



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A9 430 Inver Rail – VRS

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out vehicle restraint system (VRS) installation and replacement on and approaching to A9 430 Inver Rail bridge in order to improve traffic road safety during the operational phase. The scheme covers an approximate area of 1.9ha.

The works will include:

- Replacement of existing VRS with new, current standard VRS.
- Extension of northbound VRS by 60m downlink and 280m uplink from the A9 Inver Rail bridge.
- Extension of southbound VRS by 50m downlink and 100m uplink from the A9 Inver Rail bridge.
- Installation of applicable P4 terminals.
- Concrete repairs to a damaged service duct on the right-hand side (RHS) of the bridge deck.

The works are currently programmed to be completed within the 2022/2023 financial year. However, works may be delayed into the 2023/2024 financial year (April to January 2024 inclusive). Works are expected to be completed over 19 nights by utilising night time working hours (19:00 – 07:00); however, changes in the programme may result in the need for daytime works.

Traffic management (TM) will consist of lane closures, facilitated by two-way temporary traffic lights. However, if the programme changes, this may result in amendments to the exact TM requirements. Where required, alternative pedestrian routes will be included in the TM setup.

Location

The works are located on the A9 carriageway 0.2km west of the small settlement of Inver near Dunkeld, within the Perth and Kinross Council area (Figure 1). The scheme has the following National Grid References (NGRs):

