

**DMRB Stage 3 Environmental Statement
Non-Technical Summary
Transport Scotland**

December 2017



A9 Dualling: Glen Garry to Dalwhinnie



Drumochter Pass

Contents

1	Preface	1
2	Introduction	3
2.1	Background	3
2.2	Environmental Impact Assessment	3
2.3	The Need for the Scheme	4
2.4	Scheme Objectives	4
2.5	Alternatives Considered	5
2.6	Iterative Design Development	5
2.7	The Proposed Scheme	6
2.8	Delivering the Proposed Scheme	7
2.9	Overview of EIA process	7
2.10	Consultation	8
3	Impacts of the Proposed Scheme	11
3.1	Community and Private Assets	11
3.2	Effects on All Travellers	12
3.3	Geology, Soils and Groundwater	13
3.4	Road Drainage and the Water Environment	14
3.5	Ecology and Nature Conservation	16
3.6	Landscape	17
3.7	Visual	18
3.8	Cultural Heritage	19
3.9	Air Quality	20
3.10	Noise and Vibration	21
3.11	Materials	21
3.12	Policies and Plans	22
3.13	Cumulative Effects	22

Figures

Figure 2-1:	Proposed Scheme location and extents	3
Figure 2-2:	Proposed Dalnaspidal Junction (looking south)	6
Figure 2-3:	Proposed Balsporran Cottages/ Drumochter Lodge Access	6
Figure 2-4:	Proposed split-level arrangement through Pass of Drumochter	7
Figure 3-1:	The waste hierarchy as applied to materials and waste	22

Photographs

Photograph 3-1:	Balsporran Cottages in Drumochter Pass	11
Photograph 3-2:	Cycle route (NCN7) runs parallel to the A9	12
Photograph 3-3:	Open views west to Loch Garry from Dalnaspidal	13
Photograph 3-4:	Drumochter Pass exhibits a range of geodiversity features	14
Photograph 3-5:	Allt Coire Mhic-sith crossing with Loch Garry beyond	15
Photograph 3-6:	Ecology surveyors in the Drumochter Hills SAC/ SPA/ SSSI	16
Photograph 3-7:	Elevated view of the Pass of Drumochter	17
Photograph 3-8:	Winter in Drumochter	17
Photograph 3-9:	Drumochter Lodge – views to the A9 will be affected	18
Photograph 3-10:	Dalnaspidal Bridge looking south-east towards the A9	20

Drawings

Proposed Scheme with Environmental Mitigation	24
---	----



Drumochter in Autumn

1 Preface

This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES) for the A9 Dualling – Glen Garry to Dalwhinnie Project (hereafter referred to as the Proposed Scheme). Copies of the ES and draft Road Orders are available to view during normal opening hours at the following locations:

Transport Scotland

Major Transport Infrastructure Projects (MTRIPS)
Buchanan House
58 Port Dundas Street
Glasgow G4 0HF

Telephone: 0141 272 7100

Monday to Thursday 8.30am-5pm, Friday 8.30am-4.30pm

and also at:

Badenoch Library

Badenoch Centre
Spey Street
Kingussie PH21 1EH
Telephone: 01540 661596

and The Highland Council Service Point

The Courthouse
High Street
Kingussie PH21 1HR
Telephone: 01540 664529

Mon 12-5pm, 6-8pm

Tues CLOSED

Wed 10am-1pm, 2-5pm

Thurs 10am-1pm, 2-5pm

Fri 10am-1pm, 2-5pm

Monday to Friday

9am–12.30pm and 1.30–3pm

Please note that all locations are closed at weekends and bank holidays.

The Environmental Statement (including this Non-Technical Summary) and draft Road Orders may also be viewed online at: <https://www.transport.gov.scot/projects/a9-dualling-perth-to-inverness/a9-glen-garry-to-dalwhinnie/>

A bound paper copy of the ES may be purchased at a cost of £150 or in DVD format at a cost of £10 by writing to Transport Scotland at the address above.

Copies of the NTS are available free of charge from the same address or by email to: info@transport.gov.scot

Any person wishing to express an opinion on the Environmental Statement should write to Transport Scotland at the address above. Formal representations are invited until eight weeks after the advertised date of publication.



2 Introduction

2.1 Background

The A9 trunk road forms a strategic link on Scotland’s transport network, linking the Scottish Highlands and the Central Belt. It is vital to supporting the growth and development of the economy in the north of Scotland.

A Strategic Transport Projects Review in 2008 (STPR) set out the future investment programme for transport in Scotland over two decades, including the proposed upgrade of the A9. Following this review, the Scottish Government’s 2011 Infrastructure Investment Plan (IIP) confirmed a commitment to upgrade the A9 to dual carriageway standard between Perth and Inverness by 2025.

The programme of individual projects required to achieve this was subject to Strategic Environmental Assessment (SEA, 2012-14), which identified and considered environmental constraints and sensitivities at a route-wide level. The Glen Garry to Dalwhinnie project forms part of the Central Section (from Glen Garry to Dalraddy) of the A9 Dualling Programme. **Figure 2-1** shows the location and extents of the project.

The Glen Garry to Dalwhinnie project (referred to in this NTS as the Proposed Scheme) comprises dualling of approximately 10km of the A9, to be achieved through a combination of widening and upgrades of the existing carriageway, and sections of localised offline works. The Proposed Scheme incorporates improvements to road drainage and provision of two junctions to cater for local access; one at Dalnaspidal and the other at Drumochter Lodge/ Balsporran Cottages.

The Proposed Scheme will be submitted for authorisation through the Roads (Scotland) Act 1984. If approved, it is anticipated that construction would take approximately 2.5 years (c. 30 months).

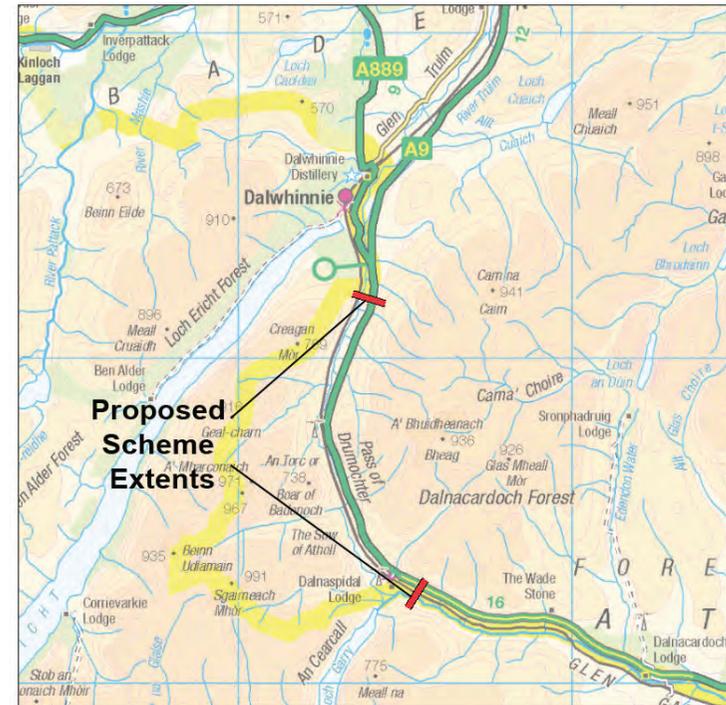


Figure 2-1: Proposed Scheme location and extents

2.2 Environmental Impact Assessment

An Environmental Impact Assessment (EIA) of the Proposed Scheme is required under European and Scottish legislation. The Environmental Statement (ES) reports the findings of the EIA.

The purpose of the EIA is to investigate the likely significant effects of the Proposed Scheme on the environment (including on humans). The EIA has been undertaken in line with relevant legislation, and guidance including the Design Manual for Roads and Bridges (DMRB) Volume 11 - Environmental Assessment.

Further details about likely impacts of the Proposed Scheme can be found in the ES. For ease of use, the ES is presented across four documents:

Non-Technical Summary (this document)

Volume 1: Main Report

Volume 2: Technical Appendices

Volume 3: Environmental Drawings

The EIA process provides an opportunity to minimise potential environmental effects through design refinement. Environmental constraints and issues have been identified through consultation, extensive environmental surveys and technical assessments. The information gathered has informed decision-making throughout the design process. This has provided opportunity to address potentially significant impacts where practicable; for example, by refinement of the Proposed Scheme design or by the incorporation of measures to avoid or reduce potential adverse impacts.

Impacts have been assessed by comparing the existing situation (baseline conditions) to the conditions expected to occur with the Proposed Scheme in place.

2.3 The Need for the Scheme

The need for dualling of the A9 has been recognised for some time, with an ongoing Scottish Government commitment outlined in the STPR published in 2008, the IIP published in 2011 (and reiterated in 2015) and the National Planning Framework (NPF) published in 2014.

