11 Landscape and Visual

11.1 Introduction

11.1.1 This chapter presents the Design Manual for Roads and Bridges (DMRB) Stage 2 assessment of the potential impacts of each of the route options on landscape character and the visual amenity and character of views from buildings and outdoor receptors.

11.1.2 The assessment includes the following:

- baseline conditions within the study area relating to landscape character and visual amenity (Section 11.4: Baseline Conditions);
- potential impacts of each of the route options with regard to the identified baseline conditions (Section 11.5: Impact Assessment);
- a summary of the route options assessment identifying, where possible, residual impacts taking into account likely mitigation (Section 11.7: Summary of Route Options).

11.1.3 The assessment is supported by the following appendices, which are located in Part 6 (Appendices) of this report:

- A11.1: Landscape Impact Assessment;
- A11.2: Visual Impact Assessment - Built Receptors; and
- A11.3: Visual Impact Assessment - Outdoor Receptors.

11.1.4 Section 11.8 (Scope of DMRB Stage 3 Assessment) provides details on the proposed scope for the DMRB Stage 3 Assessment and Section 11.9 (References) provides a full list of references that are noted within this chapter.

11.2 Approach and Methods

Scope and Guidance

11.2.1 This assessment was undertaken with reference to the following:

- DMRB Interim Advice Note (IAN) 135/10, Landscape and Visual Effects Assessment (The Highways Agency 2010) (hereafter referred to as IAN135/10).
- Guidelines for Landscape and Visual Impact Assessment (The Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) 2013) (hereafter referred to as GLVIA3).
- Fitting Landscapes: Securing more sustainable landscapes (Transport Scotland 2014).

11.2.2 The assessment generally follows the IAN135/10 requirements for a 'Detailed Assessment', which is recommended where significant landscape and visual effects are anticipated. It includes an assessment of the significance of impact on the landscape for each of the route options and a statement of the estimated visual impact of the route options on affected receptors with the degree to which their visual amenity might change. IAN135/10 also outlines that *'Any mitigation to avoid, reduce or remedy the changes should be taken into consideration in determining the significance of the resultant effects'* (Highways Agency 2010, p.17). Whilst at the route options assessment stage landscape and visual mitigation measures have not been developed, the likely potential for mitigation measures such as new woodland planting and grading of earthworks slopes has been considered in the assessment.

11.2.3 It is assumed that there would be no landscape or visual change in a 'Do-Nothing' scenario and it has therefore been omitted from this assessment. A more detailed assessment of specific impacts should be carried out at DMRB Stage 3, following the identification of a preferred option.

Study Area

11.2.4 The study area for the landscape and visual assessment was based on a drawn Visual Envelope Map (VEM) which relates to areas that may gain a view of the route options. This was identified through a combination of desk-study and field survey.

11.2.5 IAN135/10 states that the study area *'should contain all of the likely significant effects of the proposal on any component of the landscape and visual resource'* (Highways Agency 2010, p.10). The desk-study initially limited the study area to approximately 3km from the route options, as this was considered to be the maximum distance from which elements of the route options could have a discernible visual impact on a receptor. The field survey further reduced the study area through identification of landscape elements that prevented visibility of the route options, such as built form, dense vegetation and topography. The study area used in this assessment is shown on Figures 11.1 to 11.4 and 11.7 to 11.12.

Baseline Data

11.2.6 Baseline conditions were identified through a combination of desk-based assessments and information obtained during a field survey undertaken in April 2016.

11.2.7 For the desk-based assessment the following sources of information were reviewed:

- Geographical Information Systems (GIS) data;
- aerial photographs;
- 1:25,000 and 1:50,000 Ordnance Survey (OS) maps; and
- Scottish Natural Heritage (SNH) Review: No 114 Inverness District Landscape Character Assessment (Richards 1999).

11.2.8 A field survey was completed between 4 and 5 April 2016. The survey was completed by three landscape architects, by car and on foot. The survey confirmed the location of the landscape character areas, properties (built receptors) and paths or roads (outdoor receptors) that would be likely to experience a physical or visual change as a result of each of the route options. Where multiple built receptors are grouped together for the purposes of the assessment they are referred to as receptor groups. Data relating to the receptors were collected using a standardised checklist and photographs were taken from key landscape viewpoints identified during the initial baseline assessment.

Impact Assessment

11.2.9 The impact assessment has been undertaken using the approach outlined below, where the level of significance is assessed based on the sensitivity of the receptor and the magnitude of change that would be experienced.

Landscape Impact Assessment

11.2.10 The SNH Inverness District Landscape Character Assessment (Richards 1999) was used as the basis for the landscape character assessment. The Landscape Character Types (LCTs) identified in these documents were then divided into Local Landscape Character Areas (LLCAs) in order to provide sufficient detail to allow for differentiation between the route options.

Sensitivity to Change

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

Landscape Susceptibility

11.2.12 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…'* (Landscape Institute and IEMA 2013, p.88 to 89). Susceptibility of landscape receptors

to change was assessed using the criteria detailed in Table 11.1 below, along with professional judgment (where applicable, interims of medium to high or low to medium may be used).

Table 11.1: Landscape Susceptibility Criteria

Susceptibility	Criteria
High	Little ability to accommodate the route option without undue consequences.
Medium	Some ability to accommodate the route option without undue consequences.
Low	Substantial ability to accommodate the route option without undue consequences.

Landscape Value

11.2.13 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'* (Landscape Institute and IEMA 2013, p.80). 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. There may also be situations where an undesignated landscape is of value and / or has susceptibility in local terms. Table 11.2 sets out the relative value of generic landscape designations and descriptions.

Table 11.2: 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, NSAs	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).	International / national
Historic Scotland Inventory of Gardens and Designed Landscapes	Gardens and designed landscapes included on the inventory.	International / national
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.	Regional / local

11.2.14 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 11.3 and an overall assessment was made for each receptor in terms of high, medium and low value.

Table 11.3: 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.

Evaluation of Landscape Sensitivity

11.2.15 Sensitivity was assessed on a scale of high, medium or low. Table 11.4 outlines the criteria and professional judgement used in the evaluation of landscape sensitivity, based on consideration of both susceptibility and value.

Table 11.4: Landscape Sensitivity Criteria

Sensitivity	Criteria
High	Landscape elements of particular distinctive character, which are highly valued and considered susceptible to relatively small changes.
Medium	Landscape of moderately valued characteristics considered reasonably tolerant of change. Some ability to accommodate the proposed change without undue harm.
Low	Landscape of generally low valued characteristics considered potentially tolerant of substantial change.

Magnitude of Landscape Change

11.2.16 The criteria used to assess the magnitude of the changes to the landscape are shown in Table 11.5. These criteria represent thresholds on a continuum and, where appropriate, the intermediate categories of low to medium and medium to high magnitude were also used in the assessment.

Table 11.5: Magnitude of Landscape Change

Sensitivity	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 landscape components.

11.2.17 Consideration has also been given to the duration and reversibility of landscape impacts. Permanent impacts are considered to be of long duration and largely irreversible and, therefore, have a higher magnitude of impact. Temporary construction phase impacts, for example from site compounds, are considered to be short-term and are often reversible and, therefore, may have a lower magnitude of impact.

Significance of Impact

11.2.18 The categories of significance described in Table 11.6 (based upon the 'Typical Descriptors' identified in IAN135/10) have been used during this assessment.

Table 11.6: Significance of Landscape Impact

Impact Significance	Description
Substantial	The project would be at complete variance with the character of the landscape (including quality and value), cause the integrity of characteristic features and elements to be lost, and cause a sense of place to be lost.
Moderate/ Substantial	The project 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 and elements, and damage a sense of place.
Moderate	The project would conflict with the character (including quality and value) of the landscape, have an adverse impact on characteristic features or elements, and diminish a sense of place.
Slight/ Moderate	The project would not quite fit the character (including quality and value) of the landscape, be at variance with characteristic features and elements, and detract from a sense of place.
Slight	The project would generally fit the character (including quality and value) of the landscape, occasionally be at variance with characteristic features and elements, and slightly reduce a sense of place.
Negligible	The project would maintain the character (including quality and value) of the landscape, be in variance with characteristic features and elements, and enable a sense of place.

11.2.19 For the purposes of this assessment, impacts are considered to be adverse unless otherwise stated. Impacts assessed as being of Moderate or greater significance are considered to represent key landscape changes and mitigation would generally be required to reduce these where possible.

