

**A9 Dualling Programme** 

**SEA Environmental Report** 

**Appendix C** 

**Detailed Assessment Matrices** 

**June 2013** 



#### **Appendix C – Detailed Assessment Matrices**

#### 1.1 Introduction

Following the A9 dualling Option Sifting workshop, it was determined that the route wide online corridor option, divided into six study sections (labelled A-F), would be taken forward for detailed assessment through SEA.

Four near offline options were also recommended for further study; however, SEA considered that Options A6, B2 and B5 were sufficiently similar to the online corridors to be considered via higher level discussion in the main text of the Environmental Report, recognising and highlighting the differences between the online and these near offline options.

Near offline Option B4 was considered by SEA to be sufficiently different from the online corridor and a detailed assessment matrix was completed.

#### 1.2 Detailed Assessment Approach

The SEA detailed assessment considers the significance of effects in terms of:

- 1. the period over which they are considered likely to occur (e.g. short-, medium- or long-term);
  - a. short-term effects are considered as temporary/ transient in nature and will generally apply over construction phases;
  - b. medium-term effects are considered likely to reduce in severity over the operational phase of a dualled A9;
  - c. long-term effects are generally be defined as permanent effects;
  - d. further clarifications/ distinctions are included in the assessment commentary where relevant;
- 2. the geographic/ spatial scale which may be affected, for example;
  - a. effects on international, national, and local site designations;
  - b. regional effects are considered as applying across the whole route or across a specific corridor section;
  - c. project level issues are considered as local in spatial scale, where relevant;
- 3. whether effects should be considered as direct or indirect;
  - a. given that this SEA assessment is considering the potential environmental issues and risks within 200m wide corridors, it is accepted that there will be flexibility in final route alignment studies to avoid/reduce potential risks;
  - following the precautionary principle, the SEA assessment assumes that environmental features/ assets identified within the 200m corridors will be at risk of direct impacts, under a worst case scenario.

#### 1.2.1 Recognising Uncertainty

This SEA is focused on 200m wide corridor level assessments of environmental constraints and risks, to identify the route-wide issues for later more detailed route alignment and environmental assessment studies.

Specific detail on final route alignments is not available at this stage in the process. There is therefore flexibility within any 200m corridor to apply mitigation to avoid and reduce risks, via the



detailed consideration of the final alignment within the corridor, and on the location of roadside features and structures, including their design and form.

Where mitigation is not possible within the 200m corridor, the SEA recommends further investigation, beyond the 200m corridor, for alternatives to avoid/reduce significant effects.

The SEA assessment matrices therefore include descriptive commentary where effects are considered 'uncertain' or where they are 'dependent' on other issues, including final route alignment studies.

#### 1.2.2 Defining Scales of Significance

This SEA maintains a high level approach to determining the significance of effects by combining the consideration of impact magnitude, the geographic/ spatial scale and the relative sensitivity or importance of the environmental receptor/ designation affected.

The significance scale matrix outlined below is used to support the assessment:

#### Significance of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Significance

			Impact magnitude										
			Nega	ative		Neutral	Positive						
		High	Medium	Low	Negligible	Neutrai	Negligible	Low	Medium	High			
ance	International (impact on European/ other international designation/ site)	Major	Major	Major	Moderate		Moderate	Major	Major	Major			
significance	National (impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major			
raphic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major			
Geogl	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate			

#### 1.2.3 Impact Magnitude

Impact magnitude (positive or negative), as considered in this SEA, is defined in Table 1.

Table 1 Impact magnitude as defined for the A9 Dualling SEA

High Impact	Medium Impact	Low Impact	Negligible Impact
<ul> <li>Assessed as having the potential to result in direct changes that are expected to permanently affect designated sites/ protected features/ species/ environmental parameter or receptor;</li> <li>Potential to result in effects which improve road safety and reduce the severity of accidents.</li> </ul>	Assessed as having the potential to result in direct changes which temporarily affect designated sites/ protected features/ species/ environmental parameter or receptor with severe but reversible effects;      Indirectly results in permanent changes to the setting of a designated site;      Results in effects on human health and population that may affect local quality of life.	Assessed as having the potential to result in temporary but minor and reversible changes to an environmental parameter or issue;      Temporarily affects the character or setting of a site with minor, reversible effects;      Results in short term changes in risk/ minor effects on human quality of life.	Assessed as having the potential to temporarily affect the character or setting of particular features within a site with minimal and reversible effects;      Potential for localised site specific effects with little or no detrimental effect on populations, or designated features;      Results in minimal change over existing conditions.



#### 1.2.4 Significance by SEA Topic for the A9 Dualling SEA

Examples of definitions for the likely significance of effects, across the range of SEA topics scoped into the A9 dualling assessment, are provided in the tables below 1.

Table 2 Defining Significance of Effects – Population & Human Health

Population &	Human Health
Significance	Effects
	<ul> <li>A fundamental conflict with the needs of the emergency services</li> <li>An increase in total emissions of air pollutants within an air quality management area (AQMA) zone</li> </ul>
Major	that is anticipated to exceed ambient air quality standards
adverse	<ul> <li>An expected increase in ambient noise levels that is unlikely be amenable to mitigation at the project level</li> </ul>
	<ul> <li>A loss of nationally important community or health facilities, or a nationally important setting/ places for informal recreation, wildlife watching, outdoor learning, or specific recreational activities</li> </ul>
Moderate	<ul> <li>A loss of regionally important community or health facilities, or important setting/ places for informal recreation, wildlife watching, outdoor learning, or specific recreational activities</li> </ul>
adverse	An expected increase in traffic on important routes used by non motorised users, likely to lead to increased actual or perceived severance and reduced amenity for users
	A partial or temporary effect on/ impaired access to important community and/ or recreation features
Minor	An expected increase in total air pollutant emissions, but which does not affect air quality standards
adverse	An increase in traffic or routing changes which affect some of the local communities/ population
adverse	An expected increase in ambient noise levels that is likely be amenable to mitigation at the project level
	No significant effects on air quality
Neutral	Potential for change to ambient noise levels, but beneath levels that are perceivable
	No permanent or temporary adverse effects on population, human health or community assets
Minor	An expected reduction in total air pollutant emission in areas that do not impact air quality standards
beneficial	An expected reduction in ambient noise levels that affect residential properties or sensitive community facilities
Moderate	A change in traffic or routing, in the vicinity of important routes used by non motorised users, potentially leading to improved amenity for users/ reduced severance
beneficial	Expected to improve reliability of access to services/ for emergency services
	Expected to reduce journey times, improve traffic flow and reduce congestion related emissions
Maiar	A decrease in total air pollutant emissions in AQMA zones
Major beneficial	A decrease in traffic and/ or traffic is rerouted such that it affects less of the population
beneficial	Likely to improve road safety levels and reduce accident severity around local communities

Note: Any facility that makes it easier for communities to walk or cycle is considered a health facility in this context, i.e. provision of footpaths, bridleways etc.

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<sup>&</sup>lt;sup>1</sup> Adapted from source document: TRL (2004), Significance in Strategic Environmental Assessments of Transport Plans: Findings of a Literature Review, TRL Project Report UPR SE/080/04
Also updated following SNH feedback comments, *pers. comm.*, April 2013

Table 3 Defining Significance of Effects – Landscape & Historic Environment

	Landscape	Historic Environment
Significance	Effects	Effects
Major adverse	<ul> <li>Potential for significant intrusive visual effects on iconic places, landmarks or views</li> <li>Are at considerable variance to the landscape causing substantial damage to its qualities/ may cumulatively amount to a severe adverse effect</li> <li>Potential for significant adverse effects on nationally important resource, including NSAs and areas identified as search areas for wild land</li> <li>Potential for significant adverse effects on a landscape recognised for its contribution to overall national distinctiveness and identity of Scotland's landscape</li> </ul>	Loss or fundamental impairment of the integrity of a nationally designated heritage asset (eg. scheduled monument/ battlefield/ listed buildings)     Highly intrusive and seriously damaging to the setting of a national heritage resource such that it can no longer be appreciated or understood in context     Cause cumulative effects that would seriously compromise the integrity of a group of heritage assets
Moderate adverse	Potential to degrade a particularly valued landscape, or lead to extensive visual intrusion, for which full mitigation is not possible at a project level     Permanent but minimal change over existing conditions within a valued landscape area/ may cumulatively amount to considerable visual intrusion to valued views	The potential for permanent adverse affects on the setting or character of a nationally important heritage asset  Be damaging to the setting of nationally important heritage assets but does not affect the overall integrity of the asset  Cause cumulative effects that would impinge on the integrity of a related group of regional or local heritage assets (eg. conservation areas/ unscheduled archaeological sites)  Be intrusive and damage the setting of a local heritage resource such that its context is compromised and its appreciation or understanding is impaired
Minor adverse	Potential to change valued landscape areas but provides opportunities for mitigation at the project level     Temporary and/ or minimal change over existing conditions within a valued landscape area     Gives rise to localised and temporary visual intrusion	Potential for some adverse effects on locally important heritage assets but not on the overall integrity of the site/ feature     The potential to adversely affect the setting or character of a local heritage asset
Neutral	Causes localised visual intrusion but likely to complement valued landform and landscapes where mitigation measures are likely to be effective Generates a change that is unlikely to affect the integrity of a landscape resource given the level of information currently available	A change that is unlikely to affect the integrity of a heritage asset
Minor beneficial	Provides opportunities to improve the landscape setting/ valued views     Likely to reduce visual intrusion of valued views at local levels	Facilitate the restoration or the enhancement of the form, scale, pattern or sense of place of a heritage resource of local or regional value     Improve the setting of locally or regionally valued heritage assets such that appreciation and understanding of them could be improved
Moderate beneficial	Provides opportunities for clear improvement to valued, or degraded, landscapes affecting a large area     Likely to improve visitor/ tourist access to and enjoyment of valued views/ landscapes	Facilitate the restoration or the enhancement of the form, scale, pattern or sense of place of a heritage resource of national value     Improve the setting of nationally valued heritage assets such that appreciation and understanding of them could be improved
Major beneficial	None defined	None defined

Note: The SEA considers landscape issues at a much wider scale than 200m; informed by a Theoretical Zone of Visual Influence (ZVI) developed using 3D GIS topographical analyses.



Table 4 Defining Significance of Effects – Biodiversity, Flora and Fauna

Biodiversity,	Flora and Fauna
Significance	Effects
	<ul> <li>Potential for permanent adverse effects on the integrity of a Natura 2000 site, which may lead to deterioration of conservation status; significant loss of habitats and/ or supporting target species, and where limited potential for substitution exists</li> </ul>
Major adverse	<ul> <li>Potential to adversely affect multiple designated sites of national or regional importance which may lead to deterioration of conservation status; significant loss of habitats and/ or supporting target species and where limited potential for substitution exists</li> </ul>
daverse	Potential for permanent adverse effect on the favourable condition of a SSSI
	Potential for permanent adverse effects on ancient and semi-natural woodlands
	<ul> <li>Potential for permanent adverse affects on species and geodiversity of outstanding conservation importance or biodiversity/ geodiversity of functional importance to ecosystem health</li> </ul>
	Potential for impacts on the conservation status of one designated site of regional importance and its features, with damage to and/ or loss of existing habitats and associated species
Moderate adverse	<ul> <li>Potential for impacts on the conservation status of multiple designated sites of local importance and their features, and damage to and/ or loss of existing habitats and associated species</li> </ul>
	Potential to fragment habitat and/ or reduce connectivity between international or nationally designated sites
	Potentially for adverse effects on conservation status of one locally designated site and its features, and damage to and/ or loss of existing habitats and associated species
Minor adverse	Potential for some temporary negative effects that do not compromise the conservation status of a designated site
4410.00	Potential to increase development activity in areas where protected species are frequently killed
	Potential to fragment habitat and/ or reduce connectivity between locally important sites
Neutral	Is unlikely to affect the conservation status of a resource or feature
Minor	Potential to lead to improvement in conservation status of a locally designated site(s)
beneficial	Potential to improve connectivity between locally important sites/ reduce fragmentation
Moderate	Potential to lead to improvement in conservation status of designated site(s) of national or regional importance
beneficial	Potential to improve connectivity/ reduce fragmentation between international or nationally designated sites
Major	<ul> <li>Potential for permanent improvement in conservation status of one or more internationally designated sites that cannot be substituted; increase in population sizes and/ or extent of suitable habitat supporting target species, e.g. Natura 2000 designated species</li> </ul>
beneficial	<ul> <li>Potential for permanent improvement in conservation status of multiple designated sites of national or regional importance; increase in population sizes and/ or extent of suitable habitat supporting target species</li> </ul>



Table 5 Defining Significance of Effects – Water and Soil

	Water	Soil
Significance	Effects	Effects
Major adverse	<ul> <li>Permanent degradation of the quality of local water bodies</li> <li>Permanent loss of flood storage capacity where considerable numbers of residential properties are likely to experience a substantial increase in flood risk, and where compensatory works appear to be unlikely or cause additional environmental effects</li> <li>Large scale excavation and construction in areas that are expected to lead to permanent losses of Ground Water Dependent Wetlands</li> </ul>	Is likely to require extensive construction/ excavation activities that permanently affect the integrity of international/ national/ regionally important geological sites     Is likely to give rise to a significant losses of peat/ carbon rich soils over large areas     Likely to lead to losses of large quantities of prime quality productive agricultural land
Moderate adverse	<ul> <li>Partial or temporary effects on local water body quality including river diversion works</li> <li>Loss of flood storage where a considerable number of residential properties would experience increased flood risk without the provision of compensatory flood storage capacity</li> <li>Local excavation and construction in small areas that could be expected to permanently affect the hydrological regime of Ground Water Dependent Wetlands</li> </ul>	<ul> <li>Is likely to require construction/ excavation activities that temporarily affect international/ national/ regionally important geological sites</li> <li>Likely to lead to losses of large quantities of high quality productive agricultural land</li> <li>Is likely to give rise to some losses of peat soils in small areas, where disposal would also generate secondary adverse effects</li> </ul>
Minor adverse	Temporary changes in local water body quality of limited size or scale  Permanent loss of floodplain storage capacity with a few properties exposed to increased risk  Local excavation and construction in small areas that could be expected to temporarily affect the hydrological regime of Ground Water Dependent Wetlands	Is likely to require localised construction/ excavation activities on small areas of peat soils, with potential for appropriate reinstatement/ re-use     Loss of some soil resources, principally to hard standing (road surface), where the area lost is not recognised as high value in terms of designated geological sites, peat soils or high quality agricultural land
Neutral	Generates a change that is unlikely to affect the integrity of a resource, feature or levels of flood risk/storage	No or minimal effects on soils
Minor beneficial	Potential to provide for a reduction in the potential pollution of water bodies     Potential to improve local surface water drainage and attenuation rates	Would lead to small reductions in waste materials that need to be disposed of, when compared with other options     Likely to result in improvements to local areas of degraded/ contaminated soils
Moderate beneficial	Potential to improve flood storage capacity/ reduce flood risk in local areas     Potential to restore natural watercourse via removal/ remediation of previous engineering works	Would lead to a reduction in waste materials that need to be disposed of, when compared with other options
Major beneficial	Potential to improve flood storage capacity/ reduce flood risk over large areas	Would lead to a significant reduction in waste materials that need to be disposed of, when compared with other options





Corridor/ Section Description:
Mapped as Section A-1
Route is 21.5km in length (all online)
15.2km is existing single c/way and 6.3km is existing dual c/way.

Total surface area of 200m wide corridor A-1 is approx. 4.34 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Impact magnitude | Negative | Nesting the Section | Positive | Positive | High | Medium | Low | Negligible | Nesting | Negligible | Low | Medium | High | International (impact on Firmpacos of the international designation siles)

Martinal (impact on atoms law)

Martinal (impact on atoms law)

Regional (impact which result has designation state)

Regional (inclusive local relation based "filed on atoms feature, as firm? Sood plains" Local

Local (sales special project local check on local designation) Major Major Moderate

Major Moderate Moderate Mode race Minor Major Moderate Major Minor Minor

Significance of Predicted Effects - Determined via nomideration of impact Magnitude and Geographic Significa

N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Population & Human Health			Charty medianity 2019 (Vin 211000)			(All Side)	(======			
ļ	Accident Rates (2001-2010)	7 Fatal 21 Serious 61 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
	Proximity to settlements	4 No. settlements at: Luncarty	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
	,,,,,,,	Bankfoot Birnam Dunkeld	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level  Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
ı			Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
3	Proximity to sensitive receptors	3 No. schools within 500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
	Drawinshi to consisting	5 No. churches within 500m	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local churches  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
2	Proximity to sensitive receptors	of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local churches in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
		3 No. playgrounds within 500m	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local playgrounds  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	Proximity to sensitive receptors	of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local playgrounds in terms of maximising the distance from the final alignment  Non Motorised User strategy to include safe crossing points  Residual effects assessed as neutral, with potential for minor positive with safer crossings
		Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/ crossings are retained post-construction)	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected  The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain
5	Non motorised user (NMU) access to core paths, rights of way, key routes used for ecreation/ to access areas used for recreation, including	Access to National Cycle Routes within 200m corridor	routes and create an additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)  Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the	Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance	Local	Medium	Minor	Minor	Mixed	Yes	overall connectivity within and across the corridor  More detailed EIA will inform route alignment studies and options on appropriate crossing solutions  During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions
ı	the Cairngorms National Park	Access for Equestrians within 200m corridor	dualled A9 and maintain overall connectivity	between safe crossing points  Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	Local	Medium	Minor	Minor	Mixed	Yes	Rationalised/ diverted paths should be designed to provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as neutral
ı		None of the Section A1 200m corridor is within the National Park boundary					n/a				
Commentary on cumulative effects on this SEA topic in this Corridor / Section  Corridor / Section  Corridor / Section  Corridor is section A-1, on Population and Human Health, will be mixed.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Minor negative effects in the reduced severity in accidents, and the improved safety of route crossings.  Minor negative effects in the reduced severity in accidents, and the improved safety of route crossings.  Minor negative effects in the reduced severity in accidents, and the improved safety of route crossings.  Minor negative effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.  Major positive effects in the reduced severity in accidents in the reduced sev								any required rationalisation of path networks, to retain			
	Material Assets	(Considered here as A9 and related infrastructure)									
•	Side Roads/ Direct Accesses	2 No. A Class Roads 3 No. B Class Roads 5 No. C Class Roads 17 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted -	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits

#### A9 Dualling SEA Assessment Matrix dien of les Negative - Low Negligible Corridor/ Section Description: Mediu Mapped as Section A-1 Route is 21.5km in length (all online) 15.2km is existing single c/way and 6.3km is existing dual c/way. Major Major DUALLING Total surface area of 200m wide corridor A-1 is approx. 4.34 sqkm Major Minor Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a area feature, eg. river/ flood plain percentage value derived against the total corridor area Minor A9 Dualling related Corridor / Section relevant feature(s) verall Effe um / Long Term Effects Construction stage risks will be considered in local EIA SEA assumes that existing structures will be retained wherever possible/ practicab nd controlled/ managed via Construction Environ Management Plans and relevant permitting processing the control of the control construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity Visual impacts will also be considered via detailed design 2 No. Railway structures Some structures will require and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics widening/ upgrading/ 5 No. Over / Underbridges fitting with local vernacular and consultation with relevar bodies, to inform an A9 Design Guide Minor Mino Existing A9 structures Mixed (excluding Junctions) Also likely to result in long term benefits associate with improved infrastructure and resilience, e.g. 6 No. Watercourse crossings generally be related to where watercourse crossings are upgraded to current standards Residual effects assessed as mixed at the local scale construction stage risks depending on sensitivities (dependent on local ities), landscape/ visu mpact magnitude is deper Residual effects assessed as neutral at the route wid new/ upgraded/ widened structures required and the local sensitivities Long term cumulative effects in Section A-1, on Material Assets, will be mixed. A Junction Strategy is being developed to inform and support decisions on junction locations and rationalisation of direct access to / from the A9. A Junction Strategy is being developed to inform and support decisions on junction locations and rationalisation of direct access to / from the A9. A Landscape Review is also being undertaken and will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies to mitigate the potential adverse visual impact from new structures. on this SEA topic in this The residual cumulative effect is assessed as neutral Landscape None of the A-1 200m corridor is within the National Park boundary n/a Detailed route alignment studies should aim to minimise The A9 bisects the NSA and online dualled route will be a permanent change ndscape impacts by keeping the widened footprint to th orms an element of the cultura but with a minimal footprint as opposed to an minimum required to deliver a dualled route and ancillary Potential for landscape and landscape, recognised in the alternative or offline route paths/ connecting routes necial qualities description of visual effects on Construction stage works including site clearan the 'gateway feel' through CA coverage is at a scale that should help alignment an National Scenic Areas (NSA detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of but highly visible change Approx 1.5 sqkm through Scale of effects will depend or River Tay (Dunkeld) NSA road furniture, including signs, lighting and structures and the he level of change over currer The severity/ visibility of construction effects will conditions, given that the existing A9 is already a recognised feature in the Approx 34% of the reduce over time as local vegetation/ planting and screening measures become (re) established National Low Minor Mixed Yes Opportunities for appropriately sited/ designed viewpoint Cairngorms National Park nd interpretation will be considered under the A9 Dualling (CNP) Landscape Review landscape view from the road and the driver/ visitors' Landscape Review to work with CNPA & SNH to There will also be opportunities experience of this unique scenic area determine key views, opportunity sites and to inform to incorporate key views to strategic design principles/ guidance on form of stopping points/ laybys inform A9 dualling designs to enhance visitors' experience of the landscape Overall long term impact magnitude is expected to be **low** given the anticipated scale of change over existing conditions Residual effect of online dualling is assessed as mino adverse The A9 transport corridor is defined as Category C Online widening is anticipated to deliver the lowest levels Wildness where the aim is to minimise effects of urther development on higher value Category A & SEA considers that online of change over existing conditions dualling will present minima B areas of wildness Widening within Corridor option A-1 is therefore expecte to present low risks to wildness when compared with nea offline options effects on wildness given the Wildness National Negligible Minor Adverse No current A9 route is defined as Given that online dualling will widen the existing transport corridor with low route, with some flexibility on horizontal and ertical alignments, the overall long term impact or higher value areas of wildness is assessed as Potential for effects on value (Category C) wildness Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the avoidance of lighting on the A9 mainline, unless absolutely requirec by safety standards, for example may be required at new junctions negligible That display a high degree of There are likely to be short-term lighting effects ere construction works are required during night riods to minimise disruption to day-time traffic and/or SEA assumes that there will be voidance and/ or minimisation of effects on wildness and n overarching design principle dark skies to be captured in A9 Dualling Landscape and Where dark skies are a key to avoid the introduction of Long term lighting effects are expected to be Visual Design Principles nting on the A9 mainlin characteristic restricted to specific locations where safety Regiona Negligible Adverse iven the possibility that some lighting may be required a junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the standards require lighting, for example at new fety standards may require iunctions lighting at some upgraded junctions On balance, assuming lighting is kept to a absence of traffic minimum, the overall long term impact on dark skies is assessed as negligible Cumulative residual effect assessed as mino andscape Character Assessment coverage is at a scal Short term effects on visual impact, associated vith construction phases along the route, dependent hat should help alignment and detailed design so that the In terms of opportunity for on the number and order of schemes being road is better integrated with its surroundings and works enhancement, this is a key constructed - overall expected to be temporary to minimise the impacts of road furniture, including signs area where A9 Dualling can and minor impacts lighting and structures improve the travellers' xperience and improve futur isitors' experiences on one of Medium to long term benefits expected as Opportunities for appropriately sited/ designed viewpoin soften the construction effects Potential for effects on: nd interpretation will be considered under the A9 Dualling Landscape Review liews from the road, the distinct places th Travellers' experience of the A9 travels through and experience of the Various aspects to be Regional Medium Minor Positive Yes distinctive variety of Long term benefits also anticipated as Landscape Review to work with CNPA & SNH to range of landscapes considered, from opportunity opportunities for enhancement, in terms of enhancing laybys, maximising use of key views nd careful siting of signage and roadside furnitur to minimise visual intrusion on the roadside determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys sites for viewpoint access, to character along the route and design detailing to suppo high quality and consistency landscape are incorporated through design Opportunities for interpretation features should be along the route, for example, of principles and guidance considered in partnership with local bodies signage, structures and othe roadside furniture esidual effects assessed as **minor positive** at the loc level and **moderate positive** at the route wide scale provide medium level benefits at the regional/ route-wide corridor scale Long term cumulative effects in Section A-1, on Landscape, will be mixed negative effects associated with online widening through the River Tay (Dunkeld) National Scenic Area. nentary on cumulative e on this SEA topic in this Corridor section Positive effects identified in terms of opportunities for appropriately sited/ designed viewpoints and interpretation to be considered under the A9 Dualling Landscape Review which will determine key views, opportunity sites and inform strategic design principles/ guidance on form of stopping points/ laybys. The residual cumulative effect is assessed as minor adverse as online dualling is likely to be less visually intrusive, over the long term, than alternative or offline routes. Historic Environment Scale of impact on the GDL will In a similar vein as the Landscape issues noted Approx 0.9 sqkm through the above, in the short term, construction effects will depend on the level of change over current conditions, given SEA Murthy Castle GDL be highly visible and will have a direct effect on the that the existing A9 is already setting of the GDL Low Adverse impacts on GDL by keeping the widened footprint to the boundary Over the medium to long term, these effects will

minimum required to deliver a dualled route and ancillary diminish as local vegetation/ planting/ screening paths/ connecting routes Approx 11% of the The remaining section to be becomes (re) established Potential for direct effects or Murthly Castle GDL area dualled is also within the GDL effects on the setting of: Overall, the long term scale of change is assessed boundary alignment and detailed design should work to ensure that Historic Gardens and the road is better integrated with its surroundings and to minimise the impacts of road furniture, including signs, Approx 0.02 sakm crosses the Although the 200m corridor boundary crosses this GDL Designed Landscapes (GDL) Online dualling is unlikely to present direct impac Hermitage GDL lighting and structures boundary, SEA considers tha this site will be avoided by Change in A9 visibility due to online widening may route alignment studies, give the surrounding urban A-1 corridor area in A9 Dualling Landscape and Visual Design Principles National Adverse have minor adverse effects on the setting of the Negligible Minor Yes GDL in terms of the view from within the GDL Approx 5% of Residual effects assessed as minor adverse rmitage GDL area overall, the long term scale of change is assessed as **negligible** for this site nline dualling will have minir effect on the GDL Bertha Roman Fort Potential for direct effects o Scheduled Monument effects on the setting of: No adverse impacts anticipate identified within the 200m A-1 corridor n/a n/a as A9 is already dualled Scheduled Monuments A9 is already dualled in the Potential for direct effects or effects on the setting of: corridor Battlefield Sites



