below.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors.	Not Applicable
P08-LV5	Throughout Proposed Scheme	Design/ Construction/ Operational Phase	**Road signage/ furniture** Minimisation of roadscape features such as signs and barriers at more open areas, such as to the north of Dalwhinnie Junction between ch. 23,000 and 25,000 and north of Cuaich between ch. 26,200 and 30,000. These items are expected along a road scheme of this nature, however minimising them to the necessary requirements will help with the enjoyment of the high quality landscape surrounding.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
P08-LV6	Ch. 20,400 to 22,200	Design/ Construction/ Operational Phase	**Existing functional coniferous tree belt** Between ch. 20,400 and 22,200 any woodland/ vegetation lost during construction and the maintenance period shall be replaced with native mixed woodland species to increase biodiversity and visual amenity. Planting as specified on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3**.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
P08-LV7	Ch. 21,900 to 23,200	Design/ Construction/ Operational Phase	**Dalwhinnie Junction and A889 tie-in** Slopes to the Dalwhinnie Junction require further detailed design mitigation as a landform sensitive area as noted in item P08-LV01. Planting to the Dalwhinnie Junction has been developed through consultation with the CNPA and is to be delivered as specified on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3**. Planting structure around the junction will comprise trees, shrubs and low level heath and grassland to suit landscape, to allow certain aspects of the engineered junction to be screened and to allow certain views to be framed, such as views towards Dalwhinnie Distillery from the mainline.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. Particularly in the Glen Truim Dalwhinnie and Upper Glen LCA and Dalwhinnie LLCA. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-LV8	Ch. 22,300 to 23,400	Design/ Construction/ Operational Phase	**Mitigation to winter resilience tree planting to east of Dalwhinnie Junction** Winter resilience in the form of a tree belt forms part of the Proposed Scheme to the east of the mainline between ch. 22,400 and 23,250. In order to allow this tree planting to look as natural as possible within this open landscape, additional planting to the east of this has been proposed, as specified on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3**. This is to allow a greater variety of planted species to be specified, which will allow this feature to blend into the landscape over time and not be a group of single species planted in a regular manner. A feathered edge will be achieved to the east of this plantation. This approach has been developed in conjunction with CNPA.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
P08-LV9	Ch. 23,000 to 24,600	Design/ Construction/ Operational Phase	**Planting to either side of the road and to help screen the SSE Aqueduct structure** Tree planting removed through the construction of the Proposed Scheme shall be replaced, including tree planting to the north of the SSE Aqueduct structure. This is to reduce adverse landscape character effects; planting of varying types (trees, shrubs, low level heath/ grassland) will be implemented as specified on **Environmental Mitigation Drawings 6.1-6.11**, contained within **Volume 3** of this report.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors.	Not Applicable
P08-LV10	Ch. 25,300 to 26,000	Design/ Construction/ Operational Phase	**Cuaich and Lechden Woods** Planting to this area has been developed through consultation with the CNPA. Planting should be delivered as specified on **Environmental Mitigation Drawings 6.1-6.11**, contained within **Volume 3** of this report. The replacement planting at Lechden Woods, adjacent to approximate ch. 25,400, with enhancement to the woodland in terms of increasing species of planting. Tree planting to the east of the road between approximately ch. 25,400 and 25,700 relates to areas of winter resilience as identified as part of the Proposed Scheme. Riparian planting is proposed surrounding SuDS basins 258 and 259and along the Allt Cuaich to mitigate adverse landscape effects of the Proposed Scheme and respond to this landscape. Planting should be as specified on **Environmental Mitigation Drawings 6.1-6.11**, contained within **Volume 3** of this report.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. Particularly in the Glen Truim Dalwhinnie and Upper Glen LCA and Cuaich LLCA and residents of Cuaich, GWMR users, A9 users and hill walkers. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-LV11	Ch. 20,000 to 21,900 and ch. 26,200 to 31,050 primarily to the west of the road	Design/ Construction/ Operational Phase	**Planting to slopes, SuDS basins and drainage features to reduce landscape effects and visual effects for HML railway users, GWMR users, users of the A9 and hill walkers** Planting should be as specified on **Environmental Mitigation Drawings 6.1-6.11**, contained within **Volume 3** of this report. In these identified chainages the HML railway is close to the Proposed Scheme (and is very close to the Proposed Scheme between ch. 26,200 and 31,050) and NCN7 is close to the road between ch. 20,000 and 21,900. Therefore, additional planting is required surrounding SuDS basins 207, 213, 214, 277, 282, 282, 286, 293 and 306. Planting to primarily respond to riparian characteristics to the west of the A9 responding to the River Truim.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
P08-LV12	Ch. 29,600 to 31,050	Design/ Construction/ Operational Phase	**Planting surrounding SuDS basin 306 and treatment of retaining wall** Tree planting to the south of SuDS basin 306 to mitigate adverse visual effects from receptors to the west of the Proposed Scheme and to screen views towards retaining wall. Planting should be as specified on **Environmental Mitigation Drawings 6.1 to 6.11**, contained within **Volume 3**. Appropriate wet grass species to be planted to SuDS basin 306 to blend into landscape to reduce adverse visual effects for receptors to the west.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Not Applicable
P08-LV13	Throughout Proposed Scheme	Design/ Construction	**SuDS basins design refinement** Landscape Architects have influenced the design of the SuDS basins that form part of the Proposed Scheme as detailed in embedded mitigation item **P08-LV2 in Table 21-7**. Further design shall integrate SuDS basins with roadside slopes (including slopes to access tracks) at SuDS basins 233, 258, 259, 277, 282, 286 and 293. SuDS basins are landform sensitive and shall look as natural as possible to blend into surrounding, very open, landscape. Appropriate seeding and planting is required as specified on **Environmental Mitigation Drawings 6.1-6.11**, contained within **Volume 3** of this report.	To ensure reduced effects of the Proposed Scheme on landscape and visual receptors. This approach is aligned with **Appendix 13.3** Section 4, Landscape Objectives of Volume 3.	Transport Scotland
P08-LV14	Throughout Proposed Scheme	Design Construction	**Planting to SuDS basin slopes and drainage features** Planting should be as indicated on **Environmental Mitigation Drawings 6.1-6.11** in **Volume 3** of this report. Locally excavated surface vegetation turves, supplemented with wet grass species shall be planted to SuDS basins, drainage channels and compensatory storage areas to blend with locally adjacent habitats. Seeding and scrub planting shall be used to soften SuDS basin excavations/ earthworks/ slopes and drainage features to integrate landscape mitigation with adjacent habitat features.	To mitigate adverse landscape effects of the SuDS basins on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions. This approach aligns with **Appendix 13.3 Section 4, Landscape Objectives of Volume 3**	Not Applicable