Visual Impact Assessment

11.2.20 The visual impact assessment considers both built and outdoor receptors. Outdoor receptors consist of important routes that enable access within the landscape. This includes roads and footpaths and, in particular, core paths that are designated by the local authority. Although there is a wider network of informal aspirational core paths and local paths, as set out in Chapter 16 (People and Communities: Effects on All Travellers) of this report, these are not considered within this assessment as they are not currently designated by local authorities. The importance of these routes should be reconsidered and assessed during the DMRB Stage 3 Assessment.

11.2.21 The significance of visual impacts was determined through consideration of both the sensitivity of the visual receptor and the predicted magnitude of change as a result of the route options.

Sensitivity

11.2.22 In accordance with GLVIA3 the assessment of sensitivity for visual assessment combines the susceptibility of the receptor to changes in visual amenity arising from the specific type of development proposed, and the value attributed to the existing views. The criteria in Table 11.7 were used, along with professional judgement, to help determine the value of the views experienced by each visual receptor.

Table 11.7: Value of Views

Value	Views
High	Viewpoints within landscapes of national importance, or highly popular visitor attractions where the view forms an important part of the experience, or has important cultural associations.
Medium	Viewpoints within landscapes of regional/district importance or moderately popular visitor attractions where the view forms part of the experience, or has local cultural associations.
Low	Viewpoints within landscapes of no designations, not particularly popular/important as a viewpoint and with minimal or no cultural associations.

11.2.23 The susceptibility of visual receptors, as defined in GLVIA3, is mainly a function of *'the occupation or activity of people experiencing the view at particular locations; and the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations'* (Landscape Institute and IEMA 2013, p.113). The criteria in Table 11.8 (based on GLVIA3) were applied, along with professional judgement, to evaluate the susceptibility of different types of receptors.

Table 11.8: Visual Receptor Susceptibility to Change

Susceptibility	Receptor Type
High	Residents. People engaged in outdoor recreation, including users of public rights of way, whose attention is likely to be focused on the landscape and on particular views. Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience. Communities where views contribute to the landscape setting and are enjoyed by residents. Travellers on scenic routes where awareness of views is likely to be particularly high.
Medium	Travellers on road, rail or other transport routes (where awareness of views is likely to be higher along recognised scenic routes).
Low	People engaged in outdoor sport or recreation, which does not involve appreciation of views. People at their place of work, whose attention may be focused on their work and where the setting is not important to the quality of working life.

11.2.24 The sensitivity of visual receptors to changes in their views was evaluated in accordance with the criteria provided in Table 11.9, based on the receptor susceptibility to change of the receptor and the value of views.

Table 11.9: Visual Receptor Sensitivity to Change

Sensitivity	Criteria
High	Receptors where the changed view is of high value and/or where the receptor will experience an appreciable change to visual amenity by reason of the nature of activity and their expectations (receptors where the view is important to users will be considered to be of high sensitivity).
Medium	Receptors where the changed view is valued but not critical to amenity and/or the nature of the view is valued but not a primary consideration of the users (receptors where users are likely to spend time outside of participation in their activity looking at the view and users of workplaces with windows that take advantage of views).
Low	Receptors where the changed view is unimportant and/or users are not sensitive to change (receptors where users are unlikely to consider the views an important element of their activity will generally be assessed to be of low sensitivity).

11.2.25 These criteria represent thresholds on a continuum and where appropriate the intermediate categories of low to medium and medium to high sensitivity were also used in the assessment.

Magnitude of Visual Change

11.2.26 The criteria used to evaluate the magnitude of visual change on receptors are shown in Table 11.10. These take into account the following:

- the extent of the receptor's available view potentially impacted by the route option (including separation between the receptor and the route option);
- the angle of view relative to the main activity of the receptor; and
- the level of integration or contrast created by the route option and its associated elements within the view.

Table 11.10: Magnitude of Visual Change

Sensitivity	Criteria
High	Where the route option or elements of the route option will dominate the view and fundamentally change its character and components.
Medium	Where the route option or elements of the route option will be noticeable in the view, affecting its character and altering some of its components and features.
Low	Where the route option or elements of the route option will only be a minor element of the overall view that are likely to be missed by the casual observer and/or scarcely appreciated.

11.2.27 These criteria represent thresholds on a continuum and where appropriate the intermediate categories of low to medium and medium to high magnitude were also used in the assessment.

11.2.28 As with landscape impacts, the magnitude of visual change also takes into consideration the duration and reversibility of the impact, hence short-term, reversible visual impacts from temporary construction operations are generally considered of lower magnitude than long-term, irreversible impacts.

Significance of Impact

11.2.29 The categories of impact significance followed the same approach as described for the landscape assessment as shown in Table 11.6.

Mitigation

11.2.30 Potential mitigation measures to reduce impacts have been considered during this assessment and are discussed in Section 11.6 (Potential Mitigation).

11.2.31 It should be noted that at this stage in the development of the route options it is not possible to design specific or detailed mitigation measures and, therefore, residual impacts cannot be confirmed. However, consideration has been given to the likely potential for mitigation based on the landscape context of the route options, including vegetation cover and topography. Areas which are open in character with few trees are generally likely to have less potential for mitigation through woodland planting, whereas in locations where woodland is more widespread, new woodland planting would be more in keeping with the landscape character and thus mitigation potential is greater. If a particular route option has a high potential to be mitigated there is a greater possibility of significant impacts being reduced.

Limitations to Assessment

11.2.32 Built and outdoor receptors and landscape character areas have been assessed using a combination of field surveys, maps, photographs and aerial photography. This provides sufficient information to undertake a robust DMRB Stage 2 Assessment.

11.2.33 The landscape and visual impact assessment has been undertaken based on existing land use. Where land is allocated within the local development plan or where land has extant planning permission or is pending a decision of a planning application, the land-take has been allocated to the development land category and assessed accordingly in Chapter 13 (People and Communities: Community and Private Assets). Given the limited information currently available regarding the future proposals within the development land allocations, it has not been possible to assess the potential landscape and visual effects of the proposed route options on them with any degree of certainty, so these allocations have not been considered in this chapter

11.2.34 In 2011 planning permission in principle was granted for a mixed-use Stratton New Town development (reference 09/00141/OUTIN). A Section 42 Application to change various conditions was approved in July 2016 (reference 16/02161/S42), and this is the primary permission in respect of the conditions for the whole development. Since September 2016, there have been a number of planning applications to The Highland Council (THC) containing further detailed information to satisfy conditions of the primary planning permission, including:

- Area Development Brief (ADB) for Phase 1 including Indicative layout for Phase 1 and development principles (reference 16/04179/MSC) which was approved in November 2016.
- Application for approval of matters specified in conditions of planning permission 16/02161/S42, including detailed site layout and supplementary information for Stratton Phase 1A (400 houses), which was submitted in December 2016 (reference 16/05533/MSC) and granted consent in August 2017.
- Application for approval of infrastructure related to Phase 1 of development including widening a section of C1032 Barn Church Road (reference 16/05669/MSC) which was approved in May 2017.

11.2.35 Although the Stratton New Town ADB shows all components of Phase 1, it provides indicative layout information. Detailed design information has only been submitted for Phase 1A, and for

infrastructure related to Phase 1 of the development (increasing the width of C1032 Barn Church Road to accommodate four lanes).

11.2.36 At the time of the field survey undertaken for this assessment only the current built receptor 44 – Group of properties at Stratton was present at the site of the consented phase 1A of the Stratton New Town development. As the assessment has been undertaken based on existing land use, only the existing Group of properties at Stratton has been assessed. It is, however, recommended that this approach is reviewed at the time of DMRB stage 3 assessment depending on the progress of the Stratton New Town development.

11.3 Policies and Plans

11.3.1 Part 6 (Appendices), Appendix A8.1 (Planning Policy Context for Environmental Assessment) describes the planning policies and guidance from national to local level which are relevant to Landscape and Visual. An assessment of the compliance of the route options against all development plan policies relevant to this environmental topic is reported in Part 6 (Appendices), Appendix A8.2 (Assessment of Development Plan Policy Compliance) and a summary overview is provided in Chapter 8 (Policies and Plans).

11.4 Baseline Conditions

Regional Context

11.4.1 The study area is located between the coastal plain of the Moray Firth, to the north, and Drummossie Muir and River Nairn, to the south. The city of Inverness and River Ness are located to the western end of the study area, while the village of Balloch sits to the east. The study area contains high quality farmland (classified as 'prime agricultural land' under the agricultural classification system), with small clusters of houses spread along its length. More substantial development can be found in closer proximity to Inverness.

Historic and Cultural Associations

11.4.2 Much of the landscape that is visible today has evolved as a result of long-term human influence and settlement. Further details are provided in Chapter 15 (Cultural Heritage). The first recorded inhabitants of the area were neolithic people who originally settled in the area because of fertile flood plains and light, free-draining soils; evidence of the former population can be seen amongst burial cairns dispersed throughout the area.