Corridor/ Section Description:
Mapped as Section A-1
Route is 21.5km in length (all online)
15.2km is existing single c/way and 6.3km is existing dual c/way.
SEA Assumptions:
Total surface area of 200m wide corridor A-1 is approx. 4.34 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

2ig	Eignificance of President Effects - Determinant via aconsideration of Import Magnitude and Geographic Significance												
		Impact magnitude											
			Neg	etive		Neutral		Pos	itive				
		High	Medium	Low	Negligible	Neutrai	Negligible	Low	Medium	High			
ance	International (Impact on European/ other international designation/ site)	Major	Major	Major	Moderate		Moderate	Major	Major	Major			
significance	National (impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major			
Geographic:	Regional (route wide/ conidor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major			
9	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate			

		percentage value derived against the to	otal comdor area.			d (site spe	cific/ project level/ effo local designation)	et Moderate	Moderate M	inor Minor	Minor Minor Moderate Moderate
No	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
16	Potential for direct effects or effects on the setting of: Conservation Areas	Birnam Conservation Area (CA)	Online dualling may require some tree removal for boundary widening within the CA	The A9 runs through the Birnam CA and online dualling could present adverse visual effects during construction  Trees are protected in CA and removal for boundary widening could present local adverse effects  Long term effects are assessed as low impact magnitude given that online widening in this area will be constrained by the surrounding urban environment	Local	Low	Minor		Adverse	No	No mitigation at SEA level  Route alignment studies and detailed design to be sensitive to the Conservation Area, informed by local survey and consultation with the Local Authority
17	Potential for direct effects or effects on the setting of: Listed Buildings	21 no. Listed Buildings within the 200m A-1 corridor  2 Cat A 4 Cat B 15 Cat C (S)  4 within 50m of the existing route  Dunkeld and Birnam Station is the only Category A Listed Building found within 50m of a single carria	SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling could have minor adverse effects on the setting of buildings within 50m, given their proximity to the current route	considered low; however, dualling has the potential for <b>moderate to major adverse effects</b> at the site level	National	Dependent	Major		Adverse	Yes	Detailed alignment studies and EIA should work to avoid direct impacts (physical losses)  Route alignment studies should be informed by local level survey and consultation to avoid direct effects wherever possible  Where avoidance is not possible within the 200m corridor, route alignment studies should consider options outwith the 200m corridor where possible  EIA measures should include consideration of impacts on setting at the local level, where route alignments are limited by other constraints and are determined to pose risks to the setting of listed buildings  Local level mitigation should be informed via consultation with the Local Authority, Historic Scotland and other relevant stakeholders
Co	mmentary on cumulative effects		ould work to avoid direct impac	ts (physical losses) on listed buildings, scheduled		and GDL's, giv	en the flexibilit	y within the 200	Om corridor.		Residual effects assessed as <b>minor adverse</b>
	on this SEA topic in this Corridor section	Local level mitigation will be required th	rough EIA and opportunities for	studies should consider options outwith the 200n or enhancement through interpretation features shade to potential effects on the setting of near	nould also be		the local level	n consultation	with the relev	ant bodies.	
	Biodiversity, Flora & Fauna										
		Ramsar Sites	None identified within the 200m A-1 corridor					n/a			
18	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation  Approx 0.1 sqkm of the 200m wide A-1 corridor crosses the boundary of the River Tay SAC  Approx 2.7% of the A-1 corridor surface area  Approx 0.1% of River Tay SAC area  This SAC is designated for:  River lamprey (Lampetra fluviatilis) Brook lamprey (Lampetra planeri) Sea lamprey (Petromyzon marinus)  Atlantic salmon (Salmo salar)  Otter (Lutra lutra)  Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Effects are expected to be limited to construction stage risks, particularly where new/ upgraded/ widened crossings require works alongside/ over the SAC  Online dualling expected to present fewer risks than alternative routes that introduce crossings/ works to previously undisturbed areas  Long term road surface runoff water quality expected to improve due to SUDS features along the dualled route	crossing locations will be informed by project level surveys and SNH advice - overall risk of permanent impact in terms of habitat losses assessed to be <b>negligible</b> Detailed design and construction will be informed by species surveys and management plans/ exclusion zones or periods where necessary, therefore overall impact in terms of effects on qualifying species assessed to be <b>negligible</b>	International	Negligible	Moderate	Minor	Adverse	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Tay SAC runs near the A9 along much of the route
		Special Protection Areas (SPA)	None identified within the 200m A-1 corridor					n/a	I		Residual effects assessed as minor positive
19	Potential for direct/ indirect effects on: Biological Sites of Special Scientific Interest (SSSI)	None identified within the 200m A-1 corridor					n/a				In online corridor areas where AW and SNAW are
20	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 1.2 sqkm crosses areas defined as Ancient Woodland Approx 27% of the A-1 corridor area Approx 10% of the designated area of Ancient Woodland	Online dualling will widen the existing route leading to some edge clearance for boundary widening, resulting in some permanent losses  Edge effects can extend up to 30m into a woodland representing additional habitat loss  SNH advise that edge effects	Given that roughly 1/4 of this corridor area is designated Ancient Woodland (AW), online dualling is expected to result in permanent losses due to boundary edge clearance, although the real area at risk will be limited  Where AW is unavoidable, edge effects are assessed as <b>low</b> impact magnitude  Where SNAW is also unavoidable, edge effects are assessed as <b>medium</b> impact due to potential for higher ecological value	National	Low	Moderate		Adverse	Yes	unavoidable via route alignment studies, impacts should be minimised by limiting the widened footprint as far as possible, and considering the flexibility to locate lay bys (and other footprint widening features) outwith designated woodland boundaries.  Where felling of mature semi-natural woodland is required, appropriate mitigation should be discussed with SNH and FCS  Any permanent losses of AW, SNAW, and other non-designated woodland habitat should be cumulatively compensated for, taking the total loss of interior woodland
21	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.2 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 5% of the A-1 corridor area Approx 16% of the designated area of Semi Natural Ancient Woodland	can be more significant on areas of Semi Natural Ancient Woodland and the severity should not be underestimated SEA considers edge clearance for online widening a lower level impact than alternative or offiline routes that could introduce additional fragmentation through previously unaffected areas	Where online dualling widens the distance between woodlands, it is likely to present secondary adverse effects, in terms of widening a barrier to species movement between habitats  Many woodland species are unable, or less able,	National	Medium	Major		Adverse	Yes	habitat into account, in other areas locally identified as opportunity sites for woodland  New woodland as mitigation should use natural regeneration, although native planting may be acceptable, where there are benefits from introducing native species not currently present on site; however, this should be considered in discussion with SNH and FCS  Mitigation and restoration plans for woodlands will be required for approval prior to commencement of construction and consideration should be given to the needs of local species  With mitigation in place, residual effects are assessed as
22	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	None identified within the 200m A-1 corridor					n/a				
		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for otters  New underpasses, drainage and SUDS features may prove beneficial	matercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population	International	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure  Residual effects assessed as minor positive
23	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	International	Low	Moderate		Adverse	Yes	Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists  Residual effects assessed as minor adverse

			Carridar/ Saction Description		<u> </u>						Nega	tive	lm	pact magnitude Pusitive		live		4	
	200		Corridor/ Section Description: Mapped as Section A-1					l	International	High	Medium		Negligible	Neutral	Negligible	Low			
		9	Route is 21.5km in length (all onlin				ance	(Impact	t on European/ other unal designation/ site)	Major	Major	Major	Mode rate		Moderate	Major	Major	Major	
113	DUALLI	NG	15.2km is existing single c/way and	d 6.3km is existing dual c/w	ay.		gniffic	(im)	National pact on national	Major	Major		Moderate		Moderate	Moderate	Major	Major	
	PERTH TO INVER	RNESS	SEA Assumptions: Total surface area of 200m wide corrid	dor A-1 is approx. 4.34 sqkm			hic si		designation/ site)   Regional  / conidor level/ effect or	Major	Moderate	Moderate	Minor		Minor	Madamia	Madagata	Major	
			Where possible, GIS analysis has bee	n used to determine the total s	urface area of each feature within the 200m corr	idor and a	deuge	area featur	re, eg. river/flood plain) Local	, major	moderate.	INCOLUCE.	milion		THE STATE OF THE S	I MODE I GILC	most rate	- major	4
			percentage value derived against the to	otal corridor area.			š	(site speci	intel project level/ effect ocal designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate	
N	A9 Dualling issues		Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Imp	dicted pact nitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Ef	fect oth	tigation or her action equired?	Comme		pposed mitig		enhanceme	ent
			Scottish Wildcat	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial	Known to range route wide, no hotspots identified in Section A  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as negligible impact magnitude  Long term minor benefits possible in terms of improved route permeability through a range of underpass crossings, pipes, etc., especially where effective mammal passes/ tunnels are incorporated in addition to drainage/ culverts	International	Negl	ligible	Moderate	Minor	Mixed	i	Yes	Dualling under the separat	is likely to road struct ted junction to improve designed	inimise adv increase th ure, via per is, road, rai	verse effe the number destrians If and was the ability was numbers/pas		ildcat ings grade ngs riatel
C	Commentary on cumula on this SEA top in this Corridor se	pic	Potential for long term adverse impacts There may be long term benefits for the There will likely be moderate adverse e Edge widening will present adverse eff Long term minor benefits are possible Route alignment studies and detailed d	s on the River Tay SAC is cons a River Tay SAC in terms of w affects on Ancient Woodland a ects for red squirrel and wildca for otter and wildcat in terms o esign will be informed by local	d Fauna, are assessed as moderate adverse. idered low and construction stage risks around vater discharge quality from A9 SUDS. and Semi Natural Woodland due to edge cutting ef tin terms of minor habitat losses; however, effec	ffects, which on tts will likely be imise effects.	could be e minim	e minimis nal over ti	sed and mitigate the long term.	ed at the loca	al level.		el Appropria	ate Assess	ement.				
	Soils																		
2	Potential for direct effects of Geological Sites Scientific Interes	ct/ indirect on: of Special	None identified within the 200m A-1 corridor						n/a										
2	Potential for direct effects of Geological Conserview (GCR	on: servation	None identified within the 200m A-1 corridor						n/a										
	Potential for exc		No areas of wetland habitat identified within the 200m A-1 corridor						n/a										
2	Areas of wetland	d or peat	No areas of peat soils identified within the 200m A-1 corridor						n/a										
2	Areas of flood flood ris		Approx 0.4 sqkm of 200m wide corridor A-1 crosses the 200year flood risk zone Approx 9% of the A-1 corridor area	An overarching aim for A9 dualling will be to maintain flood risks at current levels (i.e. no overall change)  Depending on final route alignments, dualling may have to incorporate flood management measures to maintain no net change to flood risks	Short term effects during construction stages would be related to flood events, e.g. inundation of works compounds leading to pollution of water courses/ sensitive habitats  Medium to long term effects would be related to risk of permanent change to overall flood regime due to A9 dualling infrastructure  Some A9 dualling works, eg. SUDS, may improve drainage provisions and attenuation of surface runoff  Long term permanent effects are assessed as uncertain as the final route alignment may or may not affect flooding	Regional	Unce	ertain	Moderate	Minor	Uncerta	ain	Yes	assessme wherever p Strategundertaker undertaker strategic r Detailed Fl also Witt compenser principal	nt should a possible; ho this may no gic flood ris n to identify ecommend ood Risk a inform des n design lev satory floor e of 'no che employed	im to avoid over, giv of the possible assessing they areas lations on a mod Drainagign of the fill of the mitigation of the grant astorage were assessed to a storage were as a storage were assessed to a storage were assessed to a storage were as a storage	the function the leader in all of the function of risk a avvoidance of the function of the fun	RA) is being and to deter e and mitigal Assessment requiring ntified and to drisk' will be risks	d plain re rout rig ermine gation ent wit
С	commentary on cumula on this SEA top in this Corridor se	pic	No impacts on peat or wetland soils an With respect to flood risks, long term e Upgraded drainage provision, with the	e expected in this Section; how ffects are considered neutral a inclusion of SUDS, is expected	Issessed as minor adverse as dualling will increa sever, some minor losses of agricultural land may iss dualling will be designed to avoid increased risl to have minor benefits for water quality. or soils, neutral for flood risk, and minor pos	be required. k.		Ī	with correspon	ding loss of	soils.	1							



Corridor/ Section Description:

Mapped as **Section B-1**Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Significance of Predicted Effects - Determined via consideration of Impact Regulardo and Geographic Significance Negative Medium Low Negligible International (impact on European/ other International designation/ site) National National
(impact on national
level ossignation's feb
level ossignation's feb
(route widel comidor level) effect on
area teature, eq mour food plan)
(site specific/project level) effect
on local dissumption Minor Minor Minor Minor Minor

1	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
		Population & Human Health										
	1	Accident Rates (2001-2010)	18 Fatal 34 Serious 77 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
	2	Proximity to settlements	5 No. settlements at:  Ballinluig  Pitlochry	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
			Killiecrankie Blair Athol Bruar	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional Medium			Moderate	Positive	No	No mitigation/ enhancement at SEA level Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
			2 No. schools within	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	3	Proximity to sensitive receptors	500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
				Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local churches  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	4	Proximity to sensitive receptors	4 No. churches within 500m of existing route	Could see some increase in traffic but improved flow reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local churches in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, safe crossing points  Residual effects assessed as neutral, with potential for minor positive with safer crossings
ı			Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing	Short term, temporary loss of direct access to some NMU routes during construction	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected
		Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	routes and create an additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)		Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies and options on appropriate crossing solutions
	5	recreation/ to access areas used for recreation, including he Cairngorms National Park	Access for Equestrians within 200m corridor	Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the dualled A9 and maintain overall connectivity	Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions  Rationalised/ diverted paths should be designed to provide the same or higher standard of pathway
			Approx 1.8 sqkm of the 200m corridor is within the		National	Medium	Major	Minor	Mixed	Yes	provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as <b>neutral</b>	
			Long term cumulative effects in Sect	tion P. 1. on Deputation and H	uman Haalth will be mixed					1	ı	1

mentary on cumulative e on this SEA topic in this Corridor section

Long term cumulative effects in Section B-1, on Population and Human Health, will be mixed.

Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.

Minor negative effects associated with local rationalisation of existing NMU routes, leading to overall neutral effect once rationalisation is complete and safer crossings are provided.

At the strategic level, the emerging route wide Non-Motorised User Strategy is considered a major positive mitigation and enhancement measure, which will guide and inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor.

The residual cumulative effect is assessed as minor positive.



Corridor/ Section Description:

Mapped as **Section B-1**Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Monthemor of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Rightficance International (impact on European/ other international designation/ site National National
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Regional
(route wide/ conidor level/ effect on
area teature, e.g. men/ flood plann)
(site specific/ project level/ effect
on local dissensation) Minor Minor Minor Minor Minor

١	lo.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Ī		Material Assets	(Considered here as A9 and related infrastructure)		Snort / medium / Long Term Enects		magnitude	(Adverse)	(Beneficial)		requireu	
	6	Side Roads/ Direct Accesses	3 No. A Class Roads 3 No. B Class Roads 6 No. C Class Roads 29 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted potentially high, local impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
	7 Existing A9 structures		3 No. Railway structures 4 No. Over / Underbridges (excluding Junctions) 12 No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable Some structures will require widening/ upgrading/ replacement  Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled/ managed via Construction Environmental Management Plans and relevant permitting processes Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
	Com	mentary on cumulative effects	Long term cumulative effects in Sec Moderate adverse impacts identified		vill be mixed. cesses are closed/ diverted. However, long ter	m regional le	vel safety be	nefits are expe	ected in terms	of removing	at-grade junct	ions and accesses on a dualled A9.

moderate adverse impacts identified where local routes/ direct accesses are closed/ diverted. However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dua A Junction Strategy is being developed to inform and support decisions on junction locations and rationalisation of direct access to/ from the A9.

A Landscape Review is also being undertaken and will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies to mitigate the potential adverse visual impact from new structures.

The residual cumulative effect is assessed as neutral

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	Potential for landscape and visual effects on:	Approx 1.8 sqkm of corridor B-1 is within the National Park boundary  Approx 26% of the 200m B-1 corridor area  Approx 0.04% of the Cairngorms National Park area	Almost half of this corridor section runs through nationally designated landscapes Scale of effects on the landscape will depend on the level of change over current conditions, given that the	An online dualled route will be a permanent change, but with a minimal footprint as opposed to an alternative or offline route  Construction stage works including site clearance and excavations will present relatively short term, but highly visible change	National	Low	Moderate	Minor	Mixed	Yes	Detailed route alignment studies should aim to minimise landscape impacts by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  LCA coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures
8	National Scenic Areas (NSA)  and the  Cairngorms National Park	Approx 0.9 sqkm through Loch Tummel NSA Approx 13% of the 200m B-1 corridor area	existing A9 is already a recognised feature in those landscapes  There will also be opportunities	The severity/ visibility of construction effects will reduce over time as local vegetation/ planting and screening measures become (re) established  Long term benefits are anticipated in terms of the view from the road and the driver/ visitors'	National	Low	Moderate	Minor	Mixed	Yes	Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to
ı	(CNP)	Approx 0.7 sqkm through River Tay (Dunkeld) NSA Approx 10.5% of the 200m B-1 corridor area	to incorporate key views to inform A9 dualling designs to enhance visitors' experience of these landscapes	experience of this unique scenic area  Overall long term impact magnitude is expected to be low given the anticipated scale of change over existing conditions	National	Low	Moderate	Minor	Mixed	Yes	determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Residual effect of online dualling is assessed as minor adverse
	Potential for effects on landscapes: That display a high degree of	Wildness	SEA considers that online dualling will present minimal effects on wildness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions  Widening within Corridor option B-1 is therefore expected to present low risks to wildness when compared with near-offline options  Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the avoidance
9	wild land characteristics and/ or  Where dark skies are a key characteristic	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	of lighting on the A9 mainline, unless absolutely required by safety standards, for example may be required at new junctions  Avoidance and/ or minimisation of effects on wildness and dark skies to be captured in A9 Dualling Landscape and Visual Design Principles  Given the possibility that some lighting may be required at junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the absence of traffic  Cumulative residual effect assessed as minor adverse
10	Potential for effects on:  Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world  Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Landscape Character Assessment coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Opportunities for interpretation features should be considered in partnership with local bodies  Residual effects assessed as minor positive at the local level and moderate positive at the route wide scale

mentary on cumulative on this SEA topic in this Corridor section

Long term cumulative effects in Section B-1, on Landscape, will be mixed.

Long term cumulative effects in Section B-1, on Landscape, will be mixed.

Some negative effects associated with online widening through the River Tay (Dunkeld) and Loch Tummel National Scenic Areas, as well as the Cairngorms National Park.

Positive effects identified in terms of opportunities for appropriately sited/ designed viewpoints and interpretation to be considered under the A9 Dualling Landscape Review which will determine key views, opportunity sites and inform strategic design principles/ guidance on form of stopping points/ laybys.

The residual cumulative effect is assessed as minor adverse as online dualling is likely to be less visually intrusive, over the long term, than alternative or offline routes.



