

**EC DIRECTIVE 2014/52  
ENVIRONMENTAL IMPACT ASSESSMENT (SCOTLAND) REGULATIONS 1999 AS AMENDED  
ROADS (SCOTLAND) ACT 1984**

**RECORD OF DETERMINATION**

**Name of Project:**

A9 Dualling: Tay Crossing to Ballinluig

**Location:**

Tay Crossing to Ballinluig, Perth & Kinross, Scotland.

**Description of Project:**

Upgrading of the A9 trunk road to dual carriageway for approximately 7.7km between the Tay Crossing and Ballinluig. This project is one of a programme of 11 separate A9 dualling projects proposed between Perth and Inverness. Dualling the Tay Crossing to Ballinluig section would be achieved principally through the retention of the existing A9 road and the construction of a parallel carriageway, to provide two lanes in each direction. The proposed scheme includes a number of watercourse crossings via culverts, implementation of a new Sustainable Drainage System (SuDS), provision of flood compensatory storage areas, and provision of new and upgraded local access for the communities of Dowally, Guay and Kindallachan.

**Description of Local Environment**

The sections below provide a brief description of the local environment in the vicinity of the existing A9. 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 Part 3: Environmental Assessment, DMRB Stage 2 Assessment (Jacobs, 2016).

**People & Communities: Community and Private Assets**

The main residential communities within the study area, extending to 500m from the existing A9, are Dowally, Guay, Kindallachan and Ballinluig. Most residential properties are located within these communities, with the remainder made up of scattered rural dwellings, including a number of farms and their associated outbuildings and cottages. Commercial and industrial properties are also located within the study area including R A Laird Contractors at Dowally Farm and House of Bruar Warehouses adjacent to the Ballinluig junction. St Anne's Church and cemetery (Dowally) and northbound and southbound bus stops on the A9 (Kindallachan) are the only community facilities located within the study area. There is some residential and commercial development land (extant planning applications) within the study area.

The land use within the study area is predominantly agricultural, with parcels of forestry and woodland. The land supports a range of agricultural systems although livestock production (cattle and sheep) predominates with arable crops (cereals and potatoes) grown on the more productive land.

**People & Communities: Effects on All Travellers**

The Effects on All Travellers assessment considers the impact of the proposed scheme on pedestrians, cyclists, equestrians (referred to as Non-Motorised Users: NMUs). Additionally, it considers the impacts on vehicle travellers in terms of changes to views from the existing A9 and the proposed scheme, and on driver stress. The study area for the assessment of impacts on NMUs includes paths within 500m of the proposed scheme. However, consideration of the wider area has also informed the assessment, which is particularly important in identifying potential limitations to accessing outdoor areas.

The existing A9 in the Tay Crossing to Ballinluig section is a single carriageway with several northbound and southbound lay-bys, an existing at grade junction associated with the C502 at Rotmell, and a grade separated junction with the A827 servicing Ballinluig and the route to Aberfeldy. Properties located at Dowally, Guay, and Kindallachan, as well as other dispersed rural properties and land, are serviced by minor access roads from the existing A9.

Seven core paths are located within the study area, designated in the Perth and Kinross Core Paths Plan (2012).



One other path is designated as a public right of way and there are 11 other undesignated paths within the study area. These routes were recorded as being used by NMUs, particularly recreational walkers and ramblers. No formal existing NMU crossing points of the A9 were identified during the DMRB Stage 2 Assessment (Jacobs, 2016).

There is one National Cycle Route (NCR) (NCR77) and one Regional Cycle Route (RCR) (RCR83) that pass through the study area. NCR77 runs along the Tay valley in the southern extent of the study area, west of the River Tay, and links Dundee and Pitlochry via Perth. RCR83 runs through the study area to the east of the River Tay from the C502 using a combination of a cycle path alongside the existing A9 and General Wade's Military Road through the settlements of Dowally, Guay and Kindallachan. RCR83 links Dunkeld and Ballinluig.

### **Geology, Soils and Groundwater**

The geology and soils study area extends to 250m from the proposed scheme; for Groundwater Dependent Terrestrial Ecosystems (GWDTE), up to 100m from the existing A9; and impacts on groundwater abstractions will be assessed to a distance of 850m from the proposed scheme.