11.4.3 The population further increased with an influx of Celtic Iron Age settlers, who introduced tools to clear woodland and increase settlement; the remains of hill forts from this period are evident, as well as the remains of agricultural crofting systems.

11.4.4 A network of military roads created in the early 18th century helped bring the region in touch with the rest of the country. During the second half of the 18th century, the traditional pattern of townships began to disappear, being replaced by a more structured pattern of pastoral and arable fields with associated large farmhouses.

11.4.5 By the end of the 19th century, the familiar agricultural landscape of the area had largely formed. The introduction of the Caledonian Canal, a railway system, and extensive improvements to roads greatly increased the number of visitors in the area.

11.4.6 During the 20th century there were a number of new developments in forestry, urban expansion, housing, and industry. Each change raised important issues regarding the maintenance of the districts distinctive character. One negative aspect of modern development is that much of the natural woodland mix of native oak, pine, ash, birch, and hazel has been replaced with large scale coniferous plantations, reducing the level of plant diversity. However, the most significant change during the 20th century was the growth in tourism, particularly in the summer months. The study area is critical in this development and contains major rail and road networks for access to the wider region.

Landform

11.4.7 Towards the edge of the Moray Firth, the landscape is relatively flat and predominantly utilised for pastoral and arable farming. To the south, the topography forms a shallow valley along the River Nairn, which increases in size and gradient towards the west. The topography continues to rise and the gradient gradually starts to increase towards the Cairngorm mountain range, to the south. A number of smaller watercourses and water bodies can be found within natural depressions throughout the study area. Further details on the watercourses in the study area can be found in Chapter 14 (Road Drainage and the Water Environment).

Special Landscape Designations

11.4.8 There are no landscape designations within the study area which would be directly or indirectly affected by the route options.

11.4.9 Designated landscapes located in close proximity to the study area are listed below, along with the reasons for their exclusion from the assessment:

- Culloden House Garden and Designed Landscape (GDL) listed in the Historic Environment Scotland inventory and the Culloden House Policies Conservation Area designated by The Highland Council are located at a distance of approximately 1km to the east of the route options. In addition, Culloden Battlefield Conservation Area is located further east, at a distance of approximately 3km. The intervening built form and vegetation east of U1124 Caulfield Road as well as Culloden Wood would screen all views towards the route options from within these designated landscapes.
- Leys Castle GDL and Tomnahurich Cemetery GDL are located at a distance of approximately 2km and 3km, respectively, to the west of the route options. The intervening built form and vegetation within the city of Inverness would screen all views towards the route options from within these GDLs.
- The Inverness (Crown) and Inverness (Riverside) Conservation Areas designated by The Highland Council are located approximately 1.5km to the west of the route options, at their closest point. The intervening built form and vegetation within the city of Inverness would screen all views towards the route options from within these Conservation Areas.
- The Sutors of Cromarty, Rosemarkie and Fort George SLA designated by The Highland Council is located approximately 8km to the north-east of the route options. It is considered that, at this distance, the SLA would not be subject to any significant landscape or visual impacts as a result of the proposed route options and there would be no discernible difference between the route options in any views.

LLCAs

11.4.10 There are three distinctive LLCAs located within the study area. These are outlined in Table 11.11, along with an evaluation of their sensitivity based upon consideration of their susceptibility and value.

Table 11.11: Description of LLCAs

LLCA	Description	Sensitivity
Enclosed Farmed Landscapes	Flat to gently undulating lowlands. Consists of Moray Firth and watercourse flood plains. Simple landscape composition of geometric fields enclosed by mature deciduous tree lines. Deciduous trees give a range of colours and textures that change with the seasons. Farm settlements enclosed by mature trees are dispersed throughout the landscape. On flatter land, developments encroach on the field network. The urban architecture forms a contrast to the existing farm and estate buildings. The value of this LLCA is considered to be medium and the susceptibility to change is also considered to be medium. New mixed-use urban development (Stratton New Town) has been consented in part of this LLCA as per the adopted local development plan (LDP) allocation, and once constructed it would alter the existing character. However, should this development be taken forward for development, it is considered that the sensitivity of the local landscape to the proposed route options would be unlikely to be any greater than that of the existing rural landscape, due to the urbanising effect of the future development.	Medium
Inverness Urban Fringe and Culloden	Beyond the town centre, to the east, there are a variety of neighbourhoods, which include older stone built mansions, more modern suburbs of semi-detached houses and terraced housing estates. Often an abrupt break with the agricultural lands which surround the town. Industrial estates, college campus and retail and business park developments are also located along this urban edge. The value of this LLCA is considered to be medium and the susceptibility to change is considered to be medium due to the presence of A9 Perth – Inverness Trunk Road, other roads and mostly urban character, but also due to relatively limited ability to accommodate the proposed route options without undue consequences.	Medium
Coastal Lowlands Forest Edge Farming	Generally undulating topography. Strong geometry within landscape due to linear field pattern and strong boundaries. Drystone wall and hedgerow boundaries. Small pockets of deciduous trees and scrub vegetation, often associated with streams and gorges. Dispersed farm buildings in landscape. Network of narrow access roads. Larger villages have appropriate character due to intimate housing, vernacular architecture, building materials, and mature trees. Larger urban settlements compete with structure of forestry and ignore underlying patterns of landform and land use. The value of this LLCA is considered to be medium and the susceptibility to change is also considered to be medium.	Medium

11.4.11 The landscape context, in particular existing trees, scrub and woodland, is illustrated on Figure 11.1. The extent of LLCAs is shown in relation to the route options on Figures 11.2 to 11.4, with Figures 11.5 and 11.6 showing photographs of the LLCAs.

Vegetation

11.4.12 Vegetation cover within the study area and on the surrounding landscape varies to reflect the natural influences of local geology, landform, microclimate, drainage, soil, colonisation and biodiversity, and the influence of man on land use and management.

11.4.13 The predominant type of vegetation cover comprises improved grassland, arable land and small amounts of native deciduous woodland and plantation coniferous woodland. Further details are provided within Chapter 12 (Ecology and Nature Conservation). Woodland, trees and scrub are shown on Figure 11.1.

11.4.14 Improved grassland and arable land are predominantly positioned within the open, flat, Enclosed Farmed Landscapes LLCA. The Coastal Lowlands Forest Edge Farming LLCA is characterised by gently undulating land, improved grassland, coniferous woodland and rectilinear field patterns.

11.4.15 Deciduous woodland is established in patches along rivers demarcating field boundaries.

11.4.16 Extensive areas of heathland and gorse are located along the coastal edge.

11.4.17 One Site of Special Scientific Interest (SSSI) is located on the northern edge of the study area, namely the Longman and Castle Stuart Bays SSSI. It is protected for its biological and geological characteristics, many of which have a unique variety of plant species and biotopes.

11.4.18 Further detail on these sites is provided in Chapter 12 (Ecology and Nature Conservation) and Chapter 13 (Geology and Soils) of this report.

Tree Preservation Orders

11.4.19 Tree Preservation Orders (TPOs) have been considered during the landscape character assessment and are shown on Figure 11.1.

11.4.20 TPOs within the study area include:

- HR96 Inshes Woodland (Inverness); and
- H1A12 Inshes Retail Park (Inverness).

11.4.21 Trees covered by TPOs are considered to be key features within the landscape and, although they are not individually referred to, they have been taken into account in the impact assessment below. Any alteration to them has the potential to result in adverse impact.

11.4.22 In addition to trees covered by TPOs there are several lines of mature deciduous trees within the study area which are also of high landscape value and of interest to the local community (e.g. a line of mature deciduous trees on Caulfield Road North adjacent to Cradlehall Business Park and the avenue of mature deciduous trees leading to Castlehill House). All of these landscape features have been considered during the DMRB Stage 2 design process (Section 4.2 Design Considerations, Chapter 4: Engineering Overview) and the subsequent landscape and visual impact assessment. Further consideration will be given to these landscape features during the DMRB Stage 3 assessment, where required to ensure impacts are kept to a minimum.

Visual

11.4.23 The study area is largely contained by: C1032 Barn Church Road to the east; Aberdeen - Inverness Railway Line, the A96 Aberdeen – Inverness Trunk Road, and Inverness Retail and Business Park to the north; the city of Inverness to the west; and Westhill, to the south as shown on Figure 11.1.

11.4.24 Visual receptors comprise mostly residents located on the outer edges of the nearby settlements (e.g. Inverness, Inshes, Cradlehall and Smithton) in addition to road users, railway passengers, walkers and cyclists.

