13 Landscape

This chapter considers the potential impacts on the landscape resource resulting from the proposed scheme. The assessment has been undertaken following DMRB guidance and the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3), taking account of the results of scoping and consultation.

The assessment confirmed baseline conditions for a study area comprising the proposed scheme and an area extending up to a distance of 5km from it. The extent of the study area was established through desk-based survey and site survey. Designated landscape receptors located within the study area include the Cairngorms National Park, Loch Tummel National Scenic Area (NSA), Ben Vrackie Special Landscape Area (SLA) and Wild Land Areas (WLAs). In addition, 14 Landscape Character Areas (LCAs) and Local Landscape Character Areas (LLCAs) have been identified.

Potential impacts of the proposed scheme on landscape receptors would arise from construction activities such as the removal of roadside vegetation, the loss of existing embankments and rock outcrops, in addition to the construction of structures and earthworks (for example the Aldclune Grade Separated Junction). Potential impacts would also arise from the operation of the additional carriageway and associated route infrastructure in addition to the changed appearance of the landscape and the associated change in the perception of the NSA and Cairngorms National Park.

To mitigate potential impacts, embedded, standard and project specific mitigation measures have been developed through an iterative design process. Embedded mitigation measures adopted include the careful alignment of the proposed scheme to avoid or reduce potential impacts on landscape features (particularly those which contribute to the Special Landscape Qualities (SLQs) of the National Park and the Special Qualities (SQs) of the NSA. Specific mitigation measures include woodland planting along the route to integrate the proposed scheme into the landscape. Where planting is specified, native plant species will be used so as to re-establish or reinforce the character of the landscape. Whilst there is a focus on planting, specific mitigation measures also include input into the design of structures, such as the Essangal Underbridge and SuDS features.

The assessment of impacts on landscape receptors took into account proposed mitigation measures and considered the proposed scheme in the winter of the year of opening (when planting has been implemented but has not established) and in the summer, 15 years after opening (when the proposed planting would be reasonably established). Impacts from the construction and operation of the proposed scheme are predicted to occur on the Pass of Killiecrankie LLCA, the Glen Garry: Lower Glen LLCA, the Glen Garry: Mid Glen LLCA and the Glen Garry: Upper Glen LLCA. These impacts would occur as a result of the widening of the carriageway in addition to the construction of earthworks and structures (particularly at Aldclune, Essangal, Shierglas and Bruar) which would result in a change in landcover and landform in addition to the loss of woodland.

In the winter of the year of opening (2026) it is predicted that significant direct impacts would occur on the Pass of Killiecrankie LLCA (Moderate impact) and the Glen Garry: Lower Glen, the Glen Garry: Mid Glen and the Glen Garry: Upper Glen LLCAs (Moderate/Substantial impact). Indirect impacts as a result of the changes in the landscape and loss of landscape features in adjoining landscape character units are predicted on the Glen Garry: Blair Atholl (Settlement) LLCA, in addition to the Glen Fender, Southern Hills: South Eastern Glens, Southern Hills: South Western Glens, Highland Glens, Highland Glens with Lochs, Highland Summits and Plateaux and Drumochter Pass LCAs. These impacts are, however, not predicted to be significant.

As planting establishes and the proposed scheme becomes more integrated into the landscape it is predicted that residual impacts would reduce. As such, for the Pass of Killiecrankie, the Glen Garry: Mid Glen and the Glen Garry: Upper Glen LLCAs residual impacts are predicted to reduce to Slight/Moderate which is not significant. However, whilst it will have reduced to some extent after establishment of proposed woodland planting, the impact on the Glen Garry: Lower Glen LLCA is predicted to remain significant (Moderate) in summer after 15 years due largely to the impacts of the Aldclune Grade Separated Junction.

13.1 Introduction

13.1.1 This chapter presents the DMRB Stage 3 assessment of the potential impacts of the proposed scheme on the landscape resource. The assessment of impacts on the landscape resource is primarily concerned with changes to:

- specific landscape features and elements;
- the overall pattern of the elements, which together define the landscape character and local regional distinctiveness;

- areas of particular interest and/or value, such as designated landscapes, conservation sites and cultural associations; and
- perceived characteristics of the landscape, such as tranquillity and remoteness.

13.1.2 The chapter is supported by the following figures:

- Figure 13.1: Landscape Designations and other associated Designations;
- Figure 13.2: Landscape Character Plan;
- Figure 13.3: Landscape Features Plan;
- Figure 13.4: Visibility Analysis;
- Figure 13.5: Landscape and Ecological Mitigation;
- Figure 13.6: Cross-sections; and
- Figure 13.7: Typical Planting Structure.

13.1.3 The chapter is also supported by the following appendices:

- A13.1: Landscape Character Areas;
- A13.2: Special Landscape Qualities of the Cairngorms National Park;
- A13.3: Special Qualities of the Loch Tummel National Scenic Area;
- A13.4: Assessment of Residual Indirect Impacts on Landscape Character Areas;
- A13.5: Strategic Environmental Design Principles: Landscape;
- A13.6: Landscape Design Objectives: and
- A13.7: SuDS Design Principles.

13.1.4 Further considerations that specifically inter-relate with this landscape assessment are addressed separately as follows:

- Chapter 9 (People and Communities - All Travellers): assessment of the views from the proposed scheme, as they would be experienced by vehicle travellers.
- Chapter 14 (Visual): assessment of impacts on the visual amenity and views experienced by people from publicly accessible viewpoints and nearby buildings, including residential properties.
- Chapter 15 (Cultural Heritage): assessment of impacts on cultural heritage assets (including the Killiecrankie Battlefield).

13.1.5 In addition, Chapter 12 (Ecology and Nature Conservation) has informed this chapter, due to the influences of vegetation and wildlife in relation to proposed mitigation measures, particularly planting.

13.2 Approach and Methods

General

13.2.1 The landscape assessment was undertaken based on the guidance provided by DMRB Interim Advice Note 135/10 (IAN 135/10) Landscape and Visual Effects Assessment (The Highways Agency et al, 2010), updated to incorporate current best practice methodology included in Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3) (Landscape Institute and IEMA, 2013).

13.2.2 The approach to the assessment has also been informed by Fitting Landscapes: Securing more Sustainable Landscapes (Transport Scotland, 2014b) and Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment (Scottish Government, 2013).

13.2.3 A staged approach to the assessment has been adopted comprising:

- scoping and consultation, including agreement of the approach to the assessment as noted above;

- baseline assessment – a description of the landscape resource within the study area following desk study and site surveys;
- assessment of the value, susceptibility and sensitivity of the landscape resource;
- assessment and description of potential impacts arising from the proposed scheme, and their likely impacts upon the landscape resource;
- development of proposed mitigation measures (which are additional to the embedded mitigation measures which have been developed at DMRB Stage 2); and
- assessment and description of residual impacts (i.e. those that would remain after mitigation) during the construction phase and the operational phase.

13.2.4 In accordance with IAN135/10 separate assessments were undertaken for the following scenarios:

- in the winter of the proposed year of opening in 2026, taking account of the completed project (including embedded mitigation measures such as the route alignment and formation of earthworks) in addition to the traffic using it; which represents a maximum-impact situation (in comparison to a 'do-nothing scenario'), before any planted mitigation can take effect; and
- in the summer of the 15th year after the proposed year of opening, in 2041, taking account of the completed project (including embedded mitigation) in addition to the traffic using it, which represents a reduced-impact scenario, where any planted mitigation measures can be expected to be reasonably effective.

13.2.5 In addition, qualitative commentary has been provided on the likely longer-term reductions in impacts beyond 15 years in recognition that in many areas the proposed planting is expected to take considerably longer to reach a level of maturity equivalent to that of existing areas of established woodland affected by the proposed scheme.

13.2.6 The approach and methods have also been informed by the recommendations made in the A9 Dualling Programme Strategic Environmental Assessment (SEA) Report and Appendix F (Strategic Landscape Review) of the SEA Addendum (Transport Scotland, 2013 and 2014). In regard to the landscape assessment, the SEA recommended that early consultation with Scottish Natural Heritage (SNH) and Historic Environment Scotland (HES) be undertaken and the results of this consultation considered within the DMRB Stage 3 assessment process. More detailed information on the recommendations made in the SEA is presented in Appendix B of the Addendum (Strategic Environmental Assessment (SEA) Monitoring Framework).

13.2.7 It should be noted that a detailed pre-mitigation landscape impact assessment has not been undertaken, since the landscape mitigation is largely an intrinsic part of the proposed scheme design, and therefore not separable from it. Residual impacts, which take into account this mitigation, are described in relation to the winter of the year of opening and summer after 15 years' scenarios. These are reported as such in Section 13.6, along with an indication on the degree to which mitigation planting has reduced impacts between these two scenarios.

Scoping and Consultation

13.2.8 Through the Environmental Steering Group (ESG) CNPA, SNH and PKC have been consulted on the approach to the DMRB Stage 3 assessment in order to identify the key issues to be addressed and establish appropriate landscape mitigation measures. Additional detail on scoping and consultation is provided in Chapter 7 (Consultation and Scoping).

Study Area

13.2.9 A study area extending to 5km from the proposed scheme has been adopted for this assessment (please refer to Figure 13.1). The size of study area was based on professional experience and judgement. Whilst it is possible that there may be some impacts on perceptual qualities of the landscape beyond 5km, such as the sense of remoteness and tranquillity due to changes in views beyond this study area, these are likely to be not significant due to distance and intervening topography and/or vegetation.

13.2.10 Within this 5km study area, Zones of Theoretical Visibility (ZTVs) have been prepared for the existing A9 (Figure 14.1) and the proposed scheme (Figure 14.2). The ZTVs have been produced using a 'bare-earth' digital terrain model (DTM) and do not take into account screening or filtering of visibility by existing built features or vegetation, which were identified during subsequent site survey work and are taken account of in the assessment. Further information regarding the production of the ZTVs is provided in Chapter 14 (Section 14.2).

Baseline Assessment

13.2.11 Baseline conditions for the study area have been established through desk-based and site surveys, details of which are presented in Section 13.3 (Baseline Assessment).

13.2.12 Baseline landscape conditions are those that exist at the time of desk and site surveys, but also take into account future changes that are assumed certain (e.g. an approved development alongside the existing A9 which has planning permission or is under construction, such as the holiday cabins at Dalnamein Lodge), as well as considering likely future changes to the landscape (e.g. harvesting and re-stocking of commercial forestry plantations).

Desk-based Assessment

13.2.13 Baseline information was collected through a desk-based assessment (including review of the previous DMRB Stage 2 landscape assessment (Part 3: Environmental Assessment, DMRB Stage 2 Scheme Assessment Report (Jacobs, 2016)) in addition to review of the following information sources:

- 1:5,000, 1:10,000, 1:25,000 and 1:50,000 Ordnance Survey mapping;
- Google Earth web-based photography;
- Inventory of Gardens and Designed Landscapes;
- aerial photography provided by Transport Scotland (BLOM Survey, 2014);
- Jacobs' GIS environmental constraints datasets (obtained through stakeholder consultation);
- A9 Dualling Programme. Strategic Environmental Assessment (SEA) Environmental Report. (Transport Scotland, 2013);
- A9 Dualling Programme. Strategic Environmental Assessment (SEA). Environmental Report Addendum. Appendix F – Strategic Landscape Review Report (Transport Scotland, 2014a);
- Cairngorms Landscape Character Assessment: Scottish Natural Heritage Review 75 (Turnbull Jeffrey Partnership,1996);
- Cairngorms National Park: Landscape Character Assessment (CNPA, 2009);
- Cairngorms National Park Local Development Plan (CNPA, 2015a);
- Landscape Study to Inform Planning for Wind Energy Final Report (David Tyldesley and Associates/Perth & Kinross Council, 2010);
- Landscape Supplementary Guidance (PKC, 2015);
- Highland Area Local Plan (PKC, 2000);
- Perth & Kinross Council Local Development Plan (PKC, 2014);
- Wild Land Areas (SNH, 2014);
- Tayside Landscape Character Assessment: Scottish Natural Heritage Review 122 (Land Use Consultants, 1999);
- TAYplan: Strategic Development Plan (2016 – 2036) (TAYplan, 2017);
- The Special Landscape Qualities of the Cairngorms National Park, SNH Commissioned Report No.375 (SNH and CNPA, 2010); and
- The Special Qualities of the National Scenic Areas, SNH Commissioned Report No.374 (SNH, 2010).