Corridor/ Section Description:

Mapped as Section B-1
Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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A9 Dualling related issues			Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Historic Environment	vironment									
tential for direct effects or iffects on the setting of: Historic Gardens and signed Landscapes (GDL)	e setting of:  Approx 7.5% of the rdens and  B-1 corridor area	Scale of impact on the GDL will depend on the level of change over current conditions, given that the existing A9 already runs along part of the GDL boundary	In a similar vein as the Landscape issues noted above, in the short term, construction effects will be highly visible and will have a direct effect on the setting of the GDL  Over the medium to long term, these effects will diminish as local vegetation/ planting/ screening becomes (re) established  Overall, the long term scale of change is assessed as low impact magnitude	National	Low	Moderate		Adverse	Yes	Detailed route alignment studies should aim to minimise impacts on GDL by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  Local level consultation with Historic Scotland on alignment and detailed design should work to ensure that the road is better integrated with its surroundings and to minimise the impacts of road furniture, including signs, lighting and structures  Avoidance and/ or minimisation of effects to be captured in A9 Dualling Landscape and Visual Design Principles  Residual effects assessed as minor adverse
tential for direct effects or iffects on the setting of: Scheduled Monuments	e setting of: 4 no. around already dualled section	Avoidance of Scheduled Monuments will be a primary principle for route alingment studies	Physical losses would be major adverse effects Of the 5 monuments within 50m, avoidance should be possible via dualling to the opposite side of the carriageway Risk of losses/ direct impacts assessed as low Effects on setting assessed as minimal, given their current proximity to the existing road Potential effects therfore considered as low impact magnitude	National	Low	Moderate		Adverse	Yes	Detailed alignment studies should work to avoid direct impacts on scheduled monuments and aim to maximise the distance between the dualled route and the scheduled monument boundary to minimise effects on setting wherever possible  In the event that avoidance is not possible within the 200m corridor, alignment studies should consider local alternatives outwith the corridor boundary  Where no alternative is feasible due to other constraints, detailed local level consultation with Historic Scotland and other relevant parties will be required to determine the most appropriate approach  Residual effects assessed as minor adverse
tential for direct effects or iffects on the setting of: Battlefield Sites	e setting of:  B-1 corridor surface a  The A9 passes through the bal	The current route runs directly through the battlefield site and the scale of dualling impact will depend on the level of change over current conditions and on way section minimising the overall effect on the interpretation of the battlefield	Assuming that no alternative route is feasible, this option will result in short term, highly visible but temporary impacts during the construction phase  Over the medium to long term the visual impact will diminish as landscaping, vegetation and screen planting become (re) established  Long term impacts will relate to the scale of change within the battlefield, with some permanent loss of ground cover to hard standing associated with the dualled route, and associated permanent visual change  Assessed as medium impact magnitude at the battlefield site scale	National	Medium	Major		Adverse	Yes	The strategic mitigation recommendation is to work with Historic Scotland, CNPA and other key stakeholders to inform detailed design and to manage change in a sympathetic manner  Site level options should be developed via route alignment studies and more detailed local survey and environmental assessment to ensure dualling impacts are kept to a minimum, including signage, barriers, lighting and other roadside furniture  EIA measures are likely to include consideration of contraction stage requirements on temporary compounds outwith the site, temporary access surfacing and relevant archaeological supervision to ensure uncovered archaeological supervision to ensure uncovered archaeological material is properly recorded and preserved  Opportunities for enhancement should be investigated at the local level and should aim to improve access to and interpretation of the battlefield  With strategic mitigation recommendations in place, SEA considers that residual impacts on the battlefield would be low in magnitude, resulting in a moderate adverse effect
tential for direct effects or iffects on the setting of:  Conservation Areas	e setting of:  None identified within 200m B-1 corridor	the				n/a				
tential for direct effects or iffects on the setting of: Listed Buildings	within the 200m B-1 corect effects or setting of:  0 Cat A 4 Cat B 7 Cat C (S)  6 of which are within 5	buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualing could have minor.	Given that some buildings are within 50m of the current route, there is the potential for minor (setting) to high (losses) impact magnitude effects on some features  Avoidance through design means that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect	National	Dependent	Major		Adverse	Yes	Detailed alignment studies and EIA should work to avoid direct impacts (physical losses)  Route alignment studies should be informed by local level survey and consultation to avoid direct effects wherever possible  Where avoidance is not feasible within the 200m corridor, route alignment studies should consider options outwith the 200m corridor where possible  EIA measures should include consideration of impacts on setting at the local level, where route alignments are limited by other constraints and are determined to pose risks to the setting of listed buildings  Local level mitigation should be informed via consultation with the Local Authority, Historic Scotland and other relevant stakeholders  Residual effects assessed as minor adverse
Effects on Listed	Bu	within the 200m B-1 coi the setting of:  Buildings  Within the 200m B-1 coi 0 Cat A 4 Cat B 7 Cat C (S) 6 of which are within 5 of the existing route	tirect effects or the setting of:  Buildings  Buildings	tirect effects or the setting of:  Buildings  Buildings  6 of which are within 50m of the existing route  Buildings  Compared to the existing of the existing route  11 no. Listed Buildings within the 200m B-1 corridor  O Cat A 4 Cat B 7 Cat C (S)  6 of which are within 50m of the existing route  Buildings  Compared to the existing route  SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling could have minor adverse effects on the setting of buildings within 50m, given their proximity to the current route  Coverall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effects  Long term cumulative effects in Section B-1, on Historic Environment, are assessed as moderate adverse due to Detailed local level consultation with Historic Scotland CNPA and other relevant bodies will be required to easure the setting of the province of the setting of the consultation with Historic Scotland CNPA and other relevant bodies will be required to easure the setting of the province of the setting of the setti	The setting of:  Buildings  O Cat A 4 Cat B 7 Cat C (S)  6 of which are within 50m of the existing route  Buildings within the context of the existing route  O Cat A 4 Cat B 7 Cat C (S)  Compared to the existing route  SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect.  Long term cumulative effects in Section B-1, on Historic Environment, are assessed as moderate adverse due to potential effects.	direct effects or the setting of:  Buildings  Buildings  6 of which are within 50m of the existing route  Buildings  Compared to the existing of the existing route  11 no. 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Listed Buildings within 10m and 10	SEA considers that listed buildings within the 200m B-1 corridor  1 1 no. Listed Buildings within the 200m B-1 corridor  1 0 Cat A 4 Cat B 7 Cat C (S)  6 of which are within 50m of the existing route  Buildings  6 of which are within 50m of the existing route  1 1 no. Listed Buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effects  Long term cumulative effects in Section B-1, on Historic Environment, are assessed as moderate adverse due to potential effects on the setting of Scheduled Monumer potential long impacts are kent to a minimum and that characteristic content of the setting of the setti	### SEA considers that listed buildings within the 200m B-1 corridor  O Cat A 4 Cat B 7 Cat C (S)  Buildings  of the existing route  Buildings  In no. Listed Buildings within the 200m B-1 corridor  O Cat A 4 Cat B 7 Cat C (S)  6 of which are within 50m of the existing route  SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect  Long term cumulative effects in Section B-1, on Historic Environment, are assessed as moderate adverse due to potential effects on the setting of Scheduled Monuments, Listed B Interview of the relevant bodies will be required to ensure dualling impacts are least to a minimum, and that chappe is mage.	direct effects or the setting of:  Buildings  O Cat A 4 Cat B 7 Cat C (S)  6 of which are within 50m of the existing route  Buildings  O Cat A 4 Cat B 7 Cat C (S)  Compared the setting of the existing route  O Cat A 4 Cat B 7 Cat C (S)  Compared the existing route  O Cat A 4 Cat B 7 Cat C (S)  Compared the existing route  Overall, effects are dependent on the final route alignment within the corridor their proximity to the current route  Overall, effects are dependent on the final route alignment within the corridor their proximity to the current route  Overall, effects are dependent on the final route alignment within the corridor their proximity to the current route  Overall, effects are dependent on the final route alignment within the corridor their proximity to the current adverse effect.  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effects on the setting of Scheduled Monuments, Listed Buildings and id-  Dependent Major  Adverse Yes  Adverse Yes  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effects on the setting of Scheduled Monuments, Listed Buildings and id-  Dependent Major  Adverse Yes  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effects on the setting of Scheduled Monuments, Listed Buildings and id-  Dependent Major  Adverse Yes  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse due to potential effects on the setting of Scheduled Monuments, Listed Buildings and id-  Dependent Major  Adverse Yes  Overall, effects on the setting of Scheduled Monuments, Listed Buildings and id-  Dependent Major  Adverse Yes  Overall, effects on the

on this SEA topic in this Corridor section

Detailed local level consultation with Historic Scotland, CNPA and other relevant bodies will be required to ensure dualling impacts are kept to a minimum, and that change is managed in a sympathetic manner. Route alignment studies should consider local alternatives outwith the 200m corridor where any features cannot be avoided by dualling within the corridor boundary.

The residual cumulative effect is assessed as minor adverse



Corridor/ Section Description:

Mapped as Section B-1
Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

#### SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.



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ľ	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Biodiversity, Flora & Fauna										
ı		Ramsar Sites	None identified within the 200m B-1 corridor	n/a							
		Special Area of Conservation  Approx 0.63 sqkm of the 200m wide B-1 corridor crosses the boudnary of the River Tay SAC  Approx 9% of the B-1 corridor surface area  Approx 0.7% of the River Tay SAC  This SAC is designated for:  River lamprey (Lampetra fluviatilis) Brook lamprey (Lampetra planeri) Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar)  Otter (Lutra lutra) Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Effects are expected to be limited to construction stage risks, particularly where new/ upgraded/ widened crossings require works alongside/ over the SAC  Online dualling expected to present fewer risks than alternative routes that introduce crossings/ works to previously undisturbed areas  Long term road surface runoff water quality expected to improve due to SUDS features along the dualled route	Most significant risks during construction of crossings in terms of spillage/ runoff/ pollution/ sedimentation of the watercourse - short term, temporary risk expected to be managed by design advice from SNH and best practice construction environmental management  No losses of SAC habitat envisaged, and siting of crossing locations will be informed by project level surveys and SNH advice - overall risk of permanent impact in terms of habitat losses assessed to be negligible  Detailed design and construction will be informed by species surveys and management plans/ exclusion zones or periods where necessary, therefore overall impact in terms of effects on qualifying species assessed to be negligible  Minor benefits anticipated long term due to improved quality of runoff water discharge and potential for improved permeability through the route for otters	Internationa I	Negligible	Moderate	Minor	Adverse	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Tay SAC runs near the A9 along much of the route  Residual effects assessed as minor positive
16	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation  Approx 0.03% of the corridor area crosses the  Shingle Islands SAC  This SAC is designated for:  Alder woodland on floodplains	The small percentage indicates the outer boundary of the 200m corridor crosses the SAC boundary  This SAC is in the River Tay and is considered unlikely to be affected by online dualling	Any risk to this site would be related to pollution events during construction stage where pollution upstream in the Tay travels to the Shingle Islands Risk is low and impact magnitude assessed to be negligible	Internationa I	Negligible	Moderate		Adverse	No	No mitigation at SEA level  Site level construction management and pollution control to avoid/ minimise risks  Residual effects assessed as <b>neutral</b>
		Special Area of Conservation  Approx 0.02% of the corridor area crosses the  Tulach Hill and Glen Fender Meadows SAC  Approx 0.01% of the SAC area  This SAC is designated for:  Dry grasslands and scrublands on chalk or limestone Dry heaths Base-rich fens Limestone pavements Geyer's whorl snail (Vertigo geperi) Round-mouthed whorl snail (Vertigo genesii)	The small percentages indicate the outer boundary of the 200m corridor crosses the SAC boundary  The site is at a higher elevation and is physically separated from the A9 by the Highland Mainline	No losses of SAC habitat are envisaged and risks to habitat features assessed as <b>negligible</b> Potential impacts in terms of effects on qualifying species are also assessed as <b>negligible</b>	Internationa I	Negligible	Moderate		Adverse	No	No mitigation at SEA level  Site level construction management and pollution control to avoid/ minimise risks  Residual effects assessed as <b>neutral</b>
		Special Protection Areas (SPA)	section					n/a			
		Approx 0.05 sqkm of the 200m wide corridor crosses the  Aldclune and Invervack Meadows SSSI  Approx 0.8% of the B-1 corridor area  Approx 33% of the site area	This SSSI is designated for: Lowland calcareous grassland The site borders the current A9 and could potentially be affected by land take for online dualling	Given the proximity of the site, any permanent losses of SSSI habitat features to land take for dualling is assessed as potentially <b>high</b> impact magnitude	National	High	Major		Adverse	Yes	Near offline Option B5 may provide a suitable alternative to avoid encroaching on this site  SEA expects that detailed route alignment studies and environmental assessment will employ the principle of avoidance to ensure that, within the context of other constraints, the final route alignment does not impact the SSSI grassland  Residual effects assessed as neutral if the site is avoided and major adverse if land take is required
	Potential for direct/ indirect effects on:	Approx 0.02 sqkm of the 200m wide corridor crosses the  Pass of Killiecrankie SSSI  Approx 0.3% of the B-1 corridor area  Approx 3% of the site area	This SSSI is designated for:  Upland oak woodland Fly assemblage  The A9 is already dualled at the Pass of Killiecrankie, therefore this site is not anticipated to affected by A9 dualling	n/a							
	Biological Sites of Special Scientific Interest (SSSI)	Approx 0.03% of the 200m wide corridor area crosses the  Shingle Islands SSSI  Approx 0.03% of the site area	This SSSI is designated for: Birds - assemblages of breeding birds Fly assemblage River shingle/ sand The low percentage values indicate that the outer boundary of the corridor crosses the outer boundary of the SSSI designation	Potential risk of noise disturbance to breeding birds during construction phases Potential impact magnitude assessed as <b>medium</b> for construction related noise	National	Medium	Major		Adverse	Yes	SEA expects that detailed environmental assessment and management planning will employ the principle of avoidance to ensure that construction is scheduled to avoid the relevant bird breeding seasons  Potential effects addressed via construction best practice outwith breeding seasons  Residual effects assessed as neutral
		Approx 0.02% of the 200m wide corridor area crosses the  Tulach Hill SSSI (mixed)  Approx 0.01% of the site area	In biological terms this SSSI site is designated for:  Vascular plant assemblage  The low percentage values indicate that the outer boundary of the corridor crosses the outer boundary of the SSSI designation	The site is at a higher elevation and is physically separated from the A9 by the Highland Mainline No losses of SSSI features are envisaged Overall risk of impact to designated features is assessed as negligible	National	Negligible	Moderate		Adverse	No	No mitigation at SEA level  Site level construction management and pollution control to avoid/ minimise risks  Residual effects assessed as <b>neutral</b>



mentary on cumulative el on this SEA topic in this Corridor section

Corridor/ Section Description:

Mapped as **Section B-1**Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Rigulficance of Predicted Æfecte - Debumbned via consideration ef Impact Siagnikrée and Geographic Rigulficance International (impact on European/ other iternational dealignation/ site) National (impact on national level designation) step Registration step Registration (step (route wider comidor level) effect on area teature, e.g. ment flood plann) (site specific/ project level) effect on local dissensation) Minor Minor Minor Minor Minor

N	o. A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
1	Potential for direct/ indirect effects on:  Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 1.7 sqkm crosses areas defined as Ancient Woodland Approx 24% of the B-1 corridor area. Approx 11% of the designated area of Ancient Woodland	Online dualling will widen the existing route leading to some edge clearance for boundary widening, resulting in some permanent losses  Edge effects can extend up to 30m into a woodland representing additional habitat loss  SNH advise that edge effects	Given that roughly 1/4 of this corridor area is designated Ancient Woodland (AW), online dualling is expected to result in permanent losses due to boundary edge clearance, although the real area at risk will be limited  Where AW is unavoidable, edge effects are assessed as low impact magnitude  Where SNAW is also unavoidable, edge effects are assessed as medium impact due to potential for higher ecological value	National	Low	Moderate		Adverse	Yes	In online corridor areas where AW and SNAW are unavoidable via route alignment studies, impacts should be minimised by limiting the widened footprint as far as possible, and considering the flexibility to locate lay bys (and other footprint widening features) outwith designated woodland boundaries.  Where felling of mature semi-natural woodland is required, appropriate mitigation should be discussed with SNH and FCS  Any permanent losses of AW, SNAW, and other non-designated woodland habitat into account. in other areas locally identified as
	Potential for direct/ indirect effects on:  Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.46 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 7% of the B-1 corridor area Approx 38% of the designated area of Semi Natural Ancient Woodland	can be more significant on areas of Semi Natural Ancient Woodland and the sevenity should not be underestimated SEA considers edge clearance for online widening a lower level impact than alternative or offlline routes that could introduce additional fragmentation through previously unaffected areas	Where online dualling widens the distance between woodlands, it is likely to present secondary adverse effects, in terms of widening a barrier to species movement between habitats  Many woodland species are unable, or less able, to move across non-wooded habitat  Alternative or near offline routes that cut through woodland would be assessed as high impact magnitude due to increased habitat fragmentation	National	Medium	Major		Adverse	Yes	opportunity sites for woodland  New woodland as mitigation should use natural regeneration, although native planting may be acceptable, where there are benefits from introducing native species not currently present on site; however, this should be considered in discussion with SNH and FCS  Mitigation and restoration plans for woodlands will be required for approval prior to commencement of construction and consideration should be given to the needs of local species  With mitigation in place, residual effects are assessed as moderate adverse
2	Potential for direct/ indirect effects on:  National Nature Reserve (NNR)	None identified within the 200m B-1 corridor					n/a				
		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for otters  New underpasses, drainage and SUDS features may prove beneficial	Found route wide, potential hotspot around Dunkeld/ Blairgowrie Lochs and Kindallachan Most signficant risks during construction related to disturbance and/ or habitat loss, especially around watercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population  Long term minor benefits likely in terms of improved route permeability through upgraded drainage and SUDS, especially where ecological advice improves suitability for use by otters	Internationa I	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure  Residual effects assessed as minor positive
2	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	Internationa I	Low	Moderate		Adverse	Yes	Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists  Residual effects assessed as minor adverse
		Scottish Wildcat	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial	Known to range route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as negligible impact magnitude  Long term minor benefits possible in terms of improved route permeability through a range of underpass crossings, pipes, etc., especially where effective mammal passes/ tunnels are incorporated in addition to drainage/ culverts	Internationa I	Negligible	Moderate	Minor	Mixed	Yes	Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for wildcat  Dualling is likely to increase the number of crossings under the road structure, via pedestrian subways, grade separated junctions, road, rail and water crossings  Also likely to improve route permeability via appropriately designed mammal tunnels/ passes  Residual effects assessed as minor positive

Long term cumulative effects in Section B-1, on Biodiversity, Flora and Fauna, are assessed as moderate adverse.

Potential for long term adverse impacts on the River Tay SAC is considered low and construction stage risks around watercourse crossings will be addressed and mitigated through project level Appropriate Assessment. There may be long term benefits for the River Tay SAC in terms of water discharge quality from A9 SUDS.

Risk of adverse effects on the Shingle Islands and Tulach Hill designations is considered low.

There will likely be moderate adverse effects on Ancient Woodland and Semi Natural Woodland due to edge cutting effects, which could be minimised and mitigated at the local level.

Edge widening will present adverse effects for red squirrel and wildcat in terms of minor habital tosses; however, effects will likely be minimal over the long term.

Long term minor benefits are possible for otter and wildcat in terms of improved route permeability.

Route alignment studies and detailed design will be informed by local level survey and ecology advice to avoid and minimise effects.

Should the final alignment avoid the Aldclune and Inverack Meadows SSSI, residual effects will be neutral, where land take is required, effects could be major adverse at the site level

The residual cumulative effects are assessed as moderate adverse for woodland, minor adverse for red squirrel, minor positive for otter, wildcat and the River Tay SAC and potentially major adverse for the Aldclune and Inverack Meadows SSSI site

# DUALLING PERTH TO INVERNESS

#### A9 Dualling SEA Assessment Matrix

Corridor/ Section Description:

Mapped as **Section B-1**Online dualling option - 34.9km between Tay Crossing and Bruar 26.7km existing single c/way and 8.2km is existing dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor B-1 is approx. 7 sqkm

Rigalficance of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Rigalficance Negative Negligible Neutral Negligible

A9 Dualling related		Where possible, GIS analysis has be	total surface area of 20011 wide configure 1-1 is applied. To square with the consideration of each feature within the 200m corridor an percentage value derived against the total corridor area.			area to	ide/ corridor level/ effe atura, eq. river/ flood pi Local ecific/ project level/ ef in local designation)	an)	Moderate	Minor Mi	or MI	nor	Minor	Moderate	Mojor
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on		ed mitigation		ncement
	Soils & Water														
22	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	Approx 0.02% of the 200m wide corridor area crosses the Tulach Hill SSSI (Mixed) Approx 0.01% of the site area	In geological terms this SSSI site is designated for: Limestone pavement Upland assemblage mosaic The low percentage values indicate that the outer boundary of the corridor crosses the outer boundary of the SSSI designation	The site is at a higher elevation and is physically separated from the A9 by the Highland Mainline No losses of SSSI features are envisaged Overall risk of impact to designated features is assessed as negligible	National	Negligible	Moderate		Adverse	No			ion at SEA s assessed		al
23	Potential for direct/ indirect effects on: Geological Conservation Review (GCR) Sites	None identified within the 200m B-1 corridor					n/a								
24	Potential for excavation / construction on: Areas of wetland or peat	Approx area classified as wetland within 200m B-1 corridor:  Low proportion of wetland = 0.02 sqkm (0.3%)  Wet grassland = 0.03 sqkm (0.4%)  Wet woodland = 0.02 sqkm (0.3%)  Total = 0.07 sqkm (~1%)	A9 dualling presents the risk of losses at local levels resulting in minor to major adverse effects, depending on the sensitivity and value of the wetland habitat affected	Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within wetland area(s)  In this case, given the scale of the wetland area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as medium	Local	Medium	Moderate		Adverse	Yes	Local level hydrog SEPA and SNH wo may be impac Depend Local level surve source for ground route alignment	ssessme as desig geologic buld be sted, esp dent We ey shoul dwater of t studies inimise	ent will wor nated as w required in pecially whetlands are d determin dependent is and meas adverse ef	rk primarily wetland and consult a areas who here Groun determined the the feed wetlands, sures to average	ly to avoid  ultation with here wetland hodwater d ding water , to inform void and
		No peat identified within the 200m B-1 corridor					n/a								
25	Areas of flood plain/ flood risk	Approx 1.78 sqkm of 200m wide corridor B-1 crosses the 200 year flood risk zone Approx 25% of the corridor area	An overarching aim for A9 dualling will be to maintain flood risks at current levels (i.e. no overall change)  Depending on final route alignments, dualling may have to incorporate appropriate flood management measures to maintain no net change to flood risks	Short term effects during construction stages would be related to flood events, e.g. inundation of works compounds leading to pollution of water courses/ sensitive habitats  Medium to long term effects would be related to risk of permanent change to overall flood regime due to A9 dualling infrastructure  Some A9 dualling works, eg. SUDS, may improve drainage provisions and attenuation of surface rundff  Long term permanent effects are assessed as uncertain as the final route alignment may or may not affect flooding	Regional	Uncertain	Moderate	Minor	Uncertain	Yes	Strategic floor undertaken to ider strategic recommed Detailed Flood Risialso inform c  With design compensatory fliprinciple of 'no employ	d aim to ; howev y not be d risk as ntify key endation k and D design o n level m ood sto change red to ar	avoid the er, given the possible in assessment y areas of r ns on avoid trainage Im of the final in initigation, a rage will be	functional he length in all cases (SFRA) is risk and to dance and npact Asse route align areas reque e identifier g flood risk asing risks	Il flood plain of the route s s being o determine d mitigation essment will nrment uiring d and the k' will be s
Commentary on cumulative effects on this SEA topic in this Corridor section  Long term cumulative effects in Section B-1, on Soil and Water, are assessed as minor adverse as dualling will increase on this SEA topic in this Corridor section  Long term cumulative effects in Section; however, some minor losses of lower grade agricultural land may be residual effects on wetland areas are assessed as minor adverse.  With respect to flood risks, long term effects are considered neutral as dualling will be designed to avoid increased risk Upgraded drainage provision, with the inclusion of SUDS, is expected to have minor benefits for water quality.  The residual cumualtive effect is assessed as minor adverse for soils and wetland areas, neutral for flood risks.					ay be required ad risk.	d, and there a	are small areas	s of wetland ha		onsidered.	•				



Corridor/ Section Description:

Mapped as Section B-4

Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol

16km is existing single c/way and 6.2km is existing dual c/way **SEA Assumptions:** 

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Eignificance of Predicted Effects - Determined via consideration of impact Magnitude and Geographic Higrificance Negative Negligible Neutral Major Minor

	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Ī		Population & Human Health										
	1	Accident Rates (2001-2010)	18 Fatal 34 Serious 77 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
İ	2	Proximity to settlements	3 No. settlements at: Ballinluig	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
			Killiecrankie Bruar	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
			1 No. schools within 500m of	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	3	Proximity to sensitive receptors		Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
Ī		Proximity to sensitive receptors	1 No. churches within 500m of	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local churches  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	4		existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local churches in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
		Proximity to sensitive	1 No. playground within 500m of	Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local playgrounds  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	5	receptors	existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local playgrounds in terms of maximising the distance from the final alignment  Non Motorised User strategy to include safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
Ī			Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing routes and create an	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected
	ac of	Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)	(terriporary impact, where route linkages) crossings are retained post-construction)  Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network	Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies and options on appropriate crossing solutions
	use	ecreation/ to access areas sed for recreation, including the Cairngorms National Park	Access for Equestrians within 200m corridor	Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the dualled A9 and maintain overall connectivity	Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions  Rationalised/ diverted paths should be designed to
		. GIN	Approx 1.1 sqkm of the 200m corridor is within the National Park boundary Approx 16% of the B-4 corridor area.	Some of this corridor section is within the National Park, where levels of NMU usage may be higher	Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	National	Medium	Major	Minor	Mixed	Yes	provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as <b>neutral</b>
			Long term cumulative effects in	imulative effects in Option B-4, on Population and Human Health, will be mixed.								