The A9 is the main north-south trunk road between Perth and Inverness, connecting the Central Belt with the Scottish Highlands. The route is vital to the economy and communities of the north of Scotland, supporting key industries including energy, construction, and food and drink. The A9 is also a key tourist route, providing access to the Cairngorms National Park, Perthshire and the Highlands.

The current A9 single carriageway between Glen Garry and Dalwhinnie can lead to vehicles being held up by slower moving traffic and a lack of overtaking opportunities. This can lead to driver frustration, potentially resulting in dangerous overtaking manoeuvres.

Along the existing A9 from Glen Garry to Dalwhinnie, there were 22 accidents during the 2008 to 2013 period, including 2 fatal and 15 serious accidents. The majority of accidents on the A9 occur along sections of single carriageway, and generally near to junctions, or transitions between existing single and dual carriageways.

2.4 Scheme Objectives

The aim of A9 dualling between Glen Garry and Dalwhinnie is to improve the operational performance and level of service, building on the objectives set for the A9 dualling as a whole. The STPR assessment of problems and opportunities along the existing A9 led to the development of Transport Scotland's A9 Dualling Programme objectives, as follows:

1. To improve the performance of the A9 by:
 - Reducing journey times, and
 - Improving journey time reliability.
2. To improve safety by:
 - Reducing accident severity, and
 - Reducing driver stress.
3. Facilitate active travel (travel by walking and cycling) in the corridor
4. To improve integration with public transport facilities

2.5 Alternatives Considered

The SEA of the A9 Dualling Programme consisted of a route-wide assessment, considering environmental constraints, issues, risks and opportunities. The SEA was completed in parallel with similar route-wide consideration of engineering constraints, issues, risks and opportunities, as part of a Preliminary Engineering Support Services commission. These studies combined to provide a Design Manual for Roads and Bridges (DMRB) Stage 1 corridor assessment.

Three high-level, strategic alternative dualling corridor options were considered within the SEA including;

- On-line widening – dualling along the existing A9 single carriageway sections, to tie in with the existing dualled sections
- On-line widening with some near off-line dualling – dualling along the existing A9 route, with near off-line dualling where constraints dictated
- Off-line alternative route options – dualling via seven possible alternative routes to the existing A9

The studies identified that online widening, generally following the route of the existing A9, was the most suitable corridor option.

Following the SEA, the Glen Garry to Dalwhinnie project was subject to a range of DMRB Stage 2 assessments to determine a preferred route. This included preliminary sifting of mainline alignment and junction options, resulting in six route options and four indicative junction layout options for Dalnaspidal being taken forward for assessment.

Engineering, environmental, traffic and economic assessments considered the options in line with relevant standards and guidance. Feedback following public exhibitions, held in June 2015, was also considered during the option assessment process.

The DMRB Stage 2 assessment resulted in the selection of the mainline and junction layout options that were considered to achieve the best balance of environmental, engineering, traffic and economic impacts.

A public exhibition was held in November 2016 that presented the preferred mainline and junction options to be progressed.

The design of the preferred route has since been subject to ongoing refinement (DMRB Stage 3), informed by a range of inputs and considerations, including landowner and other stakeholder consultation, as well as EIA.

2.6 Iterative Design Development

The DMRB Stage 3 design for the Proposed Scheme, as assessed and reported in the ES, reflects approximately 12 months of design development of the preferred route option selected at DMRB Stage 2.

The environmental assessment team, working closely with engineering teams, consultees and Transport Scotland, has influenced the design development based on knowledge gained through previous assessment stages and the EIA process. Throughout the process, the design has been iteratively improved to reach the final DMRB Stage 3 design.

Some of the key considerations during design development that reduced potential impacts include avoiding and/ or minimising extents in designated areas such as the River Spey Special Area of Conservation (SAC), the Drumochter Hills SAC and Special Protection Area (SPA) and the Drumochter Hills Site of Special Scientific Interest (SSSI).

The Proposed Scheme also includes landscaping along the route to integrate the design with the existing landform. This includes graded slopes and planting of native plant species to re-establish or reinforce the local character of the landscape. Wildlife passage has also been incorporated to enable connectivity beneath the carriageways.

2.7 The Proposed Scheme

An outline road alignment and junction designs have been developed for the Proposed Scheme, which is referred to as the 'Stage 3 design'. This design would be used by the selected Contractor to prepare a detailed design for construction of the Proposed Scheme.

In summary, a dual carriageway is proposed along approximately 10km of the A9 between Glen Garry and Dalwhinnie. There will be no gaps in the central reservation, in order to prevent right-turn manoeuvres across the carriageway, which will make it safer. The Proposed Scheme includes a grade-separated junction with underbridge at Dalnaspidal and improved access for Drumochter Lodge and Balsporran Cottages, incorporating left-in/ left-out accesses on each carriageway, linked by a local underpass (see **Figures 2-2 and 2-3**).

Another key feature is the split level carriageway design through the Pass of Drumochter, as illustrated in **Figure 2-4**. Limited space to accommodate National Cycle Route 7 and the A9 dual carriageway between the Highland Main Line railway on the west side and the Beauly-Denny powerline on the east side, required a split level approach.



Figure 2-2: Proposed Dalnaspidal Junction (looking south)



Figure 2-3: Proposed Balsporran Cottages/ Drumochter Lodge Access

Retaining walls are required over part of the route through the Pass, to enable the level changes and to avoid affecting the railway, powerline pylons and limit encroachment into designated nature conservation sites.



Figure 2-4: Proposed split-level carriageways through Pass of Drumochter

Where non-motorised user routes (e.g. footways and cycleways) are affected by dualling, these are diverted and reinstated where necessary to maintain connectivity, and new underpass crossings are provided (e.g. at Dalnaspidal, Allt A' Chaorainn and Drumochter Lodge) to avoid the need to cross at the road surface.

Three southbound and four northbound lay-bys are included, each with a kerbed segregation strip to provide separation from the live carriageway, and with footpath links to local access tracks (e.g. the cycle network and hill walking routes). Where possible, lay-by locations were also selected to take advantage of key views.

The Proposed Scheme also includes for the replacement of existing watercourse underbridges and culvert structures. Mammal ledges are included in a number of culverts and, where possible, bridge crossing structure walls have been set back

from banksides to enable natural river movement and provide opportunity for wildlife and pedestrian passage.

2.8 Delivering the Proposed Scheme

The Proposed Scheme will be built by a Contractor, and the construction period is estimated at 30 months (c. 2.5 years). The final detailed design may be refined by the selected Contractor, although it must still meet the requirements of the ES. Should the Contractor refine the design, then an environmental review of those refinements will be required to assess whether residual impacts are greater than reported in the ES, and identify any additional mitigation required.

2.9 Overview of EIA process

The EIA has been undertaken as an integral part of the design process, informing the design as it progressed. The EIA process identified the existing baseline environment via field surveys, consultation and review of existing data. The process then considered the likely impact of the Proposed Scheme on the existing environment, before designing measures to minimise impacts (called mitigation) and then considering the likely residual impacts, once mitigation has been put in place.

This was an iterative process, with the EIA team informing and recommending design changes to minimise the overall residual effects of the Scheme.

2.10 Consultation

During the design process consultation was carried out with approximately 40 organisations including Scottish Natural Heritage (SNH), Cairngorms National Park Authority (CNPA), The Highland Council (THC), Historic Environment Scotland (HES), Scottish Environment Protection Agency (SEPA). In addition, consultation has been carried out with non-motorised user groups, business groups, community councils, landowners, local businesses and residents, as well as a range of other environmental stakeholders.

There have also been a number of public exhibitions and local drop-in consultation events. The overarching purpose of all environmental consultation to date was to:

- collate baseline information regarding existing environmental site conditions
- ensure that affected landowners, members of the public, statutory consultees, and other bodies with a particular interest in the environment, were informed of the proposals and provided with an opportunity to comment
- obtain advice on the identification of potential impacts and the development of appropriate mitigation
- inform the scope of the assessments being undertaken; and seek consultee input to the Proposed Scheme design
- feedback from the range of consultations was reviewed by the project team and considered in the iterative design development and assessment processes where appropriate.





Dalnaspidal with A9 above

3 Impacts of the Proposed Scheme

3.1 Community and Private Assets

This section of the A9 is very sparsely populated, with the hamlet of Dalnaspidal constituting the largest settlement between Glen Garry and Dalwhinnie. The community within Dalnaspidal comprises five residential properties (alongside a derelict former residential property) located between the A9 and the Highland Main Line railway.