Site Surveys

13.2.14 The surveys were carried out by a team of landscape architects on foot and by car. Data were collected on landscape features and characteristics, as well as photographs of landscape features likely to be physically affected and photographs to/from key viewpoints within landscapes from which views of the proposed scheme would be likely.

Impact Assessment

13.2.15 As detailed below, significance of impact has been assessed based on the sensitivity to change of the landscape value, elements and character, and the magnitude of change that would result from the construction and operation of the proposed scheme.

13.2.16 GLVIA3 is a more recently published guidance document than IAN 135/10 (which refers to the earlier 2002 GLVIA2), and was taken into account in assigning significance as it provides greater clarity with regard to:

- the interrelationship between susceptibility and value in determining sensitivity to the proposed scheme; and
- the interrelationship between size or scale, geographical extent of influence, duration and reversibility in determining magnitude of change.

Sensitivity to Change

13.2.17 In accordance with GLVIA3, the assessment of sensitivity combines judgements on the susceptibility of the landscape receptor to the specific type of development proposed, and the value attributed to that receptor.

Landscape Susceptibility

13.2.18 Susceptibility is defined in GLVIA3 as '*the ability of the landscape receptor … to accommodate the proposed development without undue consequences for the maintenance of the baseline situation…*' The susceptibility of landscape receptors to change was assessed using the criteria detailed in Table 13.1 below, along with professional judgement (where applicable, intermediate levels of medium-to-high or low-to-medium may be used).

Table 13.1: Landscape Susceptibility Criteria

Susceptibility	Criteria
High	The landscape is unlikely to accommodate the proposed change without undue consequences.
Medium	The landscape is likely to be able to accommodate the proposed change albeit with some consequences.
Low	The landscape will be able to accommodate the proposed change with little or no consequences.

Landscape Value

13.2.19 GLVIA3 defines landscape value as '*the relative value that is attached to different landscapes by society…*'. '*Value can apply to areas of landscape as a whole, or to the individual elements, features and aesthetic or perceptual dimensions which contribute to the character of the landscape'*. A review of existing designations (e.g. National Scenic Area (NSA), Special Landscape Area (SLA) etc.) is usually the starting point in understanding value, although it should be noted that value and/or associated susceptibility may not necessarily be uniform across a designated area. Other designations such as those aimed at aspects of the historic environment (Conservation Areas, Listed Building/ Structures) and non-statutory recognition of particular types of environment (such as Gardens and Designed Landscapes) may also influence landscape value. There may also be situations where an undesignated landscape is of value and/or has susceptibility in local terms. Table 13.2 sets out the relative importance of generic landscape designations and descriptions.

Table 13.2: Criteria for Assessing Value of Designated Landscapes

Designation	Description	Value
World Heritage Sites	Unique sites, features or areas identified as being of international importance according to UNESCO criteria. Consideration should be given to their settings, especially where these contribute to the special qualities for which the landscape is valued.	International/ national
National Parks, National Scenic Areas	Areas of landscape identified as being of national importance for their Natural Beauty (and in the case of National Parks the opportunities they offer for outdoor recreation).	
Historic Environment Scotland Inventory of Gardens and Designed Landscapes	Gardens and designed landscapes included in the Inventory.	
Local Landscape Designations identified in local planning documents (such as Special or Local Landscape Areas, Areas of Great Landscape Value and similar), Conservation Areas.	Areas of landscape identified as having importance at the local authority level.	Local

13.2.20 Establishing the value of undesignated areas requires examination of individual elements of the landscape. A number of criteria were considered to help determine value as detailed in Table 13.3 and an overall assessment was made for each receptor in terms of high, medium and low value.

Table 13.3: Criteria for Assessing Value of Non-Designated Landscapes

Attribute	Description
Landscape Quality (Condition)	A measure of the physical state of the landscape; its intactness and the condition of individual elements.
Scenic Quality	General appeal of the landscape to the senses.
Rarity	The presence of rare elements, features or landscape types.
Representativeness	Characteristic/feature/element considered a particularly important example.
Conservation/ Cultural Interest	The presence of wildlife, earth science or cultural heritage interest which contributes positively to the landscape.
Recreation Value	Evidence that the landscape is valued for recreational activities where experience of the landscape is important.
Perceptual Aspects	Evidence that a landscape is valued for its wildness/tranquillity.
Associations	Relevant associations with notable figures, such as writers or artists, or events in history that contribute to landscape value.

Source: Landscape Institute and the Institute for Environmental Management and Assessment (2013).

Evaluation of Landscape Sensitivity

13.2.21 The sensitivity to change of the landscape was assessed on a scale of high, medium or low (or, where applicable, intermediate levels of medium-to-high or low-to-medium sensitivity). Table 13.4 presents the criteria used together with professional judgement in the evaluation of landscape sensitivity, based on consideration of both susceptibility and value.

Table 13.4: Landscape Sensitivity Criteria

Sensitivity	Criteria
High	Landscape elements of particularly distinctive character, which are highly valued and considered susceptible to relatively small changes. Landscapes which by nature of their character and value would have very limited capacity to accommodate change of the type proposed.
Medium	Landscape of moderately valued characteristics considered reasonably tolerant of change. Some ability to accommodate the proposed change without undue detriment. Landscapes which by nature of their character and value would be able to partly accommodate change of the type proposed.
Low	Landscape of generally low-valued characteristics considered potentially tolerant of substantial change. Landscapes which by nature of their character and value would be able to accommodate change of the type proposed.

Magnitude

13.2.22 As noted in GLVIA3, the magnitude of landscape impacts was considered in terms of size or scale, the geographical extent of the area influenced, duration and reversibility.

Size or Scale

13.2.23 The size and/or scale of change in the landscape takes into consideration the following factors:

- the extent/proportion of landscape elements lost or added;
- the contribution of that element to landscape character and the degree to which aesthetic/perceptual aspects are altered; and
- whether the change is likely to alter the key characteristics of the landscape, which are critical to its distinctive character.

Geographical Extent

13.2.24 The geographical area that may experience landscape impacts can generally be considered at the following scales:

- proposed scheme level;
- the immediate setting of the proposed scheme;
- the landscape character area that the proposed scheme would lie within; or
- across several landscape character areas where influences occur on a larger scale.

Duration and Reversibility

13.2.25 In accordance with GLVIA3, consideration is also given to the duration and reversibility of landscape impacts in the evaluation of magnitude. The duration of impacts is assessed on the following scale:

- short-term: under 1 year;
- medium-term: 1-15 years; and
- long-term: over 15 years.

Evaluation of Magnitude

13.2.26 Magnitude of change was assessed on a scale of high, medium or low, (or where applicable, intermediate levels of medium to high or low to medium magnitude), taking account of the degree of landscape change that would occur as a result of the proposed scheme, as described in Table 13.5.

Table 13.5: Landscape Impact Magnitude

Magnitude	Criteria
High	Notable change in landscape characteristics over an extensive area, ranging to very intensive change over a more limited area.
Medium	Minor changes in landscape characteristics over a wide area, ranging to notable changes in a more limited area.
Low	Minor or virtually imperceptible change in any area, or to any components of the landscape.
None	No perceptible change to the landscape resource.

13.2.27 The permanent impacts of the proposed scheme are considered to be of long-term duration and largely irreversible, thus increasing magnitude. However, temporary construction-phase impacts, for example those arising from haul roads, are often short-term and reversible and thus likely to have a lower magnitude of change.

Impact Significance

13.2.28 The degree of significance of landscape impact has been determined through professional judgement including consideration of both the sensitivity of the landscape receptors and the predicted magnitude of change as a result of the proposed scheme, and defined as being Negligible, Slight, Moderate or Substantial as shown in Table 13.6 below.

13.2.29 Impacts assessed as being of **Moderate** significance or greater are considered to constitute significant changes to the fabric, character and/or quality of the landscape, and mitigation would generally be required to reduce these where practicable. Impacts of **Moderate** significance or greater are also considered as being significant in the context of the EIA regulations.

Table 13.6: Significance of Landscape Impacts

Level of Effect	Criteria
Substantial	Adverse: The proposed scheme would be at considerable variance with the character (including quality and value) of the landscape, degrade or diminish the integrity of a range of characteristic features or elements or damage a sense of place. Beneficial: The project would enhance the character (including quality and value) of the landscape, create an iconic high-quality feature and/or series of elements, or enable a sense of place to be created or enhanced.
Moderate	Adverse: The proposed scheme would conflict with character (including quality and value) of the landscape, have an adverse effect on characteristic features or elements or diminish a sense of place. Beneficial: The proposed scheme would improve the character (including quality and value) of the landscape, enable the restoration or characteristic features and elements partially lost or diminished by inappropriate management or development or enable retention/creation of some sense of place.
Slight	Adverse: The proposed scheme would not quite fit the character (including quality and value) of the landscape, be at variance with characteristic features and elements, or detract from a sense of place. Beneficial: The proposed scheme would complement the character (including quality and value) of the landscape, maintain or enhance characteristic features and elements, and enable some sense of place to be restored.
Negligible	The proposed scheme would maintain the character of the landscape, blend in with characteristic features and elements, and enable a sense of place to be retained.

Limitations to Assessment

13.2.30 The field assessment was undertaken during the summer and autumn months with the trees generally in leaf, so professional judgement was required to anticipate the changes within the landscape in the winter months with the trees not in leaf.

13.2.31 Uncertainty regarding the details of the construction process and phasing is a limitation of the DMRB Stage 3 Landscape Assessment, however, professional judgement and experience, in addition to the constructability review undertaken by the engineering team has been used to inform the assessment of impacts.

13.3 Baseline Conditions

Landscape Receptors

13.3.1 This section identifies the landscape receptors of the study area, taking account of the geological, cultural and historical influences and identifies any designated or protected areas. The baseline assessment focuses on the following receptors:

- landscape and other designations;
- landscape character;
- landscape elements and features; and
- settlement and built elements.

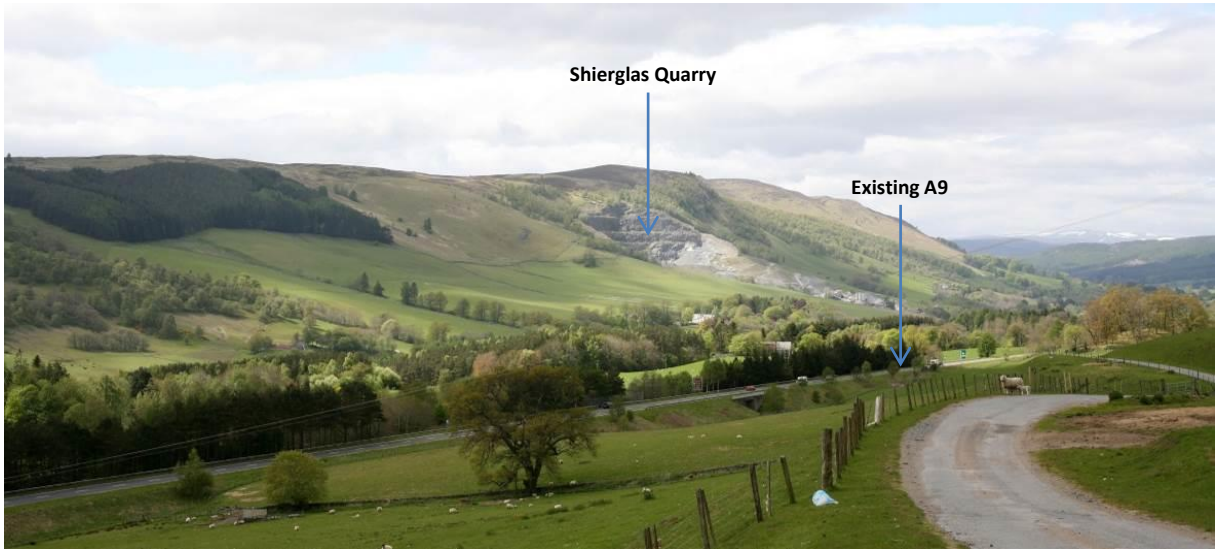
13.3.2 Landscape receptors identified within the study area are shown on Figures 13.1 to 13.3 and a general overview of the existing landscape and the A9 is provided in Photographs 13.1 and 13.2 below.

