A9/A96 Inshes to Smithton

DMRB Stage 3 Environmental Impact Assessment Report

Appendix A1.1: Record of Determination



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EC DIRECTIVE 2011/92/EU AS AMENDED ROADS (SCOTLAND) ACT 1984 AS AMENDED RECORD OF DETERMINATION

	of		

A9/A96 Inshes to Smithton

Location:

A9/A96 Inshes to Smithton (South and East of Raigmore Junction, Inverness)

Description of Project:

The A9/A96 Inshes to Smithton scheme (the proposed scheme) is located between Inshes Retail Park to the west of the A9 Perth – Inverness Trunk Road and the proposed A96 Smithton Junction, which would form part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme at the northern end of Barn Church Road. The study area includes the communities of Inshes, Cradlehall and Smithton. The length of the main alignment between the A96 Smithton Junction and the B9006 Culloden Road is 2.2km. The length of the entire proposed scheme including the land gain/drop along the A9, Inshes overbridge and all other links and tie-ins is 4.9km.

The alignment of the proposed scheme commences where the existing U1058 Caulfield Road North meets the B9006 Culloden Road. The U1058 Caulfield Road North approach to the B9006 Culloden Road will be widened, and a new single lane carriageway of approximately 2.2km in length will be provided travelling in a north-east direction across land which is predominantly in existing agricultural use. The proposed Cradlehall Roundabout will be a four-arm roundabout and connects the scheme to the local road network. The access to Inverness Campus and the U5096 Castlehill Road will be locally realigned. The proposed alignment crosses over the Highland Main Line Railway via a new overbridge. The proposed Eastfield Way Roundabout will be a four-arm roundabout and provides a connection to the Inverness Retail and Business Park. The proposed alignment continues in a north east direction past the east of Ashton Farm and Ashton Farm Cottages and ties into the proposed grade separated A96 Smithton Junction to be delivered as part of the A96 Inverness to Nairn (including Nairn bypass) scheme.

A new overbridge running parallel and to the south of the existing Inshes overbridge will be provided to accommodate two lanes in each direction of travel. The proposed alignment also includes an additional running lane on the A9 southbound carriageway between Raigmore and Inshes junctions.

Figure 1 shows the location of the proposed scheme and Figure 2 shows the proposed scheme in relation to the key environmental constraints.

Description of Local Environment

The sections below provide a brief description of the local environment in the vicinity of the existing A9 and A96. The extent of the areas discussed, or the study areas referred to, vary according to the environmental parameter under consideration. The baseline information is based on a review of currently available information; primarily the findings of the DMRB Stage 2 Scheme Assessment Report, Part 3: Environmental Assessment (Jacobs 2017).

Air Quality

The proposed scheme passes through a predominantly rural environment to the east of Inverness, however there are both residential and commercial uses in close proximity, and the existing road network including the A9 and A96 trunk roads. The Highland Council's (THC) Local Air Quality Management (LAQM) report (2016) concluded that air quality in the THC area is good, however there is an area of Inverness City Centre with poorer air quality. An Air Quality Management Area (AQMA) has been designated approximately 2km west of the proposed scheme at the junction of Queensgate and Academy Street.

Noise and Vibration

Much of the area through which the proposed scheme passes is rural, however the proximity of the A9 and A96 trunk roads mean that existing background noise level is likely to consist of road traffic as well as the typical sounds to be heard in a rural environment. Moreover, the Highland Main Line Railway passes through the proposed scheme study area and, thus, will contribute to the baseline noise climate at nearby noise sensitive receptors (NSRs). Inverness Airport is located approximately 9km to the north-east of the proposed scheme near Tornagrain and intermittent aircraft noise may form part of the baseline noise climate. Finally, Inverness Retail and Business

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Park, and Inverness College of the University of the Highlands and Islands are located to the north and west of the proposed scheme and may contribute to the baseline noise climate.

The communities of Inshes, Castlehill, Cradlehall, Resaurie, Smithton and Stratton are located in the vicinity of the proposed Scheme.

No Candidate Noise Management Areas (CNMAs) have been identified within the study area for the proposed scheme.

Landscape and Visual

The immediate area around the proposed scheme relevant for both the landscape and visual assessments is largely contained by the Aberdeen - Inverness Railway Line to the north, C1032 Barn Church Road to the north-east, Culloden Moor to the east, the city of Inverness to the west and Drumossie Moor to the south. The area contains newly constructed designed landscape of Inverness Campus as well as high quality farmland, retail and educational facilities and substantial, largely residential, development to the south and west.