There are few other properties along the route, which reflects the remote nature of this locality. Properties include Balsporran Cottages Bed and Breakfast (see **Photograph 3-1**), Drumochter Lodge and a number of buildings associated with four Highland estates with farming and sporting interests in the area. Other commercial interests include the Highland Main Line, the Beauly-Denny powerline and telecommunications masts.

Dualling 10km of the A9 between Glen Garry and Dalwhinnie will require approximately 118 hectares of land-take from community and private assets. The impact and significance of land-take has been evaluated in the context of each current land use type. Where land-take is required, landowners will be compensated in accordance with relevant legislation, and no significant residual (permanent) impacts were identified through the assessment.

Additionally, the remote nature of the area, and the mitigation strategy proposed (use of signage and provision of alternative accesses) ensures that, with exception of possible temporary construction stage effects on access to Balsporran Cottages, the viability of assessed businesses will not be affected, as they will be able to operate in a manner similar to that which they currently operate.



Photograph 3-1: Balsporran Cottages in Drumochter Pass

No significant residual (permanent) effects were predicted, due to land-take or disruption to agricultural or sporting activity operations, for the four Highland estates, or the secure agricultural tenancy in the area.

The Proposed Scheme will result in changes to access routes to some properties and assets. Mitigation will include signage showing diversions, and provision of alternative accesses where necessary. During operation, no significant residual impacts were identified due to access changes and the resulting length of route or journey changes.

3.2 Effects on All Travellers

Potential impacts of the Proposed Scheme on vehicle travellers and on pedestrians, cyclists and equestrians (called non-motorised users) have been assessed. The assessment on non-motorised users considered any potential changes in the pleasantness of the journey (amenity value), the length of the journey, and how the route is accessed.

Nine non-motorised user routes (NMU) were identified within the Proposed Scheme study area, including local community paths, hill walking routes, estate access tracks and National Cycle Network Route 7 (NCN7), which runs generally parallel and adjacent to the A9 throughout the study area (see **Photograph 3-2**). These NMU routes provide access into the surrounding area, including Loch Garry and nearby hills, and there are a number of informal parking areas which are used by those accessing these routes. There are six points where these routes cross the A9, potentially putting users at risk of accidents.

During construction of the Proposed Scheme there will be significant adverse impacts on the network of routes, most notably those directly adjacent to the road. The national cycle route may not be accessible at times during construction due to its proximity to the A9; therefore, diversions and alternative provision will be arranged by the Contractor during the affected period.

Where routes are not directly affected by diversions, there may still be adverse impacts on the amenity of the route. There are likely to be changes in views and noise levels relating to construction activities; however, these impacts will be temporary.

During operation, it is anticipated that there could be adverse impacts on five routes due to potentially perceived impacts on amenity value and changes in journey length.

Taking into consideration additional mitigation measures including general improvement to affected routes, reinstatement of lost vegetation and additional tree and scrub planting, there will be no significant long-term residual (permanent) impact on routes used by pedestrians, cyclists and equestrians.



Photograph 3-2: Cycle route (NCN7) runs parallel to the A9

The project will be of benefit to non-motorised users by providing significantly safer crossing opportunities via underpasses, additional footpaths connecting the existing routes, and through the provision of better lay-bys.

Vehicle travellers have been considered in relation to views from the road and potential effects on driver stress. The Proposed Scheme runs through the dramatic scenery of the Drumochter Pass and high-quality views are experienced from vehicles on the A9. The route has open views to the west, for example, taking in Loch Garry and across the strath to the surrounding hills (see **Photograph 3-3**).



Photograph 3-3: Open views west to Loch Garry from Dalnaspidal

Views east are more constrained due to hill slopes and woodland adjacent to the road. It is considered that generally, views into the wider landscape will not be affected; however, there will be some local changes around Dalnaspidal, Balsporran Cottages and Drumochter Lodge.

Driver stress is contributed to by various factors including the speed and flow of traffic, confidence in journey time/ reliability and frustration, for example at the lack of overtaking opportunities when behind slower moving vehicles. Baseline studies identified that the existing A9 has a moderate level of driver stress, with higher levels experienced on single carriageway stretches with a lack of overtaking opportunities.

When dualled, the Proposed Scheme will have safer junctions, it will enable much safer overtaking and improve traffic flows, journey time and reliability, each of which will benefit and reduce driver stress levels.

3.3 Geology, Soils and Groundwater

The assessment has considered potential impacts related to geology, soils, designated geological sites, features of geodiversity interest (geological, geomorphological and soil features that make up the landscape), potential contamination and groundwater associated with construction and operation of the Proposed Scheme.

The study area for the Proposed Scheme is underlain by soils of medium or higher conservation interest throughout, with peat present at depths frequently greater than 1 metre, and locally up to 8 metres.

Designated geological sites and geodiversity features within the study area include the Allt Dubhaig Geological Conservation Review site, Drumochter Hummocky Moraines, alluvial fan deposits, a sphagnum peat bog containing an important pollen record, debris cones and the hillsides through the Pass of Drumochter (see **Photograph 3-4**).

Some private water supplies, sourced from either ground or surface water, are also currently active and in use, while several areas on or adjacent to the Proposed Scheme were identified to contain wetland habitats that rely on groundwater, known as Groundwater Dependent Terrestrial Ecosystems (GWDTE).

Potential impacts have been identified during construction and operation of the Proposed Scheme, including excavation and disturbance of soils, peat or geodiversity features, changes to groundwater levels, flows or quality, disturbance of GWDTE, and in relation to areas of potential contamination and private water supplies.



Photograph 3-4: Drumochter Pass exhibits a range of geodiversity features

Proposed mitigation measures to avoid, reduce or offset the potential impacts identified, include:

- development of management plans identifying best practice measures to minimise impacts on soils and peat during construction
- recommendations on construction techniques that may help avoid or minimise additional peat or GWDTE disturbance
- re-instatement, restoration and creation of peat or wetland-based habitat through re-use of excavated peat, and restoration of former access track areas in the Drumochter Hills

- core sampling, soil logging and analysis prior to construction works within the important pollen record site in Drumochter and during construction works which disturb hummocky moraine features adjacent to the road
- private water supply and groundwater monitoring in selected areas to ensure potential impacts are successfully controlled and inform the need for further mitigation if necessary
- protection, or provision of replacement or diverted, private water supply networks which cross the road for properties at Dalnaspidal
- best practice pollution, erosion, sediment and material management measures during construction, following Scottish Environment Protection Agency pollution prevention and waste guidance
- environmental supervision on site during construction to oversee the implementation of mitigation and monitoring.

With the provision of mitigation measures, only local significant residual effects are expected to remain in relation to groundwater levels and flows at Dalnaspidal, through the Pass of Drumochter and at Balsporran/ Drumochter Lodge during construction and operation.

This also applies to peat and GWDTE habitat loss and disturbance during construction. However, the provision of the mitigation measures means that there are predicted to be no significant residual adverse impacts once proposed measures for habitat re-instatement, restoration and improvement become firmly established.

3.4 Road Drainage and the Water Environment

Several sensitive rivers and streams could potentially be impacted by the Proposed Scheme, particularly as it extends through areas designated for nature conservation. The existing A9 crosses approximately 60 rivers and streams within the project study area; these are predominantly tributaries of the River Garry, Allt Dubhaig, and River Truim.

The Allt Dubhaig is a designated geodiversity feature of the Drumochter Hills Site of Special Scientific Interest (SSSI), for the unique movement of water and sediment it exhibits. The River Truim is designated as part of the River Spey Special Area of Conservation (SAC).

All rivers and streams that may be potentially affected by the Proposed Scheme have been identified via survey (**Photograph 3-5** shows the Dalnaspidal crossing of the Allt Coire Mhic-sith, a tributary of the Allt Dubhaig).



Photograph 3-5: Allt Coire Mhic-sith crossing with Loch Garry beyond

Existing conditions have been established in terms of: water quality (surface and groundwater); the physical characteristics of the shape, boundaries and content of a waterbody (e.g. river, loch, pond); and the risk of flooding.

Non-environmental features within the study area were also considered to ensure they are not affected by the water environment as a result of the Proposed Scheme (e.g. potential for increased risk of flooding to residential properties, the A9, and the Highland Main Line).

The water environment may be susceptible to impacts associated with the Proposed Scheme during both construction and operational phases. These include, but are not limited to; accidental spillages; disturbance or damage to river banks and beds; changes to the flow of water in rivers and streams potentially affecting the risk of flooding and the natural balance of the movement of sediments, and increased runoff of water from the road surface (which may include pollutants such as road salts).

Established methodologies for assessing impacts on the water environment and an environmentally-led design process for the Proposed Scheme has enabled potential impacts on the water environment to be avoided, reduced, or appropriately mitigated.