- Scheme Start: NO 01341 42280
- Scheme End: NO 00338 42991

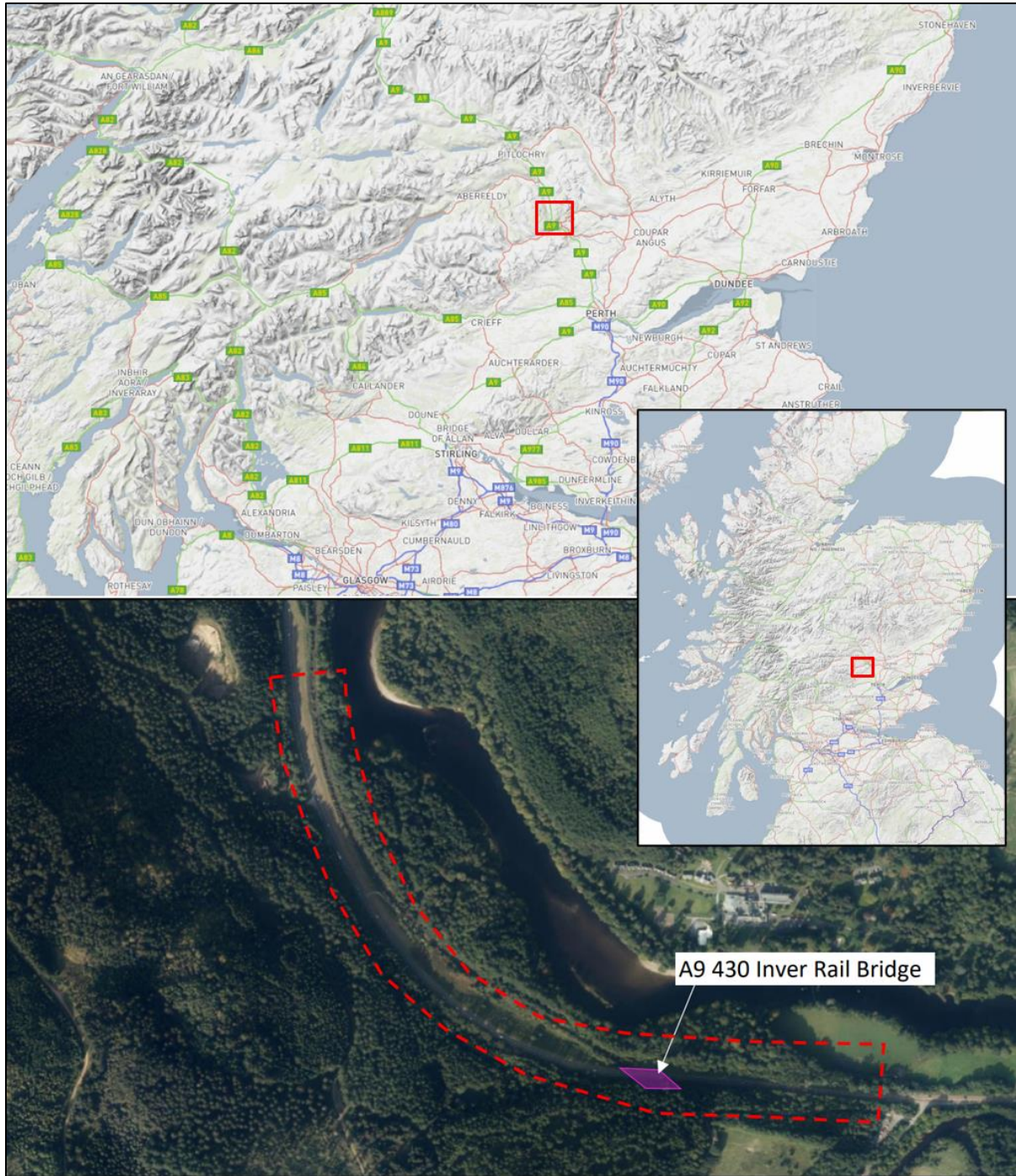


Figure 1. Location and scheme extent of the proposed VRS works at A9 430 Inver Rail bridge. Source: BEAR Scotland. F108 – Environmental Assessment Request (Scheme ref: 22-NW-1201-84) / Scotland’s Environment Standard Map.

Description of local environment

Air quality

The scheme does not fall within any Air Quality Management Areas (AQMA) ([Air Quality Scotland](#)) declared by Perth and Kinross Council. No Air Quality Monitoring

Stations are located in the vicinity of works; the nearest air quality monitoring station is located in Perth City Centre, approximately 20km southeast of the scheme ([Air Quality Scotland](#)). Pollution levels in the general vicinity of works are anticipated to be lower than those at the monitoring station in Perth due to the remote nature of the scheme location.

No sites registered on the Scottish Pollutant Release Inventory (SPRI) ([Scotland's Environment](#)) for air pollutant releases are located within 1km proximity of the scheme.

Average Annual Daily Flow (AADF) for the A9 carriageway 6.3km north of the scheme accounted for 11,296 vehicles, of which 12.5% were heavy goods vehicles (HGV) ([Road Traffic Statistics](#)).

Baseline air quality at the scheme location is likely to be primarily influenced by traffic along the A9 trunk road. The A9 within the scheme extents spans the Highland Main Line railway line (with associated land). Occasional train movement will therefore also have an impact. However, it is likely that train movements will be infrequent.

Cultural heritage

A desktop study using PastMap ([PastMap](#)) identified one Scheduled Monument and nine Listed Buildings lie within 300m of the scheme extents. There is no connectivity between the scheme extents and the Scheduled Monument or Listed Buildings; the nearest of these category C listed 'Railway Bridge Over Hermitage Road, With Tunnel Entrance Above' lies 140m from the scheme extents. The remaining Listed Buildings are concentrated within Inver settlement at least 220m from the scheme. The Scheduled Monument comprises the remains of a farmstead of medieval or later date, situated on the edge of a ridge, in mature forestry approximately 150m from the scheme.

Two Garden and Designed Landscapes (GDL), 'The Hermitage' (GDL00363) and 'Dunkeld House' (GDL00157) lie within 300m of the scheme. The nearest of these, 'The Hermitage' lies 15m from the scheme and is separated by a tree belt. 'Dunkeld House' lies beyond the River Tay, 170m from the scheme ([PastMap](#)).

Of lesser cultural heritage value, numerous Historic Environment Records (HER) and Canmore National Records (CNR) lie within 300m of the scheme. One of these, HER 'Hermitage Tunnel / The Hermitage' pertains to the A9 430 Inver Rail bridge. There is no connectivity between the scheme and remaining HERs and CNRs ([PastMap](#)).