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08-LV15	Throughout Proposed Scheme	Design Construction Post-construction	**Monitoring:** **All mitigation measures** All landscape and visual mitigation items (where indicated on **Environmental Mitigation Drawings 6.1 – 6.11** in **Volume 3** of this report) shall be monitored during the agreed contract maintenance period, and appropriate remedial actions shall be taken where landscape and visual mitigation fails to establish, in specific regard to: o earthworks, rock cutting, and retaining wall mitigation measures o planting/seeding of acid and wet grassland, dry and wet heath o scrub, shrub, woodland edge and woodland planting Monitoring will assess planting selection/techniques and long-term landscape planting management, including fencing and vegetation protection against sheep, cattle, wild fauna, pest infestation, and horticultural practice, particularly to prevent damage to planting during the establishment period. Monitoring will also include assessment of existing woodland health and stability, and removal and replanting of woodland edge to ameliorate wind throw in conifer shelterbelts, as explained further within **Appendix 6.1 and 13.3** in **Volume 2**, and where indicated on **Environmental Mitigation Drawings 6.1 – 6.11** in **Volume 3** of this report, in conjunction with the Outline Peat Management Plan (OPMP, refer to **P08-G6 and P08-G7** in **Chapter 10**) and Outline Habitat Management Plan (OHMP, refer to **Mitigation Item P08-E20** in **Table 21.6**). All monitoring shall be subject to detailed specification.	To inform management and maintenance strategies so slopes, retaining walls, cuttings, vegetation and trees are well maintained and that planting becomes established, mitigating adverse landscape effects of the Proposed Scheme on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions and habitat as well as visual receptors. This approach aligns with **Appendix 13.3 Section 4, Landscape Objectives of Volume 3** (all items).	Transport Scotland CNPA SNH