Good practice construction site and runoff control measures will minimise potential impacts to the water environment. The incorporation of Sustainable Drainage Systems (SuDS) in the Proposed Scheme design will minimise operational stage water quality impacts by providing sufficient levels of treatment, as well as holding water back from entering rivers and streams, thereby reducing the risk of flooding from increased road runoff.

Where the Proposed Scheme design encroaches into the floodplain, areas will be provided where water can be temporarily held, to offset the loss of flood storage. Bridges are set back from river banks to allow natural change in their form to continue and drainage pipes (i.e. culverts) are sized to allow a natural movement of sediment through the catchment and reduce the risk of blockage and subsequent flooding.

The mitigation measures in the Proposed Scheme design ensure that there are no significant adverse impacts to the water environment and that betterment is provided, compared to existing conditions.

3.5 Ecology and Nature Conservation

The assessment considered the potential impacts associated with the operational and construction phases of the Proposed Scheme on statutory designated sites for nature conservation, habitats and protected species. There are four statutory designated sites within the study area:

- Drumochter Hills Special Protection Area (SPA)
- Drumochter Hills Special Area of Conservation (SAC)
- River Spey SAC
- Drumochter Hills Site of Special Scientific Interest (SSSI).

Specialist ecology surveys have been carried out to determine the presence of notable habitats and species within the study area (see **Photograph 3-6**).



Photograph 3-6: Ecology surveyors in the Drumochter Hills SAC/SPA/SSSI

Broad habitats consist primarily of heathland, grassland and bog habitats, typical of the upland moorland environment. Some of these habitats are valuable as they contain important vegetation communities and support protected species including breeding birds (such as merlin and important waders), water vole and otter.

Potential impacts on important ecology features have been identified, including habitat loss and the possible prevention of easy movement of species between different supporting habitat areas. During construction, there is also potential for disturbance to habitats and species and pollution risks to watercourse ecology.

Embedded mitigation for the Proposed Scheme, such as slope refinement, has minimised encroachment into notable habitats and the Drumochter Hills SAC, SPA and SSSI. Additional mitigation measures to reduce or offset potential impacts on statutory designated sites, habitats and species include:

- provision of natural river bed sediment such as gravel and boulders in culverts to maintain habitats and fish passage
- provision of safe crossing points for otter and deer through inclusion of mammal ledges in appropriately sized culverts and bridges
- timing of construction works and provision of exclusion zones to minimise disturbance to habitats and species during sensitive seasons
- restoration of habitats affected by construction through replacement planting
- environmental supervision on site during construction to oversee the implementation of mitigation
- specific habitat and species protection plans have been detailed and will be followed at construction stage.

There will be some permanent habitat loss due to encroachment of the Proposed Scheme; however, with the mitigation measures there are predicted to be no significant residual adverse impacts on the majority of habitats and species, once planting measures become established.

Positive residual impacts are anticipated, with safer areas provided for mammals to cross under the A9, which is predicted to reduce the number of animals killed on the road.

3.6 Landscape

The Proposed Scheme lies within the Cairngorms National Park, which is the highest level of landscape designation in the UK. The study area includes the spectacular scenery of the Pass of Drumochter (Bealach Druim Uachdair, see **Photograph 3-7**), which is the main mountain pass between the northern and southern central Highlands.



Photograph 3-7: Elevated view of the Pass of Drumochter

The A9, the Highland Main Line railway, the NCN7 cycle route and the Beaulieu-Denny powerline all run in parallel through the Pass, forming a relatively narrow infrastructure corridor through the dramatic landscape. Drumochter Pass is a significant landmark on the A9, and is considered to be a notable driving experience at any time of the year. The high point of the A9, at 460m (1508 ft.), is located within the Proposed Scheme extents, and the whole section is subject to severe weather conditions in winter (see **Photograph 3-8**).



Photograph 3-8: Winter in Drumochter

Arising within the area, the River Garry flows to the River Tay in the south, and the River Truim to the River Spey in the north. The area is isolated; there is a hamlet at Dalnaspidal, but the nearest settlement of any size, Dalwhinnie, is some 10km to the north. Land use in the area is primarily for Highland sporting estate purposes (i.e. grouse moorland) and rough grazing agriculture.

The landscape within the study area has already been significantly affected by the existing infrastructure corridor (i.e. the A9, the adjacent powerline and railway) at a local level. Potential impacts associated with the Proposed Scheme include changes to the landscape (elements, features, and character), resulting from the introduction of new or widened road cuttings and embankments, drainage basins, retaining walls, bridges for underpasses at two key locations, and from the loss of mature or established planting.

Landscape impacts have been minimised where possible by design improvements to the route of the road, grading of earthworks slopes to blend with surrounding landform, and through landscape planting.

The Proposed Scheme is adjacent to the existing carriageway for most of its length, and as it remains contained within a narrow infrastructure corridor, it causes relatively little change to overall landscape character.

Additional mitigation required at construction stage includes further refinement of earthworks contouring, well designed detailing and finishes for retaining walls and other structures that will improve the new road's fit within the landscape character.

It is recognised that, upon completion, there will be significant effects throughout the Proposed Scheme; however, as mitigation measures mature over 15 to 25 years, each of the eight distinctly different local landscape character areas that have been identified by the study will no longer experience significant adverse impacts. Similarly, the assessment determined that there will be no long-term adverse effects on the defined 'Special Landscape Qualities' of the National Park.

Overall, therefore, there will be no long-term significant adverse effects on the Pass of Drumochter Landscape Character Area, nor the Cairngorms National Park within the study area. The impact of the Proposed Scheme will continue to further reduce, beyond 25 years, as planted vegetation establishes and matures, and finishes to retaining walls and other structures weather in.

3.7 Visual

The visual assessment considered the degree of anticipated change that the Proposed Scheme would have on local residents, and users of paths and tracks in the surrounding countryside. The locally dramatic Highland topography, and sparsely wooded landscape presents open vistas of the Proposed Scheme, which would result in significant visual impacts across much of the route, prior to mitigation.

The key impacts on views will occur as a result of construction of the Dalnaspidal junction and the Balsporran/ Drumochter Lodge (see **Photograph 3-9**) access bridges under the A9, the retaining walls required at Drumochter Pass (between the Beauly-Denny powerline, the A9 and the Highland Main Line railway), and changes associated with new embankments, cuttings and road drainage features. The loss of roadside screening vegetation will have an adverse impact in the short term.



Photograph 3-9: Drumochter Lodge – views to the A9 will be affected

As noted for landscape effects, because the proposed alignment closely follows that of the existing A9, the new dual carriageway would effectively create similar views to those currently experienced, once mitigation is in place and planting matures.

Mitigation design includes refinement of earthworks to reflect adjacent natural slopes, planting to screen views of the Proposed Scheme, and replacement of woodland areas removed at construction.

The design also considered views of the surrounding area experienced by drivers on the A9. This includes opportunities to maintain open views to the west, extended lay-bys with footpath links to NCN7, positioned to take advantage of key views at Dalnaspidal and Drumochter Pass, as well as upgraded parking provision at Balsporran. Mitigation also includes a mosaic of planting that responds to adjacent areas, including wet and dry heath, grasslands and replacement of conifer plantation (e.g. snowbelt trees lost to Proposed Scheme earthworks) with native mix trees.

Four viewpoints located at properties assessed within the study area would experience significant visual impacts in winter of the year of opening, before the mitigation measures, such as planting, become fully established. In the long-term, once trees and shrubs are fully established, two of these properties (Drumochter Lodge and the Old School House at Dalnaspidal) would still experience significant visual effects due to the change to their immediate surroundings and views.

Twenty three viewpoints were assessed from outdoor locations that represent road and rail users, and recreational locations including hill walking routes and the NCN7. The majority of these would be subject to significant visual impacts in winter of the year of opening. In the long-term (up to 25 years), when mitigation is fully established, only locations with views to the Dalnaspidal junction and Drumochter Lodge/ Balsporran access bridges under the A9, and the Drumochter Pass retaining walls, would remain subject to (moderate) visual impacts. Beyond 25 years, continued vegetation growth and weathering will further reduce the effects.

With inclusion of landscape and visual mitigation measures, the Proposed Scheme achieves a range of landscape objectives to: fit the dramatic landscape; minimise structures, signs and clutter; introduce new native planting to replace lost vegetation; and encourage the enjoyment of views and access to/ appreciation of the landscape through links to walking and cycling routes in the area.

3.8 Cultural Heritage

Information on the cultural heritage of the area was gathered on known archaeological sites and historic buildings from the Historic Environment Record and Historic Environment Scotland. Historical maps, including military maps, were viewed in order to identify the past landscapes and any archaeological sites shown. Local studies and archives were visited to research the area. A site walkover was also undertaken to identify any so-far unrecorded sites.