There are no World Heritage Sites, Conservation Areas or Inventory Battlefields identified within 300m of the scheme.

Landscape and visual effects

The works lie wholly within the River Tay (Dunkeld) National Scenic Area (NSA) ([SiteLink](#)). The River Tay (Dunkeld) NSA is designated for the following special qualities:

- The beauty of cultural landscapes accompanying natural grandeur
- The 'Gateway to the Highlands'
- Characterful rivers, waterfalls and kettle-hole lochs
- Exceptionally rich, varied and beautiful woodlands
- The picturesque cathedral town of Dunkeld
- Drama of The Falls of Braan and The Hermitage
- Dunkeld House policies
- Significant specimen trees
- The iconic view from King's Seat

The scheme does not lie within an area of land designated as a National Park (NP) ([Scotland's Environment](#)).

The Landscape Character Type (LCT) within the scheme extent is the Lower Upland Glens (No. 372) ([Scottish Landscape Character Types](#)). The Lower Upland Glens LCT key characteristics are:

- Lower sections of the principal glens north of the Highland Boundary Fault.
- Larger scale landscapes than the mid and upper reaches of these glen, which are generally wider with broader floodplains.
- Combinations of upland and lowland attributes, with evidence of glaciation, but lacking many of the classic glacial features, such as corries, hanging valleys and misfit rivers, found higher up.
- Broad floodplains, often with meandering rivers, interspersed with narrower, gorgelike sections where harder rocks cross the glens.
- The most settled parts of the glens, with transport corridors housing main roads and railways, large towns, castles, fortified manor houses, historic estates and estate villages.

- Modern expansion of larger settlements, with pockets of smaller housing development out of the main settlements.
- Fertile farmland on valley floor and valley slopes with large fields separated by hedgerows with tree lines, woodland belts and post and wire fences.
- Substantial and varied woodland cover - broadleaf woodlands clothing steeper slopes, around estate properties and along rivers, with conifer forests on valley sides and associated with estates.
- Influence of large estates, castles and Victorian development, with their historic buildings and parkland.
- Corridor views along the valley.

Land cover surrounding the scheme is dominated by woodland ([Scotland's Environment](#)).

Biodiversity

A desktop study using Nature Scot SiteLink ([SiteLink](#)) has identified the River Tay Special Area of Conservation (SAC) (Site Code: 8366) located approximately 220m west of the scheme.

The NBN Atlas also holds record of numerous bird species within 2km over a 10-year period. Under the Wildlife and Countryside Act 1981, all wild birds and their active nests are protected.

The following records of invasive non-native species (INNS) of plants, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA) were found using the same search criteria:

- Himalayan balsam (*Impatiens glandulifera*) (the nearest of the records lies 80m from the scheme)
- Japanese knotweed (*Fallopia japonica*) (the nearest of the records lies 910m from the scheme)

Transport Scotland's Asset Management Performance System (AMPS) holds two records of the injurious weed common ragwort (*Jacobaea vulgaris*) along the A9 within the scheme extent. Due to close proximity and lack of physical barriers, it is considered possible that there may be INNS or injurious weeds present on the roadside verges along the scheme extent. Due to requirement for working within the verge, there is potential for operatives to encounter and potentially disturb growths of INNS. Although ecological surveys to date have not confirmed these findings. A

toolbox talk for working near INNS will be included in the Site Environmental Management Plan (SEMP) and adhered to on site.

Habitats surrounding the A9 along the scheme extents are dominated by mixed and coniferous woodland as well as the riparian habitat which follows the course of the River Tay and the River Braan. Some areas of exotic woodland and shrub are present east of the A9 430 Inver Rail bridge within the Hermitage GDL.

The scheme extents lies within an extensive area of Ancient Woodland Inventory (AWI) ([Scotland's Environment](#)) woodland listed as Ancient (of semi-natural origin), although there are no trees within the trunk road boundary and area of works. Another area of AWI woodland listed as Long-Established (of plantation origin) lies southeast of the scheme within the Hermitage GDL. Works will be restricted to the A9 Inver Rail bridge deck and A9 trunk road verges and will not entail any tree-felling or vegetation removal. Therefore, no impacts on AWI woodland are expected.