Landscape and Landscape Related Designations

Cairngorms National Park

13.3.3 The existing A9 and the majority of the study area are located within the Blair Atholl to Glenshee region of the Cairngorms National Park. The Blair Atholl to Glenshee region is characterised by deeply cut, flat and fertile glens with dense forests and agriculture (refer to Photographs 13.1, 13.2 and 13.3). The forests form part of the 'Big Tree Country'[1] and include some of the tallest trees in the UK. The area is popular with tourists and offers a range of outdoor activities, allowing views of the surrounding landscape, diverse wildlife and attractions including Blair Castle Garden and Designed Landscape (GDL), Falls of Bruar GDL and the House of Bruar, in addition to the site of the Battle of Killiecrankie. An assessment of potential impacts on the Blair Castle GDL and the battlefield site is provided in Chapter 15 (Cultural Heritage).

Photograph 13.1: View looking west towards Shierglas Quarry from core path near Craigurrard (KCKI/109), highlighting the character of the Blair Atholl to Glenshee region of the Cairngorms National Park



Photograph 13.2: View from General Wade's Military Road at Creag Loigste, north of Calvine, highlighting the character of the Blair Atholl to Glenshee region of the Cairngorms National Park

[1] Perthshire is known as 'Big Tree Country' by virtue of 'boasting some of Europe's most remarkable trees and woodlands' and having some of the largest trees in Britain (http://www.perthshirebigtreecountry.co.uk/ accessed 23/07/15)

Photograph 13.3: View of River Garry near Clunes Lodge, highlighting the character of the Blair Atholl to Glenshee region of the Cairngorms National Park

13.3.4 The special landscape qualities (SLQs) of the Cairngorms National Park are provided in The Special Landscape Qualities of the Cairngorms National Park, Scottish Natural Heritage Commissioned Report No.375 (2010). The SLQs relevant to the study area are set out in Table 13.7 below:

Table 13.7: The Special Landscape Qualities of the Cairngorms National Park

Special Landscape Quality	Feature
General Qualities	• Magnificent mountains towering over moorland, forest and strath • Vastness of space, scale and height • Strong juxtaposition of contrasting landscapes • A landscape of layers, from inhabited strath to remote, uninhabited upland • 'The harmony of complicated curves' • Landscapes both cultural and natural
The Mountains and Plateaux	• The unifying presence of the central mountains • An imposing massif of strong dramatic character • The unique plateaux of vast scale, distinctive landforms and exposed, boulder strewn high ground • The surrounding hills • Exceptional glacial landforms • Snowscapes
Moorlands	• Extensive moorland, linking the farmland, woodland and the high tops • A patchwork of muirburn
Glens and Straths	• Steep glens and high passes • Broad, farmed straths • Renowned rivers
Trees, Woods and Forests	• Parkland and policy woodlands • Long association with forestry
Wildlife and Nature	• Dominance of natural landforms • Association with iconic animals • Wild land • Wildness
Visual and Sensory Qualities	• Layers of receding ridge lines • Grand panoramas and framed views • A landscape of many colours • Dark skies • Attractive and contrasting textures • The dominance of natural sounds

Special Landscape Quality	Feature
Culture and History	• Vernacular stone buildings • Dramatic, historical routes • Focal cultural landmarks of castles, distilleries and bridges
Recreation	• A landscape of opportunities • Spirituality

13.3.5 An assessment of the impact on the SLQs of the Cairngorms National Park resulting from the proposed scheme is provided in Appendix A13.2 (Special Landscape Qualities of the CNP).

Loch Tummel National Scenic Area (NSA)

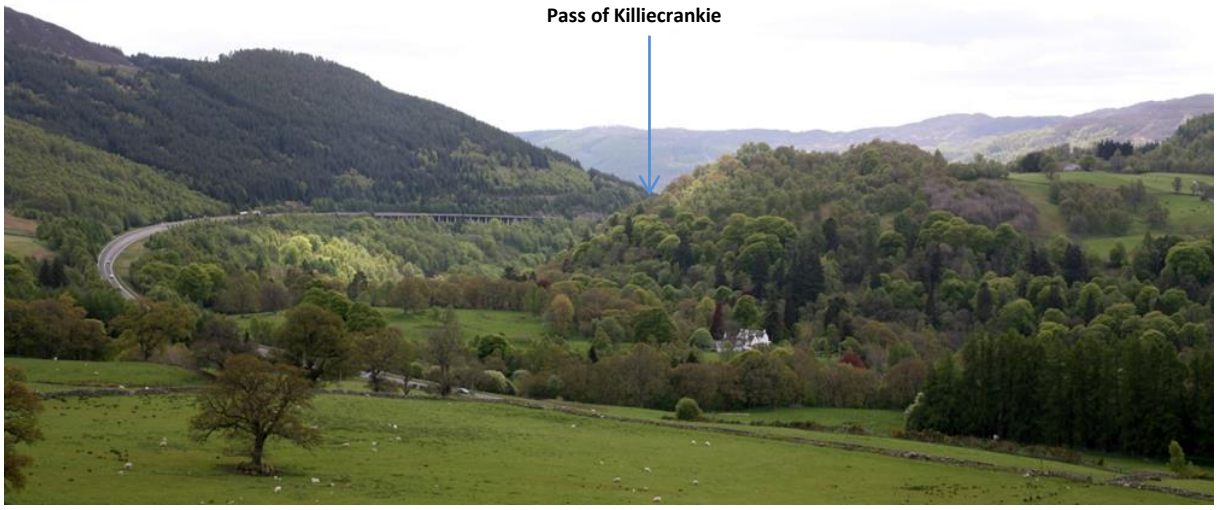
13.3.6 The eastern extent of the Loch Tummel NSA falls partially within the study area, with the existing A9 located within its eastern edge between Killiecrankie and Urrard Steading as shown on Figure 13.1.

13.3.7 The Loch Tummel NSA is dominated by hills and woodland, which reduce the visual intrusion of roads, rail and hydro-electric infrastructure within the designation. These key features are generally contained within the NSA by the surrounding rugged hills, which restrict visibility south and north to the existing A9 as shown in Figures 13.4a and 13.4b, and from Loch Tummel there is a strong sense of enclosure and seclusion. The NSA is a popular tourist destination and there are sheltered paths and tracks through this peaceful and tranquil designation. The Pass of Killiecrankie (Photograph 13.4) and the rapids at the Linn of Tummel are visitor attractions found within the eastern part of the NSA.

13.3.8 The Special Qualities (SQs) of the NSA as defined by SNH comprise:

- a breathtakingly beautiful landscape, both lowland and highland;
- Loch Tummel, the heart of the NSA;
- rich and varied woodlands;
- peacefulness and tranquillity;
- the celebrated Queen's view;
- spectacular and famous mountain gorge – the Pass of Killiecrankie (Photograph 13.4); and
- the picturesque Linn of Tummel.

Photograph 13.4: View looking south-east towards the Pass of Killiecrankie from the property at Orchilmore



13.3.9 An assessment of the impacts on the SQs of the Loch Tummel NSA is provided in Appendix A13.3.

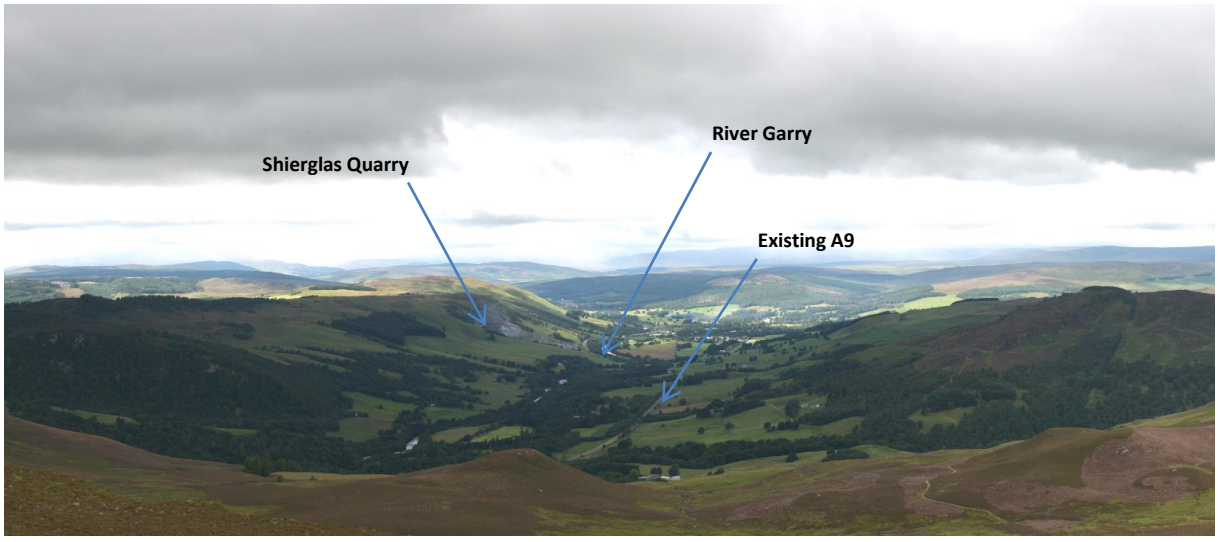
Ben Vrackie Special Landscape Area (SLA)

13.3.10 The Ben Vrackie SLA, partially falls within the eastern extents of the study area between Killiecrankie and Old Faskally Farm and House. The SLA comprises rugged moorland hills centred on the Corbett of Ben Vrackie. The special qualities of the designation include:

- the iconic Perthshire mountain of Ben Vrackie;
- panoramic views across Strath Tay, Strath Tummel and Highland Perthshire;
- backdrop to settlements including Pitlochry when viewed from Strath Tay;
- important link to the hills of the Cairngorms National Park to the north; and
- sparsely inhabited area with upland archaeology hinting to historic settlement.

13.3.11 The SLA contributes to the quality of the landscape character and in this regard has been considered in the determination of the value, and the sensitivity to change of the Pass of Killiecrankie LLCA (assessed in Section 13.6 below). Although located within the SLA, the existing A9 has no or very limited bearing on the special qualities of the designation, and in views from elevated parts the existing A9 appears as a minor element in views which are dominated by the dramatic surrounding and distant landscape (Photograph 13.5).

Photograph 13.5: View looking west along Glen Garry from Core Path PLRY/118 in the Ben Vrackie SLA



13.3.12 The SLA is popular with walkers, and viewpoints are located at Craigower and atop Ben Vrackie, enabling views along Loch Tummel, across highland scenery of upland glens, rugged outcrops and open moorland. Receptor locations on Ben Vrackie within the SLA: include Ben Vrackie path from Pitlochry Old Faskally Farm, Core Path PLRY/2 and several core paths on the southern and western slopes (Receptors O6, O7, O8 and O9). A separate assessment of the impacts on the views experienced by people within the SLA is provided in Chapter 14 (Visual) and Appendix A14.2 (Outdoor Receptor Assessment).