A total of 30 cultural heritage features were identified by the assessment, including archaeological remains, historic buildings and landscapes. The majority of sites date from the post-medieval and modern periods, including General Wade's Military Road and bridges, shieling huts (temporary dwellings for seasonal grazing), and historic buildings, including Drumochter Lodge.

Potential impacts during construction were identified in relation to aspects such as removing, or partially removing, known and potential buried archaeological remains and historic buildings, severing historic landscapes, and changes to the setting of cultural heritage sites.

Sections of General Wade's Military Road (GWMR) may be removed within the area of the Proposed Scheme. There are a number of shieling sites which will be either partially or completely removed. Three bridges will be removed by the Proposed Scheme, including Dalnaspidal Bridge (see **Photograph 3-10**).



Photograph 3-10: Dalnaspidal Bridge looking south-east towards the A9

Potential impacts during the operational phase of the Proposed Scheme are non-physical, such as noise or visual intrusion and possible changes to the setting of a cultural heritage site.

To minimise potential impacts, a range of mitigation techniques are proposed; including recording information on historic buildings which will be affected in any way. Measuring and mapping earthworks, such as banks, will be carried out on existing earthworks. Landscaping, including the planting of trees and screening vegetation, is also proposed for cultural heritage sites where appropriate.

Watching briefs (which are when the construction is monitored by an archaeologist in order to identify and record archaeological remains) are proposed for sites which do not require other mitigation or where areas of potential archaeology has been identified.

For example, the route of GWMR winds through the Proposed Scheme extents; and although much is likely to have been destroyed in the past, where the current

A9 crosses known GWMR locations, a watching brief is required to enable preservation by record. With proposed mitigation, no significant impacts on cultural heritage sites are predicted.

3.9 Air Quality

Air quality across the Proposed Scheme area is identified as 'good' by The Highland Council. Air quality objectives set by the European Union and Scottish Government are expected to be achieved. However, the Proposed Scheme assessment considered the key air pollutants associated with road traffic emissions: nitrogen oxides, nitrogen dioxide and fine particulate matter.

The air quality assessment used empirical methods to determine the potential for changes to air quality as a result of the Proposed Scheme, and any related impacts on local communities or designated ecological sites. The risk of impacts from construction dust was also considered.

Construction activities have potential to cause dust emissions that may cause nuisance, health effects or damage to sensitive habitats. Following current guidance, the risk was assessed as 'medium', and construction dust control mitigation measures are recommended to reduce the risk of emissions during the construction phase. These include covering of stockpiles, wheel-washing and the use of site speed limits. With the implementation of appropriate control measures, the construction phase is not predicted to cause any significant impacts.

During operation, human health impacts could result from vehicle emissions if the Proposed Scheme resulted in changes to traffic flows or the distance to sensitive receptor locations, such as houses, schools or hospitals. However, the assessment found that the Proposed Scheme impacts are likely to be imperceptible at all sensitive locations for all pollutants considered.

No significant air quality impacts are expected from operation of the Proposed Scheme, and no mitigation is required.

3.10 Noise and Vibration

The A9 passes through open countryside with few residential dwellings within the study area. Road traffic using the A9 is the main source of noise in the area at the moment.

The noise assessment presents the results of noise monitoring and modelling to identify potential noise and vibration impacts associated with the Proposed Scheme from both the construction and operation of the dualled road. Consideration has been given to noise sensitive receptors, which included residential properties, nature conservation sites and users of public rights of way.

The construction period has the potential to result in high noise levels for those receptors closest to the Proposed Scheme, particularly during noisier activities such as earthworks and construction of structures and the road surface. As the construction moves along the length of the Proposed Scheme, the duration of different phases of works will be for limited periods at each location, as the works move closer or further away. Mitigation measures for noise during construction will be put in place to reduce impacts, including implementation of best practice and community liaison, with working time restrictions where required.

There are no significant adverse vibration impacts predicted during the construction phase, and the Proposed Scheme design includes measures that will reduce operational noise, including low noise road surfacing along the entire route.

Once the Proposed Scheme is in operation, there will be both increases and decreases in road traffic noise for receptors. There are predicted to be six receptors (two houses, one public right of way and three nature conservation designated sites) with an increase in road traffic noise that is likely to be perceptible. However, predicted changes in road traffic noise are not significant enough to require additional specific noise mitigation measures for any individual receptors (e.g. noise barriers or secondary glazing). There are also five houses and five public rights of way where a decrease in road traffic noise, that is likely to be perceptible, is predicted.

There are no significant adverse vibration impacts predicted on operation of the Proposed Scheme.

3.11 Materials

Construction of the Proposed Scheme will consume large quantities of raw materials and manufactured construction products, with associated potential to generate large quantities of waste. The potential impacts associated with these activities include the:

- generation of greenhouse gas emissions during the extraction, processing and manufacturing of construction materials and products
- depletion of natural resources within the study area, e.g. crushed rock and sand and gravel aggregates
- impact on waste management facilities within the study area, e.g. through permanently occupying landfill space and/ or the temporary use of waste storage, recycling and recovery capacity.

Where potential impacts have been identified these will be reduced, where possible, during detailed design and construction stage efficiencies, and via compliance with relevant legislation, policies and plans relating to the use of materials and the management of waste.

The application of material and waste management principles will seek to minimise (where possible) the:

- use of construction materials and products that consume large amounts of energy in their extraction, processing and manufacturing
- purchasing of key construction materials and products from suppliers who cannot demonstrate that they have been produced sustainably
- use of virgin aggregates
- generation of surplus materials and waste, and the permanent disposal of these materials to landfill through promoting re-use, recycling and recovery options.

With best practice application of the principles of the waste hierarchy (see **Figure 3-1**), and implementation of Site Waste Management Plans, as required by SEPA, the potential for impacts relating to depletion of natural resources and generation of wastes, by the appointed Contractor, is not considered to be significant.



Figure 3-1: The waste hierarchy as applied to materials and waste

The magnitude of greenhouse gas emissions associated with construction of the Proposed Scheme was estimated to be Moderate. However, construction stage emissions represent a very small proportion (less than 0.0017%) of the UK's third carbon budget (2018 to 2022) (the period in which construction is likely to be undertaken), and are consistent with other large-scale road projects throughout the UK that typically have an unavoidable demand for construction materials and products.

3.12 Policies and Plans

The assessment considered the Proposed Scheme's compliance with national, regional and local authority planning policies.

The principle of development of the Proposed Scheme is directly supported within the National Planning Framework 3 (NPF3), which recognises A9 dualling as important in relation to increasing business accessibility across the rural north, increasing business confidence and supporting investment throughout the region.

The Proposed Scheme is also supported within Scottish Planning Policy which aims to support improved transport connections within Scotland, and within Scotland's National Transport Strategy which aims to tackle congestion and improve safety and journey times between destinations.

The assessment has not found any areas of non-compliance with national planning policies or Statutory Development Plans (the TAYPlan and the Cairngorms National Park Local Development Plan). The assessment has identified some areas where there is partial compliance with non-statutory policies and strategies such as the Cairngorms Nature Action Plan and the Cairngorms Forest and Woodland Framework. These areas of partial compliance relate predominantly to woodland loss and impacts on landscape, although it is noted that the Proposed Scheme aims to deliver an overall net gain in woodland, where possible, within a framework of statutory nature conservation site designation restrictions.

The presence of partial non-compliance with regional or authority level policies and strategies should be balanced against the overarching benefits of the Proposed Scheme such as; improved strategic connectivity, enhanced road safety and promoting national and regional social and economic opportunities. The realisation of such benefits is supported by national, regional and local authority planning policies.

3.13 Cumulative Effects

Cumulative effects refer to circumstances where more than one impact (e.g. flood risk, land-take, noise increase) may affect the same receptor (e.g. a watercourse, a landowner's field, a residential dwelling). When these impacts come together, the resulting cumulative effect may be more significant than if the receptor was affected by a single impact only.

The assessment identifies that some receptor properties (e.g. at Dalnaspidal, Balsporran Cottages and Drumochter Lodge) may be subject to cumulative access and visual impact effects during construction. The assessment concludes that, noise, with exception of Balsporran, the cumulative effect will be temporary and not significant.

Whilst effects will also be temporary for Balsporran, the assessment considers that visual, access and construction stage disruption to the business may be more significant.

Once the Proposed Scheme is operational, the assessment identifies that the same properties may still be subject to cumulative effects. These are from changes in access arrangements, possible traffic noise increases and visual impacts given their proximity to the route. However, the assessment concludes that the cumulative effect will not be significant.

The potential for cumulative effects in combination with other A9 Dualling projects, which could be constructed at the same time as the Proposed Scheme, was also considered. It is recognised that construction of multiple schemes adjacent to each other may increase traffic management and journey times; however, none of the identified potentially adverse cumulative effects were considered likely to be significant.