Field surveys

Various ecological surveys have been undertaken for the A9 Inver Rail bridge structure and surrounding landscape for previous packages of works.

The walkover survey did not highlight any instances of invasive or injurious species within the scheme extents.

Geology and soils

The scheme does not lie within a Geological Conservation Review Site ([GCRS](#)) or geological Site of Special Scientific Interest ([SSSI](#)). There are also no Local Geodiversity Sites (LGS) with connectivity to the scheme extents ([Tayside Geodiversity](#)).

The Generalised Soil Type beneath the scheme extents are Mineral podzols ([Scotland's Soils](#)).

A desktop study using the British Geological Survey Map ([BGS GeoIndex](#)) identifies the local geology type as the following:

- Bedrock Geology: Ben Ledi Grit Formation (metasandstone), which were originally sedimentary rocks but were later altered by low-grade metamorphism.
- Superficial Deposits: River Terrace Deposits, 1 (gravel, sand and silt), which are both sedimentary deposits of fluvial origin.

Material assets and waste

The proposed works entail VRS replacement with an improvement element along the 1046m long section of A9 carriageway. Materials used will consist of:

- New VRS barriers and terminals
- Concrete
- Concrete mortar

Wastes are anticipated to be 25 tonnes of metals, concrete and earth. Earth material will be reused within the site boundaries. Recyclable materials will be recycled, with any other wastes disposed of at a suitably licenced facility.

Noise and vibration

The works are located in a rural location on the A9 just west of the small settlement of Inver, near Dunkeld, with woodland at both sides of the carriageway.

The works do not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan (Road Maps) ([Transportation Noise Action Plan \(TNAP\)](#)).

Scotland's strategic noise maps show that night-time noise levels for the A9 carriageway within the scheme extents range between 60 and 65 decibels ([Scotland's Noise Scotland's Environment](#)). Baseline noise levels are likely to be influenced by traffic travelling along the trunk road. The A9 Inver Rail spans the Highlands Mainline railway line (with associated land) therefore occasional train movement will also have an impact. However, it is likely that train movements will be infrequent.

Population and human health

There are several residential receptors within 300m of the scheme, which are clustered within the small settlement of Inver at the eastern extent of the scheme. The closest residential property is located approximately 200m from the southern scheme extent. The Dunkeld House Hotel, with its associated grounds, lies beyond the River Tay, 230m from the scheme. Properties are screened from the trunk road at the scheme extents by tree shelterbelts and woodland.

There are no Core Paths (CP) directly within the scheme extents, however numerous CPs lie in proximity to the scheme, with the nearest being 10m from the scheme extents ([Scotland's Environment](#)). There are no walking routes listed on

WalkHighlands ([WalkHighland](#)), or routes on the National Cycle Network (NCN) ([OS Maps](#)) which are located within the scheme extents. The nearest of walking routes lies 10m of the scheme and the nearest NCN route lies 200m of the scheme.

The area in proximity to the scheme is popular with tourists and outdoor recreationists. The scheme lies near Dunkeld and the Hermitage, a National Trust for Scotland-protected site which sits on the banks of the River Braan in Craigvinean Forest just south of the scheme extents. Dunkeld and the Hermitage are popular destinations for tourists and recreational walkers.

The A9 Trunk Road, within the North West NMC, connects Perth with Thurso. It commences immediately north of Inveralmond Roundabout in Perth leading generally northwards for a distance of 357 kilometres to its junction with an unclassified road leading to Holborn Head lighthouse at Scrabster. The A9 is a mixture of single carriageway, '2+1' carriageway and stretches of two-lane dual carriageway.

The closest traffic count point (ID: 30729) for the A9 carriageway is located near Kincaigie, approximately 6.3km north of the scheme extent ([Road traffic statistics](#)). In 2021 the number of vehicles recorded at this count point was 11,296, of which 12.5% were heavy goods vehicles ([Road traffic statistics](#)).