Table 21-8: Schedule of Environmental Commitments – Cultural Heritage

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC – CH1	Throughout the Proposed Scheme	Construction	The Contractor will consult with the relevant local authority and Transport Scotland's historic environment advisor should any archaeological or cultural heritage finds or sites be discovered or revealed during construction to enable appropriate measures to be implemented to mitigate potential impacts.	To enable appropriate mitigation measures to be implemented to mitigate impacts on assets found during construction.	Relevant Local Authority and Transport Scotland's cultural heritage advisor HES if affecting Scheduled Monument, Category A Listed Building, Historic Battlefield or Garden & Designed Landscape
Embedded Mitigation					
P08 – CH1	Asset 8.3 and the Dalwhinnie Junction	Design Construction / Operation Phase	Sensitive slope design and planting with input from a Landscape Architect is proposed at Dalwhinnie Junction as outlined in P08-LV1 and P08-LV3 in Chapters 13 and 14. Planting shall be as specified on Environmental Mitigation Plan **Drawings 6.1** to **6.11.** in **Volume 3**.	To reduce and mitigate visual impacts on Wade's Bridge	
P08 – CH2	Truim Aqueduct (Asset 8.8)	Design and construction	To reduce the impact of the new structure of Truim Aqueduct, design of the new structure has been sympathetic to the historical structure. The materials of the new structure shall be sympathetic to the historical structure, such as concrete. The detail of the materials will be decided prior to construction stage in liaison with Scottish and Southern Energy.	To mitigate the partial loss of the aqueduct and reduce the visual impact on the historical structure	Scottish and Southern Energy (SSE)
P08 – CH3	ch.30, 000 and 31,050	Design Construction / Operation Phase	To reduce the visual impact of the Proposed Scheme on Crubenmore Old Bridge (Asset 8.13) and Crubenmore New Bridge (Asset 8.14), any trees lost between ch. 30,800 and 31,050 due to the Proposed Scheme shall be replaced if possible as outlined in P08-LV6 in Chapters 13 and 14 and as detailed on **Environmental Mitigation Plan Drawings 6.1** to **6.8** in **Volume 3**.	To reduce the visual and physical impacts on the assets	
Project Specific Mitigation					
P08 – CH4	Throughout scheme	Pre-construction and construction	The preferred mitigation for archaeological remains is preservation *in situ*. The preferred mitigation for historic buildings is non-destructive. Where this is not feasible, a programme of preservation by record must be undertaken.	To ensure heritage assets are mitigated appropriately.	
P08 – CH5	Throughout scheme	Pre-construction or construction	To mitigate potential impacts on previously unknown archaeological remains, archaeological works and recording shall be implemented in consultation with THC's Historic Environment Team and Historic Environment Scotland (HES).	To ensure unknown archaeological assets are mitigated appropriately.	The Highland Council Historic Environment Team
P08 – CH6	Assets 8.1, 8.6, 8.11 and 8.12	Construction	The areas defined as requiring an archaeological watching brief shall be determined in consultation with The Highland Council Historic Environment Team.	Preserve assets by record.	The Highland Council Historic Environment Team

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P08 – CH7	Assets 8.9, 8.17, 8.20 and 8.21	Pre-construction or construction	To mitigate the impacts on these assets, topographic surveys shall be undertaken in accordance with the guidance provided in *Understanding Historic Landscapes: A Guide to Good Recording Practice* (Historic England 2017). A watching brief shall be undertaken for Assets 8.9, 8.20 and 8.21. The areas defined as requiring an archaeological watching brief shall be determined in consultation with The Highland Council Historic Environment Team.	Preserve assets by record.	The Highland Council Historic Environment Team
P08 – CH8	Assets 8.3, 8.13 and 8.14	Construction	To mitigate the impacts on the settings of Wade Bridge (Asset 8.3) and Crubenmore Old Bridge (Asset 8.13) and Crubenmore New Bridge (Asset 8.14), Historic Building Recording (Basic) shall be carried out in line with *Historic Building Recording Guidance* (ALGAO: Scotland 2013) and in accordance with *Understanding Historic Buildings: a guide to good recording practice* (Historic England 2016). Fencing should be erected at Crubenmore Old Bridge (Asset 8.13).	Preserve the assets setting by record.	
P08 – CH9	Asset 8.8	Pre-construction or construction	To mitigate the impact on Truim Aqueduct (Asset 8.8), Historic Building Recording (Enhanced) shall be carried out in line with *Historic Building Recording Guidance* (ALGAO: Scotland 2013) and in accordance with *Understanding Historic Buildings: a guide to good recording practice* (Historic England 2016).	Preserve the asset by record.	
P08 – CH10	Assets 8.3, 8.13 and 8.14	Pre-construction or construction	The Contractor shall review piling locations once the construction programme is finalised to consider whether piling locations will be within 100m of Listed Buildings. If so, assessment shall be undertaken in order to assess the potential impacts of vibration on the structures, and to inform the adopted piling methodology such that vibration causing significant harm to the structures is avoided.	Protect the asset.	