Wild Land Areas (WLA)

13.3.13 Wild Land Areas (WLAs) are considered to be nationally important in Scottish Planning Policy (SPP), but are not a statutory designation. SNH identifies WLAs as areas with a high degree of perceived naturalness in the setting, with little evidence of contemporary land use and are generally remote and/or inaccessible with rugged landforms. The Cairngorms Wild Land Area (referenced as WLA 15 as shown on Figure 13.1) covers much of the Cairngorms National Park and is located within the study area, to the north-east of the existing A9 and at a distance of approximately 3km from the proposed scheme.

13.3.14 The existing A9 features in views from the Wild Land Area and presently exerts a minor perceptual influence on its wild land qualities. The proposed scheme would involve the widening of the existing road corridor within the valley area, which would result in a minor increase in visibility from land within the WLA and a limited, indirect impact on its perceptual qualities over and above those currently resulting from the existing A9. There would however be no direct impacts on landscape elements and features within the WLA boundary. In this regard, given the limited impact that the proposed scheme would have on the Cairngorms Wild Land Area the WLA has not been considered further as part of this assessment.

Landscape Character

13.3.15 Fourteen Landscape Character Areas (LCAs) and Local Landscape Character Areas (LLCAs) have been identified within the study area. There are elements of the proposed scheme in the following four LLCAs:

- Pass of Killiecrankie LLCA;
- Glen Garry: Lower Glen LLCA;
- Glen Garry: Mid Glen LLCA; and
- Glen Garry: Upper Glen LLCA.

13.3.16 A summary of the key features of the baseline conditions of these character areas is provided below and an assessment of the impacts is provided in Section 13.6.

13.3.17 The proposed scheme would indirectly affect the ten remaining character areas comprising:

- Glen Garry: Blair Atholl (Settlement) LLCA;
- Strath Tummel LLCA;
- Strath Tummel: Pitlochry (Settlement) LLCA;
- Glen Fender LCA;
- The Southern Hills: South Eastern Glens LCA;
- The Southern Hills: South Western Glens LCA;
- Highland Glens LCA;
- Highland Glens with Lochs LCA;
- Highland Summits and Plateaux LCA; and
- Drumochter Pass LCA.

13.3.18 Detailed descriptions of the LCAs and LLCAs within the study area and details of the data sources used to define them are provided in Appendix A13.1 (Landscape Character Areas/Local landscape Character Areas) and their extents are shown on Figure 13.2.

13.3.19 An assessment of impacts on the character areas is provided in Appendix A13.4 (Assessment of Residual Indirect Impacts on Landscape Character Areas).

Pass of Killiecrankie LLCA

13.3.20 The Pass of Killiecrankie LLCA incorporates a section of Glen Garry where the River Garry flows through the narrow, incised Pass of Killiecrankie and a section of Strath Tummel where the River Garry joins the River Tummel and then broadens out to Loch Faskally.

13.3.21 The key features of the LLCA can be summarised as being:

- The Pass of Killiecrankie is a “pinch-point”, separating Glen Garry from Strath Tummel and is an important communication route through which the existing A9 (upon a viaduct) and the Highland Main Line Railway pass.

- The River Garry flows through a narrow, incised valley at the Pass of Killiecrankie and then meets the River Tummel, broadening out to Loch Faskally.
- The LLCA is heavily wooded with a large proportion of ancient deciduous woodland surrounding the Pass of Killiecrankie and mixed woodland of plantation origin surrounding Craigower and Dunmore Hill.

13.3.22 The LLCA is heavily wooded and this combined with the landform of the steep sided hills bordering the river corridors, results in an enclosed character. Settlement is sparse comprising of farmsteads on the western slopes of the glen and some individual properties centred around Killiecrankie, Garry Bridge and Faskally House. Illustrative views of the character of the landscape are provided in Photograph 13.4 and Photograph 13.6.

Photograph 13.6: View looking north-east from minor road above Clunie Power Station illustrating the character of the Pass of Killiecrankie LLCA.

Glen Garry: Lower Glen LLCA

13.3.23 The Glen Garry: Lower Glen LLCA lies between the Lower Highland Glens LLCA and the Glen Garry: Mid Glen LLCA. The LLCA falls within the Cairngorms National Park, and is partially covered by the Blair Castle GDL. The defining features of the LCA can be summarised as being:

- a complex terrain of undulations, terraces and ridges surrounded by conical summits;
- rivers and tributary valleys, including the River Garry converge at Blair Atholl;
- diverse land use including the extensive designed landscapes of Blair Castle and regularly shaped pasture and arable fields;
- variety of vegetation including woodland along hill slopes and rivers, parkland, specimen trees and trees along field boundaries;
- woodland screens views of the elevated existing A9, located to the south of the River Garry;
- long history of settlement including villages hidden in wooded settings and near watercourses and large houses on prominent sites, such as Blair Castle; and
- threshold to the heart of the southern Cairngorms through passes including Glen Tilt.

13.3.24 The LLCA is relatively self-contained, particularly when experienced from roads and footpaths including those within the Blair Castle GDL (such as BAST/107, BAST/126 and BAST/140). The diversity of the landform, vegetation and land use reinforces the richness of the area, with views from the LLCA directed by dense woodland and dominated by the surrounding hills. In parts, the existing A9 appears as a prominent built feature along hillsides, although in the south it is generally screened in views by intervening woodland and roadside vegetation.

Glen Garry: Mid Glen LLCA

13.3.25 The Glen Garry Mid Glen LLCA occurs between Tomban Farm to the east of Bruar and west of Calvine. The LLCA falls within the Cairngorms National Park. The defining features of the LLCA are summarised as being:

- wide strath floor formed where Glen Garry and Glen Errochty merge;

- evenly graded and simple slopes of the glen extend down to the level floodplain where the River Garry swings in broad meanders, defined by riparian woodland;
- south-facing slopes covered in commercial conifer woodland with heather and unimproved grassland on northern and birch on lower slopes;
- improved fields on lower glen slopes are mainly fenced with some enclosed by sparse hedges and lines of trees;
- lowland character of the area is reinforced by policy woodland and specimen trees including copper beech, ash, oak and sycamore at Kindrochat Lodge, near Calvine and small settlements;
- well settled with regularly spaced farmsteads and villages including Bruar and Pitagowan, located at historic crossing points along the rivers;
- elevated bridges and overpasses that accommodate roads and railway create some clutter and confusion, particularly where they converge at Calvine; however, extensive woodland restricts views of these built elements;
- the visitor complex at Bruar and the Falls of Bruar GDL (Photograph 13.7 below); and
- cultural heritage assets are scattered along the glen.

13.3.26 The mid glen is largely self-contained and forms the southern entrance to the upper glens, although there is visibility to this LLCA from the lower glen. Along the existing A9, there are elevated views of the strath and north-facing slopes. From surrounding minor roads, the existing A9 and the Highland Main Line Railway appear out of scale with the more historic pattern of settlement and local road network in the area.

Photograph 13.7: Falls of Bruar GDL from the viewpoint at the Lower Falls

Glen Garry: Upper Glen LLCA

13.3.27 The Glen Garry Upper Glen LLCA occurs between Calvine and the western extents of the study area near Dalnacardoch Wood. The defining features of the LLCA are summarised as being:

- long, smooth and gently graded slopes and ridges contain the glen and frame the wide floor, with a narrow and steeply sided short section to the south at Clunes Lodge;
- side slopes are clothed in broadleaves and more recently planted areas of woodland, with smaller shelter woods around settlement, birch along roadsides, riparian woodland and remnant birch along the glen floor;

- remnants of medieval and post-medieval settlement and land use is seen along the valley floor, as well as 18th and 19th century buildings and structures including farmsteads and walled enclosures, and regularly shaped fields set to pasture on the glen floor;
- settlement mainly consists of large houses and buildings on shooting estates and lodges on higher slopes set within woodland; and
- the existing A9 and Highland Main Line Railway both run along the steeper slopes of the western side of the glen, with the former following a similar route in parts as General Wade's Military Road.

13.3.28 The upper glen is generally self-contained with a sequence of open and more enclosed views experienced along the existing A9, particularly by southbound travellers at the Pass of Drumochter as it opens to the wider Glen Garry. Remnants of former farmsteads, wall enclosures, woodland and pasture are visible from the existing A9, and can be seen in fleeting views from the road. The natural beauty of the rugged upland glen is of high scenic quality, and provides access to the extensive recreational resources of the Cairngorms National Park, which affords the LLCA International/National value.

Landscape Elements and Features

Landform and Drainage

13.3.29 The topography of the existing A9 corridor and the surrounding landscape is characterised by both lowland and highland landscapes with simple and graded hill slopes and ridges enclosing the broad and flat highland glen of the River Garry. Craggy topped hills clothed in woodland direct views along the valley to more dramatic peaks including Ben Vrackie, Creag Eallaich and Tulach Hill. These hills form the backdrop to settlements and historic sites including Killiecrankie.

13.3.30 The River Garry meanders through the study area (refer to Photograph 13.8) and Blair Atholl lies at the confluence of the River Garry and River Tilt. Tributaries form incisions across hill slopes and drain towards the valley with waterfalls and gorges forming popular tourist attractions including the Pass of Killiecrankie.

Photograph 13.8: View looking south from footpath on northern bank of the River Garry, Black Island

Landcover and Vegetation

13.3.31 Extensive areas of woodland on hill summits and slopes including a variety of tree species provide seasonal interest visible within and beyond the study area. Dense woodlands in Blair Castle GDL and the Cairngorms National Park in addition to the Loch Tummel NSA are located throughout the mid and lower glen areas and make a significant contribution to the character and landscape quality of Glen Garry (refer to Photographs 13.4 and 13.9). Dense birch and mixed roadside vegetation restricts visibility beyond the existing A9 in the mid and lower glen, directing views along the road corridor to distant hill summits. In contrast, breaks in vegetation allow for open views of surrounding hills and along the valley. Commercial, coniferous forestry is a prominent element within the study area, typically located on upper slopes of Glen Garry.

Photograph 13.9: Panoramic view looking south across Glen Garry from Blair Atholl Station footbridge (within Blair Castle GDL) across the birch woodlands to Tulach Hill and Creag Odhar

13.3.32 Woodland designated in the Ancient Woodland Inventory (AWI) is widespread across the study area, typically being found along watercourses (such as the River Garry, Allt Girnaig and the River Tilt) as well as hillsides such as the wooded slopes of Creag Urrard and Craig Fonvuick. AWI woodland includes areas of long-established woodland of plantation origin north of Bruar and Pitagowan, which partly fall within the Falls of Bruar GDL (as shown in Photograph 13.10), dense woodland around Calvine, Clunes Wood and significant areas surrounding Clunes Lodge, which are of ancient or semi-natural origin.

Photograph 13.10: AWI woodland within the Falls of Bruar GDL

13.3.33 Woodland identified in the Forestry Commission Scotland's Native Woodland Survey of Scotland (NWSS) is also widespread within the study area and along the existing A9 corridor, in many areas overlapping with areas of AWI woodland.

13.3.34 Regularly shaped fields are located on and towards the glen floor, and the interplay of designed landscapes, woodland and farmland contributes to the rich character and diversity of land use in the area.

Settlement and Built Elements

13.3.35 Scattered hamlets, steadings, individual residential properties and farms are found within the study area. Settlement along hill slopes is oriented to allow views towards and along the glen and is backed and contained by dense woodland.

13.3.36 The main settlements include Killiecrankie, Aldclune, Blair Atholl, Bruar, Pitagowan, Calvine and Old Struan. Blair Atholl lies at the confluence of the rivers Garry and Tilt and is enclosed by woodland and the surrounding hills, restricting views beyond the village extents. Killiecrankie and Aldclune are located in the east of the study area, on lower hill slopes, allowing views along the glen. Bruar and Pitagowan consist mainly of relatively new buildings and additions located along lower hill slopes, in contrast to Calvine and Old Struan, which are set within the valley and comprise traditional sandstone houses and farmsteads with stone walls enclosing fields and roads.