There are no designated geological receptors or Geological Conservation Review sites within the study area. However, the Shingle Islands SSSI is located within the study area and, although classified as a biological SSSI, its characteristics are integral to the designation and the geology of this site is therefore considered to be of national importance and medium sensitivity. Drift deposits within the study area are dominated by alluvium and glaciofluvial deposits with isolated areas of river terrace deposits along the existing A9 (consisting of gravel, sand, silt and clay). Glacial till is indicated to lie over the lower hillsides. Typically, the existing A9 lies to the eastern edge of the floodplain, at the limit between the alluvium/river terrace deposits and the glaciofluvial deposits.

Underlying the superficial geology is metamorphic bedrock of Dalradian age belonging to the Southern Highland Group. This is recorded by the BGS GeoIndex as psammites and semipelites, with an area of micaceous psammite at the southern end of the section. No faults are indicated in this area.

Soil types throughout the study area are humus iron podzols. These are soils derived from glaciofluvial and raised beach sands and gravels with acid igneous rock parent material. Generally humus iron podzols are nutrient deficient but can support a number of uses including arable land, permanent pasture, oak and birchwood, rush pasture and sedge mires.

The study area has previously been exploited for sand and gravel mineral extraction. Based on the historical evidence of sand and gravel extraction and drift geology descriptions, there is potential for further sand and gravel resources within the study area. Future sand and gravel extraction resources are assessed to be of local importance.

During the DMRB Stage 2 Assessment (Jacobs, 2016), 16 potentially contaminated land sources were identified within the study area, comprising land associated with the existing Perth to Inverness railway, the previous site of Guay Station, septic tanks, disused saw mills, and disused gravel and sand pits. The contaminated land sources will be considered further at Stage 3.

The status of the groundwater aquifers within the study area have been classified by the Scottish Environmental Protection Agency (SEPA) as 'Good with High confidence', with no trend of pollutants. There are a number of abstractions for private water supply within the study area.

### **Road Drainage and the Water Environment**

Within a study area of approximately 500m either side of the proposed scheme, there are a total of 42 water features, which range from large water bodies with European-level designations to minor straightened road and field drains that provide only a functional drainage benefit. Large and medium sized watercourses within the study area include the River Tay, Dowally Burn, Kindallachan Burn, and the River Tummel. The Dowally Burn forms part of the River Tay Special Area of Conservation (SAC) designation to a distance of approximately 0.7km upstream of the existing A9. Kindallachan Burn also forms part of the River Tay SAC up to the crossing point of the Highland Main Line railway and existing A9. A small section of the River Tummel, which is part of the River Tay SAC, falls within the study area at Ballinluig Junction.

During the DMRB Stage 2 Assessment (Jacobs, 2016), it was reported that, from the SEPA consultation responses

received, licences within the study area include surface water abstractions for agricultural irrigation, hydropower discharge returns and engineering activities relating to bank reinforcement and culvert construction. No Private Water Supplies (PWS) associated with surface water have been identified within the study area.

Existing road drainage treatment in the study area between the Tay Crossing and Ballinluig is generally limited, consisting of kerbs and gullies which direct untreated road runoff to the nearest water feature via a piped outfall. In certain areas there are lengths of filter drain in the verges that provide treatment for some of the runoff from the road and/or adjacent earthworks slopes. Drainage provision at the existing Ballinluig junction also incorporates detention basins.

### **Ecology and Nature Conservation**

There are a number of species of conservation interest confirmed within the study area, which extends to approximately 500m from the existing A9, including:

- otters;
- bats (soprano pipistrelle, common pipistrelle and brown long-eared bat);
- breeding bird species (including Schedule 1, UK BAP, LBAP and red/amber listed);
- aquatic species including freshwater pearl mussels, Atlantic salmon, brook lamprey and trout; and
- badger.

Suitable habitat for the following protected species has also been identified within the study or wider area for the following:

- Scottish wildcat;
- red squirrel;
- pine marten; and
- reptiles (including adder, common lizard and slow worm).