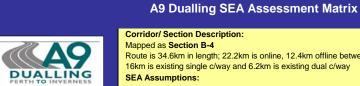
mentary on cumulative effects on this SEA topic in this Corridor section

Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.

Minor negative effects associated with local rationalisation of existing NMU routes, leading to overall neutral effect once rationalisation is complete and safer crossings are provided.

At the strategic level, the emerging route wide Non-Motorised User Strategy is considered a major positive mitigation and enhancement measure, which will guide and inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor.

The residual cumulative effect is assessed as minor positive



Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol

16km is existing single c/way and 6.2km is existing dual c/way

SEA Assumptions:

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Eignificance of Predicted Effects - Determined via consideration of impact Magnitude and Geographic Rignificance Negative Positive
High Medium Low Negligible Neutral Negligible Low Medium High Major Major Major

	(state apertition and a percentage value universal against the total confluor area.  Commentary on Duration,  Predicted Severity of Sever										
No	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Material Assets	(Considered here as A9 and related infrastructure)									
6	Side Roads/ Direct Accesses	2 No. A Class Roads 4 No. B Class Roads 5 No. C Class Roads 34 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted-potentially high, local impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
7	Existing A9 structures	2 No. Railway structures 3 No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable Some structures will require widening/ upgrading/ replacement Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled/ managed via Construction Environmental Management Plans and relevant permitting processes  Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
Co	mmentary on cumulative effects on this SEA topic in this Corridor section Landscape	A Junction Strategy is being de		ade junctions and accesses on a dualled A9. se visual impact from new structures.							
ш	Lanuscape		T		ı	ı				ı	
ı	Potential for landscape and	Approx 1.1 sqkm of the 200m corridor is within the National Park boundary Approx 16% of the B-4 corridor area	Over 1/3 of this near offline corridor option runs through nationally designated landscapes  Scale of effects on the	Construction stage works including site clearance and excavations will present relatively short term, but highly visible change  The severity/ visibility of construction effects will reduce over time as local vegetation/	National	Medium	Major	Minor	Mixed	Yes	
8	visual effects on:  National Scenic Areas (NSA)  and the  Cairngorms National Park	Approx 0.8 sqkm through Loch Tummel NSA Approx 11% of the 200m B-4 corridor area	landscape will depend on the level of change over current conditions, given that the existing A9 is already a recognised feature in those landscapes  There will also be	and screening measures become (re) established Long term benefits are anticipated in terms of the view from the road and the driver/ visitors' experience of these unique scenic areas  Overall long term impact magnitude is expected	National	High	Major		Adverse	Yes	This near offline option is assessed as presenting greater risk of change to the Special Qualities of the Loch Tummel NSA  The SEA strategic mitigation recommendation would be to discard this option in favour of the online corridor
ı	(CNP)	Approx 0.7 sq km through River Tay (Dunkeld) NSA Approx 11% of the 200m B-4 corridor area	opportunities to incorporate key views to inform A9 dualling designs to enhance visitors' experience of these landscapes	to be medium given the scale of change over existing conditions  High level impact magnitude is assessed for the Loch Tummel NSA as this option takes a different route through the Pass of Killiecrankie and would result in a new dual carriageway in addition to the existing	National	Medium	Major	Minor	Mixed	Yes	
	Potential for effects on landscapes:	Wildness	SEA considers that online dualling will present minimal effects on wildness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions
9	That display a high degree of wild land characteristics and/ or  Where dark skies are a key characteristic	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	Near offline corridor option B-4 would therefore be expected to present slightly higher risk to wildness where compared with the online corridor option; however, the main difference is an alternative route through Killiecrankie Gorge meaning potential effects will be limited  With mitigation as recommended for online Option B1, the residual effect is assessed as minor adverse
10	Potential for effects on: Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world  Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Although near offline Option B-4 would be expected to present greater risk of change in the landscape, it is no expected to adversely affect the travellers' experience.  With similar recommendations as for online Option B1, the residual effect is assessed as minor positive

mentary on cumulative of on this SEA topic in this Corridor section

Long term cumulative effects of Near Offline Option B-4, on Landscape, are assessed as major adverse
The key issue is that this offline route runs to the opposite side of the Killiecrankie Gorge, bypassing the existing dual carriageway at the Pass of Killiecrankie, and cutting through various woodland features resulting in a significant change in an area recognised as one of the Special Qualities of the Loch Turmel NSA

Permanent change of this nature would be unlikely to be offset by benefits for travellers' experience, wildness or dark skies and the existing dual carriageway would also require detrunking works

The residual cumulative effect is assessed as major adverse and SEA considers that the online corridor option is more favourable



Corridor/ Section Description:

Mapped as **Section B-4**Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol 16km is existing single c/way and 6.2km is existing dual c/way

SEA Assumptions:

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m society and a personation value derived against the total corridor area.

Eignificance of Predicted Effects - Detenmined via consideration of impact Magnitude and Geographic Rignificance Negative Positive Pestitive High Medium Low Negligible Negligible Low Medium High Major Major

	corridor and a percentage value derived against the total corridor area.					Local secific/ project level/ ef on local designation)	fact Moderate	Moderate	Minor Mino	r Minor	Minor Mo	oderate Moderate		
	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on propries	sed mitigation ommendations	or enhancement
nes		Historic Environment										<u> </u>		
EA Topics/ Iss	11	Potential for direct effects or effects on the setting of: Historic Gardens and Designed Landscapes (GDL)	Approx 0.53 sqkm crosses the Blair Castle GDL No real difference from online corridor B-1											
Assessment of SEA Topics/ Issues	12	Potential for direct effects or effects on the setting of: Scheduled Monuments	9 no.Scheduled Monuments within the 200m B-4 corridor No real difference from online corridor B-1											
As	13	Potential for direct effects or effects on the setting of: Battlefield Sites	Approx 0.17 sqkm through Killiecrankie battlefield site Approx 2.4% of the B-4 corridor surface area. Approx 3.7% of Killiecrankie battlefield site	This option potentially presents less of a direct impact on the battlefield, as it could enable dualling to the opposite side of the gorge, either leaving the existing road in-situ through the site, or enabling later removal works	Has the potential for reduced impact on the battlefield when compared with the online corridor as dualling would be to the opposite side of the gorge  Would still be visible from the battlefield site, so assessed as low impact magnitude  Long term minor benefits possible should existing road be removed from the battlefield at a later date	National	Low	Moderate	Minor	Mixed	No	Only real positive as however, it presents  SEA recommends dis there are potential I	a number of ris onstraints carding this opt	sks to other key
	14	Potential for direct effects or effects on the setting of:  Conservation Areas	None identified within the 200m wide B-4 corridor					n/a						
	15	Potential for direct effects or effects on the setting of: Listed Buildings	11 no. Listed Buildings within the 200m B-4 corridor  0 Cat A 6 Cat B 5 Cat C (S)  8 of which are within 50m of the existing route	Overall 3 more listed buidlings within 200m near offline option B4	No real difference from online corridor B-1									
Commentary on cumulative effects on this SEA topic in this Corridor section  In this Corridor section  Long term cumulative effects of near offline option B-4, on Historic Environment, are assessed as moderate adverse.  The only benefit of this option is the potential to avoid dualling through the Killiecrankie Battlefield site, all other effects would be generally similar to the online corridor option B-1.  Near offline option B-4 also has the potential for adverse effects on more listed buildings, and would mean that the existing dual carriageway at the Pass of Killiecrankie becomes redundant.  If the decision was taken to move forward with this option, mitigation recommendations would be the same as the online corridor option and the residual cumulative effect is assessed as minor and the residual cumulative effect is assessed as minor and the residual cumulative effect is assessed as moderate adverse.							r adverse							



Corridor/ Section Description:
Mapped as Section B-4
Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol 16km is existing single c/way and 6.2km is existing dual c/way

SEA Assumptions:

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

85	pilitance of Predicted Effec	te - Determ	ined siz c	meldereti:	e of impa	et Magnitu	de and Se	sgrephic S	igni@cance	•
					lmp	act magnit	ude			
			Neg	itive		Neutral		Post	ltive	
		High	Medium	Low	Negligible	neuda	Negligible	Low	Medium	High
ance	International (impact on European/ other International designation/ alta)	Major	Mejor	Mejor	Moderate		Moderate	Major	Major	Major
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Mode rate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flond plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geo	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

								n local designation)				
N	lo.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
		Biodiversity,										
i		Flora & Fauna	Ramsar Sites	None identified within the 200m B-4 corridor	n/a							
			Special Area of Conservation  Approx 0.63 sqkm of the 200m corridor crosses the  River Tay SAC  Approx 9% of the B-4 corridor surface area.  This SAC is designated for:  River lamprey (Lampetra fluviatilis) Brook lamprey (Lampetra planeri) Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar) Otter (Lutra lutra)  Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Effects are expected to be limited to construction stage risks, particularly where new/ upgraded/ widened crossings require works alongside/ over the SAC  Online dualling expected to present fewer risks than alternative routes that introduce crossings/ works to previously undisturbed areas  Long term road surface runoff water quality expected to improve due to SUDS features along the dualled route	Most significant risks during construction of crossings in terms of spillage/ runoff/ pollution/ sedimentation of the watercourse - short term, temporary risk expected to be managed by design advice from SNH and best practice construction environmental management  No losses of SAC habitat envisaged; however, the near offline option would require crossings in new areas, potentially presenting higher levels of risk than the online corridor, depending on the sensitivity of habitats/ features in, potentially, previously undisturbed areas  Risks assessed with low impact magnitude  Minor benefits anticipated long term due to improved quality of runoff water discharge and potential for improved permeability through the route for otters	Internation al	Low	Major	Minor	Adverse	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, however, risks are increased with the near offline option requiring crossings in previously undisturbed areas  Residual effects assessed as minor negative
1	6	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation  Approx 0.03% of the 200m corridor area crosses the  Shingle Islands SAC  This SAC is designated for:  Alder woodland on floodplains	No real difference from online corridor B-1								
			Special Area of Conservation  Approx 0.03% of the 200m wide corridor area crosses the  Tulach Hill and Glen Fender Meadows SAC  Approx 0.01% of Tulach Hill and Glen Fender Meadows SAC	This SAC is designated for:  Dry grasslands and scrublands on chalk or limestone Dry heaths Base-rich fens Limestone pavements Geyer's whorl snail (Vertigo geyeri) Round-mouthed whorl snail (Vertigo genesii)  The small percentage indicates the outer boundary of the 200m corridor crosses the SAC boundary	Option B4 provides an alternative route around Pitlochry and the Killiecrankie Battlefield site; however, it is likely to present higher risk of adverse effects on Tullach Hill and Glen Fender Meadows SAC  The Option runs across the opposite side of the Pass of Killiecrankie, thereby negating any physical barrier effects of the Highland Mainline and introducing additional infrastructure between the Tulach Hill and River Tay SACs  No habitat loss is expected within the SAC, however, indirect effects are more likely given the closer proximity of potential works  Risks assessed with low impact magnitude as the site is at a higher elevation than the proposed route	Internation al	Low	Major		Adverse	Yes	SEA considers that Near Offline Option B4 is less favourable than the online corridor as it presents greater risk of adverse effects on this SAC site  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
ı			Special Protection Areas (SPA)	None identified within the 200m B-4 corridor					n/a			
			Approx 0.05 sqkm of the 200m wide corridor crosses the  Aldclune and Invervack Meadows SSSI  Approx 0.7% of the B-4 corridor area	This SSSI is designated for: Lowland calcareous grassland	No real difference from online corridor B-1							
		Potential for direct/ indirect	Approx 0.3 sqkm crosses the  Pass of Killiecrankie SSSI  Approx 4% of the B-4 corridor area  Approx 46% of the Pass of Kiliecrankie SSSI site area	This SSSI is designated for: Upland oak woodland Fly assemblage	Near offline option B-4 dissects the Pass of Killiecrankie SSSI and would likely require a swathe cut through the site present adverse effects with <b>high</b> impact magnitude  Permanent losses of oak woodland expected	National	High	Major		Adverse	Yes	Unlikely to be avoided given the constrained nature of the Pass of Killiecrankie and gorge  SEA recommends discarding the near offline option in favour of the online corridor at this location
1	7	effects on: Biological Sites of Special Scientific Interest (SSSI)	Approx 0.002 sqkm of the 200m wide corridor crosses the Shingle Islands SSSI Approx 0.03% of the B-4 corridor area	This SSSI is designated for:  Birds - assemblages of breeding birds Fly assemblage River shingle/ sand	No real difference from online corridor B-1							
			Approx 0.002 sqkm of the 200m wide corridor crosses the  Tulach Hill SSSI  Approx 0.03% of the B-4 corridor area  Approx 0.01% of Tulach Hill SSSI site area	In biological terms this SSSI site is designated for:  Vascular plant assemblage  The small percentage indicates the outer boundary of the 200m corridor crosses the SSSI boundary	As noted for the Tulach Hill SAC designation, this Option negates any physical barrier effect of the Highland Mainline and introduces additional infrastructure between the Tulach Hill site and the River Tay SAC  No habitat loss is expected within the SSSI, however, indirect effects are more likely given the closer proximity of potential works  Risks assessed with low impact magnitude as the site is at a higher elevation than the proposed route	National	Low	Moderate		Adverse	Yes	SEA considers that Near Offline Option B4 is less favourable than the online corridor as it presents greater risk of adverse effects on this SSSI site.  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location



Corridor/ Section Description:
Mapped as Section B-4
Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol 16km is existing single c/way and 6.2km is existing dual c/way

SEA Assumptions:

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

					lmp	act magnit	ude			
			Neg	iffve		Neutral		Pos	ltive	
		High	Medium	Low	Negligible	neuda	Negligible	Low	Medium	High
ance	International (impact on European/ other International designation/ alta)	Major	Mejor	Mejor	Mode rate		Moderate	Mejor	Major	Mejor
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geog	Local (site apecific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

		corridor and a percentage valu	e derived against the total co	illidoi alea.		(alte ap	secific/ project level/ eff on local designation)	ant Moderate	Moderate	Minor Mino	Minor Minor Moderate Moderate
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
18	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 1.6 sqkm crosses areas defined as Ancient Woodland Approx 23% of the designated area of Ancient Woodland	This near offline option requires swathe cuts through	This near offline option cuts through woodland area which would be assessed as <b>high</b> impact magnitude due to increased woodland habitat fragmentation	National	High	Major		Adverse	Yes	Although the near offline option provides some potential benefit for the Killicrankie Battlefield, it significantly increases adverse effects on Ancient and Semi Natura Ancient Woodland not currently affected by the A9
19	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.8 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 11% of corridor area Approx 43% of the designated area of Semi Natural Ancient Woodland	areas of Ancient and Semi Natural Ancient Woodland not currently affected by the A9	Secondary effects on local woodland species would also be greater due to fragmentation rather than edge widening associated with online options	National	High	Major		Adverse	Yes	The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
20	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	None identified within the 200m B-4 corridor					n/a				
		Otter	No real difference from online corridor B-1								
21	Potential for direct and indirect effects on protected species	Red Squirrel	Likely to result in swathe cuts through AW and SNAW increasing habitat fragmentation	Habitat fragmentation is likely to present greater barrier effects and direct loss of habitat for this species in affected woodlands, assessed as <b>high</b> impact magnitude at the site level	Internation al	High	Major		Adverse	Yes	SEA considers that Near Offline Option B4 is less favourable than the online corridor as it presents greate risk of adverse effects for this species  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
		Scottish Wildcat	Likely to result in swathe cuts through AW and SNAW increasing habitat fragmentation	Habitat fragmentation is likely to present greater barrier effects and direct loss of habitat in affected woodlands, assessed as <b>low</b> impact magnitude for this species	Internation al	Low	Moderate		Adverse	SEA considers that Near Offline Option B4 favourable than the online corridor as it prese risk of adverse effects for this specie  Yes  The strategic mitigation recommendation wo	SEA considers that Near Offline Option B4 is less favourable than the online corridor as it presents greate risk of adverse effects for this species  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
Com	mentary on cumulative effects on this SEA topic in this Corridor section	Habitat fragmentation effects the Dualling to the opposite side of Mainline.	nrough designated woodlands Killiecrankie Gorge requires	Flora and Fauna, are assessed as major adv s and SSSI locations would mean potentially s additional crossings of the River Tay SAC in a dualled route, the residual cumulative effect	significant los new areas, it	brings the ro	ad much close				ial species. d negates barrier effects provided by the Highland

## A9 Dualling SEA Assessment Matrix DUALLING PERTH TO INVERNESS

Corridor/ Section Description:
Mapped as Section B-4
Route is 34.6km in length; 22.2km is online, 12.4km offline between Pitlochry & Blair Athol 16km is existing single c/way and 6.2km is existing dual c/way

SEA Assumptions:

Total surface area of 200m wide corridor B-4 is approx. 7 sqkm Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Align	allicance of Predicted Effec	te - Determ	iined ria c	onelderetic	n of impa	ot Magnitu	de and Ge	sgrephic S	igni@cance	•
					lmp	act magnit	ude			
			Neg	ative		Neutral		Post	ltive	
		High	Medium	Low	Negligible	recourse	Negligible	Low	Medium	High
ance	International (impact on European/ other International dealgnation/ ata)	Major	Mejor	Mejor	Mode rate		Moderate	Major	Major	Mejor
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Mode rate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on orea feature, eg. river/ flood pioln)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geog	Local (site apecific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

						` ;	n local designation)				
N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Soils & Water										
ź	Potential for direct/ indirect effects on:  Geological Sites of Special Scientific Interest (SSSI)	Approx 0.002 sqkm of the 200m wide corridor crosses the  Tulach Hill SSSI  Approx 0.03% of the B-4 corridor area  Approx 0.01% of Tulach Hill SSSI site area	In geological terms this SSSI site is designated for: Limestone pavement Upland assemblage mosaic The small percentage indicates the outer boundary of the 200m corridor crosses the SSSI boundary	No land take/ habitat loss is expected within the SSSI, however, indirect effects are more likely given the closer proximity of potential works  Risks assessed with <b>low</b> impact magnitude as the site is at a higher elevation than the proposed route	National	Low	Moderate		Adverse	Yes	SEA considers that Near Offline Option B4 is less favourable than the online corridor as it presents greater risk of adverse effects on this SSSI site  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
2	Potential for direct/ indirect effects on: Geological Conservation Review (GCR) Sites	None identified within the 200m B-4 corridor					n/a				
2	Potential for excavation / construction on:  Areas of wetland or peat	Approx area classified as wetland within 200m B-4 corridor:  Low proportion of wetland = 0.006 sqkm (0.08%)  Wet grassland = 0.08 sqkm (1.2%)  Wet woodland = 0.02 sqkm (0.4%)  Total = 0.01 sqkm (1.6%)	This option presents higher risks of adverse effects on wetland areas than the online corridor	Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within wetland area(s)  In this case, given the scale of the wetland area within this corridor option, potential for effects is considered as local and the potential impact magnitude is assessed as <b>medium</b>	Local	Medium	Moderate		Adverse	Yes	Near offline Option B-4 cuts through more wetland areas than the corresponding online corridor B-1  SEA considers that Option B4 is less favourable than the online corridor as it presents greater risk of adverse effects on wetland areas  The strategic mitigation recommendation would be to discard this option in favour of the online corridor at this location
		No peat identified within the 200m B 4 corridor					n/a				
	Areas of flood plain/ flood risk	Approx 2 sqkm of 200m wide corridor B-4 crosses the 200year flood risk zone Approx 26% of the corridor area	Slightly more surface area in the flood plain, although no real difference from online corridor B-1								
C	ommentary on cumulative effects on this SEA topic in this Corridor section	The near offline option present	s greater risks in terms of add	Soil and Water, are assessed moderate adve ditional wetland areas potentially affected, as v n, the residual cumualtive effects would be	vell as requir			the River Tay			



Corridor/ Section Description:
Mapped as Section C-1
Online dualling option - 29.1km between Bruar & Dalwhinnie.
9.5km is currently dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

	dige	dicence of Predicted Effec	te - Determ	shed via c	emideratio	an of Impo	rt <i>klagnitu</i>	ds and Ge	egraphic S	ignificance	,
						lmp	act magnit	ude			
ı				Neg	stive		Neutral		Posi	ffvc	
			High	Medium	Low	Negligible	Neutra	Negligible	Low	Medium	High
	ance	International (impact on European/ other International designation/ ate)	Major	Mejor	Mejor	Moderate		Moderate	Mejor	Major	Major
	significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
	raphic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
	Geogra	Local (alte apecific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Population & Human Health										
	Accident Rates (2001-2010)	6 Fatal 16 Serious 41 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
	Proximity to settlements	2 No. settlements at: Bruar	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
	, , , , , , , , , , , , , , , , , , , ,	Struan	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
ı			Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
3	Proximity to sensitive receptors	1 No. schools within 500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as neutral, with potential for minor positive with safer crossings
		Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing routes and create an	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected
ı	Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)	crossings are retained post-construction)  Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network	Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies
4	recreation/ to access areas used for recreation, including the Cairngorms National Park	Access for Equestrians within 200m corridor	Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the dualled A9 and maintain overall connectivity	Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	and options on appropriate crossing solutions  During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions
		Approx 5.8 sqkm of the 200m corridor is within the National Park boundary Approx 99% of the C-1 corridor area	Almost the entire corridor section is within the National Park, where levels of NMU usage may be higher	Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	National	Medium	Major	Minor	Mixed	Yes	Rationalised/ diverted paths should be designed to provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as neutral
С	ommentary on cumulative effects on this SEA topic in this Corridor section	Long term cumulative effects ir Major positive effects in the rec Minor negative effects associal	luced severity in accidents, a ted with local rationalisation o	and Human Health, will be mixed.  Ind the improved safety of route crossings.  If existing NMU routes, leading to overall neutr							e alignment and any required rationalisation of path

At the strategic level, the emerging route wide Non-Motorised User Strategy is considered a major positive mitigation and enhancement measure, which will guide and inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor.