11.4.25 A total of 46 built receptor groups (predominantly residential dwellings and agricultural outbuildings with a small number of commercial, educational and healthcare units) and 11 outdoor receptors (roads, cycle paths, footpaths and railway lines) were identified and assessed within the study area.

11.4.26 As the topography slightly rises to the south-east, parts of the landscape gain a view over the coastline of the Moray Firth and the Northern Highland mountain range beyond. However, few of the receptors that may be affected gain such clear views of the surrounding landscape. Often views are screened by neighbouring built form, hedgerow or garden planting, woodland, shelterbelts, or the rolling intermediate topography.

11.4.27 Some of the views from areas of intensive farming are open and expansive, with little in the way of topography or forest planting interrupting them. The linear structure of the fields and the pattern of shelterbelts are also visible.

11.4.28 Most of the views from within the settlements would be heavily or entirely screened by the intervening built form and associated vegetation within this relatively flat landscape.

11.5 Impact Assessment

11.5.1 This section contains the following information:

- An overview of the potential impacts on landscape character and visual amenity during the construction and operation of road schemes. This is to provide context to the impact assessment.
- A summary of the potential impacts that are common to all of the route options.
- A summary of the additional potential impacts for each of the route options.

11.5.2 The potential impacts are reported in line with the following.

- Potential impacts are reported on the landscape character and visual amenity of the study area that could arise in the absence of mitigation. Therefore, potential impacts represent the worst case scenario. Mitigation to reduce these impacts would be developed for the preferred option during the DMRB Stage 3 Assessment.
- It should be noted that although construction would have a potential adverse impact on both the landscape and visual amenity, it is not considered, for the purposes of this DMRB Stage 2 Assessment, to be of assistance in the comparison of the route options as the construction impacts would be temporary, relatively short-term, and are likely to correlate closely with the operational impacts on opening, given that they would generally overlap geographically. Furthermore, details of the construction activities are not currently available at this stage in the development of the route options. The potential landscape and visual impacts associated with construction are summarised in paragraph 11.5.3 and are not considered further within this assessment.
- Only significant impacts (Moderate and above) have been reported below as these are considered to highlight the key impacts and to enable comparison between the route options. Details of the full impact assessment including non-significant impacts (Slight/Moderate and below) are located within Part 6 (Appendices), Appendix A11.1 (Landscape Impact Assessment), Appendix A11.2 (Visual Impact Assessment – Built Receptors) and Appendix A11.3 (Visual Impact Assessment - Outdoor Receptors) of this report. All potential impacts reported are adverse, unless otherwise stated.

Potential Impacts: Construction

11.5.3 Potential impacts on landscape character and visual amenity during construction include:

- vehicles moving machinery and materials to and from the site;
- machinery, including heavy excavators, earth moving plant, concrete batching plant, and cranes;
- exposed bare earth over the extent of the works area;
- structures, earthworks, road surfacing and ancillary works during construction;
- temporary site compound areas, including site accommodation and parking;
- temporary soil storage heaps and stockpiles of construction materials;
- lighting associated with night-time working and site accommodation;
- traffic congestion during work and traffic management measures;
- demolition operations; and
- temporary works associated with bridge construction operations.

Potential Impacts: Operation

11.5.4 Potential impacts on landscape character and visual amenity during operation include:

- alteration to the local character of the landscape due to the loss of existing landscape elements, such as the loss of established woodland, stone built walls and hedgerows;

- alteration to the existing field pattern, severance of watercourses and burns and stripping of groundcover vegetation and topsoil, followed by reinstatement and new planting;
- alteration to the pattern and character of the built environment due to the demolition of existing houses and loss of private land;
- introduction of infrastructure elements, including new structures, junctions and associated earthworks;
- alteration of pedestrian access due to paths being severed or disconnected;
- potential increase in light pollution due to the introduction of lighting;
- alteration of the landform due to the construction of embankments and cuttings; and
- potential increases in noise, air pollution and visual impact on the surrounding landscape, properties and settlements as the traffic flow is increased.

Impacts Common to all Route options

11.5.5 This section provides details on the potential impacts of Moderate and above significance which are common to all route options.

11.5.6 During operation, all of the route options would have a potential impact of Moderate significance on the Enclosed Farmed Landscapes LLCA due to the following combined impacts:

- introduction of new road, two roundabouts, SuDS ponds and Cradlehall Railway Bridge (PS04) and associated embankments into the existing open and relatively flat landscape;
- loss of agricultural land;
- disruption of a distinctive rural landscape character by the introduction of road infrastructure through agricultural land bounded by a combination of minor watercourses, shelterbelts, hedgerows, stone walls and fence lines; and
- loss of roadside trees along the southbound carriageway of the A9 as a result of the new lane gain/drop.

11.5.7 For all the other LLCA's although there are individual impacts that are common to all, the overall assessment of each LLCA is based on the assessment of individual impacts combined. In relation to this, there are no other LLCAs where the combined impacts are the same for all route options. All of the impacts on LLCAs are recorded in Part 6 (Appendices), Appendix A11.1 (Landscape Impact Assessment) of this report.

11.5.8 The potential significant visual impacts on built and outdoor receptors that are common to all route options are shown in Table 11.12. All of the impacts on visual receptors are recorded in Part 6 (Appendices), Appendix A11.2 and Appendix A11.3 (Visual Impact Assessment – Built Receptors and Outdoor Receptors, respectively) of this report.

Table 11.12: Potential Visual Impacts on Built and Outdoor Receptors - Common to all Route Options

No/Visual Receptor Name	Sensitivity	Magnitude	Significance
Built Receptor Groups			
25 – Cradlehall Business Park	Low	High	Moderate
28 - group of properties along Cradlehall Farm Drive and Cradlehall Meadows	High	Medium/High	Moderate/Substantial
29 – group of properties in U1058 Caulfield Road NorthNo.31 to Viewfields	High	Low/Medium	Moderate
36 - properties at 12 Resaurie, Manse and Spillwood	High	Low/Medium	Moderate
Outdoor Receptors			
O6 – Highland Main Line	Medium	Medium	Moderate
O7 - Core Path IN08.10 (A96 to U1058 Caulfield Road North by Ashton Farm)	Medium	High	Moderate/Substantial

Additional Impacts for Option 1A

11.5.9 This section presents the potential impacts of Moderate and above significance for Option 1A that are additional to those reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.10 The following aspects of Option 1A would have the greatest impact on landscape character and visual amenity:

- Loss of mature deciduous trees from the avenue leading to Castlehill House due to introduction of the road and B9006 Culloden Road Underbridge (PS03) (Enclosed Farmed Landscapes LLCA).
- Introduction of new road, embankments, new A9 Overbridge (PS02) and a SuDS pond into open, gently sloping grassland. Loss of roadside trees along the road from Inshes Retail Park to Dell of Inshes (Inverness Urban Fringe and Culloden LLCA).
- Visual impacts on residents of Dell of Inshes and Ardachy (Receptor 8), Briargrove Drive and Briargrove Gardens (Receptor 9), 4, 4a and 4b Inshes Holdings (Receptors 19 and 20), and Category B Listed Building Castlehill House (Receptor 23), from a new road on an embankment, with traffic and road lighting.

Landscape

11.5.11 The potential significant impacts that are additional for Option 1A on landscape character are as shown in Table 11.13.

11.5.12 All impacts additional to those which are reported as common to all route options are direct and are due to physical changes to the landscape, details of which are provided in Part 6 (Appendices), Appendix A11.1: Landscape Impact Assessment.

Table 11.13: Potential Impacts on Landscape Character - Additional for Option 1A

LLCA	Sensitivity	Magnitude	Significance
Inverness Urban Fringe and Culloden	Medium	Medium	Moderate

Visual

11.5.13 In addition to impacts common to all route options, Option 1A would have a potential impact of Moderate or above significance on further 19 built receptor groups.

11.5.14 Of these, five receptor groups would be affected by Substantial potential impacts, seven by Moderate/Substantial potential impacts and seven by Moderate potential impacts.