13.3.37 The existing A9, the B8079 and the Highland Main Line Railway cut into lower hill slopes and run within valley areas. Within the valley areas, these route corridors are generally enclosed by dense woodland and roadside vegetation, screening views of them. The transport infrastructure introduces 'visual clutter' to the study area where the Highland Main Line Railway and the existing A9 overlap the B847 and the railway passes under the existing A9 between Pitagowan and Calvine, although views of these areas are transitory for road and rail users. In addition to transport infrastructure, built/man-made elements also include pylons located atop hills in the west of the study area and Shierglas Quarry which is a prominent feature within the glen (refer to Photograph 13.1). There are direct and open views of these elements within parts of the glen, from which views are dominated by woodland and the surrounding hills.

13.3.38 The study area is popular with tourists and walkers with designated paths throughout, holiday accommodation within the main settlements, the holiday and caravan park sited at Calvine and attractions including Blair Castle. In addition, the House of Bruar retail outlet, which comprises a complex of large buildings with associated parking, and the Falls of Bruar Garden and Designed Landscape. In contrast to other parts of the glen, the woodlands at the Falls of Bruar create a sense of enclosure and seclusion.

13.4 Potential Impacts

General

13.4.1 This section provides a brief summary of the types of landscape impacts that would occur during the construction of the proposed scheme and those that would occur in the absence of mitigation during operation. It should be noted however that the general online widening of the proposed scheme would in itself reduce potential impacts when compared to an offline design.

13.4.2 Mitigation of impacts on the landscape is predominantly achieved through alignment, earthworks, planting and seeding which are incorporated into the design as assessed and reported in this ES and described in detail in Chapter 4 (Iterative Design Development) and Chapter 5 (The Proposed Scheme). Key mitigation measures, such as limiting the extent of the cutting slopes, minimising loss of woodland, and the screening it provides, or the selection of the bridge structures are all embedded in the design. It is therefore not practicable to undertake an assessment of the potential landscape impacts of construction and the operational scheme in the absence of mitigation.

13.4.3 This section therefore provides a brief summary of the types of impacts that could occur in the absence of mitigation during operation, and sets out potential temporary impacts during construction. It should be noted however that online widening of the proposed scheme would in itself reduce potential impacts to some degree. Impacts that occur during construction associated with the loss of landscape elements such as woodland, but which would be permanent are also considered in the assessment of operational landscape impacts.

Construction

13.4.4 Construction activities associated with road schemes would generally result in temporary adverse landscape impacts. The proposed scheme is likely to result in impacts on the landscape resource during construction as a result of:

- removal of roadside woodland and scrub vegetation;
- loss of embankments and rock outcrops;
- haulage routes and vehicles moving machinery and materials to and from the site;
- machinery, potentially including heavy excavators and earth moving plant;
- exposed bare earth over the extent of the proposed works;
- structures, earthworks, road surfacing and ancillary works;
- temporary soil storage heaps and stockpiles of construction materials;
- lighting associated with night-time working and site accommodation;
- temporary works associated with bridge construction operations; and
- traffic management measures.

13.4.5 In general terms the most significant adverse landscape impacts during the construction period would be likely to occur when major structures and/or junctions and the associated earthworks are being erected or carried out. These would include the following elements:

- The Aldclune Grade Separated Junction (construction of large-scale earthworks and new junction) at ch3800.
- Construction of a new bridge at Essangal over the River Garry (immediately adjacent to the existing structure) and associated earthworks at ch4300.
- Large-scale earthworks including cuttings between Shierglas Quarry and Balnastuartach (ch5100 to ch8650) and east of Calvine (ch13350 to ch14800), and embankments between Balnastuartach and the River Garry (ch8650 to ch11200) and east of Clunes Lodge (ch16400 to ch17100).
- River Garry Underbridge over the River Garry on approach to The House of Bruar (construction of bridge and associated large-scale earthworks) at ch11300.
- Bruar/Calvine Grade Separated Junction (construction of earthworks, new underbridge and junction) at ch11600.

Operation

13.4.6 Potential operational impacts on the landscape resource in the absence of mitigation would result from the following:

- Operation of the additional carriageway, junctions and side roads plus associated route infrastructure including structures, signage including Variable Message Signs and CCTV cameras, barriers, mammal fencing and other road furniture.
- The change in the perception of landscape character, or on landscape settings, following physical and/or indirect impacts such as the loss of component parts of the landscape for example established woodland, rock exposures and perceived changes to existing views as a result of the proposed scheme.
- Loss of woodland including AWI and NWSS woodland. Implications of loss of woodland in terms of ecology are provided in Chapter 12 (Ecology and Nature Conservation).
- The alteration of vegetation patterns and field patterns as a result of tree loss, changes to field boundaries and stripping of groundcover vegetation and topsoil, followed by reinstatement and new planting.

- The changed appearance of the landform along the road corridor as a result of large-scale earthworks and/or rock cuttings and the potential requirement for reinforced slopes and/ or retaining structures within the rural landscape.
- The presence of new bridge structures across rivers and side roads in addition to various small watercourse and minor road/access track underbridges.
- The presence of SuDS features.
- Increased visual influence of traffic on the surrounding landscape due to road widening and loss of screening elements.

13.4.7 A detailed description of the aspects/activities and associated impacts of the proposed scheme on the landscape resource is provided in Section 13.6 (Residual Impacts).

13.5 Mitigation

Introduction

13.5.1 This chapter makes reference to overarching standard measures applicable across A9 dualling projects ('SMC' mitigation item references), and also to project-specific measures ('P05' mitigation item references). Those that specifically relate to landscape are assigned an 'LV' reference.

13.5.2 The landscape mitigation measures that apply to all parts of the proposed scheme are described within the following paragraphs in Section 13.5. Location specific measures are illustrated on Figure 13.5 and described along with the impacts in Section 13.6 (Residual Impacts).

13.5.3 Landscape mitigation is concerned primarily with mitigation of likely significant adverse impacts.

13.5.4 Mitigation of these impacts falls into three categories:

- prevention: avoidance of the loss of significant landscape elements through design of proposed scheme to achieve sensitive horizontal and vertical alignment;
- reduction: lessening of those adverse impacts that cannot be eliminated by prevention (e.g. roadside mounding and planting to integrate with surrounding landform and landscape); and
- offsetting: provision of alternative or compensatory measures where appropriate and feasible (e.g. replacing woodland where appropriate).

13.5.5 The design of the landscape mitigation proposals has been developed in accordance with Fitting Landscapes: Securing more Sustainable Landscapes (Transport Scotland 2014), DMRB Volume 10 and Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment (Scottish Government, 2013). In addition, programme-specific Strategic Environmental Design Principles contained in the A9 Dualling Programme SEA have been followed.

13.5.6 Fitting Landscapes requires that project specific landscape design objectives are developed to deliver the four key policy aims:

- ensure high quality of design and place;
- enhance and protect natural heritage;
- use resources wisely; and
- build in adaptability to change.

13.5.7 The project specific landscape design objectives are detailed in Appendix A13.6 (landscape Objectives). These have been developed in consultation with statutory consultees including SNH and CNPA.

A9 Dualling Programme: Strategic Environmental Design Principles

13.5.8 Developed in collaboration with SEPA, SNH, Historic Environment Scotland and the Cairngorms National Park Authority, the Strategic Environmental Design Principles have been considered throughout all stages of the design process.

13.5.9 Details of how the design has been developed to respond to each of the Strategic Environmental Design Principles – Landscape (SEDPLs) are presented in Appendix A13.5 of this chapter. The full range of Strategic Environmental Design Principles relating to the proposed scheme is listed in Appendix 2.1.

13.5.10 In line with SEDPLs 1 and 2 the proposed scheme and mitigation measures have been designed to respect the qualities and key characteristics of each LCA/LLCA along the route, including tying in with and reflecting existing vegetation patterns and landform and the planting of species typical of the area. In line with SEDPL 7, the landscape design as part of the proposed scheme has been developed to require low maintenance and to provide 'flexibility' to accommodate future changes in circumstances, for example to take opportunities for wildlife habitat enhancement or management.

13.5.11 Although the landscape and visual assessments address impacts in summer after 15 years of operation, in line with DMRB guidance and SEDPL 5, the landscape mitigation has been designed to take account of the longer term (beyond 25 years), with species selected to continue to mature and provide mitigation. The planting mixes are designed to include a range of understorey and edge species to ensure a balanced woodland structure, providing lower level screening once canopy species have matured. They include long lived and native species which are expected to naturally regenerate, hence ensuring longevity of woodland and scrub planting areas.

Consideration of the Special Qualities of Cairngorms National Park and Loch Tummel NSA

13.5.12 An appraisal has been undertaken to inform the development of the mitigation proposals specifically in relation to the SLQs of the Cairngorms National Park and the SQs of the Loch Tummel NSA relevant to the proposed scheme and are included in Appendices A13.2 (Special Landscape Qualities of the CNP) and A13.3 (Special Qualities of the Loch Tummel NSA) respectively. The consideration of the SLQs of the Cairngorms National Park and the SQs of the Loch Tummel NSA has informed the development of the Landscape Objectives set out in Appendix A13.6 (Landscape Objectives).

Embedded Mitigation

13.5.13 The alignment of the proposed scheme has been developed through an iterative design process (initiated as part of the DMRB Stage 2 assessment), involving both engineering and environmental specialists. The process has comprised seven design iterations, each of which has been informed and reviewed by landscape specialists in order to reduce potential landscape (and visual impacts) and integrate the road with the surrounding landscape. These inputs have derived the following embedded mitigation measures:

- the route alignment;
- the form and extents of earthworks along the length of the route, including those associated with junctions; and
- the location of SuDS features.

13.5.14 These measures have been adopted in order to reduce potential impacts on sensitive landscape character receptors such as landscape character units through which the proposed scheme passes in addition to the Cairngorms National Park and the Loch Tummel NSA.

13.5.15 One of the key considerations during the development of the DMRB Stage 3 design of the proposed scheme was the design of the Essangal Crossing. As explained in Chapter 4 (Iterative Design Development), two options were considered for the structure. The form of structure included in the DMRB Stage 3 design was the strong preference of the Cairngorms National Park, taking into account landscape/visual considerations.

13.5.16 Further details of embedded mitigation are provided in Chapter 4 (Iterative Design Development). Further details of the alternative options considered at DMRB Stage 2 are provided in Chapter 3 (Alternatives Considered).

Standard Mitigation Commitments

13.5.17 During the construction phase Standard Mitigation Commitments (SMCs) will be applied in order to mitigate potential impacts on landscape (and visual) receptors (**Mitigation Items SMC-LV1** to **SMC-LV7**). These commitments have been developed for adoption across the A9 dualling programme and will be implemented in addition to Killiecrankie to Glen Garry project specific mitigation measures detailed below (**Mitigation Items P05-LV8** to **P05-LV19**). Details of **Mitigation Items SMC-LV1** to **SMC-LV7** are provided in Table 13.8 below.

Table 13.8: Standard Mitigation for Landscape

Construction Phase Standard Mitigation Items	Description
SMC-LV1	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.
SMC-LV2	As far as practicable, construction plant and materials storage areas will be appropriately sited to minimise their landscape and visual impact.
SMC-LV3	Construction sites will be kept tidy (e.g. free of litter and debris)
SMC-LV4	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.
SMC-LV5	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 2 m 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.
SMC-LV6	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.
SMC-LV7	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.
n/a (note)	*Further to the above, **Mitigation Items SMC-E7** and **SMC-E8** (as detailed in Chapter 12: Ecology and Nature Conservation) will be implemented to protect vegetation which is identified to be retained.*

13.5.18 While it is intended that these commitments will help to reduce impacts during the construction phase it should be noted that construction impacts cannot be completely mitigated due to the extensive construction works necessary.