Table 21-9: Schedule of Environmental Commitments – Air Quality

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-AQ1	Throughout proposed scheme	Construction	In relation to minimising fugitive dust emissions from earthworks, material storage and concrete batching the following mitigation items will be implemented: • stockpiles and mounds will be at a suitable angle of repose to prevent material slippage, will be enclosed or securely sheeted, and/or kept damped as necessary during dry weather; • the surfaces of any long-term stockpiles which give rise to a risk of dust or air pollution will be covered with appropriate sheeting or will be treated to stabilise the surfaces; • mixing of large quantities of concrete will be carried out only in enclosed or shielded areas; • all handling areas will be maintained in a dust free state as far as is practicable with sprinklers and hoses used to prevent dust escaping from the site boundaries; and • procedures will be established so that the site is regularly inspected for spillage of dusty or potentially dusty materials and any such spillage will be dealt with promptly where necessary to prevent dust nuisance.	To reduce fugitive dust emissions from earthworks, material storage and concrete batching.	None required
SMC-AQ2	Throughout proposed scheme	Construction	In relation to minimising dust from vehicle movements within the site the following mitigation items will be implemented: • the Contractor will employ appropriate measures, such as covering materials deliveries or loads entering and leaving the construction site by a fixed cover or sheeting appropriately fixed and suitable for the purposes of preventing materials and dust spillage; • where unsurfaced routes are identified as creating dust emissions during periods of dry weather, surfaces will be regularly dampened down using water bowsers; and • appropriate speed limits will be established and enforced over all unmade surfaces.	To reduce dust from vehicle movements.	None required
SMC-AQ3	Throughout proposed scheme	Construction	In relation to appropriate cleaning of public roads the following mitigation items will be implemented: • wheel washing facilities will be installed as required and heavy vehicles will be required to use the facilities prior to leaving the site; • subject to approval from the Roads Authority, public roads immediately outside the site entrance will be cleaned using vacuum sweeper brushes and other specialised road cleaning equipment as necessary to maintain an appropriate state of cleanliness; and • roads and footpaths adjacent to the proposed scheme will be cleaned, with damping if necessary.	To reduce potential of dust from public roads	Approval required from the Roads Authority

Table 21-10: Schedule of Environmental Commitments – Noise and Vibration

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC-NV1	Throughout Proposed Scheme	Pre-Construction & Construction	A scheme of noise and vibration monitoring will therefore be agreed with the Environmental Health Officer Department, and noise and vibration limits will be contained within the CEMP (refer to Mitigation Item **SMC-S1**). The contractor will be required to develop and implement a Noise and Vibration Management Plan to meet these requirements. The assessment will include the design of any necessary NSR specific construction mitigation over and above the standard mitigation included within this ES chapter.	To predict the noise and vibration levels during the construction of the proposed scheme. It will include the design of receptor specific mitigation, over and above the standard mitigation detailed in **SMC-NV2**, where required.	Local Authority Environmental Health Officer
SMC-NV2	Throughout Proposed Scheme	Pre-Construction & Construction	Best Practicable Means will be used to limit the level of noise to which operators and others in the vicinity of site operations would be exposed. This includes the following: • the hours of working will be planned and account will be taken of the effects of noise upon persons in areas surrounding site operations and upon persons working on site, taking into account the nature of land use in the areas concerned, the duration of work and the likely consequence of any lengthening of work periods; • any work outside of normal working hours will be agreed with the relevant local authority; • where reasonably practicable, quiet working methods will be employed, including use of the most suitable plant, reasonable hours of working for noisy operations, and economy and speed of operations; • permanent noise mitigation measures such as acoustic screens and earthwork bunds are to be constructed as early as practical; • noise will be controlled at source, for example, by modification of existing plant/equipment, its use and location and ensuring maintenance of all noise-generating equipment; • the spread of noise will be limited, i.e. by distance between source and receiver and/or screening; • on-site noise levels will be monitored regularly, particularly if changes in machinery or project designs are introduced, by a suitably qualified person appointed specifically for the purpose. A method of noise measurement would be agreed with the local authority prior to the commencement of site works; • on those parts of a site where high levels of noise are likely to be a hazard to persons working on the site, prominent warning notices will be displayed and, where necessary, ear protectors will be provided; • proper use of plant with respect to minimising noise emissions and regular maintenance in line with plant manuals; • where practicable, vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and will be maintained in good, efficient working order; • where appropriate, inherently quiet plant will be selected. All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic	To reduce, as far as practicable, the level of noise to which operators and others in the vicinity of site operations would be exposed.	Local Authority if any working outwith normal working hours