The residual cumulative effect is assessed as minor positive



Corridor/ Section Description:

Mapped as **Section C-1**Online dualling option - 29.1km between Bruar & Dalwhinnie.
9.5km is currently dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m

Significance of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Significa 
 Negstive
 Negligible
 Negligible
 Positive
 Positive

 High
 Medium
 Low
 Negligible
 Low
 Medium
 High

		corridor and a percentage valu		he total surface area of each feature within the rridor area.	200111	6	iture, eg iriver/flood pi Local ecific/ project level/ ef n local designation)		Moderate	Minor Minor	Minor Minor Moderate Moderate
N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Ī	Material Assets	(Considered here as A9 and related infrastructure)									
	Side Roads/ Direct Accesses	1 No. A Class Roads 1 No. B Class Roads 4 No. C Class Roads 30 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/rationalised/rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/junctions/accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted -potentially high, local impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
	Existing A9 structures	No. Railway structures     No. Over / Underbridges     (excluding Junctions)      No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable Some structures will require widening/ upgrading/ replacement Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled/ managed via Construction Environmental Management Plans and relevant permitting processes  Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
С	ommentary on cumulative effects on this SEA topic in this Corridor section	A Junction Strategy is being de	ntified where local routes/ dire eveloped to inform and suppo eing undertaken and will cons	sets, will be mixed.  ct accesses are closed/ diverted. However, le  rt decisions on junction locations and rationalis  ider guidance on aesthetics, fitting with local v	sation of direct	access to/ fr	om the A9.				
	Landscape										
	Potential for landscape and visual effects on: National Scenic Areas (NSA) and the Cairngorms National Park (CNP)	Approx 5.8 sqkm of corridor C-1 is within the National Park boundary Approx 99% of the 200m C-1 corridor area Approx 0.2% of the National Park area	Virtually all of this corridor section runs within the National Park boundary  Scale of effects on landscape will depend on the level of change over current conditions, given that the existing A9 is already a recognised feature  There will also be opportunities to incorporate key views to inform A9 dualling designs to enhance visitors' experience of the landscape	Construction stage works including site clearance and excavations will present relatively short term, but highly visible change  An online dualled route will be a permanent change, but with a minimal footprint as opposed to an alternative or offline route  The severity/ visibility of construction effects will reduce over time as local vegetation/ planting and screening measures become (re) established  Long term benefits are anticipated in terms of the view from the road and the driver/ visitors' experience of this unique scenic area  Overall long term impact magnitude is expected to be low given the scale of change over existing conditions	National	Low	Moderate	Minor	Mixed	Yes	Detailed route alignment studies should aim to minimise landscape impacts by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  LCA coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Residual effect of online dualling is assessed as minor adverse
İ	Potential for effects on landscapes: That display a high degree of	Wildness	SEA considers that online dualling will present minimal effects on wildness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions  Widening within Corridor option C-1 is therefore expected to present low risks to wildness when compared with near-offline options  Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the avoidance of lighting on the A9 mainline, unless
	wild land characteristics	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	avoidance of lighting on the A9 mainline, unless absolutely required by safety standards, for example may be required at new junctions  Avoidance and/ or minimisation of effects on wildness and dark skies to be captured in A9 Dualling Landscape and Visual Design Principles  Given the possibility that some lighting may be required at junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the absence of traffic  Cumulative residual effect assessed as minor adverse
	Potential for effects on:  Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world  Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/ route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Landscape Character Assessment coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Opportunities for interpretation features should be considered in partnership with local bodies  Residual effects assessed as minor positive at the local level and moderate positive at the route wide scale

mentary on cumulative eff on this SEA topic in this Corridor section

Long term cumulative effects of Section C-1, on Landscape, will be mixed
Minor to moderate negative effects possible within the Cairngorms National Park, depending on the sensitivites along the route and sympathetic design
Positive effects identified in terms of opportunities for appropriately sited/ designed viewpoints and interpretation.
This issues will be considered under the A9 Dualling Landscape Review, in consultation with SNH and CNPA, to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys.

Residual cumulative effect assessed as minor adverse

## Corridor/ Section Description: Mapped as Section C-1 Online dualling option - 29.1km between Bruar & Dalwhinnie. 9.5km is currently dual c/way. DUALLING PERTH TO INVERNESS

A9 Dualling SEA Assessment Matrix

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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		High	Medium	Low	Negligible	record	Negligible	Low	Medium	High
auce	International (impact on European/ other International dealgnation/ aite)	Major	Mejor	Mejor	Moderate		Moderate	Major	Major	Major
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
возв	Local (alte apecific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Ī		Historic Environment										
	10	Potential for direct effects or effects on the setting of: Historic Gardens and esigned Landscapes (GDL)	None identified within the 200m C-1 corridor					n/a				
		Potential for direct effects or effects on the setting of:  Scheduled Monuments	None identified within the 200m C-1 corridor					n/a				
		otential for direct effects or effects on the setting of:  Battlefield Sites	None identified within the 200m C-1 corridor					n/a				
		otential for direct effects or effects on the setting of:  Conservation Areas	None identified within the 200m C-1 corridor					n/a				
		Potential for direct effects or effects on the setting of: Listed Buildings	4 no. Listed Buildings within the 200m C-1 corridor  0 Cat A 3 Cat B 1 Cat C (S)  1 of which is within 50m of the existing route	SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling could have minor adverse effects on the setting of buildings within 50m, given their proximity to the current route	Given that some buildings are within 50m of the current route, there is the potential for minor (setting) to high (losses) impact magnitude effects on some features  Avoidance through design means that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low, however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect	National	Dependent	Major		Adverse	Yes	Detailed alignment studies and EIA should work to avoid direct impacts (physical losses)  Route alignment studies should be informed by local level survey and consultation to avoid direct effects wherever possible  Where avoidance is not possible within the 200m corridor, route alignment studies should consider options outwith the 200m corridor where possible  EIA measures should include consideration of impacts on setting at the local level, where route alignments are limited by other constraints and are determined to pose risks to the setting of listed buildings  Local level mitigation should be informed via consultation with the Local Authority, Historic Scotland and other relevant stakeholders  Residual effects assessed as minor adverse
A Topics/ Issues		entary on cumulative effects on this SEA topic n this Corridor section	Route alignment studies, local sconsidered.	survey, consultation and asse	vironment, are assessed as minor adverse spr essment will work to avoid Listed Buildings, ar erse due to potential effects on setting rath	nd where avoid	ance is not fe					atives outwith the 200m corridor should be



Corridor/ Section Description:
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Online dualling option - 29.1km between Bruar & Dalwhinnie.
9.5km is currently dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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		Neg	stive		Neutral		Post		
	High	Medium	Low	Negligible	Nedula	Negligible	Low	Medium	High
international (impact on European/ other International designation/ site)	Major	Mejor	Mejor	Moderate		Moderate	Mejor	Major	Major
(impact on European/ other International dealgnation/ alta)  National (impact on national level dezignation/ ste)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Regional (route widel conidor level effect on area feature, eg river food pieln)  Local (gite apecific) project level effect	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
(site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
f SE		Biodiversity, Flora & Fauna										
nent o			Ramsar Sites	None identified within the 200m C-1 corridor					n/a			
Assessment of SE			Special Area of Conservation  Approx 0.3 sqkm of the 200m corridor crosses the  Drumochter Hills SAC  Approx 6% of the C-1 corridor surface area  Approx 0.7% of the Drumochter Hills SAC area	This SAC is designated for:  Bogs (Upland) - Blanket bog Calcareous grassland (Upland) - Species-rich grassland with mat-grass in upland areas Dwarf shrub heath (Upland) - Dry heaths Dwarf shrub heath (Upland) - Wet heathland with cross- leaved heath Inland rock - Tall herb communities Inland rock - Plants in crevices on acid rocks Inland rock - Acidic scree Montane habitats - Alpine and subalpine heaths Montane habitats - Montane acid grasslands Montane habitats - Montain willow scrub	The A9 runs along the valley floor through Pass of Drumochter and the SAC designation is divided in two by the infrastructure corridor on the valley floor  As such, there is a break through the SAC site boundaries of around 75m at the narrowest point  No direct losses of SAC habitat are envisaged, although indirect effects are possible, assessed as medium impact magnitude as blanket bog could be affected on the valley floor	International	Medium	Major		Adverse	Yes	Route alignment studies through the Pass will need to minimise the overall width of the dualling footprint  This will likely influence the placement of lay bys, and may lead to lay bys being located outwith the SAC boundaries  SEA considers that there is sufficient clearance in the Pass to avoid the SAC site boundaries on either side; however, given their proximity, detailed route alignment studies and designs will need to be supported by local level survey and Appropriate Assessment to ensure no LSE on the Drumochter Hills qualifying interest features.  Final route alignment designs to be advised by project level survey and ecology specialists  With design level mitigation, risk of adverse effects are considered low, even though the A9 runs through the middle of the Drumochter Hills SAC  Residual effects assessed as neutral
	15	Potential for direct/ indirect effects on:  Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation Approx 0.04 sqkm of the 200m corridor crosses the River Spey SAC Approx 0.7% of the C-1 corridor surface area	This SAC is designated for: Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar) Otter (Lutra lutra) Freshwater pearl mussel (Margaritifera margaritifera)	A headwater of the River Spey SAC begins in the Drumochter Pass and runs parallel to the A9 and the Highland Mainline  Principal risks associated with construction activity in the Pass, related to spillage, runoff, sedimentation affecting the watercourse and aquatic species, and disturbance for otters  Impacts expected to be managed through best practice construction methods and risks in this area assessed with negligible impact magnitude  Long term potential for minor benefits associated with improved discharge water quality from A9 SUDS	International	Negligible	Moderate	Minor	Adverse	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Spey SAC runs near the A9 along much of the route
			Special Protection Areas (SPA)  Approx 0.3 sqkm of the 200m corridor crosses the  Drumochter Hills SPA  Approx 6% of the C-1 corridor surface area  Approx 0.3% of the Drumochter Hills SPA site area	This SPA is designated for:  Birds: Merlin (Falco columbarius), breeding Dotterel (Charadrius morinellus), breeding	The A9 runs along the valley floor through Pass of Drumochter and the SPA designation is divided in two by the infrastructure corridor on the valley floor  As such, there is a break through the SPA site boundaries of around 75m at the narrowest point  No direct losses of SPA habitat are envisaged, although breeding birds could be disturbed by construction activity, with potentially high impact magnitude	International	High	Major		Adverse	Yes	Principle avoidance recommendation is to avoid construction during breeding seasons for qualifying interest species  Minimising the dualled footprint through the valley floor will also minimise potential adverse effects on SPA supporting habitats  Residual effects assessed as neutral
	16	Potential for direct/ indirect effects on: Biological Sites of Special Scientific Interest (SSSI)	Approx 1.6 sqkm of the 200m wide corridor crosses the  Drumochter Hills SSSI (Mixed)  Approx 27% of the C-1 corridor area  Approx 1.6% of the Drumochter Hills SSSI area	This SSSI is designated for: Breeding bird assemblage Fluvial Geomorphology of Scotland Montane assemblage Vascular plant assemblage	Unlike the SAC/ SPA designations, there is no break in the SSSI site boundary through the valley floor  Construction stage presents risk of possibly permanent loss of or damage to SSSI features, assessed as <b>high</b> impact magnitude	National	High	Major		Adverse	Yes	Detailed local survey and assessment required to inform route alignment studies through the Drumochter Hills site, to ensure that the overall footprint width is minimised and that SSSI features are identified and avoided wherever possible  Will likely influence the placement of lay bys, and may lead to lay bys being located outwith the SSSI boundaries  Local level consultation with SNH will be required to ensure that SSSI features are avoided through design, and where avoidance is not possible, to determine appropriate mitigation measures.  SEA recommends that dualling proposals through this area take into account the entire breadth of the SSSI site, to ensure that design is consistent through the site and that construction works do not have start/ end points within the site boundaries.  Residual effects assessed as minor negative



Corridor/ Section Description:
Mapped as Section C-1
Online dualling option - 29.1km between Bruar & Dalwhinnie.
9.5km is currently dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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auce	International (impact on European/ other International dealgnation/ atta)	Major	Mejor	Mejor	Moderate		Moderate	Major	Major	Major
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood piain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
боар	Local (alte apecific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
17	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 0.3 sqkm crosses areas defined as Ancient Woodland Approx 6% of corridor area Approx 38% of the designated area of Ancient Woodland	Online dualling will widen the existing route leading to some edge clearance for boundary widening, resulting in some permanent losses  Edge effects can extend up to 30m into a woodland representing additional habitat loss  SNH advise that edge effects	Online dualling is expected to result in minor permanent losses due to boundary edge clearance  Where AW is unavoidable, edge effects are assessed as <b>low</b> impact magnitude  Where SNAW is also unavoidable, edge effects are assessed as <b>medium</b> impact due to potential	National	Low	Moderate		Adverse	Yes	In online corridor areas where AW and SNAW are unavoidable via route alignment studies, impacts should be minimised by limiting the widened footprint as far as possible, and considerint widening bieatures) outwith designated woodland boundaries.  Where felling of mature semi-natural woodland is required, appropriate mitigation should be discussed with SNH and FCS  Any permanent losses of AW, SNAW, and other non-designated woodland habitat should be cumulatively compensated for, taking the total loss of interior woodland habitat into account, in other areas locally
18	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.3 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 5% of corridor area Approx 45% of the designated area of Semi Natural Ancient Woodland	can be more significant on areas of Semi Natural Ancient Woodland and the severity should not be underestimated SEA considers edge clearance for online widening a lower level impact than alternative or offline routes that could introduce additional fragmentation through previously unaffected areas	for higher ecological value  Where online dualling widens the distance between woodlands, it is likely to present secondary adverse effects, in terms of widening a barrier to species movement between habitats  Many woodland species are unable, or less able, to move across non-wooded habitat	National	Medium	Major		Adverse	Yes	identified as opportunity sites for woodland  New woodland as mitigation should use natural regeneration, although native planting may be acceptable, where there are benefits from introducing native species not currently present on site; however, this should be considered in discussion with SNH and FCS  Mitigation and restoration plans for woodlands will be required for approval prior to commencement of construction and consideration should be given to the needs of local species  With mitigation in place, residual effects are assessed
19	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	None identified within the 200m C-1 corridor					n/a				
		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for otters  New underpasses, drainage and SUDS features may prove beneficial	Found route wide, potential hotspot through Glen Garry and Drumochter  Most signficant risks during construction related to disturbance and/ or habitat loss, especially around watercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population  Long term minor benefits likely in terms of improved route permeability through upgraded drainage and SUDS, especially where ecological advice improves suitability for use by otters	International	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure
20	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide, less prevalent in Glen Garry and Drumochter  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	International	Low	Moderate		Adverse	Yes	Residual affects assessed as minor nositive  Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists  Residual effects assessed as minor adverse
		Scottish Wildcat	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial	Known to range route wide, potential hotspot around Pitagowan  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as negligible impact magnitude  Long term minor benefits possible in terms of improved route permeability through a range of underpass crossings, pipes, etc., especially where effective mammal passes/ tunnels are incomprated in addition to drainage/ culverts	International	Negligible	Moderate	Minor	Mixed	Yes	Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for wildcat Dualling is likely to increase the number of crossings under the road structure, via pedestrian subways, grade separated junctions, road, rail and water crossings  Also likely to improve route permeability via appropriately designed mammal tunnels/ passes  Residual effects assessed as minor positive
			0 04								

mentary on cumulative effection on this SEA topic in this Corridor section

Long term cumulative effects in Section C-1, on Biodiversity, Flora and Fauna, are assessed as moderate adverse.

Potential impacts on the Drumochter Hills SAC/ SPA and the River Spey SAC will be addressed via project level Appropriate Assessment to inform final design solutions.

Similarly, potential effects on the Drumochter SSSI habitats and species will be minimised via local survey, consultation and assessment.

Effects on woodland areas should be limited to some minor boundary widening, which should limit adverse secondary effects for species.

Local survey to inform species mitigation/ enhancement and management plans are also likely to be required in this sensitive area Residual cumulative effects are assessed as minor adverse



Corridor/ Section Description:

Mapped as **Section C-1**Online dualling option - 29.1km between Bruar & Dalwhinnie.
9.5km is currently dual c/way.

SEA Assumptions:

Total surface area of 200m wide corridor C-1 is approx. 5.8 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Significance of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Significa 

							n local designation)				
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Soils & Water										
21	Potential for direct/ indirect effects on:  Geological Sites of Special Scientific Interest (SSSI)	Approx 1.6 sqkm of the 200m wide corridor crosses the  Drumochter Hills SSSI  Approx 27% of the C-1 corridor area  Approx 1.6% of the Drumochter Hills SSSI area	This SSSI is designated for: Breeding bird assemblage Fluvial Geomorphology of Scotland Montane assemblage Vascular plant assemblage	Effects on fluvial geomorphology are expected to be minimal in this area as the River Spey runs generally parallel to the A9; however, additional culverts may be required with potentially <b>low to medium</b> impact magnitude	National	Medium	Major		Adverse	Yes	SEA recommends early discussion and agreement with SNH (and SEPA), on a preferred approach to this particular SSSI site, to inform strategic design guidance Residual effects assessed as <b>minor adverse</b>
22	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	Approx 0.2 sqkm crosses the Glen Garry Geological SSSI Approx 4% of the C-1 corridor area Approx 55% of the Glen Garry SSSI area	This SSSI is designated for: Dalradian features The A9 runs through the middle of this site	Site presents a tension between general avoidance of SSSI and A9 cuttings exposing features - could be seen as risk and opportunity  Cutting through the site assessed with medium impact magnitude	National	Medium	Major	Minor	Mixed	Yes	A9 dualling presents potentially mixed effects, with risks of adverse impacts and opportunities for local enhancement  Dualling may open up other features of geological interest, and there may be opportunities for enhancement in the area, via lay by positioning and providing safe pedestrian subway access to both sides of the road
23	Potential for direct/ indirect effects on: Geological Conservation Review (GCR) Sites	Approx 0.7 sqkm crosses the  A9 Cuttings & River Garry (GCR)  Approx 12% of the C-1 corridor area  Approx 40% of the site area	This GCR is practically identical to the Glen Garry SSSI and the same issues apply	As above	National	Medium	Major	Minor	Mixed	Yes	If the sites need to be avoided, route alignment studies will need to consider alternatives outwith the 200m corridor  Early agreement is required with SNH on the preferred approach to provide strategic guidance  Residual effect assessed as neutral
24	Potential for excavation / construction on:	Approx area classified as wetland within 200m C-1 corridor:  Non Specific wetland = 0.07 sqkm (1%)  Wet grassland = 0.01 sqkm (0.2%)  Wet Health = 0.002 sqkm (0.03%)  Peat Bog = 0.02 sqkm (0.4%)  Total = 0.08 sqkm (1.8%)	These areas of wetland habitat are all in the Pass of Drumochter	Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within or across the wetland area(s)  In this case, given the scale of the wetland area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as medium	Local	Medium	Moderate		Adverse	Yes	SEA considers that detailed route alignment studies and environmental assessment will work primarily to avoid areas designated as wetland  Local level hydrogeological survey and consultation with SEPA and SNH would be required in areas where wetland may be impacted, especially where Groundwater Dependent Wetlands are identified  Following such design level mitigation, risk of residual impacts are considered low  Residual effect assessed as minor adverse
25	Areas of wetland or peat	Approx 0.4% of the 200m wide C-1 corridor area is classified as peat soils	This area of peat soils is generally in the Pass of Drumochter	Given the scale of the peat land area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as <b>medium</b>	Local	Medium	Moderate		Adverse	Yes	The area through the Drumochter Pass will be particularly challenging given the constrained nature of the valley floor, and should dualling impact areas of active blanket bog, then a major adverse effect at the site level would be determined due to the priority nature of this habitat  Local level peat ecology, hydrology and geotechnical survey will be required to determine locally appropriate solutions which minimise the potential effects of drainage and desiccation, and inform suitable restoration and management plans  Residual effect assessed as moderate adverse
26	Areas of flood plain/ flood risk	Approx 0.3 sqkm of 200m wide corridor C-1 crosses the 200yr flood risk zone Approx 5% of the corridor area	An overarching aim for A9 dualling will be to maintain flood risks at current levels (i.e. no overall change)  Depending on final route alignments, dualling may have to incorporate appropriate flood management measures to maintain no net change to flood risks	Short term effects during construction stages would be related to flood events, e.g. inundation of works compounds leading to pollution of water courses/ sensitive habitats  Medium to long term effects would be related to risk of permanent change to overall flood regime due to A9 dualling infrastructure  Some A9 dualling works, eg. SUDS, may improve drainage provisions and attenuation of surface runoff  Long term permanent effects are assessed as uncertain as the final route alignment may or may not affect flooding	Regional	Uncertain	Moderate	Minor	Uncertain	Yes	Route alignment studies and local level environmental assessment should aim to avoid the functional flood plain wherever possible; however, given the length of the route this may not be possible in all cases  Strategic flood risk assessment (SFRA) is being undertaken to identify key areas of risk and to determine strategic recommendations on avoidance and mitigation  Detailed Flood Risk and Drainage Impact Assessment will also inform design of the final route alignment  With design level mitigation, areas requiring compensatory flood storage will be identified and the principle of 'no change to existing flood risk' will be employed to avoid increasing risks  Residual effects assessed as neutral
Con	mentary on cumulative effects on this SEA topic in this Corridor section	Dualling through the Pass of Dr help avoid undisturbed areas.	rumochter presents a range	ater, is assessed as moderate adverse.  of issues and risks to peat and wetland habitat  ve slightly via SUDS, leading to minor benefits		Ť			imises the fo	Dotprint width	Should limit effects to previously disturbed soils and

Replayord undisturbed areas.

Road drainage discharge water quality is expected to improve slightly via SUDS, leading to minor benefits for the River Spey and wetland habitat in the area.

There are issues and opportunities to be resolved around the Glen Garry SSSI site.

The residual cumulative effect is assessed as minor adverse



Corridor/ Section Description:
Mapped as Section D-1
Online dualling option - 14.1km between Dalwhinnie & Crubenmore 4.1km is currently dual c/way (Crubenmore).