11.5.15 The potential significant impacts on built receptors that are additional for Option 1A are shown in Table 11.14.

Table 11.14: Potential Visual Impacts on Built Receptors - Additional for Option 1A

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
5 – Fernbank and Corriemhor (7a Inshes Holdings)	High	Medium	Moderate
7 – Properties in Woodgrove Crescent	High	Medium/High	Moderate/Substantial
8 – Dell of Inshes and Ardachy	High	High	Substantial
9 – 1 to 17 Briargrove Drive and 1 to 9 Briargrove Gardens	High	High	Substantial
10 – Craggan Valley	High	Medium/High	Moderate/Substantial
11 – Inshbeg	High	Medium	Moderate
12 – Inshes House Category B Listed Building and Inshes House Dovecot Category A Listed Building	High	Medium	Moderate
16 – 5a Inshes Holdings	High	Low/Medium	Moderate
18 - 5 Inshes Holdings (Animal Rescue and Veterinary Centre)	Low	Medium/High	Moderate
19 – 4a and 4b Inshes Holdings	High	High	Substantial
20 – 4 Inshes Holdings	High	High	Substantial
21 – Simpsons Garden Centre	Low	High	Moderate/Substantial
22 – 3a Inshes Holdings (Moorcroft)	Medium	High	Moderate/Substantial
23 - Category B Listed Building Castlehill House	High	High	Substantial
24 - Group of properties along Castlehill Gardens	High	Medium	Moderate/Substantial
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium/High	Moderate/Substantial
32 - Ashton Farm	High	Medium/High	Moderate/Substantial
33 - Ashton Farm Cottages	High	Medium	Moderate
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium	Moderate

11.5.16 The potential significant impacts on outdoor receptors that are additional for Option 1A are shown in Table 11.15.

Table 11.15: Potential Visual Impacts on Outdoor Receptors - Additional for Option 1A

No/Outdoor Visual Receptor	Sensitivity	Magnitude	Significance
O1 - National Cycle Route 1	Medium	Medium	Moderate
O2 – A9	Medium	Medium	Moderate
O3 – B9006 Culloden Road (Millburn Roundabout – Culcabock – Castle Hill – Culloden Moor – Croy – Gollanfield – Fort George Road)	Medium	Medium/High	Moderate
O4 – U1058 Caulfield Road North	Low	Medium	Moderate

11.5.17 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 1A is shown on Figures 11.7 and 11.8, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

Additional Impacts for Option 1B

11.5.18 This section presents the potential impacts of Moderate and above significance for Option 1B that are additional to those reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.19 The following aspects of Option 1B would have the greatest impact on landscape character and visual amenity:

- Loss of mature deciduous woodland along Cairnlaw Burn (SWF08) due to introduction of the road from the tie in with the A96 at the Smithton Junction (Enclosed Farmed Landscapes LLCA).
- Loss of mature deciduous trees from the avenue leading to Castlehill House due to introduction of the road and B9006 Culloden Road Underbridge (PS03) (Enclosed Farmed Landscapes LLCA).
- Introduction of new road, embankments, new A9 Overbridge (PS02) and a SuDS pond into open, gently sloping grassland. Loss of roadside trees along the road from Inshes Retail Park to Dell of Inshes (Inverness Urban Fringe and Culloden LLCA).
- Visual impacts on residents of Dell of Inshes and Ardachy (Receptor 8), Briargrove Drive and Briargrove Gardens (Receptor 9), 4, 4a and 4b Inshes Holdings (Receptors 19 and 20), Category B Listed Building Castlehill House (Receptor 23), Ashton Farm (Receptor 32) and Ashton Farm Cottages (Receptor 33) from a new road on an embankment, with traffic and road lighting.

Landscape

11.5.20 The potential significant impacts that are additional for Option 1B on landscape character are as shown in Table 11.16.

11.5.21 All impacts additional to those which are reported as common to all route options are direct and are due to physical changes to the landscape, details of which are provided in Part 6 (Appendices), Appendix A11.1: Landscape Impact Assessment.

Table 11.16: Potential Impacts on Landscape Character - Additional for Option 1B

LLCA	Sensitivity	Magnitude	Significance
Inverness Urban Fringe and Culloden	Medium	Medium	Moderate

Visual

11.5.22 In addition to impacts common to all route options, Option 1B would have a potential impact of Moderate or above significance on further 19 built receptor groups.

11.5.23 Of these, seven receptor groups would be affected by Substantial potential impacts, seven by Moderate/Substantial potential impacts and five by Moderate potential impacts.

11.5.24 The potential significant impacts on built receptors that are additional for Option 1A are shown in Table 11.17.

Table 11.17: Potential Visual Impacts on Built Receptors - Additional for Option 1B

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
5 – Fernbank and Corriemhor (7a Inshes Holdings)	High	Medium	Moderate
7 – Properties in Woodgrove Crescent	High	Medium/High	Moderate/Substantial
8 – Dell of Inshes and Ardachy	High	High	Substantial
9 – 1 to 17 Briargrove Drive and 1 to 9 Briargrove Gardens	High	High	Substantial
10 – Craggan Valley	High	Medium/High	Moderate/Substantial
11 – Inshbeg	High	Medium	Moderate
12 – Inshes House Category B Listed Building and Inshes House Dovecot Category A Listed Building	High	Medium	Moderate
16 – 5a Inshes Holdings	High	Low/Medium	Moderate
18 - 5 Inshes Holdings (Animal Rescue and Veterinary Centre)	Low	Medium/High	Moderate
19 – 4a and 4b Inshes Holdings	High	High	Substantial
20 – 4 Inshes Holdings	High	High	Substantial
21 – Simpsons Garden Centre	Low	High	Moderate/Substantial
22 – 3a Inshes Holdings (Moorcroft)	Medium	High	Moderate/Substantial
23 - Castlehill House Category B Listed Building	High	High	Substantial
24 - Group of properties along Castlehill Gardens	High	Medium	Moderate/Substantial
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium/High	Moderate/Substantial
32 - Ashton Farm	High	High	Substantial
33 - Ashton Farm Cottages	High	High	Substantial
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium/High	Moderate/Substantial

11.5.25 The potential significant impacts on outdoor receptors that are additional for Option 1B are shown in Table 11.18.

Table 11.18: Potential Visual Impacts on Outdoor Receptors - Additional for Option 1B

No/Outdoor Visual Receptor	Sensitivity	Magnitude	Significance
O1 - National Cycle Route 1	Medium	Medium	Moderate
O2 – A9	Medium	Medium	Moderate
O3 – B9006	Medium	Medium/ High	Moderate
O4 – U1058 Caulfield Road North	Low	Medium	Moderate

11.5.26 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 1B is shown on Figures 11.7 and 11.8, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

Additional Impacts for Option 2A

11.5.27 This section presents the potential impacts of Moderate and above significance for Option 2A that are additional to those which are reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.28 The following aspects of Option 2A would have the greatest impact on landscape character and visual amenity:

- The same impact on mature deciduous trees from the avenue leading to Castlehill House as Option 1A (Enclosed Farmed Landscapes LLCA).
- Introduction of new road on embankments, two SuDS ponds, new A9 Overbridge (PS02), B9006 Culloden Road Underbridge (PS03) and Inshes Overbridge (PS01A) replacement as well as two additional slip roads and associated earthworks into open, gently sloping grassland. Loss of trees from the south-western end of Inshes Woodland covered by Highland Council Tree Preservation Order HR96 (Inverness Urban Fringe and Culloden LLCA).
- Loss of mature roadside trees and hedgerows resulting from the addition of a new slip road onto the A9 (Coastal Lowlands Forest Edge Farming LLCA).
- Visual impacts on residents of Dell of Inshes and Ardachy (Receptor 8), Briargrove Drive and Briargrove Gardens (Receptor 9), 6a Inshes Holdings (Receptor 14), 5a Inshes Holdings (Receptor 16), 4, 4a and 4b Inshes Holdings (Receptors 19 and 20) and Category B Listed Building Castlehill House (Receptor 23) from a new road on an embankment, traffic and road lighting.

Landscape

11.5.29 The potential significant impacts that are additional for Option 2A on landscape character are as shown in Table 11.19.

11.5.30 All impacts additional to those which are reported as common to all route options are direct and are due to physical changes to the landscape, details of which are provided in Part 6 (Appendices), Appendix A11.1: Landscape Impact Assessment.

Table 11.19: Potential Impacts on Landscape Character - Additional for Option 2A

LLCA	Sensitivity	Magnitude	Significance
Inverness Urban Fringe and Culloden	Medium	Medium/High	Moderate/Substantial
Coastal Lowlands Forest Edge Farming	Medium	Medium	Moderate

Visual

11.5.31 In addition to impacts common to all route options, Option 2A would have a potential impact of Moderate or above significance on further 23 built receptor groups.

11.5.32 Of these, seven receptor groups would be affected by Substantial potential impacts, nine by Moderate/Substantial potential impacts and seven by potential Moderate impacts.