Three Landscape Character Areas (LCAs) were identified at DMRB Stage 2 within the study area, characterising enclosed farmed landscaped, coastal lowlands and forest edge farming and urban development.

Visual receptors (46 built receptors and 11 outdoor receptors) identified within the study area comprise mostly residents located on the outer edges of the nearby settlements (Inverness, Inshes, Cradlehall and Smithton) in addition to the road users, railway passengers, walkers and cyclists. Few of the visual receptors may gain such clear views of the surrounding landscape, as often such views are screened by neighbouring built form, hedgerows or garden planting, woodland or the rolling topography itself.

Ecology and Nature Conservation

Three statutory designated sites lie within the 500m study area, all of which are located approximately 350m north of the proposed scheme at its closest point:

- Longman and Castle Stuart Bays Site of Special Scientific Interest (SSSI);
- Inner Moray Firth Special Protection Area (SPA); and
- Inner Moray Firth Wetland of International Importance (Ramsar).

The Moray Firth Special Area of Conservation (SAC) and Moray Firth proposed SPA (pSPA) lie approximately 900m from the proposed scheme but are hydrologically connected via Scretan Burn and Cairnlaw Burn.

There are a number of non-statutory designated sites located within the study area including The Moray Basin, Firths and Bays Important Bird and Biodiversity Area (IBA) and sites listed on the Ancient Woodland Inventory (AWI).

The baseline information collected for the DMRB Stage 2 assessment identified the presence of otter (*Lutra lutra*), bats, badger (*Meles meles*) and birds. Suitable habitat for water vole (*Arvicola amphibius*), aquatic macroinvertebrates and fish was recorded within the study area.

Geology, Soils, Contaminated Land and Groundwater

Bedrock geology within the study area is comprised primarily of the Hillhead Sandstone Formation which is described as a red and grey, planar-bedded, quartzose, sandstone with interbeds of micaceous siltstone and silty mudstone. The southern portion of the study area is underlain by the Inshes Flagstone Formation, which is comprised of flaggy sandstones with rare grey calcareous mudstones and limestones.

Drift, alluvial and marine deposits are located within the study area in addition to some glacial and superficial deposits. There are no records of historic or current coal mining activity within the study area; however, 30 potential contamination sources have been identified within 250m of the proposed scheme.

BGS hydrogeological maps indicate that the study area is underlain by the Middle Old Red Sandstone, a moderately productive aquifer comprised of fine to medium grained sandstones, in places flaggy, with siltstones, mudstones, conglomerates and interbedded lavas.

The groundwater within the study has a SEPA classification of 'Good' overall with no trend of pollutants. Groundwater potential is dependent on the thickness of the saturated deposits but can yield up to 10-15 l/s.

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Road Drainage and the Water Environment

There are 12 surface water features which have been identified as having the potential to be impacted by the proposed scheme, ranging from tributaries to field drains, none of which are protected under the Water Framework Directive (WFD). However, all surface water features flow into the Moray Firth, which is covered by various natural heritage designations of international and national importance (see Ecology and Nature Conservation section above).

Within the study area there are six licensed discharge consents: two relate to private septic tanks; two in relation to the discharge of sewage; one SUDS discharge; and one an effluent discharge. No surface water abstractions have been identified within the study area.

Existing road drainage treatment in the study area is generally limited, consisting of kerbs and gullies, which direct untreated road runoff to an outfall into the nearest water feature.

Cultural Heritage

A total of 40 cultural heritage assets have been identified within the study area, comprising 23 archaeological remains, seven historic buildings and eight historic landscape types. This includes one Scheduled Monument: "Ashton Farm Cottages, ring ditch 415m SW and pit circles 460m WSW of". In addition, two listed buildings (Castlehill and Seafield of Raigmore) located outside the study area have been included in the baseline due to potential for impacts on setting.

The area generally has a strong evidence of historical settlements and activity especially during the Bronze Age (2500 BC to 800 BC) as illustrated by the ring ditch and pit circles south west of Ashton Farm Cottages. It is considered that there is high potential for the discovery of currently unknown remains of cultural heritage significance within the study area. Should these be identified, their discovery would be added to the records of those that are currently known.

People and Communities: Community and Private Assets

The main communities within close proximity to the study area are Inshes, Dell of Inshes, Cradlehall, Smithton and Westhill. The city of Inverness lies to the west of the existing A9 Perth – Inverness Trunk Road and existing A96 Aberdeen – Inverness trunk Road.