SEA Assumptions:

Total surface area of 200m wide corridor D-1 is approx. 2.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

#lgs	Significance of Predicted Effects - Determined six consideration of impact Magnitude and Geographic Mignificance													
					lmp	act magnit	ude							
			Neg	attve		Neutral		Pos	itive					
		High	Medium	Low	Negligible	Medical	Negligible	Low	Medium	High				
ance	International (impact on European/ other International designation/ aite)	Mejor	Mejor	Mejor	Moderate		Moderate	Major	Mejor	Major				
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major				
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major				
Geog	Local (site specific) project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate				

No.	A9 Dualling related	Corridor / Section	Commentary on	Commentary on Duration, Frequency & Permanence	Geographic	Predicted Impact	Severity of significance	Severity of significance	Overall	Mitigation or other action	Commentary on proposed mitigation or enhancement
	issues	relevant feature(s)	Assumptions / Effects	Short / Medium / Long Term Effects	Significance	Magnitude	(Adverse)	(Beneficial)	Effect	required?	recommendations
	Population  & Human Health										
1	Accident Rates (2001-2010)	5 Fatal 8 Serious 25 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
2	Proximity to settlements	2 No. settlements at:  Dalwhinnie	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
		Crubenmore	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level  Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
			Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
3	Proximity to sensitive receptors	No. schools within 500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
		Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing routes and create an	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected
	Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)	crossings are retained post-construction)  Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network	Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies and options on appropriate crossing solutions
4	recreation/ to access areas used for recreation, including the Cairngorms National Park	Access for Equestrians within 200m corridor	Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the dualled A9 and maintain overall connectivity	Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions
		Approx 2.9 sqkm of the 200m corridor is within the National Park boundary 100% of the D-1 corridor area	This entire corridor section is within the National Park, where levels of NMU usage may be higher	Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	National	Medium	Major	Minor	Mixed	Yes	Rationalised/ diverted paths should be designed to provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as neutral
Com	mentary on cumulative effects on this SEA topic in this Corridor section	Major positive effects in the red Minor negative effects associate	uced severity in accidents, and with local rationalisation or ging route wide Non-Motorise connectivity within and acros	s the corridor.							ute alignment and any required rationalisation of



Corridor/ Section Description:

Mapped as **Section D-1**Online dualling option - 14.1km between Dalwhinnie & Crubenmore 4.1km is currently dual c/way (Crubenmore).

SEA Assumptions:

Total surface area of 200m wide corridor D-1 is approx. 2.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Hignificance of Predicted Effects - Determined sin consideration of impact inlegatures and Geographic Significance Negative Positive
High Medium Low Negligible Neutral Negligible Low Medium High

No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Material Assets	(Considered here as A9 and related infrastructure)		One of the second			( 3. 3. 3.)	( ,			
5	Side Roads/ Direct Accesses	1 No. A Class Roads 0 No. B Class Roads 3 No. C Class Roads 11 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted potentially <b>high, local</b> impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
6	Existing A9 structures	No. Railway structures     No. Over / Underbridges     (excluding Junctions)     No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable  Some structures will require widening/ upgrading/ replacement  Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled/managed via Construction Environmental Management Plans and relevant permitting processes  Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
Com	mentary on cumulative effects on this SEA topic in this Corridor section Landscape	A Junction Strategy is being de	ntified where local routes/ dire eveloped to inform and suppo eing undertaken and will cons	sets, will be mixed.  act accesses are closed/ diverted. However, left decisions on junction locations and rational sider guidance on aesthetics, fitting with local sider.	sation of dire	ect access to/	from the A9.				
7	Potential for landscape and visual effects on: National Scenic Areas (NSA) and the Cairngorms National Park (CNP)	Approx 3 sqkm of corridor D-1 is within the National Park boundary 100% of the 200m D-1 corridor area Approx 0.06% of the National Park area	This entire corridor section is within the national park boundary  Scale of effects on the landscape will depend on the level of change over current conditions, given that the existing A9 is already a recognised feature in those landscapes  There will also be opportunities to incorporate key views to inform A9 dualling designs to enhance visitors' experience of these landscapes	Construction stage works including site clearance and excavations will present relatively short term, but highly visible change  An online dualled route will be a permanent change, but with a minimal footprint as opposed to an alternative or offline route  The severity/ visibility of construction effects will reduce over time as local vegetation/ planting and screening measures become (re) established Long term benefits are anticipated in terms of the view from the road and the driver/ visitors' experience of these unique scenic areas  Overall long term impact magnitude is expected to be low given the scale of change over existing conditions	National	Low	Moderate	Minor	Mixed	Yes	Detailed route alignment studies should aim to minimise landscape impacts by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  LCA coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Residual effect of online dualling is assessed as minor adverse
	Potential for effects on landscapes:	Wildness	SEA considers that online dualling will present minimal effects on wildness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions  Widening within Corridor option D-1 is therefore expected to present low risks to wildness when compared with near-offline options  Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the
8	That display a high degree of wild land characteristics and/ or  Where dark skies are a key characteristic	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	avoidance of lighting on the A9 mainline, unless absolutely required by safety standards, for example may be required at new junctions  Avoidance and/ or minimisation of effects on wildness and dark skies to be captured in A9 Dualling Landscape and Visual Design Principles  Given the possibility that some lighting may be required at junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the absence of traffic  Cumulative residual effect assessed as minor adverse
9	Potential for effects on: Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world  Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Landscape Character Assessment coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Opportunities for interpretation features should be considered in partnership with local bodies  Residual effects assessed as minor positive at the local level and moderate positive at the route wide scale
Com	mentary on cumulative effects on this SEA topic		ects possible within the Cairn	, will be mixed gorms National Park, depending on the sensi priately sited/ designed viewpoints and interpr		the route and	I sympathetic	design			

Positive effects identified in terms of opportunities for appropriately sited/ designed viewpoints and interpretation.

This issues will be considered under the A9 Dualling Landscape Review, in consultation with SNH and CNPA, to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/

laybys.
Residual cumulative effect assessed as minor adverse



Corridor/ Section Description:
Mapped as Section D-1
Online dualling option - 14.1km between Dalwhinnie & Crubenmore 4.1km is currently dual c/way (Crubenmore).

SEA Assumptions:

Total surface area of 200m wide corridor D-1 is approx. 2.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

	#fgs	nificance of Predicted Effec	te - Dotess	aned sia c	ernichernt/c	on of laps	zt Megnitu	de and Ge	ograpskic S	iged#cance	,
						lmp	act magnit	ude			
				Neg	attve		Neutral		Pos	ltive	
			High	Medium	Low	Negligible	Medical	Negligible	Low	Medium	High
	nificance	International (impact on European/ other International designation/ aite)	Mejor	Mejor	Mejor	Moderate		Moderate	Mejor	Mejor	Major
	signific	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
	Geographic	Regional (route wide/ conidor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
	Geog	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
		Historic Environment										
	10	Potential for direct effects or effects on the setting of: Historic Gardens and Designed Landscapes (GDL)	None identified within the 200m D-1 corridor					n/a				
sen	11	Potential for direct effects or effects on the setting of: Scheduled Monuments	Wade Bridge, Dalwhinnie Scheduled Monument within the 200m D-1 corridor	This monument lies at the outer edge of the 200m corridor, crossing the River Spey SAC on the exit from the Drumochter Pass  SEA expects this site will be avoided by dualling	Only 1 scheduled monument is noted in this 200m wide corridor section, it is anticipated that detailed alignment studies will avoid this feature - any impact is expected to be <b>negligible</b>	National	Negligible	Moderate		Adverse	No	No mitigation at SEA level  Expected to be avoided by route alignment studies  Residual effect assessed as <b>neutral</b>
t of SEA Topics/ Issues	12	Potential for direct effects or effects on the setting of:  Battlefield Sites	None identified within the 200m D-1 corridor					n/a				
Assessment of SE/	13	Potential for direct effects or effects on the setting of:  Conservation Areas	None identified within the 200m D-1 corridor					n/a				
Assess	14	Potential for direct effects or effects on the setting of: Listed Buildings	2 no. Listed Buildings within the 200m D-1 corridor 0 Cat A 2 Cat B 0 Cat C (S) 0 of which are within 50m of the existing route	SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints SEA assumes that online dualling could have minor adverse effects on the setting of buildings within 50m, given their proximity to the current route	Given that some buildings are within 50m of the current route, there is the potential for minor (setting) to high (losses) impact magnitude effects on some features  Avoidance through design means that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect	National	Dependent	Major		Adverse	No	In this section, the listed buidlings are at the outer edge of the 200m corridor and are expected to be avoided by route alignment studies  No mitigaiton at SEA level  Residual effects assessed as neutral
	Com	nmentary on cumulative effects on this SEA topic in this Corridor section		the 200m corridor that have	vironment, are assessed as neutral, with no significations to secure potenerse				may remain.			



Corridor/ Section Description:

Mapped as **Section D-1**Online dualling option - 14.1km between Dalwhinnie & Crubenmore 4.1km is currently dual c/way (Crubenmore).

SEA Assumptions:

Total surface area of 200m wide corridor D-1 is approx. 2.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Hignificance of Predicted Effects - Determined sin consideration of impact inlegatures and Geographic Significance Negative High Medium Low Negligible

,							n local designation)				
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Biodiversity, Flora & Fauna										
		Ramsar Sites	None identified within the 200m D-1 corridor					n/a			
15	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation Approx 0.08 sqkm of the 200m corridor crosses the River Spey SAC Approx 3% of the D-1 corridor surface area Approx 0.1% of River Spey SAC	This SAC is designated for: Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar) Otter (Lutra lutra) Freshwater pearl mussel (Margaritifera margaritifera)	A headwater of the River Spey SAC begins in the Drumochter Pass and runs parallel to the A9 and the Highland Mainline through Section D-1  Principal risks associated with construction activity relate to spillage, runoff, sedimentation affecting the watercourse and aquatic species, and disturbance for otters  Impacts expected to be managed through best practice construction methods and risks in this area assessed with negligible impact magnitude  Long term potential for minor benefits associated with improved discharge water quality from A9 SUDS	Internation al	Negligible	Moderate	Minor	Adverse	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Spey SAC runs near the A9 along much of the route
ı		Special Protection Areas (SPA)	None identified within the 200m D-1 corridor					n/a			
16	Potential for direct/ indirect effects on: Biological Sites of Special Scientific Interest (SSSI)	Approx 0.1 sqkm of the 200m wide corridor crosses the  Drumochter Hills (Mixed SSSI)  Approx 3.58% of the D-1 corridor area  Approx 0.11% of Drumochter Hills	This SSSI is designated for: Breeding bird assemblage Fluvial Geomorphology of Scotland Montane assemblage Vascular plant assemblage however, with approx 3.5% of the D-1 corridor area it is expected that, within the context of other constraints, the final route alignment will avoid this SSSI	Construction stage risk of possibly permanent loss of SSSI features - expected to be minimal risk as final route alignment should avoid losses to the SSSI features - long term risk of permanent impact assessed as <b>low</b>	National	Low	Moderate		Adverse	No	SEA expects that detailed route alignment studies and environmental assessment will employ the principle of avoidance to ensure that, within the context of other constraints, the final route alignment does not impact the SSSI
17	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 0.2 sqkm crosses areas defined as Ancient Woodland Approx 5% of corridor area Approx 22% of the designated area of Ancient Woodland									
18	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.15 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 5% of corridor area Approx 27% of the designated area of Semi Natural Ancient Woodland		These woodland an	eas are around	d already duall	ed sections and	are not expect	ed to be furth	er affected	
19	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	None identified within the 200m D-1 corridor					n/a				
ı		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for others  New underpasses, drainage and SUDS features may prove beneficial	Found route wide, no particular hotspot in Section D  Most signficant risks during construction related to disturbance and/ or habitat loss, especially around watercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population  Long term minor benefits likely in terms of improved route permeability through upgraded drainage and SUDS, especially where ecological advice improves suitability for use by otters	al	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/ minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure
20	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	Internation al	Low	Moderate		Adverse	Yes	Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists. Residual effects assessed as minor adverse
		Scottish Wildcat	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial	Known to range route wide, potential hotspot in the area around Newtonmore  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as negligible impact magnitude  Long term minor benefits possible in terms of improved route permeability through a range of underpass crossings, pipes, etc., especially where effective mammal passes/ tunnels are incorporated in addition to drainage/ cullverts	Internation al	Negligible	Moderate	Minor	Mixed	Yes	Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for wildcat Dualling is likely to increase the number of crossings under the road structure, via pedestrian subways, grade separated junctions, road, rail and water crossings Also likely to improve route permeability via appropriately designed mammal tunnels/ passes Residual effects assessed as minor positive
Cor	nmentary on cumulative effects on this SEA topic	Risks to the River Spey SAC a	re considered minimal and du	, Flora and Fauna, are assessed as moderate alling will be informed by project level Approper affected, which limits secondary adverse e	oriate Assess			al route alignm	nent avoids	any significant	adverse effects.



Corridor/ Section Description:
Mapped as Section D-1
Online dualling option - 14.1km between Dalwhinnie & Crubenmore 4.1km is currently dual c/way (Crubenmore).

SEA Assumptions:

Total surface area of 200m wide corridor D-1 is approx. 2.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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ance	International (impact on European/ other International designation/ alte)	Mejor	Mejor	Mejor	Moderate		Moderate	Major	Mejor	Major
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geog	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

						0	n local designation)				
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Soils & Water										
21	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	Approx 0.1 sqkm of the 200m wide corridor crosses the  Drumochter Hills (Mixed SSSI)  Approx 3.58% of the D-1 corridor area	This SSSI is designated for:  Breeding bird assemblage Fluvial Geomorphology of Scotland Montane assemblage Vascular plant assemblage	Effects on fluvial geomorphology are expected to be minimal in this area as the River Spey runs generally parallel to the A9; however, additional culverts may be required with potentially low to medium impact magnitude	National	Medium	Major		Adverse	Yes	SEA recommends early discussion and agreement with SNH (and SEPA), on a preferred approach to this particular SSSI site, to inform strategic design guidance Residual effects assessed as minor adverse
25	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	Loch Etteridge (Geological SSSI)			The A9 is	already dualle	ed around these	e feature areas			
26	effects on:  Geological Conservation Review (GCR) Sites	Loch Etteridge (GCR)			T					ı	
	Potential for excavation /	Approx area classified as wetland within 200m D-1 corridor:  Wet grassland = 0.012 sqkm (0.42%)  Peat Bog = 0.012 sqkm (0.45%)  Total = 0.014 sqkm (0.87%)	These areas of wetland habitat are all in the Pass of Drumochter	Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within or across the wetland area(s)  In this case, given the scale of the wetland area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as medium	Local	Medium	Moderate		Adverse	Yes	SEA considers that detailed route alignment studies and environmental assessment will work primarily to avoid areas designated as wetland  Local level hydrogeological survey and consultation with SEPA and SNH would be required in areas where wetland may be impacted, especially where Groundwater Dependent Wetlands are identified  Following such design level mitigation, risk of residual impacts are considered low  Residual effect assessed as minor adverse
27	construction on: Areas of wetland or peat	0.5% of the 200m D-1 corridor area is classified as peat	This area of peat soils is generally in the Pass of Drumochter and through Glen Truim	Given the scale of the peat land area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as <b>medium</b>	Local	Medium	Moderate		Adverse	Yes	The area through the Drumochter Pass will be particularly challenging given the constrained nature of the valley floor, and should dualling impact areas of active blanket bog, then a major adverse effect at the site level would be determined due to the priority nature of this habitat  Local level peat ecology, hydrology and geotechnical survey will be required to determine locally appropriate solutions which minimise the potential effects of drainage and desiccation, and inform suitable restoration and management plans  Residual effect assessed as moderate adverse
28	Areas of flood plain/ flood risk	Approx 0.12 sqkm of 200m wide corridor D-1 crosses the 200yr flood risk zone Approx 5% of corridor area	An overarching aim for A9 dualling will be to maintain flood risks at current levels (i.e. no overall change)  Depending on final route alignments, dualling may have to incorporate appropriate flood management measures to maintain no net change to flood risks	Short term effects during construction stages would be related to flood events, e.g. inundation of works compounds leading to pollution of water courses/ sensitive habitats  Medium to long term effects would be related to risk of permanent change to overall flood regime due to A9 dualling infrastructure  Some A9 dualling works, eg. SUDS, may improve drainage provisions and attenuation of surface runoff  Long term permanent effects are assessed as uncertain as the final route alignment may or may not affect flooding	Regional	Uncertain	Moderate	Minor	Uncertain	Yes	Route alignment studies and local level environmental assessment should aim to avoid the functional flood plain wherever possible; however, given the length of the route this may not be possible in all cases  Strategic flood risk assessment (SFRA) is being undertaken to identify key areas of risk and to determine strategic recommendations on avoidance and mitigation  Detailed Flood Risk and Drainage Impact Assessment will also inform design of the final route alignment  With design level mitigation, areas requiring compensatory flood storage will be identified and the principle of no change to existing flood risk will be employed to avoid increasing risks  Residual effects assessed as neutral
Com	mentary on cumulative effects on this SEA topic in this Corridor section	Dualling through the Pass of Dr previously disturbed soils and h	ve slightly via SUDS, leading to minor benefits				-	t online dua	lling that minir	nises the footprint width should limit effects to	



Corridor/ Section Description:
Mapped as Section E-1
Online dualling option - 34.4km between Newtonmore and Kingussie 26.7km existing single c/way and 8.2km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor E-1 is approx 6.9 sekm

Total surface area of 200m wide corridor E-1 is approx. 6.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

unce of Predicted Effects - Determined via consideration of Impact Magnitude and Geographic Mynificance Negligible Low Medium Low Negligible Neutral Positive
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No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Population & Human Health										
1	Accident Rates (2001-2010)	10 Fatal 19 Serious 74 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
2	Proximity to settlements	3 No. settlements at: Kingussie	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
		Kincraig Aviemore	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
			Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
3	Proximity to sensitive receptors	2 No. schools within 500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as <b>neutral</b> , with potential for minor positive with safer crossings
		Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/ crossings	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected
	Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	routes and create an additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)	are retained post-construction)  Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network	Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies and options on appropriate crossing solutions
4	recreation/ to access areas used for recreation, including the Cairngorms National Park	Access for Equestrians within 200m corridor	connectivity	Permanent effects where route crossings are rationalised, however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions  Rationalised/ diverted paths should be designed to
		Approx 6.9 sqkm of the 200m corridor is within the National Park boundary 100% of the E-1 corridor area	This entire corridor section is within the National Park, where levels of NMU usage may be higher	Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	National	Medium	Major	Minor	Mixed	Yes	provide the same or higher standard of pathway  Underpass crossings will be safer than road level crossings  Residual effect assessed as <b>neutral</b>
Con	mentary on cumulative effects on this SEA topic in this Corridor section	Major positive effects in the red Minor negative effects associat	duced severity in accidents, a ed with local rationalisation o ging route wide Non-Motorise connectivity within and acros	ss the corridor.							route alignment and any required rationalisation of
	Material Assets	(Considered here as A9 and related infrastructure)									
5	Side Roads/ Direct Accesses	3 No. A Class Roads 2 No. B Class Roads 43 No. C Class Roads 54 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted-potentially <b>high, local</b> impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
6	Existing A9 structures	No. Railway structures     No. Over / Underbridges     (excluding Junctions)      No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable Some structures will require widening/ upgrading/ replacement Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled managed via Construction Environmental Management Plans and relevant permitting processes  Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
Con	nmentary on cumulative effects on this SEA topic in this Corridor section Landscape	A Junction Strategy is being de	ntified where local routes/ dire eveloped to inform and suppo eing undertaken and will cons		lisation of di	rect access to	o/ from the A9.				ade junctions and accesses on a dualled A9.  erse visual impact from new structures.
	Potential for landscape and	Approx 6.92 sqkm of corridor E-1 is within the National Park boundary  100% of the 200m E-1 corridor area  Approx 0.15% of the National Park	This entire corridor section is within the national park boundary  Scale of effects on the landscape will depend on the	Construction stage works including site clearance and excavations will present relatively short term, but highly visible change  An online dualled route will be a permanent change, but with a minimal footprint as opposed to an	National	Low	Moderate	Minor	Mixed	Yes	Detailed route alignment studies should aim to minimise landscape impacts by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  LCA coverage is at a scale that should help alignment and detailed design so that the road is better integrated with
	visual effects on:	area	level of change over current	alternative or offline route							its surroundings and works to minimise the impacts of



Biodiversity, Flora & Fauna

Corridor/ Section Description:
Mapped as Section E-1
Online dualling option - 34.4km between Newtonmore and Kingussie 26.7km existing single c/way and 8.2km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor E-1 is approx 6.9 sekm

Total surface area of 200m wide corridor E-1 is approx. 6.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	National Scenic Areas (NSA) and the Cairngorms National Park (CNP)	Approx 0.04 sqkm of corridor E-1 is within the Cairngorm Mountains National Scenic Area boundary  Approx 0.5% of the 200m E-1 corridor area  Approx 0.006% of the National Scenic Area	conditions, given that the existing A9 is already a recognised feature in those landscapes  There will also be opportunities to incorporate key views to inform A9 dualling designs to enhance visitors' experience of these landscapes	The severity/ visibility of construction effects will reduce over time as local vegetation/ planting and screening measures become (re) established  Long term benefits are anticipated in terms of the view from the road and the driver/ visitors' experience of these unique scenic areas  Overall long term impact magnitude is expected to be low given the scale of change over existing conditions	National	Low	Moderate	Minor	Mixed	Yes	Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Residual effect of online dualling is assessed as minor adverse
	Potential for effects on landscapes:	Wildness	SEA considers that online dualling will present minimal effects on widness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions  Widening within Corridor option E-1 is therefore expected to present low risks to wildness when compared with near-offline options  Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the avoidance
	That display a high degree of wild land characteristics and/ or  Where dark skies are a key characteristic	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	of lighting on the A9 mainline, unless absolutely required by safety standards, for example may be required at new junctions  Avoidance and/ or minimisation of effects on wildness and dark skies to be captured in A9 Dualling Landscape and Visual Design Principles  Given the possibility that some lighting may be required at junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the absence of traffic  Cumulative residual effect assessed as minor adverse
ţ	Potential for effects on:  Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/ route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Landscape Character Assessment coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Opportunities for interpretation features should be considered in partnership with local bodies  Residual effects assessed as minor positive at the local level and moderate positive at the route wide scale
С	mmentary on cumulative effects on this SEA topic in this Corridor section Historic Environment	Positive effects identified in ter	ects possible within the Cairr ms of opportunities for appro under the A9 Dualling Lands	ngorms National Park, depending on the sens priately sited/ designed viewpoints and interp	retation.			, and the second	o inform stra	ıtegic design μ	orinciples/ guidance on form of stopping points/
1	Potential for direct effects or effects on the setting of:	None identified within the 200m E-1 corridor					n/a				
1	Potential for direct effects or effects on the setting of:  Scheduled Monuments	Dunachton Lodge Scheduled Monument within the 200m E-1 corridor	Located at outer edge of 200m corridor in woodland area	Only 1 scheduled monument is noted in this 200m wide corridor section, it is anticipated that detailed alignment studies will avoid this feature - the impact is expected to be <b>negligible</b>	National	Negligible	Moderate		Adverse	No	No mitigation at SEA level Residual effect assessed as <b>neutral</b>
1	Potential for direct effects or effects on the setting of:  Battlefield Sites	None identified within the 200m E-1 corridor					n/a				
1	Potential for direct effects or effects on the setting of:  Conservation Areas	None identified within the 200m E-1 corridor					n/a				
1	Potential for direct effects or effects on the setting of: Listed Buildings	7 no. Listed Buildings within the 200m E-1 corridor  0 Cat A 6 Cat B 1 Cat C (S)  2 of which are within 50m of the existing route	SEA considers that listed buildings at distances greater than 50m should be avoidable via selection of route alignment, within the context of other constraints  SEA assumes that online dualling could have minor adverse effects on the setting of buildings within 50m, given their proximity to the current route	Given that some buildings are within 50m of the current route, there is the potential for minor (setting) to high (losses) impact magnitude effects on some features  Avoidance through design means that online dualling has the potential to present minor adverse effects on setting at the site level  Where avoidance is not possible, risk of loss is considered low; however, dualling has the potential for moderate to major adverse effects at the site level  Overall, effects are dependent on the final route alignment within the corridor  Due to uncertainty, SEA assumes a worst case scenario where losses represent a major significant adverse effect	National	Dependent	Major		Adverse	Yes	Detailed alignment studies and EIA should work to avoid direct impacts (physical losses)  Route alignment studies should be informed by local level survey and consultation to avoid direct effects wherever possible  Where avoidance is not possible within the 200m corridor, route alignment studies should consider options outwith the 200m corridor where possible  EIA measures should include consideration of impacts on setting at the local level, where route alignments are limited by other constraints and are determined to pose risks to the setting of listed buildings  Local level mitigation should be informed via consultation with the Local Authority, Historic Scotland and other relevant stakeholders  Residual effects assessed as minor adverse
С	nmmentary on cumulative effects on this SEA topic in this Corridor section		the 200m corridor that have	vironment, are assessed as minor adverse visibility to/ from the A9, with some potential ferse	or minor adv	verse effects o	on setting				