11.5.33 The potential significant impacts on built receptors that are additional for Option 2A are shown in Table 11.20.

Table 11.20: Potential Visual Impacts on Built Receptors - Additional for Option 2A

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
3 – Beechwood Business Park	Low/Medium	High	Moderate/Substantial
4 – 7 Inshes Holdings and Bernera	High	Low	Moderate
5 – Fernbank and Corriemhor (7a Inshes Holdings)	High	Medium	Moderate
7 – Properties in Woodgrove Crescent	High	Medium/High	Moderate/Substantial
8 – Dell of Inshes and Ardachy	High	High	Substantial
9 – 1 to 17 Briargrove Drive and 1 to 9 Briargrove Gardens	High	High	Substantial
10 – Craggan Valley	High	Medium/High	Moderate/Substantial
11 – Inshbeg	High	Medium	Moderate
12 – Inshes House Category B Listed Building and Inshes House Dovecot Category A Listed Building	High	Medium	Moderate
14 – 6a Inshes Holdings	High	High	Substantial
15 – 6 Inshes Holdings	Low	Medium/High	Moderate
16 – 5a Inshes Holdings	High	High	Substantial
18 - 5 Inshes Holdings (Animal Rescue and Veterinary Centre)	Low	High	Moderate/Substantial
19 – 4a and 4b Inshes Holdings	High	High	Substantial
20 – 4 Inshes Holdings	High	High	Substantial
21 – Simpsons Garden Centre	Low	High	Moderate/Substantial
22 – 3a Inshes Holdings (Moorcroft)	Medium	High	Moderate/Substantial
23 - Castlehill House Category B Listed Building	High	High	Substantial
24 - Group of properties along Castlehill Gardens	High	Medium	Moderate/Substantial
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium/High	Moderate/Substantial
32 - Ashton Farm	High	Medium/High	Moderate/Substantial
33 – Ashton Farm Cottages	High	Medium	Moderate
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium	Moderate

11.5.34 The potential significant impacts on outdoor receptors that are additional for Option 2A are shown in Table 11.21.

Table 11.21: Potential Visual Impacts on Outdoor Receptors - Additional for Option 2A

No/Outdoor Visual Receptor	Sensitivity	Magnitude	Significance
O1 - National Cycle Route 1	Medium	High	Substantial
O2 – A9	Medium	Medium/High	Moderate/Substantial
O3 – B9006	Medium	High	Moderate/Substantial
O4 – U1058 Caulfield Road North	Low	Medium	Moderate

11.5.35 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 2A is shown on Figures 11.9 and 11.10, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

Additional Impacts for Option 2B

11.5.36 This section presents the potential impacts of Moderate and above significance for Option 2B that are additional to those which are reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.37 The following aspects of Option 2B would have the greatest impact on landscape character and visual amenity:

- The same impact on mature deciduous woodland along Cairnlaw Burn (SWF08) as Option1B (Enclosed Farmed Landscapes LLCA).
- Loss of mature deciduous trees from the avenue leading to Castlehill House due to introduction of the road (Enclosed Farmed Landscapes LLCA).
- Introduction of new road on embankments, two SuDS ponds, new A9 Overbridge (PS02), B9006 Culloden Road Underbridge (PS03) and Inshes Overbridge (PS01A) replacement as well as two additional slip roads on embankments and associated earthworks into open, gently sloping grassland. Loss of trees from the south-western end of Inshes Woodland covered by Highland Council Tree Preservation Order HR96 (Inverness Urban Fringe and Culloden LLCA).
- Loss of mature roadside trees and hedgerows resulting from the addition of a new slip road onto the A9 (Coastal Lowlands Forest Edge Farming LLCA).
- Visual impacts on residents of Dell of Inshes and Ardachy (Receptor 8), Briargrove Drive and Briargrove Gardens (Receptor 9), 6a Inshes Holdings (Receptor 14), 5a Inshes Holdings (Receptor 16), 4, 4a and 4b Inshes Holdings (Receptors 19 and 20), Category B Listed Building Castlehill House (Receptor 23), Ashton Farm (Receptor 32) and Ashton Farm Cottages (Receptor 33) from a new road on an embankment, traffic and road lighting.

Landscape

11.5.38 The potential significant impacts that are additional for Option 2B on landscape character are as shown in Table 11.22.

11.5.39 All impacts additional to those which are reported as common to all route options are direct and are due to physical changes to the landscape, details of which are provided in Part 6 (Appendices), Appendix A11.1: Landscape Impact Assessment.

Table 11.22: Potential Impacts on Landscape Character - Additional for Option 2B

LLCA	Sensitivity	Magnitude	Significance
Inverness Urban Fringe and Culloden	Medium	Medium/High	Moderate/ Substantial
Coastal Lowlands Forest Edge Farming	Medium	Medium	Moderate

Visual

11.5.40 In addition to impacts common to all route options, Option 2B would have a potential impact of Moderate or above significance on further 23 built receptor groups.

11.5.41 Of these, nine receptor groups would be affected by Substantial potential impacts, nine by Moderate/Substantial potential impacts and five by potential Moderate impacts.

11.5.42 The potential significant impacts on built receptors that are additional for Option 2B are shown in Table 11.23.

Table 11.23: Potential Visual Impacts on Built Receptors - Additional for Option 2B

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
3 – Beechwood Business Park	Low/Medium	High	Moderate/Substantial
4 – 7 Inshes Holdings and Bernera	High	Low	Moderate
5 – Fernbank and Corriemhor (7a Inshes Holdings)	High	Medium	Moderate
7 – Properties in Woodgrove Crescent	High	Medium/High	Moderate/Substantial
8 – Dell of Inshes and Ardachy	High	High	Substantial
9 – 1 to 17 Briargrove Drive and 1 to 9 Briargrove Gardens	High	High	Substantial
10 – Craggan Valley	High	Medium/High	Moderate/Substantial
11 – Inshbeg	High	Medium	Moderate
12 – Inshes House Category B Listed Building and Inshes House Dovecot Category A Listed Building	High	Medium	Moderate
14 – 6a Inshes Holdings	High	High	Substantial
15 – 6 Inshes Holdings	Low	Medium/High	Moderate
16 – 5a Inshes Holdings	High	High	Substantial
18 - 5 Inshes Holdings (Animal Rescue and Veterinary Centre)	Low	High	Moderate/Substantial
19 – 4a and 4b Inshes Holdings	High	High	Substantial
20 – 4 Inshes Holdings	High	High	Substantial
21 – Simpsons Garden Centre	Low	High	Moderate/Substantial
22 – 3a Inshes Holdings (Moorcroft)	Medium	High	Moderate/Substantial
23 - Castlehill House Category B Listed Building	High	High	Substantial
24 - Group of properties along Castlehill Gardens	High	Medium	Moderate/Substantial
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium/High	Moderate/Substantial
32 - Ashton Farm	High	High	Substantial
33 – Ashton Farm Cottages	High	High	Substantial
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium/High	Moderate/Substantial

11.5.43 The potential significant impacts on outdoor receptors that are additional for Option 2B are shown in Table 11.24.

Table 11.24: Potential Visual Impacts on Outdoor Receptors - Additional for Option 2B

No/Outdoor Visual Receptor	Sensitivity	Magnitude	Significance
O1 - National Cycle Route 1	Medium	High	Substantial
O2 – A9	Medium	Medium/High	Moderate/Substantial
O3 – B9006	Medium	High	Moderate/Substantial
O4 – U1058 Caulfield Road North	Low	Medium	Moderate

11.5.44 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 2B is shown on Figures 11.9 and 11.10, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

Additional Impacts for Option 3A

11.5.45 This section presents the potential impacts of Moderate and above significance for Option 3A that are additional to those which are reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.46 The following aspects of Option 3A would have the greatest impact on visual amenity:

- Visual impacts on residents of Ashton Farm (Receptor 32) from a new road on an embankment, traffic and road lighting; and on residents of 7 Inshes Holdings and Bernera (Receptor 4) from the widened Inshes Overbridge (PS01A) embankment.

Landscape

11.5.47 Option 3A would not have any impacts of Moderate and above significance on landscape character in addition to those which are reported as common to all route options.

Visual

11.5.48 In addition to impacts common to all route options, Option 3A would have a potential impact of Moderate or above significance on further eight built receptor groups.

11.5.49 Of these, two receptor groups would be affected by Moderate/Substantial potential impacts and six by potential Moderate impacts. No receptor groups would be affected by Substantial potential impacts.