Specific Mitigation

13.5.19 The specific mitigation measures regarding prevention, reduction and offsetting approaches were applied during the planning and design of the proposed scheme. These measures are described below and illustrated on Figure 13.5.

13.5.20 The measures have evolved from an iterative process between the environmental, landscape and engineering design teams, with consideration given to design quality throughout the process.

13.5.21 Prevention measures include best fit of the proposed scheme with existing landform, avoiding loss or damage to landscape features such as water features or field systems and avoiding loss or damage to sites of ecological or archaeological interest, as described in Chapter 4 (Iterative Design Development). Measures designed to reduce and offset adverse impacts, are summarised below.

13.5.22 Details of where the mitigation measures have been applied within each LLCA directly impacted upon by the proposed scheme are set out in Section 13.6.

Earthworks

13.5.23 Earthworks design will aim to minimise the impact of cuttings and embankment slopes and to allow integration of the road with surrounding land (**Mitigation Item P05-LV8**) through:

- use of retaining walls or engineered slopes where appropriate to avoid extensive cuttings into hill slopes or large embankments that 'chase the slope' and increase the disturbance of the landscape;
- where soil nailed cutting slopes are required, the soil nail heads will be recessed so that they are not visible and the design will include for sufficient topsoil depths in order to support the proposed planting and seeding, which will establish to cover the nail heads and any mesh that may be required;
- where rock cuttings are required, create rock formations with irregular faces of varied height, angle and form to reflect the structure of the local bedrock;
- sensitive grading and profiling of all earthworks where possible to improve integration with the surrounding landform, modifying embankment and cutting slopes to reflect and tie smoothly into existing natural landform and to allow land to be returned to its previous use where appropriate;
- softening changes in slope at junctions and overbridges by smoothing out transitions;
- rounding off top and bottom of cuttings and embankments;
- varying gradients along and across the length of slopes; and
- modification of earthworks around SuDS features in order to improve integration with the surrounding landform.

SuDS Features: Detention Basins, Retention Ponds and Wetlands

13.5.24 The initial design of SuDS features has been developed by drainage engineers in collaboration with landscape architects, ecologists, and hydrologists in order to take advantage of opportunities for improved amenity and biodiversity in addition to meeting the requirements for attenuation and treatment of runoff. The proposed SuDS features include dry detention basins, wet retention ponds and wetlands (as shown indicatively on Figure 13.5). The design will be refined further in order to integrate them into the landscape and maximise their amenity and biodiversity value at each specific location. As necessary to meet runoff treatment and water quality requirements, and where SuDS features are likely to be visible at close range, and it is considered that they would fit well with the surrounding landscape and provide benefits to wildlife, retention ponds have been proposed. In other locations, where retention ponds are considered to be out of character or unlikely to offer opportunities to enhance visual amenity or biodiversity and where ponds are not required for runoff treatment requirements, detention basins are proposed.

13.5.25 SuDS features required as part of the drainage system of the proposed scheme provide the opportunity to create new beneficial features within the landscape and habitat for wildlife. Their design should comply with Appendix A13.7 (SuDS Design Principles) (**Mitigation Item P05-LV9)** and include the following:

- Where practicable SuDS features should be sited within naturally low areas and designed to look as natural as possible.
- Their earthworks will be designed to integrate naturalistically with the surrounding landform. Abrupt changes in slope, sharp angles and steep side slopes will generally be avoided.
- Boundary fencing, where required around SuDS features, will be designed to be as unobtrusive as possible.

- Planting of native tree and shrub species will help screen proposed fencing, outfall and inlet structures, enhance wildlife habitat and provide visual interest.
- Open ground in the areas around proposed SuDS features will be seeded with native grasses and wildflowers or heathland vegetation, as appropriate, to provide added wildlife habitat and visual interest.
- The margins of SuDS features will be planted with native aquatic, emergent and marginal plant species (e.g. greater bird's-foot trefoil, yellow iris, white water-lily, purple-loosestrife and meadowsweet) to help integrate them with the surrounding landscape and enhance their visual amenity and wildlife value).

13.5.26 Further details of the approach to the design of SuDS features and examples are provided in Appendix A13.7 SuDS Design Principles.

Structures

13.5.27 The design of structures, such as bridges and retaining walls along the length of the proposed scheme and aspects of the landscape design will be informed by specialist aesthetic advice to reduce impacts on both landscape and visual receptors (**Mitigation Item P05-LV10**). While the measures to be adopted will be confirmed at the detailed design stage, mitigation could include use of natural stone-type wall finishes and stone aprons beneath underbridges and NMU underpasses, a patterned or relief finish of retaining walls and bridges and refinement of the design process in order to achieve slender, elegant and well-proportioned structures. A natural stone-type finish will be used for the Tulach Hill Underpass.

Signage

13.5.28 The location, size and design of variable message, advance direction and tourist information signs along the length of the proposed scheme and just beyond its extents, is largely dictated by road design standards. However, in some instances there may be scope to adjust the location to reduce their impact on the surrounding landscape. This will be undertaken at the detailed design stage and where practicable proposed new signs will be sited in areas of cutting or adjacent to woodland to screen them from the surrounding landscape.

Woodland Planting

13.5.29 A series of Strategic Environmental Design Principles for woodland planting were developed as part of the SEA process, these comprise:

- Wd1 - avoid loss of woodland functionality (connectivity) at a landscape scale;
- Wd2 - avoid loss, damage, or fragmentation of ancient woodland inventory (AWI) sites;
- Wd3 - restrict woodland edge clearance and include woodland edge impacts in the calculation of compensatory habitat requirements;
- Wd4 - compensation for ancient woodland losses should be of a scale, nature and location which is capable of delivering the woodland functionality being lost;
- Wd5 – veteran trees and significant landscape trees should be identified and safeguarded, where possible; and
- Wd6 - avoid tree planting on road side verges to limit opportunities for shelter [for fauna including deer].

13.5.30 Proposals relating to existing and new planting comprise of the following:

- retention of existing trees and vegetation wherever possible and incorporation with new planting proposals (**Mitigation Item P05-LV11**);
- planting to replace trees lost during construction, including in areas designated as ancient woodland (**Mitigation Item P05-LV12**);

- enhancement of biodiversity through the use of native species, providing new wildlife habitats, connectivity with existing woodland and complementing existing adjacent habitats (**Mitigation Item P05-LV13**). Planting proposals have been developed in consultation with ecology specialists. Refer to Chapter 12 (Ecology and Nature Conservation);
- planting of woodland at junctions and bridges to help assimilate these elements into the surrounding landscape (**Mitigation Item P05-LV14**);
- planting to provide screening to reduce visual impacts of the road, structures and vehicle headlights (**Mitigation Item P05-LV15**); and
- use of severed field corners and landlocked areas as appropriate (**Mitigation Item P05-LV16**).

13.5.31 Proposed planting mixes will be based on native species, proven by established presence within the local area and adapted to local conditions and planting will be monitored for a minimum of five years after construction with annual replacement of any failed planting with stock of a suitable age so as to achieve full establishment and the required level of mitigation / impact reduction by summer 15 years after opening. Species mixes to be used within the CNP will be agreed in consultation with CNPA and will be determined at detailed design (**Mitigation Item P05-LV17**).

13.5.32 National Vegetation Classification (NVC), which is used to describe and categorise the vegetation covering land in Great Britain, will inform the selection of plant species. The following NVC woodland types have been identified as being appropriate to the proposed scheme:

- W4 birch woodland with purple moor-grass;
- W6 alder woodland with common nettle;
- W8 lowland mixed broadleaved woodland with dog's mercury;
- W9 upland mixed broadleaved woodland with dog's mercury;
- W11 upland oak – birch woodland with bluebell/wild hyacinth; and
- W17 upland oak – birch woodland with blaeberry.

13.5.33 Localised variations of these communities, and appropriate sub-communities, will be required to fit with specific site conditions. Appropriate understorey and ground-cover planting will be included with the woodland.

13.5.34 Young stock is generally easier to establish and will therefore be predominant in mixes, with a smaller proportion of woodland mixes (typically 5-10%) comprising feathered trees. An increased percentage of feathered trees will be used for initial effect in specific locations, for example in close proximity to visual receptors where early screening is required and at locations where there is a need to help integrate structures into the landscape.

13.5.35 Planting will also assist integration with the local landscape character by using species mixes and planting patterns typical of the local landscape. It will also enhance the experience of travelling along the proposed scheme by creating views of a variety of woodland types. Details of the typical planting structure are shown on Figure 13.7. This takes account of aspects such as natural woodland characteristics typical in the locality, designed landscape features and other requirements such as avoiding creation of tree canopies close to the road. More specific details for each type of planting are specified below.

13.5.36 In total, it is estimated that approximately 61.43ha of woodland, of which 27.08ha is included in the Ancient Woodland Inventory (AWI), would be lost during construction of the proposed scheme and 70.38ha of new woodland planting is proposed, of which 19.35ha would be for AWI woodland compensation. Of the 27.08ha of woodland listed on the AWI which would be lost only 12.90ha has been verified as currently wooded.

Deciduous Woodland Planting

13.5.37 Proposed deciduous woodland planting will comprise of a mix of sizes of plants such as feathered trees, whips and transplants to create a multi-layered woodland that will be dominated by native

deciduous trees, with oak/ash as the principal climax community. This reflects surrounding deciduous woodlands.

13.5.38 Deciduous woodland planting proposals are derived from canopy compositions of NVC dry-land woodlands. These woodlands are generally classified based on the acidity of the soil, with oak/birch woodland on acidic and mesotrophic soils (neither very acidic nor very alkaline) and mixed deciduous woodland on more base-rich (calcium-rich) and free-draining soils. The NVC classification for these types of woodland is often derived from differences in the ground and shrub layer rather than the canopy composition, therefore the planting proposals are designed to develop into broad types of broadleaved woodland, rather than distinct NVC communities.

13.5.39 A typical species mix to be used for deciduous woodland south of Bruar would include pedunculate oak (20%) and silver birch (15%) with smaller proportions of alder, wych elm, rowan, aspen, crab apple, holly, elder, wild cherry and guelder-rose. Typical deciduous woodland north of Bruar would include aspen (20%), downy birch (20%), rowan (15%) and smaller proportions of holly, alder, sessile oak, wych elm, dog-rose and Scots pine.

Mixed Woodland Planting

13.5.40 Proposed mixed woodland planting, which requires both broadleaved and coniferous woodland for visual screening purposes, will comprise plants which range in size from feathered trees to whips and transplants. This will aim to create multi-layered woodland with a balanced mix of native deciduous and coniferous trees, including understorey. The balance between deciduous and evergreen species will be varied to achieve year-round screening and reflect existing woodland local to the various sections of the proposed scheme. The coniferous species within the mixed woodland will be predominantly Scots pine reflecting surrounding woodlands and providing a strong evergreen framework and a habitat for red squirrels.

13.5.41 A typical species mix to be used for mixed woodland south of Bruar would include Scots pine (20%), silver birch (15%) and pedunculate oak (15%) with smaller proportions of alder, holly, aspen, rowan, wych elm and guelder rose. Typical mixed woodland would be similar north of Bruar with a lesser percentage of Scots pine (15%) mixed with aspen (25%), downy birch (20%) and smaller proportions of rowan, holly, alder and wych elm.

Riparian Woodland Planting

13.5.42 Riparian woodland is to be planted adjacent watercourses and proposed retention ponds and in other areas along flood plains. It will comprise a mix of sizes of plants such as feathered trees, whips and transplants using wetland species such as willow, birch and alder.

13.5.43 A typical species mix to be used for riparian woodland planting south of Bruar would include silver birch (20%), aspen (20%) and hazel (15%) with smaller proportions of alder, white willow, eared willow, goat willow, grey willow and wych elm. Typical riparian woodland north of Bruar would include aspen (20%), downy birch (20%), rowan (15%) and smaller proportions of alder, hazel, eared willow, goat willow, grey willow and Scots pine.