Most residential properties are located within the communities referred to above, with the reminder made up of scattered rural dwellings, including a number of farmhouses and their associated cottages. There are 22 commercial and industrial properties located within 500m, while there are six community facilities located in the same area. The main area of community land used for recreation/amenity in the area is Inshes District park, however there is also an area of scrubland adjacent to this which has also been designated as community land and is accessible via a public pathway.

The predominant land use within 500m of the proposed scheme is agriculture however there are a large number of commercial and industrial properties including several business parks such as Inverness Retail and Business Park, Cradlehall Business Park, Beechwood Business Park and Stoneyfield Business Park. While noting that there are seven existing land interests within this area, the majority of the area is allocated for mixed-use development, including large-scale developments such as Inverness Campus and Stratton New Town. The DMRB Stage 2 options assessment identified 14 development land allocations and 40 extant planning applications located within the 500m study area (October 2017).

People and Communities: Effects on All Travellers

The Effects on All Travellers assessment considers pedestrians, cyclists, and equestrians (referred to as Non-Motorised Users: NMUs). The assessment also considers vehicle travellers in terms of changes to views along the existing routes and to driver stress levels. The development of a new road and/or alterations to an existing road layout can alter how NMUs move around a community or the wider environment using the existing local path network, and can influence the level of stress vehicle travellers may experience when travelling along certain sections of road.

Within the study area there are seven core paths, one of which exists as an access track connecting the A96 Aberdeen – Inverness Trunk Road with U1058 Caulfield Road North (Castlehill – Cradlehall – Smithton – Stratton Lodge Road). In addition to the seven core paths, there are 12 aspirational paths, 10 local paths, one national cycle

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route and one local cycle route. Two additional shared use paths form part of the A96 Inverness to Nairn (including Nairn bypass) scheme.

NCN Route 1 orientates through the study area from east to west, along the B9006 Culloden Road and U1124 Caulfield Road.

The traffic within the study area predominantly uses the A9 and the A96, which are both connected to a network of minor roads that serve the local communities of Cradlehall, Inshes and Raigmore. Vehicle travellers currently experience low levels of driver stress (with the exception of urban junctions) when travelling along the A9 and A96 for the majority of the stretch within the study area, given its characteristics as a relatively straight stretch of the trunk road with few junctions. Driver stress is likely to increase in the vicinity of the Raigmore Interchange, as a result of driver frustration among some individuals relating to the need to negotiate a junction which suffers congestion at peak times. The Raigmore Interchange is a key junction for drivers travelling east to Nairn, west to Inverness, north to the Highlands and south towards the Cairngorms National Park, and hence experiences significant volumes of traffic.

Materials

Existing ground conditions are set out under Geology, Soils and Groundwater. There are a number of quarries in the area which would be suitable for the sourcing of aggregates suitable for road construction. Registered operational landfill sites and existing waste landfill capacity information was sourced from the SEPA 'Scottish Waste Site and Capacity Interactive Tool' (SEPA 2015). This information showed that, in 2015, there were five operational inert landfills and seven operational non-hazardous landfills within the study area for the materials assessment (i.e. the council areas of The Highland Council, Moray Council and Aberdeenshire).

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Description of the main environmental impacts of the project and proposed mitigation

This section provides an overview of the likely potential environmental impacts taking into account the new requirements of the Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017 to cover factors such as climate, major accidents and/or disasters and population and human health. Impacts in relation to climate are covered under air quality (greenhouse gas emissions) and road drainage and the water environment (flood risk due to climate change), with impacts relating to population and human health impacts covered under air quality, geology, soils and contaminated land and effects on all travellers. No potential impacts in relation to major accidents and disasters are expected and as such this is not covered within this section. General mitigation measures are outlined in Part 3: Environmental Assessment of the DMRB Stage 2 Scheme Assessment Report (Jacobs 2017). Additional mitigation measures will be developed during the DMRB Stage 3 Design and Environmental Impact Assessment (EIA).

Air Quality

No significant local or global air quality impacts or increases of greenhouse gas emissions are predicted. The proposed scheme is not expected to significantly increase vehicle movements; however small localised changes in air quality may occur for some properties due to changes in separation distance. During construction, mitigation measures are likely to be required, following best practice for aspects such as dust control.