Habitats of significance to conservation in the study area include:

- River Tay SAC;
- Shingle Islands SAC;
- fragments of Ancient Woodland Inventory (AWI) woodland; and
- areas of woodland noted in the Native Woodland Survey of Scotland (NWSS).

### **Landscape**

Landscape designations that fall within the study area (which extends to an area up to 5km from the proposed scheme) are:

- River Tay (Dunkeld) National Scenic Area (NSA);
- Upper Strath Tay Special Landscape Area (SLA);
- Dunkeld House Garden and Designed Landscape (GDL); and
- Tay Forest Park (Craigvinean Forest).

There are a variety of vegetation types within the study area including ancient woodland, riparian and roadside vegetation, farmland, parkland, woodland screening and specimen trees. One Landscape Character Area (LCA) (the Lower Highland Glens LCA) was identified within the study area in the DMRB Stage 2 Assessment (Jacobs, 2016).

### **Visual**

The DMRB Stage 2 Assessment (Jacobs, 2016) identified 21 viewpoints within the study area, which extends approximately 5km from the road corridor; these are considered to be representative of the range of visual receptors at publically accessible locations. Residential receptors identified included those located in the settlements of Dalguise, Dowally, Guay, and Kindallachan in addition to scattered clusters of properties and farmsteads set on the lower hill slopes and along the valley floor. Mobile receptors include users of the Highland Main Line railway, NCR 77, RCR 83, the existing A9 and surrounding B roads. The existing A9 is currently visible from a number of these viewpoints.

The existing A9 is a notable feature in many views across the Tay valley as it winds its way along the eastern side, although established mature woodland areas help to provide screening on some sections of the existing A9. The topography of the area generally limits views to within the valley itself, with the rising valley sides adjoined by



gradually increasing hills to the east and west helping to screen more distant views into the surrounding area.

### **Cultural Heritage**

The DMRB Stage 2 Assessment (Jacobs, 2016) identified 42 archaeological remains, 19 historic buildings and eight historic landscape types within the study area which extends approximately 500m in all directions from the existing A9. This included five scheduled monuments and nine listed buildings.

The area generally has strong evidence of considerable settlement, ritual and battle activity dating from the Neolithic period through the Bronze Age, Iron Age, post-medieval, Jacobean and up to modern day. 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.

### **Air Quality**

There are no Air Quality Management Areas (AQMAs) within the study area, which considers sensitive receptors within 200m of the modelled road links. The closest AQMAs are located 25km to the south west in Crieff and 23km to the south in Perth.

Neither DEFRA nor the local authority (Perth & Kinross Council) operate any monitoring sites within or in the vicinity of the study area.

### **Noise and Vibration**

A variety of residential, industrial, commercial and community facilities are located along the route of the existing A9. The route is generally sparsely populated with small clusters of dwellings which are generally in close proximity to the existing A9, plus the settlements of Dowally, Guay, Kindallachan and Ballinluig. Road traffic using the existing A9 is identified as the primary source of noise along the route. It was estimated in the DMRB Stage 2 Assessment (Jacobs, 2016) that 103 residential properties are located within the noise calculation area (a 600m buffer around the proposed route, plus existing roads within 1km where noise changes of 1dB were predicted in the opening year). Other sensitive receptors identified include a church with associated churchyard, self-catering accommodation, and two fishing huts. There are no designated Candidate Noise Management Areas or Candidate Quiet Areas in or near to the study area.

### **Materials**

Existing ground conditions are set out under Geology, Soils and Groundwater. Registered landfill sites and existing waste landfill capacity information was sourced from the SEPA 'Landfill Sites and Capacity Report for Scotland 2014'. In 2014, there were three active non-hazardous landfills in the TAYplan Strategic Development Plan (SDP) area. The only active hazardous landfill in Scotland in 2014 was Avondale in Falkirk. SEPA (2014) 'List of Waste Sites and Capacities in Scotland' indicates that there are 31 operational waste sites in Perth & Kinross local authority area which accept a combination of commercial, special and industrial waste. These facilities do not just cover landfills but include incineration, recycling centres, transfer stations, anaerobic digestion and other treatment facilities.

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

This section provides an overview of the likely potential environmental impacts. General mitigation measures are outlined in the DMRB Stage 2 Assessment (Jacobs, 2016). Additional mitigation measures will be developed during the development of the DMRB Stage 3 design and as part of the DMRB Stage 3 Environmental Impact Assessment (EIA) process.