It should be noted that the assessment of road traffic is based on traffic data which assumes all A9 Dualling projects will be operational, therefore the assessments relating to noise and air quality already address cumulative effects in this respect.

Cumulative loss of woodland and other potentially sensitive habitats during construction is considered to be primarily addressed via mitigation and compensatory planting proposals developed at the individual project level; therefore, no significant adverse cumulative effects with other projects were predicted.

The only exceptions are in relation to the use of natural resources, carbon emissions and waste generation, where impacts are considered to be locally or regionally significant within the A9 Dualling study area, but unlikely to become issues at wider scales.

Upon completion of the Proposed Scheme (and other A9 projects), beneficial cumulative effects are predicted in relation to improvements in road safety, reductions in driver stress, safer access to walking/ cycling routes, improved treatment of surface water runoff and road drainage discharge to the water environment, and mammal and fish passage under the Proposed Scheme.

Legend

Design:

- Proposed Scheme Detail
- Dalnacardoch Temporary Construction Access
- Road Crossing Structure
- 500** Chainage in metres
- SuDS Basins

Constraints:

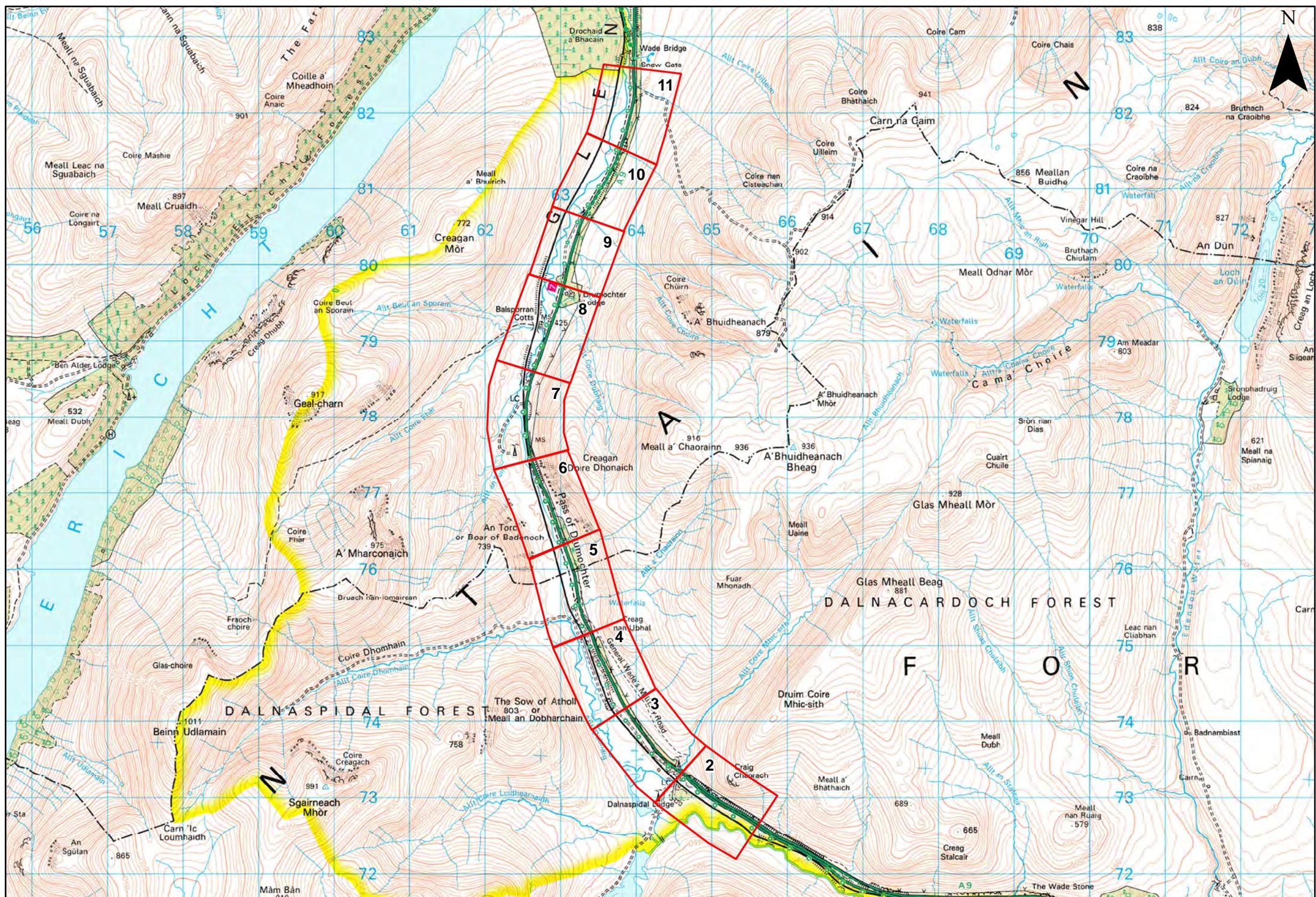
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

Non Motorised Users Routes (NMU Routes):

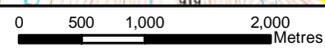
- Existing Core Path
- Existing National Cycle Route (NCN7)

Proposed Landscape and Ecological Mitigation:

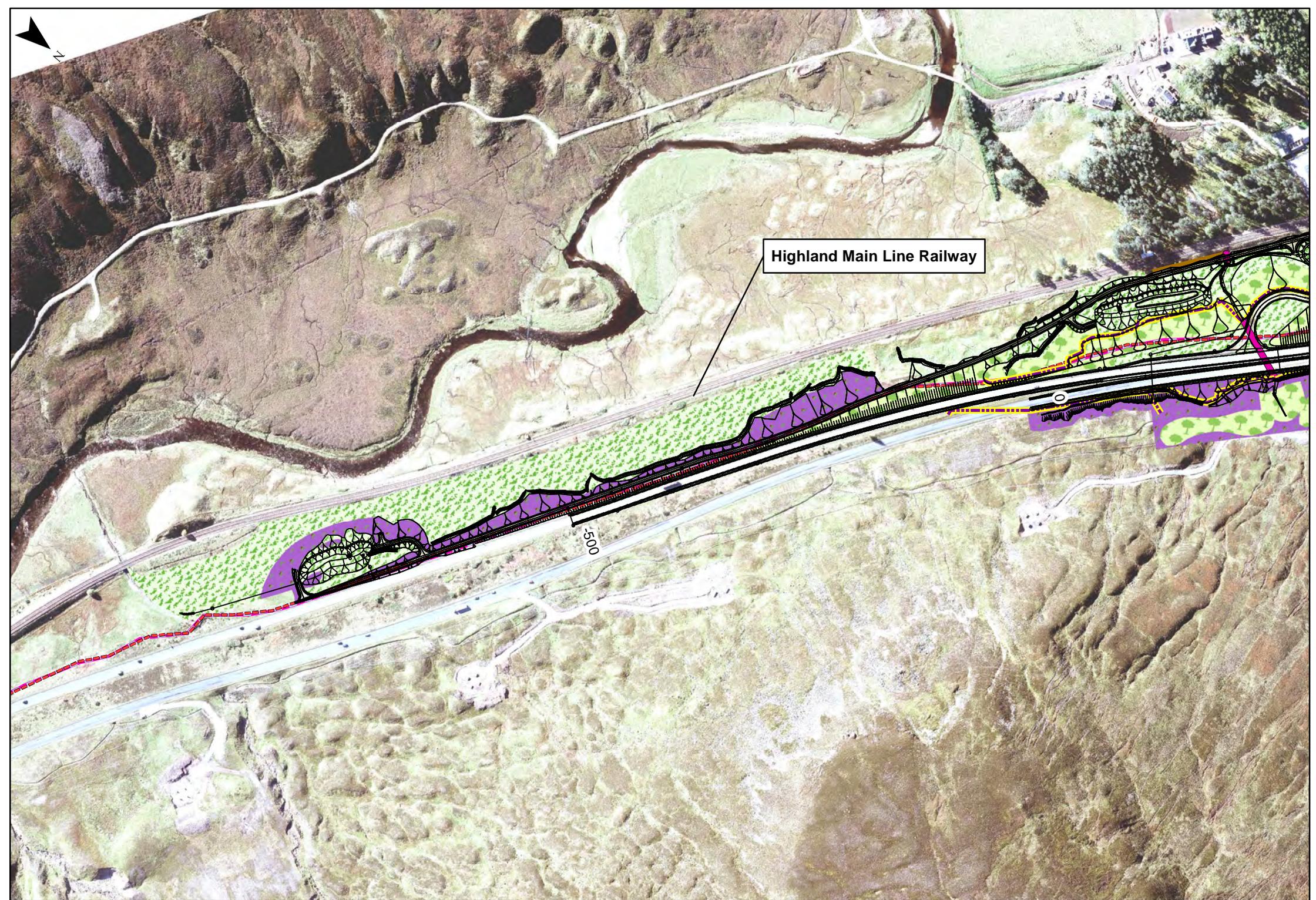
- Exclusion Zones
- Grassland
- Heath
- Scrub
- Mixed Native Woodland
- Scattered Trees
- Peat Restoration Areas
- Mammal Fencing
- Structure with Mammal Passage