Road drainage and the water environment

There are no waterbodies spanned by or culverted beneath the A9 within the scheme extents.

The River Tay (R Tummel to R Isla Confluences) is a classified waterbody (ID: 6499) which lies 70m northeast of the scheme at its nearest point. The River Tay (R Tummel to R Isla Confluences) is approximately 30.3km in length, and has been classified by the Scottish Environment Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) in 2021 as having an overall status of 'Moderate' ([SEPA water environmental hub](#)), with an overall ecology status of 'Bad' (2020) ([SEPA water classification hub](#)).

There may also be roadside drains in the vicinity of the A9 within the scheme extent.

The scheme falls within the 'Killin, Aberfeldy and Angus Glens' and 'Tummel and Tay Sand and Gravel' groundwater bodies, which were both classified by SEPA in 2020 as having 'Good' overall condition ([SEPA water environmental hub](#)).

The trunk road, within the scheme extents, has been highlighted as being at high to medium risk of surface water flooding (10% - 5% chance of flooding each year) ([SEPA Flood Map](#)).

Climate

The Climate Change (Scotland) Act 2009 sets out the target and vision set by the Scottish Government for tackling and responding to climate change ([The Climate Change \(Scotland\) Act 2009](#)). The Act includes a target of reducing CO₂ emissions by 80% before 2050 (from the baseline year 1990). The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended the Climate Change (Scotland) Act 2009 to bring the target of reaching net-zero emissions in Scotland forward to 2045 ([Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)).

The Scottish Government has since published its indicative Nationally Determined Contribution (iNDC) to set out how it will reach net-zero emissions by 2045, working to reduce emissions of all major greenhouse gases by at least 75% by 2030 ([Scotland's contribution to the Paris Agreement: indicative Nationally Determined Contribution - gov.scot \(www.gov.scot\)](#)). By 2040, the Scottish Government is committed to reducing emissions by 90%, with the aim of reaching net-zero by 2045 at the latest.

Transport Scotland is committed to reducing carbon across Scotland's transport network and this commitment is being enacted through the Mission Zero for Transport ([Mission Zero for transport | Transport Scotland](#)). Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, Transport Scotland are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Policies and plans

This Record of Determination (RoD) has been undertaken in accordance with all relevant regulations, guidance, policies and plans, notably including the Environment and Sustainability Discipline of the Design Manual for Roads and Bridges ([Design Manual for Roads and Bridges \(DMRB\)](#)) and Transport Scotland's Environmental Impact Assessment Guidance ([Guidance - Environmental Impact Assessments for road projects \(transport.gov.scot\)](#)).

Description of main environmental impacts and proposed mitigation

Air quality

Construction activities associated with the proposed works have the potential to temporarily cause local air quality impacts. Activities undertaken on site may cause

dust and particulate matter to be emitted to the atmosphere. However, taking into account the nature and scale of the works and the following mitigation measures, the risk of significant impacts to air are considered to be low.

- All plant, machinery and vehicles associated with the scheme will be maintained to the appropriate standards and will be switched off when not in use.
- All delivery vehicles carrying material with dust potential will be covered when travelling to or leaving site, preventing the spread of dust beyond the work area.
- Material stockpiles will be reduced as much as is reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground.
- Green driving techniques will be adopted, and effective route preparation and planning shall be undertaken prior to works.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists.
- Materials shall be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.

With the above mitigation measures in place, it is anticipated that any air quality effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Cultural heritage

Although there are features of cultural heritage interest within the scheme extent and within 300m of the scheme, construction of the A9 road corridor including the A9 430 Inver Rail bridge are likely to have removed any archaeological remains that may have been present. Therefore, the potential for the presence of unknown archaeological remains in the study area has been assessed to be low. Moreover, all works are restricted to the trunk road boundary, with only VRS works being undertaken, and no works will take place within the vicinity of the Scheduled Monument, the Listed Buildings or the GDLs. The following good practice measures will be in place to reduce the risk of impacts to undiscovered features of cultural heritage interest:

- Site personnel will be made aware of the nearest of the cultural heritage interest features e.g. The Hermitage GDL which lies 15m of the scheme and is separated by a tree belt.
- Works will avoid encroaching on land in the vicinity of the Hermitage GDL. Furthermore, ancillary plant, vehicles and NRMM will not be stored within 10 m of this feature.