### **People & Communities: Community and Private Assets**

The proposed dualling of the A9 between the Tay Crossing and Ballinluig will affect a number of private and

community assets through land-take required for the proposed scheme along with severance. Land-take will predominantly affect agricultural land and woodland, but would also include residential, commercial and industrial properties. Design refinement at DMRB Stage 3 will aim, where practicable, to reduce land-take and provide alternative access arrangements.

#### **People & Communities: Effects on All Travellers**

The DMRB Stage 3 design will embed mitigation to reduce potential impacts on NMU routes and pathways (including core paths and rights of way), with safety being a key consideration. The significance of these impacts will be assessed at DMRB Stage 3 assessment.

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

#### **Geology, Soils, Contaminated Land and Groundwater**

There are likely to be some potential 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 minor significance in the DMRB Stage 2 Assessment (Jacobs, 2016). Through appropriate mitigation measures (e.g. re-vegetation; reuse of material; adherence to soil stockpile management guidelines) effects can be mitigated, reducing impacts on soil and geology. The significance of the potential contaminated land sources will be identified at DMRB Stage 3 assessment. Potential groundwater impacts include reduced quantity and quality of groundwater. These will be assessed at DMRB Stage 3 assessment to determine appropriate mitigation which is 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, 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 assessment, including input to the design to inform aspects such as provision of SuDS. A range of best practice measures will also be required during construction to avoid or reduce potential for impacts on the water environment.

DMRB Stage 2 Assessment (Jacobs, 2016) identified that during operation there may be areas of land where there is potential for increase to flood risk, which will be considered and mitigation applied as appropriate during the DMRB Stage 3 Assessment.

#### **Ecology and Nature Conservation**

The main impacts on ecology and nature conservation are anticipated to be habitat loss, including loss of mature trees, fragmentation and potential pollution to watercourses. Potential habitat loss and pollution to the River Tay SAC will be considered during the DMRB Stage 3 assessment. A Habitats Regulations Appraisal (HRA) was undertaken at DMRB Stage 2 and it will be necessary to undertake a HRA during the DMRB Stage 3 assessment.

Some areas of land-take are anticipated to affect woodland listed on the AWI as long established woodland of plantation origin. In addition, potential disturbance of associated protected species within these woodlands may occur. Increased risk of mortality as a result of vehicle strike is also possible for otter, birds, bats and other mammal species.

Mitigation measures will be developed at DMRB Stage 3 assessment, and are likely to include design refinement, crossing points under the dual carriageway and habitat replacement.

#### **Landscape**

The proposed scheme will result in the loss of areas of existing mixed woodland and agricultural land; however the extent of the loss is a relatively small percentage of the habitat type in the wider landscape. The effects on, and loss of, landscape elements within the landscape designations are unlikely to result in significant effects on the special qualities for which these designations are recognised. In respect of landscape character, the effects on defining features are unlikely to be significant given the minor extent of changes associated with the proposed scheme and



that the existing A9 is an established feature within the landscape.

### **Visual**

For the majority of the receptor locations within the study area, the proposed scheme is unlikely to result in significant visual impacts. This is due to the primary focus of views on the expansive and attractive landscape within the Tay Valley, the prevalence of roadside vegetation and woodland which provides screening of the A9 from many locations, and the context of the existing A9 corridor which already has a strong influence on current views. Mitigation measures will be considered in the DMRB Stage 3 assessment and are likely to include landscape planting to provide integration of the new carriageway and visual screening.

### **Cultural Heritage**

The proposed scheme has the potential to have direct physical impacts and impacts on the setting of designated cultural heritage assets including scheduled monuments and listed buildings. Potential impacts during construction and impacts on the setting of cultural heritage assets will 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 assessment, 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.

### **Air Quality**

No significant local or global air quality impacts 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**

It is likely that there will be a perceptible increase in noise levels as a result of the proposed scheme particularly for residential properties in proximity to the A9 due to increased traffic speeds as a consequence of the dualling. It is also likely that small localised changes in noise may occur for some properties due to changes in separation distance. The requirement for mitigation will be considered in the DMRB Stage 3 assessment based on the noise modelling outputs. During construction, mitigation measures are likely to be required, such as guidance on working hours and avoidance of night-time working where practicable near to residential areas.