Drawing: 1

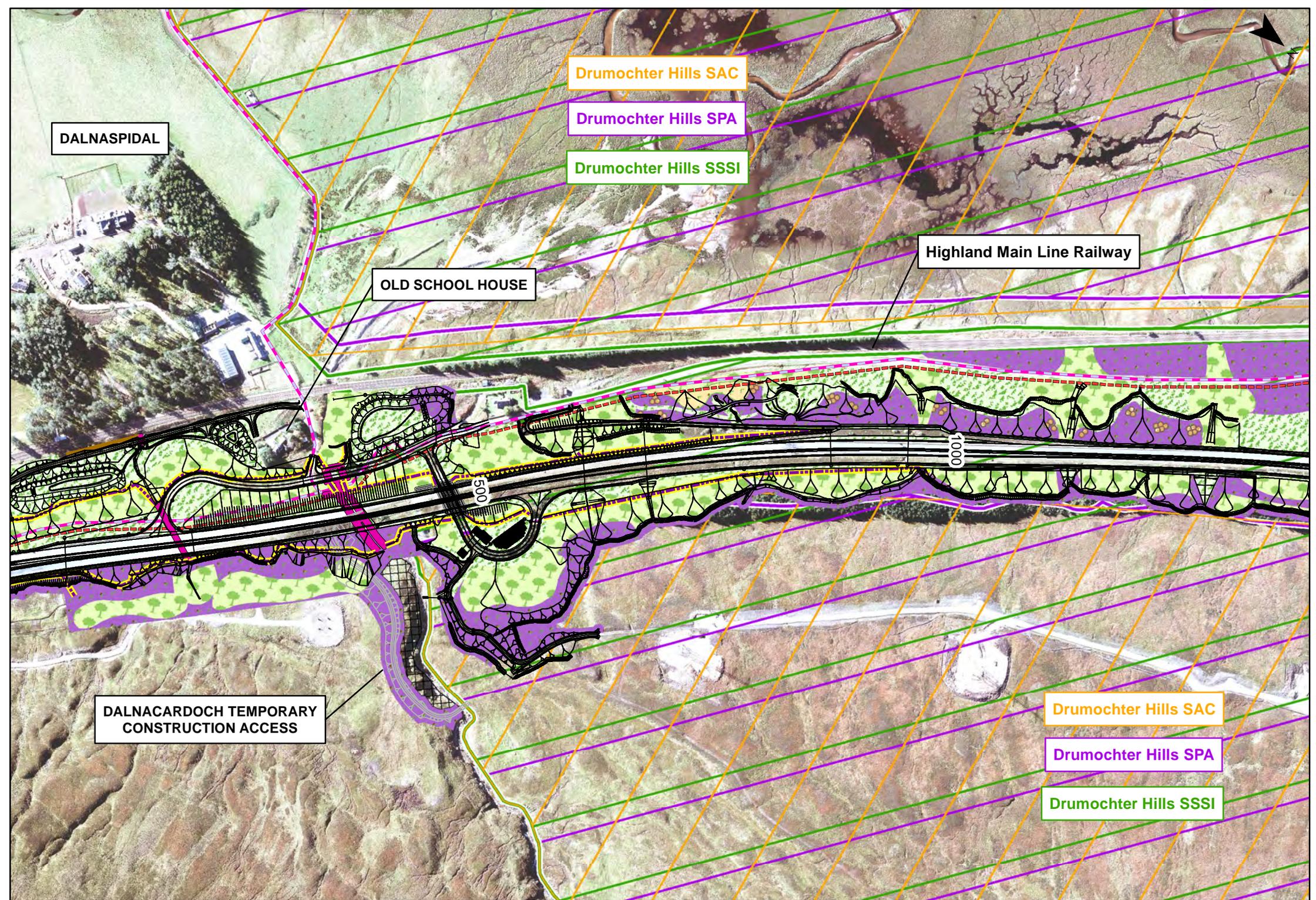


Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right. All rights reserved. Transport Scotland Licence number 100046668, 2017