- Should any unexpected archaeological evidence be discovered, works will stop temporarily in the vicinity and the BEAR Scotland Environment Team contacted for advice.
- People, plant, and materials shall, as much as is reasonably practicable, only be present on areas of made / engineered ground. Where access outwith these areas is required for the safe and effective completion of the scheme, it shall be reduced as much as is reasonably practicable and ideally be limited to access on foot. There will be no storage of vehicles, plant, or materials against any buildings, walls or fences.

With the above mitigation measures in place, it is anticipated that any cultural heritage effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Landscape and visual effects

There is potential for minor, temporary visual impacts to the local landscape during the construction phase as a result of littering or obstructed views due to vehicles and machinery. Proposed works will be restricted to A9 carriageway boundary, and will include works within the grassed verge, localised around areas of VRS replacement and installation. Permanent visual change will occur due to presence of new sections of VRS, however these will remain within the existing trunk road boundary and will be in keeping with surrounding furniture. Therefore, the works will not create any significant change to the local landscape, no significant impacts to the River Tay (Dunkeld) NSA are expected, and no consultations with NatureScot is required. In addition, the following mitigation measures will be put in place during works:

- Throughout all stages of the works, the site will be kept clean and tidy, with materials, equipment, plant and wastes appropriately stored, reducing the landscape and visual effects as much as possible.
- The working area and site compound location will be appropriately reinstated following works.
- Works will avoid encroaching on land and areas where work is not required or permission has not been granted. This includes general works, storage of equipment/containers and parking.
- Where applicable, upon completion of the works, any damage to the local landscape shall be reinstated as much as is practicable.
- The site will be left clean and tidy following construction.

With the above mitigation measures in place, it is anticipated that any landscape and visual effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Biodiversity

During routine maintenance, activities undertaken on site could potentially have a temporary adverse impact on biodiversity as a result of an increased vehicle presence and the potential for disturbance to protected species and pollution of habitats.

The scheme is not situated within a 'sensitive area' designated for biodiversity features e.g., Special Area of Conservation, Special Protection Area, Ramsar, SSSI, etc. Although the scheme is located within 300m of the River Tay SAC, the high-level HRA assessment concluded that the works would not result in any likely significant effects (LSE) upon the qualifying features of these by virtue of the following factors:

- There is no hydrological connectivity between the River Tay and the scheme. All works are restricted to made and engineered ground within the footprint of the A9 trunk road, with only VRS works being undertaken which will not involve any change of the natural landscape or its processes.
- There is no requirement for land take (or resources) or site clearance from within the SAC and no works are required within any part of the SAC.
- The works will not involve any in-stream works or any discharges to the natural water environment, and therefore there will be no change to water quality or impact on qualifying features.
- The location of the work and the lack of hydrological connectivity to the River Tay means there are few pathways to disturbance and a highly reduced risk of pollution.
- Works will not promote the known negative pressure on the various designated species.
- Given the highly rural location of the scheme it is anticipated that foraging species would easily avoid the works area if any disturbance was created from noise, as there is an abundance of alternative habitat present in the landscape suitable for foraging.
- No significant dust, particulate matter, and exhaust emissions (DPMEE) sources will be introduced by the works, and standard pollution prevention measures will be in place during works.

Surveys carried out to date indicate there are no bat roosts in the bridge or trees and cliff-face adjacent to the VRS. As a result, no significant impacts are predicted to roosting bats from the proposed VRS replacement and concrete repairs in the immediate vicinity. This means there is no requirement for a licence to be obtained from Nature Scot prior to works taking place and only standard precautionary

recommendations are made. No evidence of nesting birds was identified in September 2022. However, the bridge and vegetation adjacent to the VRS has some nesting bird potential. As such, relevant ecological checks will be undertaken prior to works starting (please see recommended surveys in the mitigation listed below).