Mitigation Item	Approximate Chainage/ Location	Timing of Measure	Description	Purpose/ Objective	Specific Consultation or Approval Required
			percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers; • machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum; • all ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided; and • adherence to the codes of practice for construction working and piling given in British Standard 'BS 5228:2009+A1:2014' and the guidance given therein minimising noise emissions from the site. In addition, the relevant Local Authority would be consulted regarding any proposed working out-with normal working hours.		
n/a (note)			*In addition to the above, mitigation item SMC-S3 will also mitigate potential for noise disturbance through the overall communications strategy for the A9 Dualling Programme and appointed Community Liaison Officer and liaison team.*		

Table 21-11: Schedule of Environmental Commitments – Materials

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
Standard A9 Mitigation					
SMC – M1	Throughout Proposed Scheme	Pre-construction and construction	Prior to construction a Site Waste Management Plan (SWMP) will be developed as part of the CEMP (see **Mitigation Item SMC-S1** in **Table 21-1**) to set out how all construction phase materials will be managed and it will be updated regularly during the construction of the proposed scheme. The SWMP will identify, identify, prior to the start of construction works, the types and likely quantities of wastes that may be generated and it will set out, in an auditable manner, how waste will be reduced, re-used, managed and disposed of in accordance with relevant Zero Waste Scotland Guidance. The SWMP will include specific materials management and soil management plans developed under voluntary and industry regulated Codes of Practice including: - Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009); - Land Remediation and Waste Management Guidelines (SEPA, 2009); and - Promoting the Sustainable Re-use of Greenfield Soils in Construction (SEPA, 2010). Appropriate waste minimisation and associated KPI targets will also be included.	To set out how all construction phase materials will be managed.	Consultation and approval from the Local Authority and/or SEPA as applicable to regulatory requirements
SMC – M2	Throughout Proposed Scheme	Pre-construction and construction	The Contractor will comply with all relevant waste legislation in relation to waste handling, storage, transport and disposal (e.g. The Waste Framework Directive) and consultation with SEPA for advice on waste practice, licences and exemptions where appropriate.	To ensure waste handling, storage, transport and disposal is compliant with all relevant waste legislation.	Consultation with SEPA
SMC – M3	Throughout Proposed Scheme	Pre-construction and construction	The Contractor will apply the principles of the 'Waste Hierarchy' (Prevention, Preparing for Re-use, Recycling, Other Recovery, Disposal) to minimise waste generation, maximise re-use of site-won materials on-site and minimise the need for disposal of waste. Where re-use is not possible within the proposed scheme, alternative re-use and recycling options will be sought off-site with disposal the final option, with clear justification of options provided.	To reduce waste generation, maximise re-use of site-won materials on-site and reduce the need for disposal of waste.	None required
SMC – M4	Throughout Proposed Scheme	Pre-construction and construction	The Contractor will implement Zero Waste Scotland's Design for Resource Efficient Construction Principles.	To make the best use of materials, over the lifecycle of the proposed scheme's built assets, to reduce embodied carbon emissions	None required
SMC – M5	Throughout Proposed Scheme	Pre-construction and construction	The key material elements (i.e. aggregates, asphalt, cement, precast concrete products, ready-mixed concrete and steel) used within the proposed scheme shall be specified to be responsibly sourced.	To reduce impacts associated with the extraction and manufacture of materials.	None required
SMC – M6	Throughout Proposed Scheme	Pre-construction and construction	All timber and timber products shall be sourced from independently verifiable legal and sustainable sources.	To reduce impacts associated with the extraction and manufacture of materials.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC – M7	Throughout Proposed Scheme	Design, Pre-construction and construction	Alternatives to primary aggregates shall be investigated, including opportunities to use recycled or secondary aggregates in the construction of the proposed scheme; either sourced from construction, demolition and excavation waste obtained on-site or off-site; or secondary aggregates obtained from a non-construction or post-consumer or industrial by-product source.	To reduce impacts associated with the extraction, manufacture and transport of materials and to reduce waste generation, maximise re-use of site-won materials on-site and reduce the need for disposal of waste.	None required
n/a (note)	*n/a*	*n/a*	*Further to the above, the following mitigation items detailed in Table 21.2 (Community and Private Assets), Table 21.4 (Geology, Soils and Contaminated Land), Table 21.5 (Road Drainage and the Water Environment) and Table 21.9 (Air Quality) will be implemented to ensure the appropriate management and handling of materials: Mitigation Items SMC-CP8, SMC-G3, SMC-G8, SMC-G9, SMC-G11, SMC-G15, SMC-W2, SMC-W6 to SMC-W10, SMC-AQ1 and SMC-AQ2.*	*To ensure the appropriate management and handling of materials.*	*n/a*