### **Materials**

Based on the DMRB Stage 2 design, it is anticipated that the proposed scheme will result in the construction of eight new bridges, 23 new culverts and one retaining wall and the possible partial demolition of one building, depending on mainline and side road alignment requirements. The proposed scheme is expected to interact with six or seven potentially contaminated sites depending on mainline and side road alignment requirements.

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 in the DMRB Stage 3 assessment during development of aspects such as earthworks. During construction, potential mitigation measures are likely to be required through the implementation of the Site Waste Management Plan and Construction Environmental Management Plan that would detail materials management methods. The plans would be implemented for ongoing environmental management and site waste management during operation.

### **Policies and Plans**

Compliance with individual policies and plans will be considered in the DMRB Stage 3 assessment, however, due to the potentially significant impacts noted above, there is potential for some non-compliance with individual policies.

### **Extent of EIA work undertaken and details of consultation**

An EIA will be undertaken for the DMRB Stage 3 design. To date, the proposed scheme has been designed following a 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 1999 (as amended)\*. Environmental scoping has been undertaken in discussion with all statutory consultees, via the A9 Environmental Steering Group (ESG), and is reported in a Scoping Report (Transport Scotland (2016), A9 Dualling – Perth to Inverness EIA Scoping Report).

Public and statutory consultations were undertaken during the DMRB Stage 2 Assessment, as reported in Part 3: Environmental Assessment, DMRB Stage 2 Assessment (Jacobs, 2016). Consultation is currently ongoing as part of the DMRB Stage 3 process, and to date has included meetings with affected landowners, SNH, SEPA, Historic Environment Scotland and Perth & Kinross Council. Consultation letters to inform the DMRB Stage 3 assessment will be issued to a range of consultees as appropriate.

*\* Although the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 consolidated, updated and replaced Part II of the Environmental Impact Assessment (Scotland) Regulations 1999, Parts III and IV of the 1999 Regulations (as amended) concerning Roads, Bridges and Land Drainage, remain extant.*

### **Statement of case in support of a Determination that a formal EIA and Environmental Statement is required:**

#### **Screening Determination:**

The works are considered to constitute a relevant project falling within Annex II as referred to in the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended), since they exceed 1 hectare in area and are situated in part within a 'Sensitive Area', namely the River Tay SAC, the designated area of the Kindallachan Cairn Scheduled Monument, and the River Tay (Dunkeld) NSA.

The project has been subject to screening using the Annex III criteria to determine whether formal EIA is required under the Roads (Scotland) Act 1984 as amended by the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended). Screening using these criteria has identified a need for an EIA / ES 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; and
- there is potential for impacts to the River Tay SAC and the Kindallachan Cairn Scheduled Monument.

**Characteristics of the development:** The works involve the upgrade of the A9 from single carriageway to dual carriageway; upgrade to road drainage (including provision of SuDS); revisions to the local side road network (including provision of an overbridge across the dual carriageway); revisions to access to the settlements of Dowally, Guay and Kindallachan; and revision of private accesses to properties and land.

**Location of the project:** Approximately 7.7km of the A9 between the Tay Crossing and Ballinluig.

**Characteristics of the potential impacts:** Potential significant impacts of the development include permanent loss of habitat within the River Tay SAC and direct physical impact on the Kindallachan Cairn Scheduled Monument.

### **References of supporting documentation:**

Jacobs (2016). A9 Dualling Programme: Tay Crossing to Ballinluig DMRB Stage 2 Scheme Assessment Report Volume 1 – Main Report and Appendices Part 3: Environmental Assessment

Perth & Kinross Council (2012), Core Paths Plan

Transport Scotland (2016). A9 Dualling – Perth to Inverness EIA Scoping Report

SIGNATURE Transport Scotland Environmental Advisor:

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Date ..... 09 May 2017 .....

Authorisation to publish Notice of Determination

SIGNATURE: Director, MTRIPs: .....  
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Date ..... 15/05/2017 .....