11.5.50 The potential significant impacts on built receptors that are additional for Option 3A are shown in Table 11.25.

Table 11.25: Potential Visual Impacts on Built Receptors - Additional for Option 3A

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
4 - 7 Inshes Holdings and Bernera	High	Medium	Moderate/ Substantial
14 – 6a Inshes Holdings	High	Medium	Moderate
23 - Castlehill House Category B Listed Building	High	Low	Moderate
24 - Group of properties along Castlehill Gardens	High	Low	Moderate
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium	Moderate
32 - Ashton Farm	High	Medium/ High	Moderate/ Substantial
33 - Ashton Farm Cottages	High	Medium	Moderate
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium	Moderate

11.5.51 There would be one potential significant impact on outdoor receptor that is additional for Option 3A, namely the **Moderate** impact on National Cycle Route 1 (Receptor O1).

11.5.52 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 3A is shown on Figures 11.11 and 11.12, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

Additional Impacts for Option 3B

11.5.53 This section presents the potential impacts of Moderate and above significance for Option 3B that are additional to those which are reported as common to all route options (paragraphs 11.5.5 to 11.5.8 and Table 11.12).

11.5.54 The following aspects of Option 3B would have the greatest impact on landscape character and visual amenity:

- Loss of mature deciduous woodland along Cairnlaw Burn (SWF08) due to introduction of the road from the tie in with the A96 at the Smithton Junction (Enclosed Farmed Landscapes LLCA).
- Visual impacts on residents of Ashton Farm and Ashton Farm Cottages (Receptors 32 and 33) from a new road on an embankment, traffic and road lighting.

Landscape

11.5.55 Option 3B would not have any impacts of Moderate and above significance on landscape character in addition to those which are reported as common to all route options.

Visual

11.5.56 In addition to impacts common to all route options, Option 3B would have a potential impact of Moderate or above significance on further 8 built receptor groups.

11.5.57 Of these, two receptor groups would be affected by Substantial potential impacts, two by Moderate/Substantial potential impacts and four by potential Moderate impacts.

11.5.58 The potential significant impacts on built receptors that are additional for Option 3B are shown in Table 11.26.

Table 11.26: Potential Impacts on Built Receptors - Additional for Option 3B

No/Built Visual Receptor	Sensitivity	Magnitude	Significance
4 - 7 Inshes Holdings and Bernera	High	Medium	Moderate/ Substantial
14 – 6a Inshes Holdings	High	Medium	Moderate
23 - Category B Listed Building Castlehill House	High	Low	Moderate
24 - Group of properties along Castlehill Gardens	High	Low	Moderate
26 - Group of properties along Castlehill Drive, Castlehill Road and Castlehill Court	High	Medium	Moderate
32 - Ashton Farm	High	High	Substantial
33 - Ashton Farm Cottages	High	High	Substantial
35 - Group of properties along U1058 Caulfield Road North including Cradlehall House Category B Listed Building	High	Medium/ High	Moderate/ Substantial

11.5.59 There would be one potential significant impact on outdoor receptor that is additional for Option 3A, namely the **Moderate** impact on National Cycle Route 1 (Receptor O1).

11.5.60 The location of each visual / outdoor receptor or receptor group and its associated impact significance in relation to Option 3B is shown on Figures 11.11 and 11.12, with further details of the impacts provided in Part 6 (Appendices), Appendix A11.2 and A11.3 – Visual Impact Assessment – Built and Outdoor Receptors, respectively.

11.6 Potential Mitigation

11.6.1 This section aims to identify potential mitigation taking into account best practice, legislation and guidance, with the objective of the mitigation measures to prevent, reduce or offset the potential impacts described above. This mitigation is taken into account in Section 11.7 (Summary of Route Options) for the subsequent identification of potential residual impacts to provide a robust basis for comparative assessment and selection of a preferred option to be taken forward to DMRB Stage 3. As part of DMRB Stage 3, the design of the preferred option should be reviewed and, where possible, the preferred option should be further developed to minimise impacts on landscape and visual.

11.6.2 Details of specific potential mitigation measures for each of the route options can be found in Part 6 (Appendices), Appendix A11.1 (Landscape Impact Assessment), A11.2 (Visual Impact Assessment - Built Receptors) and A11.3 (Visual Impact Assessment - Outdoor Receptors) of this report. Potential mitigation measures for both construction and operational phases are described below.

Construction

11.6.3 During the construction phase, landscape and visual mitigation for the route options could potentially include:

- The construction will be managed such that the loss of any existing woodland, scrub, grassland and isolated trees and shrubs not affected by the permanent works is minimised.
- 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.
- As far as practicable, construction plant and materials storage areas will be appropriately sited to minimise their landscape and visual impact. Where possible, compounds should be located where existing features such as trees can be used to screen them from sensitive visual receptors, however at a distance which ensures none of the works impact on the trees' root zones.
- 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.
- Careful selection of plant and machinery.
- Efficient traffic management and pedestrian diversions.
- 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.
- Construction sites will be kept tidy (e.g. free of litter and debris).
- Soil quality will be protected for the purposes of landscape planting by being stored in un-compacted mounds no more than 2m in height, and stored separately from subsoil material. 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.

Operation

11.6.4 During the operational phase, landscape and visual mitigation for the route options could potentially include:

- retention of original stone walls where possible and reinstatement of stone boundary walls to match existing form and material to retain the existing character;
- avoidance of the loss or damage to landscape features such as water features, field systems, existing trees and vegetation;
- earthwork proposals designed to minimise the impact of cuttings and embankment slopes and to enable integration with the surrounding landscape (e.g. rounding off top and bottom of cuttings and embankments and varying gradients along and across the length of slopes);
- SuDS ponds that are required as part of the road drainage system to be sited within naturally low areas and designed to look as natural as possible, enhance wildlife habitat and provide visual interest;
- enhancement of biodiversity through the use of predominantly native species which are established in the area and adapted to local conditions;

- design of structures, such as bridges, would be informed by specialist aesthetic advice to minimise impacts on both landscape and visual receptors;
- planting to replace trees lost during the construction phase at junctions and bridges to help assimilate the new structures into the surrounding landscape, provide screening, reduce visual impacts of the road, structures and lighting and reinforce the character of the existing landscape, including individual trees, tree lines, hedgerows and areas of woodland (e.g. scrub, riparian, broadleaved, mixed); and
- seeding of disturbed soft areas and road verges with different seed mixes dependent on location and use.

11.7 Summary of Route Options

11.7.1 This section provides a summary of the impact assessment for the route options including the potential significant impacts (Moderate or above) which are common to all route options and those that vary between the route options. Full details of the impact assessment are contained with Part 6 (Appendices), Appendix A11.1 (Landscape Impact Assessment), A11.2 (Visual Impact Assessment – Built Receptors) and A11.3 (Visual Impact Assessment – Outdoor Receptors) of this report.

11.7.2 A discussion of the potential residual impacts is then presented taking into account the potential mitigation measures outlined in Section 11.6 (Potential Mitigation).

Landscape

11.7.3 A summary of the impacts that are Moderate or above are shown in Table 11.27.

11.7.4 All LLCAs would be affected by direct impacts from the route options, due to physical changes to the landscape. The Inverness Urban Fringe and Culloden LLCA is also affected indirectly through changes to the wider views towards the Inner Moray Firth and Ben Wyvis and the relationship between the adjacent rural character areas.

Table 11.27: Potential Impacts on Landscape Character (Moderate or above Significance)

Option	Enclosed Farmed Landscapes	Inverness Urban Fringe and Culloden	Coastal Lowlands Forest Edge Farming
Option 1A	Moderate	Moderate	-
Option 1B	Moderate	Moderate	-
Option 2A	Moderate	Moderate/ Substantial	Moderate
Option 2B	Moderate	Moderate/ Substantial	Moderate
Option 3A	Moderate	-	-
Option 3B	Moderate	-	-

11.7.5 All route options would have a potential Moderate overall impact on the Enclosed Farmed Landscapes LLCA due to the introduction of new road, roundabouts, SuDS ponds, Cradlehall Railway Bridge (PS04) and associated embankments into the existing open and relatively flat landscape. All route options would also result in loss of agricultural land and disruption of a distinctive rural landscape character by the introduction of road infrastructure through agricultural land bounded by a combination of minor watercourses, shelterbelts, hedgerows, stone walls and fence lines. The addition of a new lane gain/drop along the southbound carriageway of the A9 would also result in the loss of roadside trees. Although there are different additional impacts for some route options, the overall impact on this LLCA against the baseline described in Section 11.4 is considered to be Moderate for all route options.

11.7.6 Options 2A and 2B would have a potential Moderate/Substantial overall impact on the Inverness Urban Fringe and Culloden LLCA mainly due to the introduction of a new road on embankments, two SuDS ponds, a new A9 Overbridge (PS02), B9006 Culloden Road Underbridge (PS03) and Inshes Overbridge (PS01A) replacement as well as two additional slip roads and associated earthworks into open, gently sloping grassland. Options 2A and 2B would also result in loss of trees from the south-western end of Inshes Woodland covered by Highland Council Tree Preservation Order HR96 located within this LLCA.