Noise and Vibration

The DMRB Stage 2 assessment of road traffic noise predicted significant adverse effects (moderate and above) at noise sensitive receptors in the short and long term as a result of the preferred option. The requirement for mitigation will be considered at DMRB Stage 3 based on the noise modelling output. Potential mitigation measures may include the use of (where appropriate):

- Low Noise Road Surface (LNRS) this approach may be adopted on the lane gain/lane drop, as recommended by the DMRB Guidance where vehicle speeds would be greater than or equal to 75kph.
- Noise barriers may be installed along some sections of the route.

During construction, mitigation measures are also likely to be required, such as guidance on working hours and avoidance of night-time working where practicable near to residential areas.

Landscape and Visual

Potential impacts on landscape character and visual amenity during operation include the alternation to the local character of the landscape due to the loss of existing landscape elements, such as existing field patterns, severance of watercourses and burns, stripping of groundcover vegetation and topsoil. There is the potential for significant impacts, although the extent of the loss is a relatively small percentage of the habitat type in the wider landscape.

For the majority of the visual and outdoor receptors within the study area, the proposed scheme is unlikely to result in significant impacts on the primary focus of views; however, at DMRB Stage 2 it was assessed that 12 built receptors and one outdoor receptor could experience significant adverse effects of Moderate or greater in relation to the preferred option.

Mitigation measures will be considered as part of the DMRB Stage 3 design and is likely to include landscape planting to integrate with the design of the new carriageway and visual screening.

Ecology and Nature Conservation

The main impacts on ecology and nature conservation are anticipated to be habitat loss and fragmentation, potential injury and mortality of protected species from vehicle collisions, and potential pollution to watercourses that transect or are situated within the study area. There is the potential for pollution to the Inner Moray Firth SPA and Longman and Castle Bays SSSI due to works in the vicinity of Cairnlaw Burn (SWF 08), Inshes Burn (SWF 02) and Scretan Burn (SWF 04) which feed into the SPA and SSSI resulting in reduced water quality resulting in mortality of its species assemblages. A Habitats Regulations Appraisal (HRA) Screening assessment was undertaken at DMRB Stage 2 and it will be necessary to undertake a HRA during the DMRB Stage 3 Assessment.

Mitigation measures will be considered at DMRB Stage 3 and are likely to include design refinement and measures such as habitat replacement, whilst consideration of potential impacts on the Inner Moray Firth SPA and Longman and Castle Bays SSSI will be undertaken in consultation with statutory consultees: SNH, SEPA and The Highland Council.

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Geology, Soils, Contaminated Land and Groundwater

There are likely to be some potentially adverse impacts as a result of land-take and earthworks cut/fill. The impacts of soil compaction from construction traffic and site storage areas, and soil erosion from vegetation stripping for stockpiling were assessed to be of negligible significance during the DMRB Stage 2 Assessment. Direct disturbance for two potentially contaminated land sites (Highland Main Line Railway and the existing A9 Inverness to Perth Trunk Road) has the potential to impact human and water receptors while three cuttings (Cutting 1, 7, and 8) have been identified as having the potential to intercept groundwater. Two of these have the potential to intercept groundwater from the existing A9 Inverness to Perth Trunk Road. The potential of these events occurring is considered to be likely with a mild magnitude of impact and a significance of Moderate/Low. Potential groundwater impacts include reduced quantity and quality of groundwater; these will be assessed at DMRB Stage 3 to determine appropriate mitigation, likely to include highways drainage measures or treatment.

Road Drainage and the Water Environment

Potential impacts are anticipated in relation to surface water features in terms of flood risk (including consideration of climate change predictions), changes to fluvial geomorphology and water quality prior to mitigation as a result of construction of culverts, outflows and crossings. Mitigation measures will be considered at DMRB Stage 3, including input to the design to inform aspects such as provision of Sustainable Drainage Systems (SuDS). A range of best practice measures will also be required during construction to avoid or reduce potential for impacts on the water environment.

Cultural Heritage

The proposed scheme has the potential to remove buried archaeological remains associated with the Ashton Farm Cottages Ring Ditch and Pit Circles (Asset 14; Scheduled Monument). Effects on setting will need to be considered during the DMRB Stage 3 Assessment. The study area has been identified as having high archaeological potential due to the numerous known extant remains; accordingly, there is potentially a high risk of impacts on undiscovered archaeological assets.

Mitigation measures will be considered at DMRB Stage 3 and will include avoidance where possible of known sites. It is likely that further archaeological works will be required prior to construction in areas of high archaeological potential, with recording and excavation of finds.