Dry Scrub Planting

13.5.44 Proposed dry scrub planting will comprise native species of local provenance creating a dense low to medium height canopy. This mix will be used in areas where a lower height plant cover is more appropriate than the taller woodland mixes.

13.5.45 A typical species mix to be used for dry scrub south of Bruar would include hawthorn (25%), blackthorn (25%), juniper (15%) and wild cherry (15%) with smaller proportions of dog-rose and elder. A typical species mix to be used for dry scrub north of Bruar would include juniper (20%), hazel (15%), bird cherry (15%), goat willow (15%) and bog myrtle (15%) with smaller proportions of hawthorn and rowan.

Upland Heath Planting

13.5.46 Upland heath is a sub-shrub community extensive in the east-central Highlands and normally occurs in free-draining moist soils between 200m and 600m altitude. It will be established in the northern sections of the proposed scheme, where it will be held in check by the climatic conditions in the absence of burning and grazing, unless natural succession to scrub and woodland is desirable.

13.5.47 The following NVC heath types have been identified as being appropriate to the proposed scheme:

- H12 Heather – blaeberry heath;
- H15 Heather – juniper heath; and
- H16 Heather – bearberry heath.

13.5.48 Typical species mix would include 80% of grasses and rushes and 20% of wildflowers (e.g. heather, bell heather, bearberry, bird's-foot trefoil, devils-bit scabious and wild thyme among others).

Individual Standard Trees

13.5.49 Groups of individual trees and tree lines will comprise standard trees in informal or formal groupings to reflect the character of existing parkland landscapes and provide screening or filtration of views of the proposed scheme. Typical species to be used for groups of trees and tree lines include Scots pine, birch, oak and wych elm.

Grass Seeding

13.5.50 For disturbed soft areas and road verges, different seed mixes will be used, dependent on location and use (**Mitigation Item P05-LV18**), as suggested below:

- Visibility Splay Mix: suited for use in road verges and other areas where grass needs to be kept short for forward visibility, being low-maintenance, fast-establishing and tolerant of traffic and salt spray.
- Species-rich Grassland Mix: suited for use in all other areas disturbed by construction works, consisting of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring semi-natural flora. As well as enhancing biodiversity and visual interest along the proposed scheme, this type of grassland will require minimal maintenance. Example wild flower species of local provenance, which would have the added benefit of being a nectar rich plant, include common bird's-foot trefoil, greater bird's-foot trefoil, devil's-bit scabious, wild thyme, meadow buttercup and oxeye daisy. Appropriate mixes could be neutral, calcareous, dry, wet, highland or lowland and should be developed further for the specific location and conditions at detailed design stage.
- Wetland Grassland Mix: suited for use in SuDS features and areas around culverts that are likely to experience wet conditions. Example species of local provenance, which would have the added benefit of being an invertebrate food or structural plant, include greater bird's-foot trefoil, common knapweed, devil's-bit scabious, sneezewort, meadowsweet and lesser spearwort.

Proposed Planting relating to Road Users

13.5.51 Planting will be applied within the road corridor in order to enhance the experience of travelling along the proposed scheme by maintaining important open views and creating views of a variety of woodland types. The species composition of such planting will take account of aspects such as natural woodland characteristics typical in the locality and designed landscape features (**Mitigation Item P05-LV19)**.

Proposed Habitat Creation for Ecological Mitigation

13.5.52 In addition to following the general objective of enhancing biodiversity through the landscape mitigation, more detailed habitat creation proposals are provided in Chapter 12 (Ecology and Nature Conservation).

Deer Fencing

13.5.53 Any deer fencing damaged or removed during the construction of the proposed scheme would be repaired or replaced to maintain existing protection. The appointed Contractor will also be required to undertake a risk assessment, taking account of Transport Scotland's strategic deer management planning and the operating company deer management plan. The Contractor will be required to take appropriate measures so as to avoid increasing the risk of deer collisions on the road and to protect new planting areas from browsing where necessary.

13.6 Residual Impacts

13.6.1 Residual impacts are those that remain once the described mitigation measures have been implemented.

13.6.2 The assessment of the residual direct impacts on each LLCA resulting from the construction and operation of the proposed scheme is provided below. A separate assessment of residual, indirect impacts on landscape character areas is provided in Appendix A13.4 (Assessment of Residual Indirect Impacts on Landscape Character Areas). The assessment provided in Appendix A13.4 determined that the proposed scheme would not result in any significant indirect landscape impacts on any LCAs remote from the proposed scheme.

Assessment of Impacts on Landscape Character Areas (Direct Impacts)

General

13.6.3 The following section provides an assessment of the residual impacts on the LLCAs which would experience direct, physical impacts on their defining elements and features as a result of the proposed scheme. These LLCAs include:

- Pass of Killiecrankie LLCA (start of scheme (ch700) to ch1200);
- Glen Garry: Lower Glen LLCA (ch1200 to ch8800);
- Glen Garry: Mid Glen LLCA (ch8800 to ch14000); and
- Glen Garry: Upper Glen LLCA (ch14000 to end of proposed scheme (ch22400).

13.6.4 A detailed description of the impacts on these LLCAs is provided below. The sensitivity to change associated with the proposed scheme for each LCA/LLCA is provided in Appendix A13.1 (Landscape Character Areas).

13.6.5 An indication of the profile of the landform and the nature of earthworks and planting are provided in the mitigation plans in Figures 13.5 and cross sections in Figures 13.6.

13.6.6 A combination of wirelines, drawings and photomontages prepared for the proposed scheme are provided in Figures 14.6 to 14.19. The photomontages provide indicative views of the proposed scheme once mitigation planting and seeding has become established.

Pass of Killiecrankie LLCA

13.6.7 The impacts on the defining elements and features of the LLCA would result from an increased prominence of road infrastructure in the landscape caused by the following aspects associated with the proposed scheme:

- Proposed online widening along the northbound carriageway plus associated embankment (a small section of which may require soil nailing), resulting in physical changes to the local landform and loss of woodland between ch700 and ch1200.
- Proposed widening of the existing Old Faskally underbridge at ch1200 and associated localised diversion of the access road to Old Faskally Cottage.

13.6.8 An indication of the profile of the landform and the nature of earthworks and planting are provided in Cross Section AA (ch1260) Figure 13.5.

13.6.9 The sensitivity of the LLCA to change associated with the proposed scheme has been assessed to be high. This is in consideration of the LLCA falling within the Cairngorms National Park (the features within the LLCA contributing to the special landscape qualities of the Cairngorms National Park) and coverage by the Loch Tummel NSA both designations contributing to the LLCA's high value as a landscape resource, in addition to its high susceptibility to change.

13.6.10 In the winter of the year of opening, the proposed scheme would result in a **Moderate** impact on the northern section of the Pass of Killiecrankie LLCA. This level of impact would be incurred as a direct result of the medium magnitude of change associated with the loss of defining features of the LLCA including areas of AWI woodland which includes areas of mature broadleaf trees from ch700 to ch1200, localised alterations to natural landform as a result of the new carriageway and embankments, and increased influence of structures due to extension of the existing Old Faskally Underbridge structure. While most of the physical impacts to the features within the LLCA would be limited to a relatively short, narrow corridor closely associated with the existing A9, the proposed scheme in the winter of the year of opening would constitute a more prominent feature within the LLCA.

13.6.11 This impact on the LLCA would be mitigated by implementation of the proposed mitigation measures which include the:

- Grading out of the proposed embankment earthworks along the length of the proposed scheme where possible within the LLCA **(Mitigation Item P05-LV8)**.
- Retention and protection of existing woodland within the land made available and other landscape features along the length of the proposed scheme within the LLCA including Killiecrankie Viaduct and stone walls **(Mitigation Item P05-LV11)**.
- Reinstatement of woodland by replacement planting, the species composition reflecting lost areas of woodland along the length of the proposed scheme within the LLCA **(Mitigation Item P05-LV12)**.
- The use of planting to help integrate the new bridge structure into the surrounding landscape and minimise its visual impact **(Mitigation Item P05-LV14)**.
- Planting of location-specific woodland, the species mix proposed for areas of woodland reflecting the species composition of neighbouring woodland along the length of the proposed scheme within the LLCA **(Mitigation Item P05-LV17)**.
- The use of a species-rich grassland mix consisting of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring flora along the length of the proposed scheme (**Mitigation Item P05-LV18**).

13.6.12 On establishment of the proposed mitigation measures by summer 15 years after opening, particularly the maturation of the proposed woodland planting and re-establishment of the areas of farmland, it is predicted that the magnitude of change to the LLCA associated with the proposed scheme would be reduced from medium to low. This reduction in the magnitude of change would result in a Slight/Moderate residual impact on the Pass of Killiecrankie LLCA.

Glen Garry: Lower Glen LLCA

13.6.13 The proposed scheme transects the Glen Garry: Lower Glen LLCA between ch1200 and ch8800 and would result in direct, physical impacts on the elements and features which define the LLCA. These impacts would result from elements of the proposed scheme including:

- Widening of the existing A9 and formation of cuttings and embankments including localised grading of the embankments in order to improve integration with the adjacent undulating landform (e.g. between ch1200 to ch1400 and ch1600 to ch1900 (Figure 14.7)).
- Formation of new side/access roads and associated earthworks such as the access road to Shierglas Quarry and at Garrybank (including the NMU underpass at ch6400).

- Formation of steep, visually prominent cutting (potentially soil-nailed) and sections of retaining wall at Shierglas to Glackmore (ch5100 to ch5900) and cutting south of Black Island (ch7300 to ch8700).
- Formation of the new grade separated junction arrangement with associated large-scale earthworks and signage at Aldclune (ch3800) (Figure14.11).
- Widening of existing/or construction of new bridges over minor watercourses including Allt Girnaig and Allt Chluain in addition to the new crossing of the River Garry at Essangal (Artist's Impression 13.1 below and Figures 14.9 and 14.11).
- Introduction of eight SuDS features.

13.6.14 An indication of the profile of the landform and the nature of earthworks and planting is provided in Cross Sections BB (ch1680), CC (ch2360), DD (ch2900), EE (ch3780) FF (ch5260), GG (ch6480), HH (ch6740), and II (ch8300) in Figure 13.5.

13.6.15 For the purposes of this assessment, the Glen Garry: Lower Glen LLCA has been assessed to have a medium/high sensitivity to change associated with the proposed scheme. This is in consideration of the LLCA falling within the Cairngorms National Park (the features within the LLCA contributing to the special landscape qualities of the Cairngorms National Park) and partial coverage by the Blair Castle GDL both designations contributing to the LLCA's high value as a landscape resource, in addition to its medium susceptibility to change.

Artist's Impression 13.1: View looking north-west of the proposed Essangal Bridge Structure from the minor road to Shierglas.

13.6.16 In the winter of the year of opening, the proposed scheme would result in a **Moderate/Substantial** impact on the Glen Garry: Lower Glen LLCA. This level of impact would be incurred as a result of medium magnitude of change associated with the loss and alteration of defining features of the LLCA due to:

- Alteration of the natural landform, in particular new embankment slopes extending into agricultural land west and north of Killiecrankie, and east of Aldclune, extensive changes to the hummocky landform at Aldclune due to the new grade separated junction with associated cuttings and embankments, and large scale cuttings visually prominent on the lower slopes of Craig Odhar and Tulach Hill.
- Loss of areas of pasture at various locations along the length of the proposed scheme.
- Loss of mature woodland including areas associated with Allt Girnaig and Allt Chluain river valleys, woodlands west and north of the House of Urrard, plantation woodland at Aldclune junction, birch woodland between the A9 and River Garry north of Shierglas Quarry and mixed woodland and a number of large parkland trees within Blair Castle GDL. In addition, a number of areas of well-established roadside woodland planting would be lost, opening up views towards the proposed scheme.