11.7.7 Options 1A and 1B would have a potential Moderate overall impact on Inverness Urban Fringe and Culloden LLCA mainly due to the introduction of new road, embankments, new A9 Overbridge (PS02), B9006 Culloden Road Underbridge (PS03) and a SuDS pond into open, gently sloping grassland and loss of roadside trees along the minor road from Inshes Retail Park to Dell of Inshes.

11.7.8 The roads, embankments, Cradlehall Railway Bridge (PS04), A9 Overbridge (PS02) and B9006 Culloden Road Underbridge (PS03) as well as traffic and road lighting associated with all route options would also alter views from the Inverness Urban Fringe and Culloden LLCA towards the Moray Firth causing indirect impacts on landscape character and altering and the relationship between the agricultural landscape and the urban fringe.

11.7.9 Options 2A and 2B would have a potential Moderate impact on the Coastal Lowlands Forest Edge Farming LLCA due to the loss of mature roadside trees and hedgerows resulting from the addition of a new slip road onto the A9.

11.7.10 Overall, it is considered that Option 2B would have the most significant impact on landscape character within the study area. This is mainly due to the introduction of the road and additional A9 slip roads and associated features into open agricultural land, disruption and fragmentation of existing field pattern and loss of mature deciduous woodland e.g. along Cairnlaw Burn (SWF08) at the Smithton Junction and TPO woodland.

11.7.11 It is considered that Option 3A would have the least significant impact on landscape character due to its smaller footprint, lower number of new prominent structures (no new A9 Overbridge (PS02) or B9006 Culloden Road Underbridge (PS03)) and an alignment avoiding the deciduous woodland near the tie in with the A96 at the Smithton Junction and mature deciduous avenue trees near Castlehill House.

11.7.12 Although Options 3A and 3B both have the lowest number and level of significant landscape impacts out of all route options Option 3B is likely to have a greater impact on the mature deciduous woodland along Cairnlaw Burn (SWF08) at the tie in with the A96 (Smithton Junction).

Visual

11.7.13 In total, 46 individual built receptors or receptor groups and 11 outdoor receptors have the potential to be impacted by the route options. Table 11.28 provides a summary of the number of significant visual impacts (Moderate or above) by route option.

Table 11.28: Summary of Potential Visual Impacts on Built (B) and Outdoor (O) Receptors (Moderate or above)

Significance of Impact	Option 1A		Option 1B		Option 2A		Option 2B		Option 3A		Option 3B	
	B	O	B	O	B	O	B	O	B	O	B	O
Substantial	5	-	7	-	7	1	9	1	-	-	2	-
Moderate/ Substantial	8	1	8	1	10	3	10	3	3	1	3	1
Moderate	10	5	8	5	10	2	8	2	9	2	7	2
Subtotal	23	6	23	6	27	6	27	6	12	3	12	3
Total	29		29		33		33		15		15	

11.7.14 There are two potential impacts of Moderate/Substantial significance (Receptors 28 and O7) and four potential impacts of Moderate significance (Receptors 25, 29, 36 and O6) that are common to all route options. These receptors are located at broadly the same distance from the elements shared by all route options, resulting in the same magnitude of change regardless of the route option considered.

11.7.15 In general, the most significant visual impacts experienced by receptors would be a result of one or more of the introduced infrastructure elements including the new road surface, traffic, lighting, new roundabouts, Cradlehall Railway Bridge (PS04), A9 Overbridge (PS02), B9006 Culloden Road Underbridge (PS03), the replacement or widening of Inshes Overbridge (PS01A) as well as associated embankments and SuDS ponds in close proximity to receptors that currently gain open views with limited or no visibility of existing roads.

11.7.16 On balance, Options 2A and 2B would have the most significant potential impact on visual amenity, with the joint largest number of visual receptors affected by potential significant impacts when compared to the other route options. These route options travel through agricultural land in open view of receptors within Inshes, Cradlehall and Smithton areas and would have the largest footprint. Options 2A and 2B include additional slip roads, SuDS pond and the Inshes Overbridge (PS01A) replacement on top of the elements present in Options 1A and 1B, which makes them least preferred. In addition, Option 2B would result in the greatest number of substantial impacts on built receptors than any other option.

11.7.17 Options 3A and 3B would both result in the lowest number of substantial impacts on visual receptors than any other option. The north-eastern section of Option 3A follows the same alignment as Option 1A and the north-eastern section of Option 3B follows the same alignment as Option 1B, with the B options passing closer to Ashton Farm Cottages and Ashton Farm than options A. However, both Options 3A and 3B have a much smaller footprint in the south-western part of the scheme than all other options, as they do not include two additional bridges present in Options 1A, 1B, 2A and 2B (A9 Overbridge (PS02) and B9006 Culloden Road Underbridge (PS03)) or the additional slip roads and Inshes Overbridge (PS01) replacement present in Options 2A and 2B. Instead, they both tie in to the existing road network around Castlehill and Cradlehall and only include Inshes Overbridge (PS01A) widening rather than replacement present in Options 2A and 2B.

11.7.18 Option 3A is considered to have the least significant impact on visual amenity since it would have no Substantial impacts on any built or outdoor receptors, as opposed to Option 3B which would have two Substantial impacts on visual receptors (Ashton Farm Cottages and Ashton Farm). As such, in terms of visual impact, Option 3B would be the second most favourable option.

11.7.19 Of all the route options, Option 3A is likely to adversely affect the receptors and interrupt the views the least.

Mitigation Potential

11.7.20 At this stage it is possible to assess mitigation potential for each of the route options given the surrounding vegetation and topography. The areas of mitigation potential referenced below are shown on Figure 11.1.

11.7.21 The Smithton Junction area where the proposed scheme would tie in with the A96, present in all route options, has a high potential for planting mitigation due to the presence of surrounding woodland.

11.7.22 The potential for screen planting for all the route options is low around Ashton Farm and Ashton Farm Cottages due to the very open character of the agricultural fields with some attractive views.

11.7.23 Cradlehall Business Park and Castlehill Drive areas have more potential for mitigation for all route options due to the presence of surrounding shelterbelts, which deciduous mitigation planting could tie into; however, this would have to be balanced against loss of scenic views towards the Inner Moray Firth.

11.7.24 In several areas, such as Beechwood Business Park, existing screen planting could be made denser (or replaced for Option 2A and 2B) to prevent views of all the route options and associated infrastructure.

11.7.25 Options 1A, 1B, 2A and 2B would have more mitigation potential around Dell of Inshes west of the A9, due to existing planting, but a limited potential for mitigation around Inshes Holdings and Castlehill House area, east of the A9, as the route options would pass through open farmland with long views where screen planting may not be appropriate.

11.7.26 Options 3A and 3B have a greater mitigation potential than the other options as they avoid Dell of Inshes, Inshes Holdings and Castlehill House area. They would also have a higher mitigation potential around the New Castlehill Road Roundabout due to greater opportunities for shelterbelt screening to tie in with existing pattern, unlike Options 1A, 1B, 2A and 2B which introduce additional road with embankments across agricultural fields and not along existing linear landscape features.

Summary of Residual Impacts

11.7.27 With mitigation, Options 2A and 2B are expected to have the most significant landscape and visual impacts, followed by Options 1A and 1B.

11.7.28 With mitigation, Option 3A is expected to have the least significant landscape and visual impacts. While both Option 3A and 3B have the two smallest footprints and lowest number of significant impacts of all the route options, Option 3A has no Substantial impacts on visual built receptors and would have a smaller impact on the mature deciduous woodland along SW08 Cairnlaw Burn (Slight) compared to Option 3B (Moderate).

11.8 Scope of Stage 3 Assessment

11.8.1 The DMRB Stage 3 assessment should be a detailed assessment as per IAN135/10 and based on the following tasks:

- update the landscape and visual baseline (e.g. review the progress of the nearby consented development);
- identify detailed mitigation and compulsory purchase order land required, incorporating agricultural, surface water, ecological and noise mitigation; and
- detailed impact assessment to take account of detailed mitigation proposals.

11.8.2 In addition, photomontages should be prepared in consultation with SNH.

11.9 References

Landscape Institute and Institute for Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd edition. Routledge.

Richards, J (1999). SNH Review: No 114 Inverness District Landscape Character Assessment.

Highways Agency (2010). Interim Advice Note 135/10, Landscape and Visual Effects Assessment.

Transport Scotland (2014). Fitting Landscapes: Securing More Sustainable Landscapes.