People and Communities: Community and Private Assets

The proposed scheme will affect a number of private and community assets through land-take and severance required as a result of the development. Land-take will predominantly affect existing development land (much of which is presently agricultural land) but would also affect woodland and community land. Design refinement at DMRB Stage 3 will aim, where practicable, to reduce land-take and provide alternative access arrangements for affected properties.

People and Communities: Effects on All Travellers

The proposed scheme will include changes to journey length and severance, and decreases in amenity value, specifically in relation to the 12 paths within the study area. Nine other paths are expected to have potential significant beneficial effects as a result of the proposed scheme. The DMRB Stage 3 design will include mitigation to minimise potential impacts on NMU routes and pathways (including all path types), with improved safety being a key consideration. The significance of these impacts will be reviewed and re-assessed at DMRB Stage 3 as mitigation is developed.

Driver stress is likely to be reduced by the proposed scheme and impacts on views from the road are unlikely to be significantly affected.

Materials

Materials and quantities required for the construction of structures, such as bridges and culverts associated with the preferred option, were not estimated during DMRB Stage 2 however cost estimates of materials and quantities proportionate to the proposed scheme were undertaken and it is estimate that cost of structures would be in the region of £2-2.5m.

There is anticipated to be a net requirement to dispose of unsuitable material from the site, and also to import new materials – this will be considered at DMRB Stage 3 during development of aspects such as earthworks. During construction, potential mitigation measures are likely to be required through the implementation of a Site Waste Management Plan and Construction Environmental Management Plan that would detail materials management

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methods. The plans would be implemented for ongoing environmental management and site waste management during operation.

Extent of EIA work undertaken and details of consultation

An EIA will be undertaken for the DMRB Stage 3 design. The development of route options has been subject to environmental assessment as part of the DMRB Stage 2 Assessment. DMRB Stage 3 design and a full EIA have now commenced, including consideration of potentially significant environmental impacts in the context of the Roads (Scotland) Act 1984 as amended by the Environmental Impact Assessment (Scotland) Regulations 2017. Environmental scoping is being undertaken in discussion with statutory consultees, and is reported in the A9/A96 Inshes to Smithton Environmental Assessment Scoping Report (Jacobs, 2018).

Public and statutory consultations were undertaken during the DMRB Stage 2 Assessment, as reported in Part 3: Environmental Assessment, DMRB Stage 2 Assessment (Jacobs, 2017). Consultation is currently ongoing as part of the DMRB Stage 3 process, and to date has included meetings with affected landowners, Historic Environment Scotland and The Highland Council. Consultation letters to inform the DMRB Stage 3 Assessment will be issued to a range of consultees as appropriate.

Statement of case in support of a Determination that a formal EIA and Environmental Impact Assessment Report is required:

Screening Determination:

The works are considered to constitute a relevant project falling within Annex II of the Environmental Impact Assessment Directive 2011/92/EU (as amended) as the project exceeds 1 hectare in area.

The project has been subject to screening using the Annex III criteria to determine whether a formal EIA is required under the Roads (Scotland) Act 1984 as amended. Screening using these criteria has identified a need for an EIA because the works are likely to have a significant effect on the environment by virtue of factors such as:

- the works exceed 1ha in area;
- there is the potential for impacts to the Inner Moray Firth SPA and Longman and Castle Bays SSSI due to works in the vicinity watercourses which feed into those designated areas; and
- there is the potential for impacts on nationally important archaeological remains, namely the Scheduled Monument "Ashton Farm Cottages, ring ditch 415m SW and pit circles 460m WSW of".

Key elements of the works:

The construction of a single carriageway route between the existing A9 Perth – Inverness Trunk Road and A96 Aberdeen – Inverness Trunk Road incorporating road drainage, creation and revision of local accesses along with the provision of new junctions and approach roads where appropriate.

Location of the proposed scheme:

Approximately 2.2km of new single carriageway between Inshes Retail Park to the west of the A9 Perth – Inverness Trunk Road and the proposed Smithton Junction, which will form part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme at the northern end of Barn Church Road.

References of supporting documentation:

Jacobs (2017). A9/A96 Inshes to Smithton DMRB Stage 2 Scheme Assessment Report, Volume 1: Main Report and Appendices, Part 3: Environmental Assessment.

Jacobs (2018). A9/A96 Inshes to Smithton Environmental Assessment Scoping Report.

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	SIGNATURE Transport Scotland Environmental Advisor:
	Date 28 NOVEMBER 2018
	Authorisation to publish Notice of Determination
	SIGNATURE: Director, MIPS:
1	Date