Highland Main Line Railway

500



DALNASPIDAL

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

OLD SCHOOL HOUSE

Highland Main Line Railway

DALNACARDOCH TEMPORARY
CONSTRUCTION ACCESS

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI



Highland Main Line Railway

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

Drumochter Hills SAC

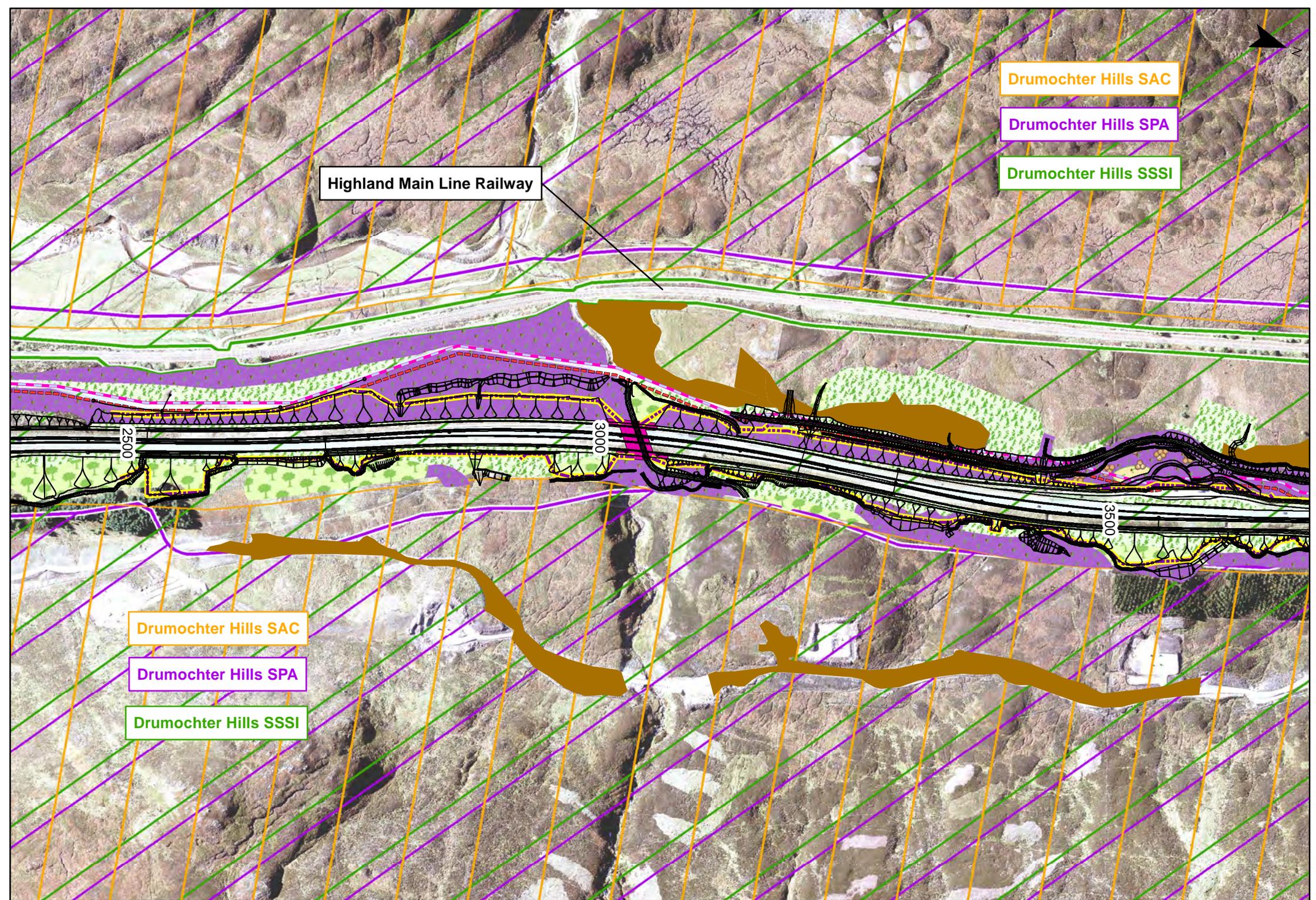
Drumochter Hills SPA

Drumochter Hills SSSI

1500

2000

2500



Highland Main Line Railway

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

2500

3000

3500

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

Highland Main Line Railway

River Spey SAC

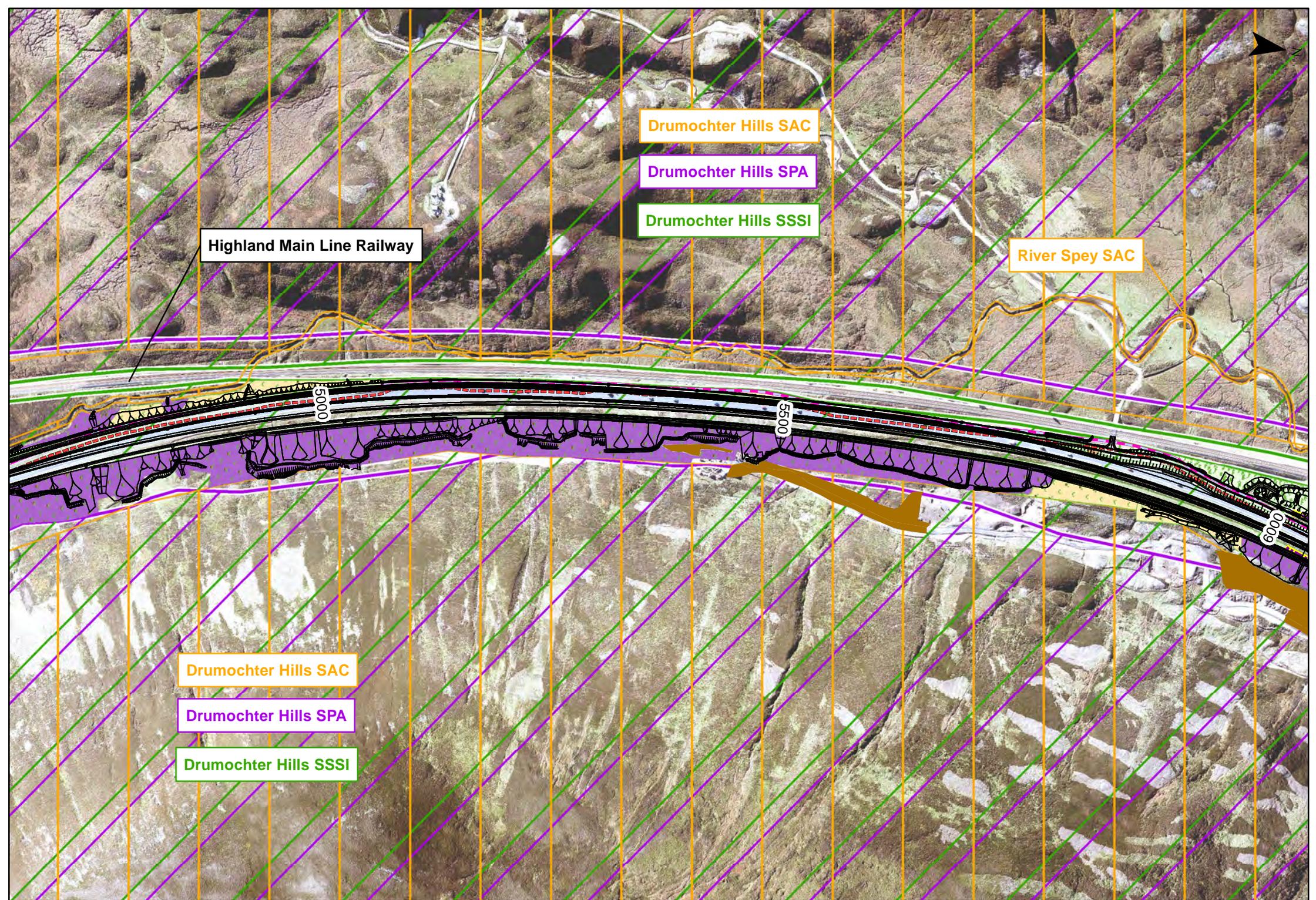
Drumochter Hills SAC

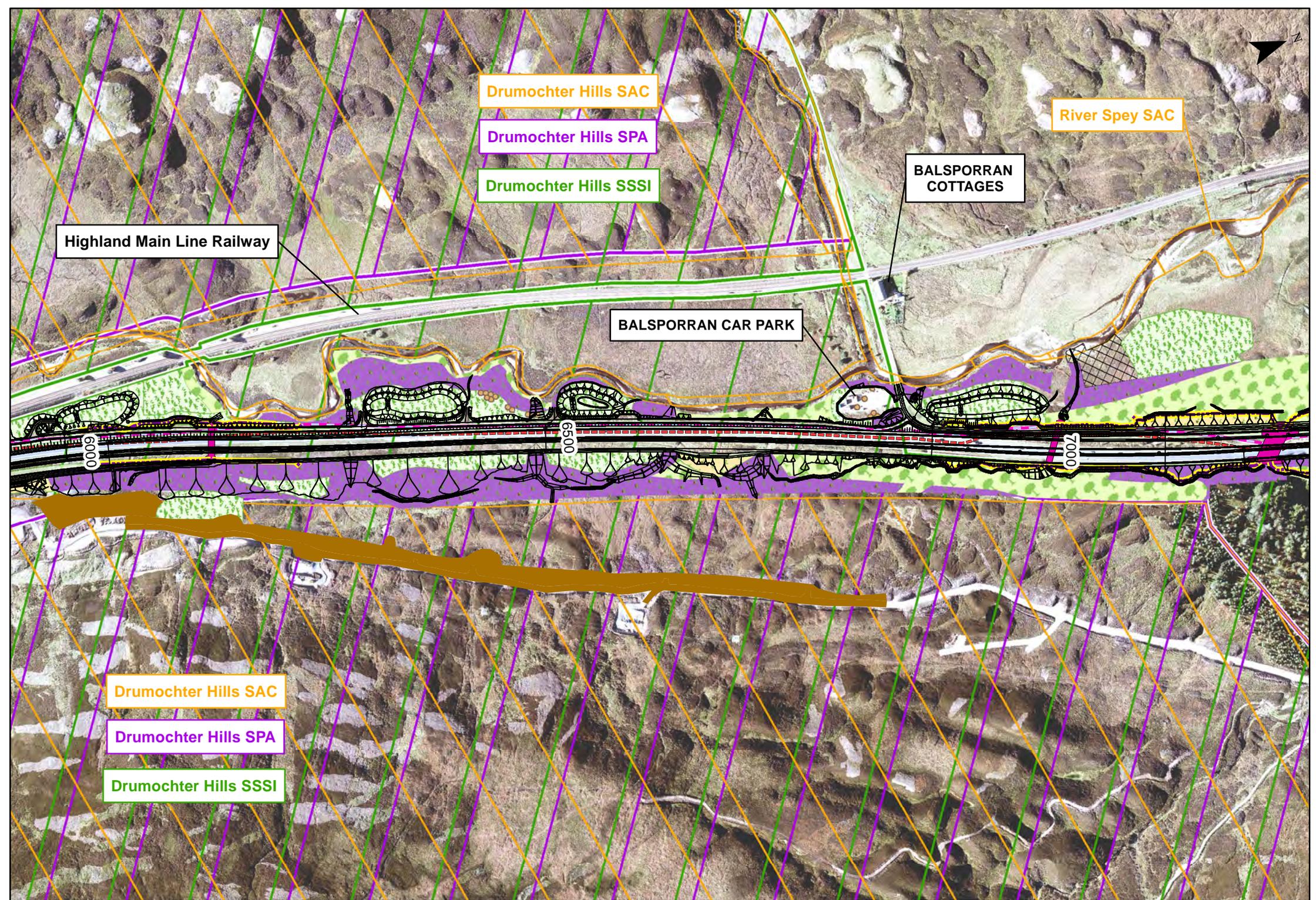
Drumochter Hills SPA

Drumochter Hills SSSI

4000

4500





Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

River Spey SAC

BALSPORRAN
COTTAGES

Highland Main Line Railway

BALSPORRAN CAR PARK

6000

6500

7000

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI



Highland Main Line Railway

River Spey SAC

7500

8000

Drumochter Hills SSSI

DRUMOCHTER LODGE

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI



Highland Main Line Railway

River Spey SAC

Drumochter Hills SSSI

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

8500

9006

9500

Highland Main Line Railway

River Spey SAC

Drumochter Hills SSSI

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

Drumochter Hills SAC

Drumochter Hills SPA

Drumochter Hills SSSI

A9 Dualling: Glen Garry to Dalwhinnie



This report has been prepared in accordance with the instructions of the client, Transport Scotland, for the client's sole and specific use. Any other persons who use any information contained herein do so at their own risk.

© Crown copyright 2017

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/> or e-mail: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.