- Introduction of more prominent road infrastructure into the rural landscape including associated structures and the proposed Essangal Underbridge which would be sited immediately adjacent to the retained existing bridge.

13.6.17 While most of the direct impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, in the winter of the year of opening the proposed scheme would be a prominent element within the LLCA and would influence the wider perceptual qualities of the lower glen, particularly when experienced from elevated positions on the strath slopes and in the surrounding uplands.

13.6.18 These impacts would be mitigated by implementation of the proposed mitigation measures, which would include:

- Grading out of earthworks in order to improve integration with the existing landform, and a more natural appearance (**Mitigation Item P05-LV8**), including the embankment slopes between Troopers Burn and Allt Girnaig (ch1200-1450), north of Allt Girnaig (ch1600-1900), northwest of Glen Girnaig (ch2850-3200) and at Aldclune Grade Separated Junction.
- A 'naturalistic' design approach to SuDS features with the implementation of riparian woodland (**Mitigation Item P05-LV9**), in order to improve integration of SuDS features into the receiving landscape at ch1300, ch1700, ch3200, ch3800, ch4000, ch4500, ch4700 and at ch6700.
- High quality design of the new Essangal Underbridge (ch4500) in keeping with the landscape character (**Mitigation Item P05-LV10**).
- The retention and protection of existing woodland within the land made available and other landscape features along the length of the proposed scheme within the LLCA (**Mitigation Item P05-LV11**), including retention of the arc of mature specimen trees and stone walls and reducing and grading out the sides of the cutting on the northern slopes of Tulach Hill.
- Reinstatement of woodland by replacement planting along the length of the proposed scheme within the LLCA (**Mitigation Item P05-LV12**).
- The use of planting to help integrate the new bridge structures including the new Essangal Underbridge (ch4500) into the surrounding landscape and minimise their visual impact (**Mitigation Item P05-LV14).**
- The planting of location-specific woodland (**Mitigation Item P05-LV17**), the species mix proposed for areas of woodland reflecting the species composition of neighbouring woodland such as the mixed woodland proposed in the region of ch2400 and mixed woodland at the Aldclune Junction (ch3800).
- The use of a species-rich grassland mix consisting of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring flora (**Mitigation Item P05-LV18**).

13.6.19 In summer 15 years after opening, following the integration of the proposed scheme into the receiving landscape, the magnitude of change to the LLCA is predicted to reduce to low. This reduction in the level of change would result in a **Moderate** residual impact on the Glen Garry: Lower Glen LLCA. Beyond 15 years the level of impact is likely to continue to reduce further as woodland planting matures, most notably in areas such as Aldclune Grade Separated Junction where larger areas of woodland planting are proposed.

Glen Garry: Mid Glen LLCA

13.6.20 The proposed scheme transects the Glen Garry: Mid Glen LLCA between ch8800 and ch14000 and would result in direct physical impacts on the elements and features which define the LLCA. These impacts would result from aspects of the proposed scheme including:

- widening of the existing A9 and formation of cuttings and embankments. Construction of the retaining wall at Calvine (ch13300);
- formation of new side/access roads such as the Tomchitchen access road;

- construction of the new River Garry Underbridge over the River Garry and widening of the existing bridges over the B847 and the Highland Main Line Railway, and the Allt Bhaic Underbridge at ch9200;
- formation of the new Bruar/Calvine Grade Separated Junction arrangement with associated large-scale earthworks and signage (Figures 14.16, 14.17 and 14.19); and
- introduction of seven SuDS features.

13.6.21 An indication of the profile of the landform and the nature of earthworks and planting are provided in Cross Sections JJ (ch11700), and KK (ch13660) Figure 13.5.

13.6.22 For the purposes of this assessment, the Glen Garry: Mid Glen has been assessed to have a medium/high sensitivity to change associated with the proposed scheme. This is in consideration of the LLCA's coverage by the Cairngorms National Park (the features within the LLCA contributing to the Special Landscape Qualities of the Cairngorms National Park) which attributes a high value as a landscape resource in addition to the LLCA's medium susceptibility to change.

13.6.23 In the winter of the year of opening, the proposed scheme would result in a **Moderate/Substantial** impact on the Glen Garry: Mid Glen LLCA. This level of impact would be incurred as a result of the medium magnitude of change associated with the loss of defining features of the LLCA including the areas of pasture along the length of the proposed scheme, modifications to the existing landform including the distinctive rocky knoll south of Pitagowan (ch12200) and the felling of roadside trees. While most of the physical impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, the proposed scheme would, in the winter of the year of opening, be a prominent feature within the LLCA and influence the wider perceptual qualities of the mid glen, particularly when experienced from land adjoining the A9 corridor and from elevated positions in the surrounding upland landscapes overlooking the proposed scheme.

13.6.24 These impacts would be mitigated by implementation of the proposed mitigation measures which include:

- Grading out of earthworks in order to improve integration with the existing landform, and a more natural appearance (**Mitigation Item P05-LV8**), including the embankments associated with the Bruar/Calvine Junction (ch11600) in order to improve landform integration and facilitate a potential return to agricultural land use. The potential reinstatement of pasture through grading out of the earthworks e.g. the southbound embankment between ch10700 and ch10900.
- A 'naturalistic' design approach to SuDS features and the use of riparian woodland where possible in order to improve the integration of SuDS features into the receiving landscape (**Mitigation Item P05-LV9**) at ch9100, ch9300, ch10600, ch11400, ch11500, ch12500 and ch13600.
- Retention and protection of existing woodland and other landscape features (**Mitigation Item P05-LV11**) as far as practicable along the length of the proposed scheme within the LLCA.
- Reinstatement of woodland by replacement planting (**Mitigation Item P05-LV12**), the species composition reflecting lost areas of woodland such as the use of birch and Scots pine at ch10600 (northbound side), and the use of birch willow and alder at ch10750 (southbound side).
- Planting of location-specific woodland (**Mitigation Item P05-LV17**), the species mix proposed for areas of woodland reflecting the species composition of neighbouring woodland (where relevant). This will include new mixed woodland strips at Pitagowan (ch11900) in order to screen views of the proposed scheme.
- The use of a species-rich grassland mix consisting of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring flora (**Mitigation Item P05-LV18**).

13.6.25 An indication of the profile of the landform and the nature of earthworks and planting is provided in Cross Section MM (ch19560) (Figure 13.5).

13.6.26 On establishment of the proposed mitigation measures by summer 15 years after opening the magnitude of change to the LLCA is predicted to reduce to low. This reduction in the magnitude of change would result in a Slight/Moderate residual impact on the Glen Garry: Mid Glen LLCA.

Glen Garry: Upper Glen LLCA

13.6.27 The proposed scheme transects the Glen Garry: Upper Glen LLCA between ch14000 and the end of the proposed scheme (ch22400) and would result in direct physical impacts on the elements and features which define the character area. These impacts would result from the aspects of the proposed scheme including:

- widening of the existing A9 and formation of cuttings and embankments;
- formation of new side/access roads including the new access road north east of Clunes Lodge (ch16000) and in the region of Dalnamein Lodge (ch20100);
- formation of a pedestrian underpass at Calvine (ch13400) and new bridges at Clunes Lodge (ch16100), Dalnamein (ch19800), Tigh-na-Coille (ch20500) and over the Allt a'Chrombaidh (ch15100); and
- introduction of seven SuDS features.

13.6.28 For the purposes of this assessment, the Glen Garry: Upper Glen LLCA has been assessed to have a medium/high sensitivity to change associated with the proposed scheme. This is in consideration of the LLCA's coverage by the Cairngorms National Park (the features within the LLCA contributing to the Special Landscape Qualities of the Cairngorms National Park), which attributes a high value as a landscape resource in addition to the LLCA's medium susceptibility to change.

13.6.29 In the winter of the year of opening, the proposed scheme would result in a significant **Moderate/Substantial** impact on the Glen Garry: Upper Glen LLCA. This level of impact would be incurred as a result of the medium magnitude of change associated with the loss of defining features of the LLCA including:

- the areas of pasture along the length of the proposed scheme,
- areas of mature woodland, particularly the woodlands lining the existing A9 which currently limit visibility of the road and traffic; and
- established weathered rock cuttings near to Clunes Lodge (ch16000).

13.6.30 While most of the physical impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, the proposed scheme would, in the winter of the year of opening, be a prominent element within the LLCA and influence the wider perceptual qualities of the upper glen, particularly when experienced from elevated positions in the surrounding uplands in addition to the upper slopes of the glen.

13.6.31 These impacts would be offset by implementation of the proposed mitigation measures within the LLCA, which include:

- Grading out of earthworks in order to improve integration with the existing landform, and a more natural appearance, including the slopes in the region of Dalreoch (ch19100) and Tigh-na-Coille (ch20800) in addition to the slopes between ch20650 and 21000, the embankment being graded out in order to facilitate a return to agricultural use (**Mitigation Item P05-LV8**).
- Creation of rock cuttings with irregular faces of varied height, angle and form to reflect the structure of the local bedrock (**Mitigation Item P05-LV8**) (e.g. ch14300 and ch18700 in addition to the cutting associated with the Clunes Lodge access track (ch16100)).
- A 'naturalistic' design approach to SuDS features where possible with associated riparian woodland, in order to improve the integration of SuDS features into the receiving landscape (**Mitigation Item P05-LV9**) at ch14800, ch15400, ch16200, ch18200, ch19500, ch19800 and ch22000.
- Retention and protection of existing woodland within the land made available to the Contractor and other landscape features (**Mitigation Item P05-LV11**) as far as practicable along the length of the proposed scheme within the LLCA.

- Reinstatement of woodland by replacement planting, the species composition reflecting the lost areas of woodland (**Mitigation Item P05-LV12**) e.g. areas of deciduous woodland (including birch spp.) between ch16300 and ch17100.
- Planting of location-specific woodland, the species mix proposed for areas of woodland reflecting the species composition of neighbouring woodland (**Mitigation Item P05-LV17**) (where relevant) such as the mixed woodland proposed north of ch16100 and between ch17500 and ch18000.
- The use of a species-rich grassland mix and a heathland mix both consisting of a mixture of native, non-invasive grasses and wildflower species (**Mitigation Item P05-LV18**) to reflect locally occurring flora along the length of the proposed scheme.

13.6.32 In summer 15 years after opening, following the integration of the proposed scheme into the landscape, the magnitude of change to the LLCA is predicted to reduce to low. This reduction in the level of change would result in a Slight/Moderate impact on the Glen Garry: Upper Glen LLCA.

13.7 Statement of Significance

13.7.1 The alignment of the proposed scheme generally following that of the existing A9, and implementation of mitigation measures, including integrating earthworks into the surrounding landscape and woodland planting, would help to limit the magnitude of change and significance of impact of the road widening.

13.7.2 In the winter of the year of opening, the impacts on the Pass of Killiecrankie, Glen Garry: Lower Glen, Mid Glen and Upper Glen LLCAs would be significant (**Moderate/Substantial** impacts). However, in the summer 15 years after opening, following establishment of the mitigation planting, impacts on the Pass of Killiecrankie, Glen Garry Mid Glen and Glen Garry: Upper Glen would reduce to not significant (Slight/Moderate impacts). Impacts on the Glen Garry: Lower Glen LLCA would also reduce over time as planting matures, however they would still be significant (**Moderate** impact) in the summer 15 years after opening due largely to the impacts of the Aldclune Grade Separated Junction.

13.7.3 There would be no significant impacts on the Glen Garry: Blair Atholl (settlement) LLCA, Strath Tummel: Pitlochry (Settlement) LLCA, Glen Fender LCA, The Southern Hills: South Eastern Glens LCA, The Southern Hills: South Western Glens LCA, Highland Glens LCA, Highland Glens with Lochs LCA, Highland Summits and Plateaux LCA and the Drumochter Pass LCA.

13.8 References

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