Corridor/ Section Description:

Mapped as Section E-1
Online dualling option - 34.4km between Newtonmore and Kingussie
26.7km existing single c/way and 8.2km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor E-1 is approx. 6.9 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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			Neg	ative		Neutral		Pos	ltive	
		High	Medium	Low	Negligible	Neutral	Negligible	Low	Medium	High
ance	International (impact on European/ other international designation/ aile)	Major	Mejor	Major	Moderate		Moderate	Mejor	Mejor	Mejor
significance	National (Impact on national level designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ corridor level/ effect on area feature, eq. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geog	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

								r local designation)				
	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Assessment of SEA Topics/ Issu			Ramsar Sites  Approx 0.2 sqkm of the 200m corridor crosses the River Spey - Insh Marshes  Approx 3% of the E-1 corridor surface area  Approx 2% of River Spey - Insh Marshes RAMSAR site area	This Ramsar is designated for:  Whooper swan (Cygnus cygnus), non-breeding Breeding bird assemblage Flood-plain fen Trophic range river/stream Mesotrophic loch	Most significant risks during construction of crossings in terms of accidental spillage/ pollution of the wetlands/watercourse - short term, temporary risk usually mitigated by design and construction best practice  No permanent losses of RAMSAR habitat envisaged, overall risks associated with construction disturbance assessed as medium impact magnitude	Internation al	Medium	Major		Adverse	Yes	SEA considers that the principle of avoidance will be employed through detailed design, EIA and consultations to inform any project level Appropriate Assessment to ensure that the final route alignment avoids any direct losses of RAMSAR habitat or adverse effects on RAMSAR qualifying features  Detailed designs that include crossings of the River Spey-Insh Marshes RAMSAR will have to be developed in consultation with SNH  Final route alignment designs will need to incorporate effective species crossings at regular intervals to be advised by project level survey and ecology specialists  Following such design level mitigation, risk of adverse effects are considered low  Residual effects assessed as neutral
	15	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation Approx 0.24 sqkm of the 200m corridor crosses the River Spey SAC Approx 3% of the E-1 corridor surface area Approx 0.4% of River Spey SAC	This SAC is designated for: Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar) Otter (Lutra lutra) Freshwater pearl mussel (Margaritifera margaritifera)	Principal risks associated with construction activity relate to spillage, runoff, sedimentation affecting the watercourse and aquatic species, and disturbance for otters  Impacts expected to be managed through best practice construction methods and risks in this area assessed with negligible impact magnitude  Long term potential for minor benefits associated with improved discharge water quality from A9 SUDS	Internation al	Negligible	Moderate	Minor	Adverse		The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Spey SAC runs near the A9 along much of the route
		Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation Approx 0.23 sqkm of the 200m corridor crosses the Insh Marshes SAC Approx 3% of the E-1 corridor surface area Approx 2% of Insh Marshes SAC	This SAC is designated for: Alder woodland on floodplains Very wet mires often identified by an unstable 'quaking' surface Otter (Lutra lutra) Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Most significant risks during construction of crossings in terms of accidental spillage/ pollution of the wetlands/watercourse - short term, temporary risk usually mitigated by design and construction best practice  No permanent losses of SAC habitat envisaged, overall risks associated with construction disturbance assessed as medium impact magnitude	Internation al	Medium	Major		Adverse	Yes	SEA considers that the principle of avoidance will be employed through detailed design, EIA and consultations to inform any project level Appropriate Assessment to ensure that the final route alignment avoids any significant effects on qualifying features  Detailed designs that include crossings of theInsh Marshes SAC will have to be developed in consultation with SNH  Final route alignment designs will need to incorporate effective species crossings at regular intervals to be advised by project level survey and ecology specialists  Following such design level mitigation, risk of adverse effects are considered low  Residual effects assessed as neutral
			Special Protected Area Sites  Approx 0.23 sqkm of the 200m corridor crosses the  River Spey - Insh Marshes  Approx 3% of the E-1 corridor surface area  Approx 2% of Insh Marches SPA	This SPA is designated for:  Birds: Osprey (Pandion haliaetus), breeding Spotted crake (Porzana porzana), breeding Wigeon (Anas penelope), breeding Wood sandipper (Tringa glareola), breeding Hen harrier (Circus cyaneus), non-breeding Whooper swan (Cygnus cygnus), non-breeding	Most significant risks of disturbance to breeding birds during construction periods, with potentially high impact magnitude  No significant effects on SPA habitat expected	Internation al	High	Major		Adverse	Yes	Principle avoidance recommendation is to avoid construction during breeding seasons for qualifying interest species  Minimising the dualled footprint around the SPA will also minimise potential adverse effects on SPA supporting habitats  Residual effects assessed as neutral
			Approx 0.03 sqkm of the 200m wide corridor crosses the  Alvie (Biological SSSI)  Approx 0.5% of the E-1 corridor area  Approx 4% of Alvie SSSI	This SSSI is designated for: Goldeneye (Bucephala clangula), breeding Upland oak woodland Hydromorphological mire range Invertebrate assemblage	Construction stage risk of land take could result in high impact magnitude depending on value/ sensitivity of the habitat lost	National	High	Major		Adverse	Yes	Online dualling to the opposite side of the current carriageway will avoid this SSSI site, resulting in no significant adverse effects  Residual effect assessed as <b>neutral</b>
	16	Potential for direct/ indirect effects on:  Biological Sites of Special Scientific Interest (SSSI)	Approx 0.2 sqkm crosses the  Craigellachie (Biological SSSI)  Approx 3% of the E-1 corridor area  Approx 5% of Craigellachie SSSI	This SSSI is designated for: Upland birch woodland Moth assemblage	Construction stage risk of land take could result in high impact magnitude depending on value/ sensitivity of the habitat lost	National	High	Major		Adverse	Yes	SEA considers that there is sufficient clearance to enable online dualling without encroaching on this SSSI site, resulting in no significant adverse effects  Residual effect assessed as neutral
			Approx 0.23 sqkm crosses the  River Spey - Insh Marshes (Biological SSSI)  Approx 3% of the E-1 corridor area  Approx 2% of Insh Marshes SSSI	This SSSI is designated for:  Osprey (Pandion haliaetus), breeding Whooper swan (Cygnus cygnus), non-breeding Breeding bird assemblage Flood-plain fen Arctic charr (Salvelinus alpinus) Otter (Lutra lutra) Invertebrate assemblage Mesotrophic loch Vascular plant assemblage	Most significant risks of disturbance to breeding birds during construction periods, with potentially high impact magnitude  No significant effects on SSSI habitat expected	National	High	Major		Adverse	No	Principle avoidance recommendation is to avoid construction during breeding seasons for qualifying interest species  Minimising the dualled footprint around the SSSI will also minimise potential adverse effects on SSSI supporting habitats  Residual effects assessed as neutral
	17	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 1.9 sqkm crosses areas defined as Ancient Woodland Approx 28% of corridor area Approx 10.5% of the designated area of Ancient Woodland	Online dualling will widen the existing route leading to some edge clearance for boundary widening, resulting in some permanent losses  Edge effects can extend up to 30m into a woodland representing additional habitat loss  SNH advise that edge effects	Given that roughly 1/4 of this corridor area is designated Ancient Woodland (AW), online dualling is expected to result in permanent losses due to boundary edge clearance, although the real area at risk will be limited  Where AW is unavoidable, edge effects are assessed as low impact magnitude  Where SNAW is also unavoidable, edge effects are assessed as medium impact due to potential for higher ecological value	National	Low	Moderate		Adverse	Yes	In online corridor areas where AW and SNAW are unavoidable via route alignment studies, impacts should be minimised by limiting the widened footprint as far as possible, and considering the flexibility to locate lay bys (and other footprint widening features) outwith designated woodland boundaries.  Where felling of mature semi-natural woodland is required, appropriate mitigation should be discussed with SNH and FCS  Any permanent losses of AW, SNAW, and other non-designated woodland habitat should be cumulatively compensated for, taking the total loss of interior woodland habitat into account in other areas locally identified as



Corridor/ Section Description:
Mapped as Section E-1
Online dualling option - 34.4km between Newtonmore and Kingussie
26.7km existing single c/way and 8.2km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor E-1 is approx. 6.9 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

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	International									
8	(impact on European/ other	Major	Mejor	Major	Moderate		Moderate	Major	Major	Major
ĕ	international designation/ site)									
significance	National									
5.	(impact on national	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
	level designation/ site)									
Geographic	Regional									
효	(route wide/ corridor level/ effect on	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
5	area feature, eq. river/ flood plain)									
8	Local									
Ö	(site specific/ project level/ effect	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate
	on local designation)									

		Where possible, GIS analysis la corridor and a percentage value		the total surface area of each feature within the torridor area.	ne 200m	O) (site spi	ture, eq. river/flood pli Local scritc/ project level/ eff r local designation)		Moderate	Minor Minor	Minor Minor Moderate Moderate
No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
18	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 1.2 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 18% of corridor area Approx 26% of the designated area of Semi Natural Ancient Woodland	can be more significant on areas of Semi Natural Ancient Woodland and the seventy should not be underestimated SEA considers edge clearance for online widening a lower level impact than alternative or offilline routes that could introduce additonal fragmentation through previously unaffected areas	Where online dualling widens the distance between woodlands, it is likely to present secondary adverse effects, in terms of widening a barrier to species movement between habitats  Many woodland species are unable, or less able, to move across non-wooded habitat  Alternative or near offline routes that cut through woodland would be assessed as high impact magnitude due to increased habitat fragmentation	National	Medium	Major		Adverse	Yes	opportunity sites for woodland  New woodland as mitigation should use natural regeneration, although native planting may be acceptable, where there are benefits from introducing native species not currently present on site; however, this should be considered in discussion with SNH and FCS  Mitigation and restoration plans for woodlands will be required for approval prior to commencement of construction and consideration should be given to the needs of local species  With mitigation in place, residual effects are assessed as moderate adverse
19	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	Approx 0.16 sqkm crosses Insh Marshes National Nature Reserve (NNR) Approx 2.3% of corridor area Approx 2.3% of Insh Marshes (NNR)		Construction stage risk of land take could result in high impact magnitude depending on value/ sensitivity of the habitat lost	National	High	Major		Adverse	Yes	SEA considers that there is sufficient clearance to enable online dualling without encroaching on this NNR site, resulting in no significant adverse effects  Residual effect assessed as neutral
20	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	Approx 0.15 sqkm crosses Craigellachie National Nature Reserve (NNR) Approx 2% of corridor area Approx 6% of Craigellachie NNR		Construction stage risk of land take could result in high impact magnitude depending on value/ sensitivity of the habitat lost	National	High	Major		Adverse	Yes	SEA considers that there is sufficient clearance to enable online dualling without encroaching on this NNR site, resulting in no significant adverse effects  Residual effect assessed as neutral
ı		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for otters  New underpasses, drainage and SUDS features may prove beneficial	Found route wide, potential hotspot around Kingussie & Insh Marshes  Most signficant risks during construction related to disturbance and/ or habitat loss, especially around watercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population  Long term minor benefits likely in terms of improved route permeability through upgraded drainage and SUDS, especially where ecological advice improves suitability for use by otters	Internation al	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure  Residual effects assessed as minor positive
24	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	Internation al	Low	Moderate		Adverse	Yes	Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists  Residual effects assessed as minor adverse
		Scottish Wildcat	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial	Known to range route wide, potential hotspot in the area around the Highland Wildlife Park  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as negligible impact magnitude  Long term minor benefits possible in terms of improved route permeability through a range of underpass crossings, pipes, etc., especially where effective mammal passes/ tunnels are incorporated in addition to drainage/ culverts	Internation al	Negligible	Moderate	Minor	Mixed	Yes	Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for wildcat Dualling is likely to increase the number of crossings under the road structure, via pedestrian subways, grade separated junctions, road, rail and water crossings  Also likely to improve route permeability via appropriately designed mammal tunnels/ passes  Residual effects assessed as minor positive
Com	mentary on cumulative effects on this SEA topic in this Corridor section	Potential impacts on the River Similarly, potential effects on the Effects on woodland areas sho	Spey/ Insh Marshes SAC/ Sine SSSI and NNR features would be limited to some minor mitigation/ enhancement and	r, Flora and Fauna, are assessed as moderate PA/ Ramsar designations will be addressed virill be considered via local survey and assess boundary widening, which should limit adverd management plans are also likely to be requerse	a project leve ment. rse secondar	y effects for s	species.	to inform fina	l design solu	utions.	
	Soils & Water										
25	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	None identified within the 200m E-1 corridor					n/a				
26	Potential for direct/ indirect effects on: Geological Conservation Review (GCR) Sites	None identified within the 200m E-1 corridor			ı		n/a				
27	Potential for excavation / construction on: Areas of wetland or peat	Approx area classified as wetland within 200m B-1 corridor:  Springs, flushes & Seepages = 0.005 sqkm (0.08%)  Reedbed = 0.001 sqkm (0.02%)  Non Specific Woodland = 21 sqm (0.0003%)  Wet grassland = 0.032 sqkm (0.5%)  Wet woodland = 0.035 sqkm (0.5%)  Swamp = 0.035 sqkm (0.5%)  Fen = 0.026 sqkm (0.4%)  Total = 0.14 sqkm ( 2%)	Most wetland habitat in Section E-1 is in the Insh Marshes and should be avoidable	Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within or across the wetland area(s)  In this case, given the scale of the wetland area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as medium	Local	Medium	Moderate		Adverse	Yes	SEA considers that detailed route alignment studies and environmental assessment will work primarily to avoid areas designated as wetland  Local level hydrogeological survey and consultation with SEPA and SNH would be required in areas where wetland may be impacted, especially where Groundwater Dependent Wetlands are identified  Following such design level mitigation, risk of residual impacts are considered low  Residual effect assessed as minor adverse
		Small area of peat identified within the 200m E-1 corridor	Located at start of section on the exit from Glen Truim	Excavation not considered avoidable, likely to result in medium impact at the local level	Local	Medium	Moderate		Adverse	No	Local level survey, EIA and management/ restoration plan to minimise adverse effects  Residual effect assessed as minor adverse

DUALLING PERTH TO INVERNESS

Corridor/ Section Description:
Mapped as Section E-1
Online dualling option - 34.4km between Newtonmore and Kingussie

26.7km existing single c/way and 8.2km is existing dual c/way SEA Assumptions:

Total surface area of 200m wide corridor E-1 is approx. 6.9 sqkm

Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Negative Negligible Neutral Negligible international
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No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
28	Areas of flood plain/ flood risk	Approx 0.32 sqkm of 200m wide corridor E-1 crosses the 200yr flood risk zone Approx 5% of corridor area	An overarching aim for A9 Dualling will be to maintain flood risks at current levels (i.e. no overall change) Given that approx 5% of the 200m wide corridor crosses the functional flood plain, dualling may have to incorporate appropriate flood management measures	Medium to long term effects would be related to any permanent changes to overall flood risk/ regime due to A9 dualling infrastructure  Some A9 dualling works may improve drainage provisions and reduce local flood risks	Regional	Uncertain	Moderate	Minor	Uncertain	Yes	Route alignment studies and local level environmental assessment should aim to avoid the functional flood plain wherever possible; however, given the length of the route this may not be possible in all cases  Strategic flood risk assessment (SFRA) is being undertaken to identify key areas of risk and to determine strategic recommendations on avoidance and mitigation  Detailed Flood Risk and Drainage Impact Assessment will also inform design of the final route alignment  With design level mitigation, areas requiring compensatory flood storage will be identified and the principle of no change to existing flood risk will be employed to avoid increasing risks  Residual effects assessed as neutral

mentary on cumulative effects on this SEA topic in this Corridor section

Long term cumulative effects in Section E-1, on Soil and Water, are assessed as moderate adverse.

Minor peat issues and detailed consideration of wetland areas required.

Key issue is water quality and flooding regime around the River Spey/ Insh Marshes.

Road drainage discharge water quality is expected to improve slightly via SUDS, leading to minor benefits for the River Spey and wetland habitat in the area.

The residual cumulative effect is assessed as minor adverse



Corridor/ Section Description:

Mapped as Section F-1

Online dualling option - 39.2 km between Kinveachy and Inverness 24.2km is existing single c/way and 15km is existing dual c/way

Total surface area of 200m wide corridor F-1 is approx. 7.9 sqkm Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

Major iaval dealgration atta)

Regional

(route wider comdor level/ effect on area feature, eg. river/ flood plain)

Local Minor

ı	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
ı		Population & Human Health										
	1	Accident Rates (2001-2010)	7 Fatal 17 Serious 80 Slight	A9 dualling in anticipated to deliver a reduction in accident rates	Short term increase in risk associated with construction activity (expected to be minimised via best practice traffic management)  Medium to long term reductions in severity (fatal and serious) are expected due to dualling measures, and are therefore assessed to be high in impact magnitude terms	Regional	High		Major	Positive	No	No mitigation at SEA level  Long-term monitoring of A9 dualling will include reduction in accident severity as a key measure
	2	Proximity to settlements	4 No. settlements at: Carrbridge Tomatin	Potential disturbance/ disruption for local residents	Local residents likely to experience temporary disruption during construction phases - assessed as <b>low</b> impact magnitude	Local	Low	Minor		Adverse	No	No mitigation at SEA level Project level EIA & Construction Environmental Management Plan, scheduling and traffic management to minimise disruption
ı			Moy Craggiemore	Range of potential benefits for local residents	Long term benefits in terms of journey times, improved reliability and road safety on a fully dualled A9 - assessed as <b>medium</b> impact magnitude	Regional	Medium		Moderate	Positive	No	No mitigation/ enhancement at SEA level Project level EIA and DMRB design stages to consider detailed route alignment within corridor boundary
				Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local schools  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	3	Proximity to sensitive receptors	3 No. schools within 500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local schools in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, school buses, safe crossing points  Residual effects assessed as neutral, with potential for minor positive with safer crossings
				Potential disturbance from construction noise/ emissions	Some noise and emissions effects to be expected associated with construction phase - temporary and short term, scale depends on proximity to final route alignment - assessed here as <b>medium</b> impact magnitude	Local	Medium	Moderate		Adverse	Yes	Final route alignment studies to minimise noise and emissions risks to local churches  Where necessary noise barriers may have to be considered in final designs  Residual effects assessed as minor adverse
	4	Proximity to sensitive receptors	No. churches within     500m of existing route	Could see some increase in traffic but improved flow/ reduced congestion	Long term effects depend on final route alignment and traffic flows - potential for impacts or benefits are <b>dependent</b> on whether final alignment is closer to/ further from receptors	Local	Dependent	Minor	Minor	Mixed	Yes	Final route alignment studies to minimise risks to local churches in terms of maximising the distance from the final alignment  Non Motorised User strategy to include public transport, safe crossing points  Residual effects assessed as neutral, with potential for minor positive with safer crossings
١		Access to Core Paths within 200m corridor	Potential that dualling could lead to severance of existing	Short term, temporary loss of direct access to some NMU routes during construction (temporary impact where route linkages/ crossings	Local	Medium	Minor	Minor	Mixed	Yes	At the route-wide strategic level, a Non-Motorised Users (NMU) Strategy is developing a detailed baseline to clearly identify the number of crossings and recreational areas that may be affected	
ı	a	Non motorised user (NMU) access to core paths, rights of way, key routes used for	Access to National Cycle Routes within 200m corridor	routes and create an additional barrier to NMU access to areas used for recreation (in terms of reducing the overall number of crossing points)	are retained post-construction)  Potential temporary traffic increases during construction on alternate roads (diversions) that form part of the National Cycle Route Network	Local	Medium	Minor	Minor	Mixed	Yes	The NMU Strategy will inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor More detailed EIA will inform route alignment studies and
	5	recreation/ to access areas used for recreation, including the Cairngorms National Park	Access for Equestrians within 200m corridor	Offers opportunity to rationalise path networks/ linkages to ensure safe crossing of the dualled A9 and maintain overall connectivity	Permanent effects where route crossings are rationalised; however, the significance will be related to the scale of change, e.g. the number of paths rerouted and the distance between safe crossing points	Local	Medium	Minor	Minor	Mixed	Yes	options on appropriate crossing solutions  During construction, appropriate diversionary routes and signage will be required to maintain overall access provisions
			Approx 2.4 sqkm of the 200m corridor is within the National Park boundary Approx 30% of the	Almost 1/3 of this corridor section is within the National Park, where levels of NMU usage may be higher	Impact magnitude is assessed as <b>medium</b> as some rationalisation of NMU network crossings is likely to be required	National	Medium	Major	Minor	Mixed	Yes	Rationalised/ diverted paths should be designed to provide the same or higher standard of pathway Underpass crossings will be safer than road level crossings
			F-1 corridor area		and Human Health, will be mixed							Residual effect assessed as <b>neutral</b>

mentary on cumulative e on this SEA topic in this Corridor section

Long term cumulative effects in Section E-1, on Population and Human Health, will be mixed.

Major positive effects in the reduced severity in accidents, and the improved safety of route crossings.

Minor negative effects associated with local rationalisation of existing NMU routes, leading to overall neutral effect once rationalisation is complete and safer crossings are provided.

At the strategic level, the emerging route wide Non-Motorised User Strategy is considered a major positive mitigation and enhancement measure, which will guide and inform the final route alignment and any required rationalisation of path networks, to retain overall connectivity within and across the corridor.

The residual cumulative effect is assessed as minor positive

## A9 Dualling SEA Assessment Matrix DUALLING PERTH TO INVERNESS

Corridor/ Section Description:
Mapped as Section F-1
Online dualling option - 39.2 km between Kinveachy and Inverness
24.2km is existing single c/way and 15km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor F-1 is approx. 7.9 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

	A9 Dualling related issues	Where possible, GIS analysis h corridor and a percentage value		the total surface area of each feature within the tridor area.	ne 200m	area fea	ture, eg. river/ flood pla Local scific/ project level/ effe n local designation)	in)	Moderate	Minor Minor	Minor Minor Moderate Moderate	
,	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
Ī		Material Assets	(Considered here as A9		SHOTT/ Medium / Long Term Ellects		magnitudo	(Flavoroo)	(Denominally		roquirou	
	6	Side Roads/ Direct Accesses	1 No. A Class Roads 5 No. B Class Roads 44 No. C Class Roads 52 No. Direct Accesses	SEA assumes that dualling will retain major junctions with A & B class roads  More minor road junctions and accesses may be closed/ rationalised/ rerouted to join the dualled A9 via A & B class roads  In this case, effects are considered as specifically applying to motorised users of these roads/ junctions/ accesses	Short term effects in terms of journey times and local emissions associated with construction stage route diversions  Long term permanent effects for users of those routes/ direct accesses that are closed/ diverted-potentially high, local impacts for some users  However, long term regional level safety benefits are expected in terms of removing at-grade junctions and accesses on a dualled A9  On balance, at a regional level, impacts are dependent on the users' interpretation/ experience	Regional	Dependent	Moderate	Moderate	Mixed	Yes	At the route-wide strategic level, a Junction Strategy is being developed to provide a decision support hierarchy on junction locations and rationalisation of direct accesses on the A9  The emerging Junction Strategy will support more detailed EIA and route alignment studies to identify the most appropriate solutions at the local level  Residual effects assessed as minor negative at the local scale due to loss of direct accesses  Residual effects assessed as moderate positive at the route wide scale due to improved safety benefits
	7	Existing A9 structures	No. Railway structures     No. Over / Underbridges     (excluding Junctions)  10 No. Watercourse crossings	SEA assumes that existing structures will be retained wherever possible/ practicable  Some structures will require widening/ upgrading/ replacement  Environmental issues will generally be related to construction stage risks (dependent on local sensitivities), landscape/ visual issues	Short term, localised effects associated with construction/ demolition in terms of traffic diversions, emissions and risks to local watercourses and/ or biodiversity  Medium to long term visual impact effects depend on the scale of change over existing conditions  Also likely to result in long term benefits associated with improved infrastructure and resilience, e.g. where watercourse crossings are upgraded to current standards  Impact magnitude is dependent on the number of new/ upgraded/ widened structures required and the local sensitivities	Regional	Dependent	Minor	Minor	Mixed	Yes	Construction stage risks will be considered in local EIA and controlled/ managed via Construction Environmental Management Plans and relevant permitting processes  Visual impacts will also be considered via detailed design and EIA; however, at the route-wide strategic level, the Landscape Review will consider guidance on aesthetics, fitting with local vernacular and consultation with relevant bodies, to inform an A9 Design Guide  Residual effects assessed as mixed at the local scale depending on sensitivities  Residual effects assessed as neutral at the route wide scale
0	Comi	nentary on cumulative effects on this SEA topic in this Corridor section	A Junction Strategy is being de	ntified where local routes/ directions of the control of the contr	sets, will be mixed. ect accesses are closed/ diverted. However, I ort decisions on junction locations and rationa sider guidance on aesthetics, fitting with local	lisation of direc	t access to/ t	from the A9.				
	Landscape											
	8	Potential for landscape and visual effects on: National Scenic Areas (NSA) and the Cairngorms National Park (CNP)	Approx 2.4 sqkm of corridor F-1 is within the National Park boundary Approx 30% of the 200m F-1 corridor area Approx 0.05% of the National Park area	Approx 1/3 of this corridor section is within the national park boundary  Scale of effects on the landscape will depend on the level of change over current conditions, given that the existing A9 is already a recognised feature in those landscapes  There will also be opportunities to incorporate key views to inform A9 dualling designs to enhance visitors' experience of these landscapes	Construction stage works including site clearance and excavations will present relatively short term, but highly visible change  An online dualled route will be a permanent change, but with a minimal footprint as opposed to an alternative or offline route  The severity/ visibility of construction effects will reduce over time as local vegetation/ planting and screening measures become (re) established  Long term benefits are anticipated in terms of the view from the road and the driver/ visitors' experience of these unique scenic areas  Overall long term impact magnitude is expected to be low given the scale of change over existing conditions	National	Low	Moderate	Minor	Mixed	Yes	Detailed route alignment studies should aim to minimise landscape impacts by keeping the widened footprint to the minimum required to deliver a dualled route and ancillary paths/ connecting routes  LCA coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Residual effect of online dualling is assessed as minor adverse
I		Potential for effects on landscapes:	Wildness	SEA considers that online dualling will present minimal effects on wildness given the current A9 route is defined as a transport corridor with low value (Category C) wildness	The A9 transport corridor is defined as Category C Wildness where the aim is to minimise effects of further development on higher value Category A & B areas of wildness  Given that online dualling will widen the existing route, with some flexibility on horizontal and vertical alignments, the overall long term impact on higher value areas of wildness is assessed as negligible	National	Negligible	Minor		Adverse	No	Online widening is anticipated to deliver the lowest levels of change over existing conditions  Widening within Corridor option F-1 is therefore expected to present low risks to wildness when compared with near-offline options  Road and sign lighting is expected to be kept to a minimum, with an overarching principle on the avoidance
	9	That display a high degree of wild land characteristics and/ or  Where dark skies are a key characteristic	Dark skies	SEA assumes that there will be an overarching design principle to avoid the introduction of lighting on the A9 mainline Safety standards may require lighting at some upgraded junctions	There are likely to be short-term lighting effects where construction works are required during night periods to minimise disruption to day-time traffic  Long term lighting effects are expected to be restricted to specific locations where safety standards require lighting, for example at new junctions  On balance, assuming lighting is kept to a minimum, the overall long term impact on dark skies is assessed as negligible	Regional	Negligible	Minor		Adverse	Yes	of lighting on the A9 mainline, unless absolutely required by safety standards, for example may be required at new junctions  Avoidance and/ or minimisation of effects on wildness and dark skies to be captured in A9 Dualling Landscape and Visual Design Principles  Given the possibility that some lighting may be required at junctions, A9 dualling should consider the viability of automatic controls that dim/ switch off lights in the absence of traffic  Cumulative residual effect assessed as minor adverse
	10	Potential for effects on: Travellers' experience of the distinctive variety of landscapes and landscape character along the route	Views from the road, the distinct places the A9 travels through and experience of the range of landscapes	In terms of opportunity for enhancement, this is a key area where A9 Dualling can improve the travellers' experience and improve future visitors' experiences on one of the great roads of the world Various aspects to be considered, from opportunity sites for viewpoint access, to laybys for recreational access and design detailing to support high quality and consistency along the route, for example, on signage, structures and other roadside furniture	Short term effects on visual impact, associated with construction phases along the route, depend on the number and order of schemes being constructed - overall expected to be temporary and minor impacts  Medium to long term benefits expected as landscaping, screening and vegetation recover and soften the construction effects  Long term benefits also anticipated as opportunities for enhancement, in terms of enhancing laybys, maximising use of key views and careful siting of signage and roadside furniture to minimise visual intrusion on the roadside landscape are incorporated through design principles and guidance  Overall, enhancement measures are expected to provide medium level benefits at the regional/route-wide corridor scale	Regional	Medium	Minor	Moderate	Positive	Yes	Landscape Character Assessment coverage is at a scale that should help alignment and detailed design so that the road is better integrated with its surroundings and works to minimise the impacts of road furniture, including signs, lighting and structures  Opportunities for appropriately sited/ designed viewpoints and interpretation will be considered under the A9 Dualling Landscape Review  Landscape Review to work with CNPA & SNH to determine key views, opportunity sites and to inform strategic design principles/ guidance on form of stopping points/ laybys  Opportunities for interpretation features should be considered in partnership with local bodies  Residual effects assessed as minor positive at the local level and moderate positive at the route wide scale
	Comi	nentary on cumulative effects on this SEA topic in this Corridor section	Positive effects identified in terr	ects possible within the Cairn ms of opportunities for appro	will be mixed gorms National Park, depending on the sens priately sited/ designed viewpoints and interp cape Review, in consultation with SNH and C	retation.			_	nform strate	gic design prii	nciples/ guidance on form of stopping points/

Corridor/ Section Description:
Mapped as Section F-1
Online dualling option - 39.2 km between Kinveachy and Inverness
24.2km is existing single c/way and 15km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor F-1 is approx. 7.9 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

ı	agrandades de l'ombate de Licente				ar ar sages	or megrous		ogo njesev c	· granusson	
					lmp	pact magnit	ude			
			Neg	stive		Neutral		Pos	itive	
		High	Medium	Low	Negligible		Negligible	Low	Medium	High
	International									
	(impact on Furopeen' other international designation/ site)  National  (impact on national issue designation site)	Major	Major	Major	Moderate		Moderate	Major	Major	Major
	international designation/ site)									
	National									
	(impact on national	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
	.º Regional									
	(route wide/ comdor level/ effect on	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
	Regional (route widel comdor level/ effect on area feature, eg. river/ food plain) Local (eite apacific/ project level/ effect									
	g Local									
		Moderate	Moderate	Minor	Minor		Minor	Minor		Moderate
	on local designation)									

			corridor and a percentage valu	e derived against the total co	orridor area.		G (sile sp	ecific/ project level/ ef in local designation)	lect Moderate	Moderate	Minor Minor		Minor	Minor Mode	rate Moderate
	No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commenta		sed mitigation o	r enhancement
		Historic Environment										•			
	11	Potential for direct effects or effects on the setting of: Historic Gardens and Designed Landscapes (GDL)	None identified within the 200m F-1 corridor					n/a							
	12	Potential for direct effects or effects on the setting of:	Bogbain Wood Scheduled Monument within the 200m F-1 corridor												
nes		Scheduled Monuments			The A9 is already dualled around these features										
Topics/ Issues	13	Potential for direct effects or effects on the setting of:	Drumbain Cottage Scheduled Monument												
ppic		Scheduled Monuments	within the 200m F-1 corridor												
SEA	13	Potential for direct effects or effects on the setting of:  Battlefield Sites	None identified within the 200m F-1 corridor					n/a							
Assessment of	14	Potential for direct effects or effects on the setting of:  Conservation Areas	None identified within the 200m F-1 corridor					n/a							
	15	Potential for direct effects or effects on the setting of: Listed Buildings	6 no. Listed Buildings within the 200m F-1 corridor 0 Cat A 5 Cat B 1 Cat C (S)	3 area around already dualled sections  The other 3 are all at Carrbridge Station at the outer edge of the 200m corridor boundary		SEA considers	hat the 3 buidl	No mitigai	ge Station will be ton at SEA leve ects will be <b>neu</b> t	1	route alignment :	studies			
	Com	mentary on cumulative effects on this SEA topic in this Corridor section		the 200m corridor that have	vironment, are assessed as neutral, with no s visibility to/ from the A9, therefore some pote vrse				nay remain.						

DUALLING PERTH TO INVERNESS

Corridor/ Section Description:
Mapped as Section F-1
Online dualling option - 39.2 km between Kinveachy and Inverness 24.2km is existing single c/way and 15km is existing dual c/way SEA Assumptions:

Total surface area of 200m wide corridor F-1 is approx. 7.9 sqkm Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

					lmp	act magnit	ude			
			Neg	stive		Neutral		Pos	itive	
		High	Medlum	Low	Negligible		Negligible	Low	Medium	High
ance	International (impact on European/ other international designation/ site)	Major	Major	Major	Moderate		Moderate	Major	Major	Major
significance	National (impact on national leval designation/ site)	Major	Major	Moderate	Moderate		Moderate	Moderate	Major	Major
Geographic	Regional (route wide/ comdor level/ effect on area feature, eg. river/ flood plain)	Major	Moderate	Moderate	Minor		Minor	Moderate	Moderate	Major
Geog	Local (site specific/ project level/ effect on local designation)	Moderate	Moderate	Minor	Minor		Minor	Minor	Moderate	Moderate

No.	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitigation or enhancement recommendations
	Biodiversity, Flora & Fauna										
		Ramsar Sites	None identified within the 200m F-1 corridor		1	1		n/a		r	
16	Potential for direct/ indirect effects on: Ramsar and Natura sites (SAC & SPA)	Special Area of Conservation  Approx 0.01 sqkm of the 200m corridor crosses the  River Spey SAC  Approx 0.1% of the F-1 corridor surface area  Approx 0.02% of River Spey SAC  site area	This SAC is designated for: Sea lamprey (Petromyzon marinus) Atlantic salmon (Salmo salar) Otter (Lutra lutra) Freshwater pearl mussel (Margaritifera margaritifera)	Principal risks associated with construction activity relate to spillage, runoff, sedimentation affecting the watercourse and aquatic species, and disturbance for otters  Impacts expected to be managed through best practice construction methods and risks in this area assessed with negligible impact magnitude  Long term potential for minor benefits associated with improved discharge water quality from A9 SUDS	International	Negligible	Moderate	Minor	Mixed	Yes	The principle of avoidance will be employed through detailed design, EIA and consultations to inform project level Appropriate Assessment to ensure that the final route alignment avoids adverse effects on SAC qualifying interests  Dualling should maintain a minimum distance (at least 50m) from the SAC boundary where possible  Detailed designs that include crossings will have to be agreed in consultation with SNH and should ensure free passage of migratory fish  Final designs will need to incorporate effective species (in this case, otters) crossings at regular intervals to be advised by project level survey and ecology specialists  Working method statements and pollution control plans will require approval by SNH and SEPA  Following design level mitigation, risk of adverse effects are considered low, even though the River Spey SAC runs near the A9 along much of the route
ı		Special Area of Conservation Approx 0.02 sqkm of the corridor area crosses the <b>Slochd SAC</b> Approx 0.3% of the F-1 corridor surface area	This SAC is designated for:  Dry heaths				A9 is already du	ualled at this loca	ation		
	L	Special Protection Areas (SPA)	None identified within the 200m F-1 corridor					n/a			
17	Potential for direct/ indirect effects on: Biological Sites of Special Scientific Interest (SSSI)	None identified within the 200m F-1 corridor			_		n/a				
18	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Ancient Woodland Inventory	Approx 1.8 sqkm crosses areas defined as Ancient Woodland Approx 23% of corridor area Approx 8% of the designated area of Ancient Woodland	30m into a woodland representing additional habitat loss  SNH advise that edge effects	Given that roughly 1/4 of this corridor area is designated Ancient Woodland (AW), online dualling is expected to result in permanent losses due to boundary edge clearance, although the real area at risk will be limited  Where AW is unavoidable, edge effects are assessed as <b>low</b> impact magnitude  Where SNAW is also unavoidable, edge effects are assessed as <b>medium</b> impact due to potential for higher ecological value	National	Low	Moderate		Adverse	Yes	In online corridor areas where AW and SNAW are unavoidable via route alignment studies, impacts should be minimised by limiting the widened footprint as far as possible, and considering the flexibility to locate lay bys (and other footprint widening features) outwith designated woodland boundaries.  Where felling of mature semi-natural woodland is required, appropriate mitigation should be discussed with SNH and FCS  Any permanent losses of AW, SNAW, and other non-designated woodland habitat should be cumulatively compensated for, taking the total loss of interior woodland habitat into account, in other areas locally identified as
19	Potential for direct/ indirect effects on: Woodland recorded in the Scottish Semi-natural Woodland Inventory	Approx 0.4 sqkm crosses areas defined as Semi Natural Ancient Woodland Approx 5% of corridor area Approx 25% of the designated area of Semi Natural Ancient Woodland	can be more significant on areas of Semi Natural Ancient Woodland and the severity should not be underestimated SEA considers edge clearance for online widening a lower level impact than alternative or offlline routes that could introduce additional fragmentation through previously unaffected areas	Where online dualling widens the distance between woodlands, it is likely to present secondary adverse effects, in terms of widening a barrier to species movement between habitats  Many woodland species are unable, or less able, to move across non-wooded habitat  Alternative or near offline routes that cut through woodland would be assessed as high impact magnitude due to increased habitat fragmentation	National	Medium	Major		Adverse	Yes	opportunity sites for woodland  New woodland as mitigation should use natural regeneration, although native planting may be acceptable, where there are benefits from introducing native species not currently present on site; however, this should be considered in discussion with SNH and FCS  Mitigation and restoration plans for woodlands will be required for approval prior to commencement of construction and consideration should be given to the needs of local species  With mitigation in place, residual effects are assessed as moderate adverse
20	Potential for direct/ indirect effects on: National Nature Reserve (NNR)	None identified within the 200m F-1 corridor			l		n/a				
		Otter	Online dualling will widen the existing route which may lead to additional barrier effects for otters  New underpasses, drainage and SUDS features may prove beneficial	Found route wide, potential hotspot around Tomatin  Most significant risks during construction related to disturbance and/ or habitat loss, especially around watercourse crossings - effects expected to be negligible in terms of impact magnitude on otter population  Long term minor benefits likely in terms of improved route permeability through upgraded drainage and SUDS, especially where ecological advice improves suitability for use by otters	International	Negligible	Moderate	Minor	Mixed	Yes	A9 dualling in the vicinity of watercourses will require local level otter surveys and effective mitigation to avoid/ minimise disturbance  Surveys will be undertaken in accordance with DMRB and best practice, and it is expected that otter management plans (or similar), detailing relevant mitigation measures, will be required at the project level in some cases  Opportunities for enhancement, in terms of improved drainage provisions and SUDS with the potential to include appropriately designed otter passes through the road structure  Residual effects assessed as minor positive
21	Potential for direct and indirect effects on protected species	Red Squirrel	Online dualling will widen the existing route which may lead to the loss of some habitat and widened barrier to movement due to woodland edge cutting	Found in wooded areas route wide  Most significant risks during construction related to disturbance and minor habitat losses due to woodland edge cutting, assessed as low impact magnitude  Long term increased barrier effects also assessed as low impact magnitude  Cumulatively considered to result in moderate adverse effects	International	Low	Moderate		Adverse	Yes	Adverse effects for red squirrel are related to boundary widening to accommodate a dualled route, leading to widened edge clearance between woodlands on opposite sides of the road  Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for red squirrels  Local survey and mitigation to be informed by ecologists  Residual effects assessed as minor adverse
	Online dualling will widen the existing route which may lead to the loss of some habitat through woodland edge cutting and increase barrier effects for wildcat  New underpassess and crossings may prove beneficial  New underpassess and crossings may prove beneficial  New underpassess and crossings may prove beneficial and the provided of the provide		Negligible	Moderate	Minor	Mixed	Yes	Measures to avoid and minimise edge effects on woodland will also minimise adverse effects for wildcat Dualling is likely to increase the number of crossings under the road structure, via pedestrian subways, grade separated junctions, road, rail and water crossings  Also likely to improve route permeability via appropriately designed mammal tunnels/ passes  Residual effects assessed as minor positive			
Cor				, Flora and Fauna, are assessed as moderate ualling will be informed by project level Appro		nent to ensur	e that the final	route alignme	ent avoids a	ny significant	adverse effects

Corridor/ Section Description:
Mapped as Section F-1
Online dualling option - 39.2 km between Kinveachy and Inverness
24.2km is existing single c/way and 15km is existing dual c/way
SEA Assumptions:
Total surface area of 200m wide corridor F-1 is approx. 7.9 sqkm
Where possible, GIS analysis has been used to determine the total surface area of each feature within the 200m corridor and a percentage value derived against the total corridor area.

		Where possible, GIS analysis local corridor and a percentage value		the total surface area of each feature within the pridor area.	ne 200m	Q (sije sb	sture, eg. river/ flood pl Local ecific/ project level/ eff n local designation)		Maderate	Minor Mino	r Minor Minor	Moderate	Moderate
N	A9 Dualling related issues	Corridor / Section relevant feature(s)	Commentary on Assumptions / Effects	Commentary on Duration, Frequency & Permanence Short / Medium / Long Term Effects	Geographic Significance	Predicted Impact Magnitude	Severity of significance (Adverse)	Severity of significance (Beneficial)	Overall Effect	Mitigation or other action required?	Commentary on proposed mitig		ncement
F	Soils & Water			CHOILT HOUSE TO THE CHOICE			( 2 2 2 2 )	( 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
2	Potential for direct/ indirect effects on: Geological Sites of Special Scientific Interest (SSSI)	Littlemill Fluvioglacial Landforms (Geological SSSI)			А	.9 is already du	alled at this loca	ition					
2	Potential for direct/ indirect effects on: Geological Conservation Review (GCR) Sites	Littlemill Fluvioglacial Landforms (GCR)			А	.9 is already du	alled at this loca	ation					
2	Potential for direct/ indirect effects on:  Geological Conservation Review (GCR) Sites	Approx 0.08 sqkm of the corridor area crosses the Slochd (GCR) Approx 1% of corridor area Approx 7.5% of Slochd GCR	Dualling has the potential to expose geodiversity features  Presents issues and opportunities	Site presents a tension between general avoidance of a GCR site and A9 cuttings exposing features - could be seen as risk and opportunity  Cutting through the site assessed with <b>medium</b> impact magnitude	National	Medium	Major	Minor	Mixed	Yes	A9 dualling presents potentially mixed effects, with adverse impacts and opportunities for local enhance.  Dualling may open up other features of geological in and there may be opportunities for enhancement area, via lay by positioning and providing safe ped subway access to both sides of the road.  If the site needs to be avoided, route alignment st will need to consider alternatives outwith the 20 corridor.  Early agreement is required with SNH on the pref approach to provide strategic guidance.  Residual effect assessed as neutral.		hancement cal interest, ent in the pedestrian ad nt studies e 200m preferred
2	Potential for excavation / construction on: Areas of wetland or peat	Approx area classified as wetland within 200m F-1 corridor:  Springs, flushes & Seepages = 0.003 sqkm (0.04%)  Wet grassland = 0.08 sqkm (1%)  Wet woodland = 13 sqm (0.0002%)  Swamp = 0.0009 sqkm (0.01%)  Wet Heath = 0.2 sqkm (2%)  Peat Bog = 0.0096 sqkm (0.1%)  Total = 0.28 sqkm (3.5%)		Where final route alignments cannot avoid areas of wetland, permanent effects may alter the hydrodynamic and ecological regimes within or across the wetland area(s)  In this case, given the scale of the wetland area within this corridor section, potential for effects is considered as local and the potential impact magnitude is assessed as <b>medium</b>	Local	Medium	Moderate		Adverse	Yes	SEA considers that detailed rout environmental assessment will areas designated a Local level hydrogeological surv SEPA and SNH would be required may be impacted, especially Dependent Wetlands. Following such design level mit impacts are considered.	vork primarily s wetland y and consult in areas whe where Ground ire identified gation, risk of ered low	to avoid station with ere wetland dwater f residual
		A significant portion of the 200m F-1 corridor area is classified as peat		Given the scale of the peat land area within this corridor section, potential for effects is considered as regional and the potential impact magnitude is assessed as <b>medium</b>	Regional	Medium	Moderate		Adverse	Yes	The area north of Carrbridge challenging given the local topogr cover of peat Local level peat ecology, hydro survey will be required to determ solutions which minimise the pote and desiccation, and inform sumanagement	aphy and almosoils  ogy and geotine locally aphitial effects of table restorallans	ost blanket technical opropriate of drainage tion and
2	Areas of flood plain/ flood risk	Approx 1.78 sqkm of 200m wide corridor F-1 crosses the 200yr flood risk zone Approx 2% of corridor area	An overarching aim for A9 dualling will be to maintain flood risks at current levels (i.e. no overall change)  Depending on final route alignments, dualling may have to incorporate appropriate flood management measures to maintain no net change to flood risks	Medium to long term effects would be related to risk of permanent change to overall flood regime due to A9 dualling infrastructure  Some A9 dualling works, eg. SUDS, may improve drainage provisions and attenuation of surface	Regional	Uncertain	Moderate	Minor	Uncertain	Yes	Route alignment studies and local level environm assessment should aim to avoid the functional floo wherever possible; however, given the length of the this may not be possible in all cases  Strategic flood risk assessment (SFRA) is bei undertaken to identify key areas of risk and to dete strategic recommendations on avoidance and miti		flood plain of the route being determine mitigation ssment will ment iring d and the ' will be
С	Commentary on cumulative effects on this SEA topic in this Corridor section in the Corridor section in this Corridor section is the Corridor secti												

The residual cumulative affect is assessed as minor adverse

The residual cumulative effect is assessed as minor adverse





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