Although there are numerous areas of AWI woodland either side of the A9 within the scheme extent, works will be restricted to the A9 carriageway boundary and will not entail any tree felling. Pollution controls will be in place to ensure there is no loss of containment to the local environment. Therefore, the works will not impact the adjacent AWI woodland.

Although there are records of INNS and injurious weed species within the surrounding area (and potentially unrecorded instances within the road verges adjacent to the carriageway within the scheme extent). The walkover survey undertaken by Jenny Wallace in September 2022 did not highlight any instances of invasive or injurious species within the scheme extents. The scheme does not require permanent or temporary land-take, accommodation works, site clearance, or locally-gained resources, and there is no requirement to import topsoil. A toolbox talk for working near INNS will be included in the SEMP and adhered to on site.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the Site Environmental Management Plan (SEMP) and adhered to on site. Any protected species in the area are likely to be accustomed to road noise on the A9 and the scheme is of short duration. Therefore, with the following mitigation measures in place, the risk of significant impacts on biodiversity are considered to be low:

- Works will be strictly limited to areas required for access and routine maintenance works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- All construction operatives will be briefed through toolbox talks prior to works commencing. The toolbox talks will provide information on the legislation, general ecology, and best practice measures for relevant protected species and INNS.
- No works will take place within nearby AWI woodlands.
- No in-stream works are permitted.
- Site personnel will remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works shall temporarily halt until the species has sufficiently moved on. Any sightings of protected species shall be reported to the BEAR Scotland Environmental Team.
- A pre-construction survey of the cliff face section south of the bridge will be carried out from the roadside using a torch and camera endoscope immediately

prior to the drilling associated with the VRS removal and replacement in this section.

- If works fall within the nesting bird season March – September (inclusive but subject to species and seasonal variations), a pre-works nesting bird survey will be carried out to ensure that there are no nests present in areas that will be immediately affected by the works.
- All site workers will be informed of the potential for bats to be present in the area and to remain vigilant whilst undertaking works. A toolbox Talk ‘Working with Bats’ will be delivered to ensure if bats are to be found during the works and in this instance, all works should be stopped in the immediate area around the bat and the licensed bat ecologist and NatureScot be contacted for advice.
- During the night-time works, a dark corridor (not lit by spotlights) will be maintained around the bridge tunnel entrances, to minimise any disturbance to foraging and commuting bats that may be using the tunnel throughout the night.
- Artificial lighting will also be directed away from road verges, woodland, and waterbodies as far as is safe and reasonably practicable.
- Site personnel will remain vigilant for the presence of potentially unrecorded instances of INNS or injurious weeds in road verges throughout the works period. Should any INNS be identified in working areas, no works may take place within 7m of these areas until the BEAR Scotland Environmental Team can provide further advice on additional mitigation measures.
- A ‘soft start’ will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.
- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g., storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level must be provided, allowing free passage for mammals and preventing entrapment.

With the above mitigation measures in place, it is anticipated that any biodiversity effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Geology and soils

Although VRS works include excavation for installation of the VRS poles, construction activities are restricted to localised areas in the adjacent grassed verge within the carriageway boundary and are not anticipated to have an adverse impact on geology and soils. With the following mitigation measures in place, the likelihood of significant impacts on the geology and soils is low.

- Excavated soil material will be side casted within the scheme extents.
- The parking of machinery/personnel and storage of equipment on road verges will be minimised as far as is reasonably practicable.
- Upon completion of the works, any damage to the local landscape (i.e., damage to grass verges) will be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.
- Additional pollution prevention measures as outlined in *Road drainage and the water environment* will be adhered to during construction.

With the above mitigation measures in place, it is anticipated that any geology and soils effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Material assets and waste

There is potential for impacts as a result of resource depletion through use and transportation of new materials. However, materials will be sourced locally where possible and the following mitigation measures will be put in place:

- Materials will be sourced from recycled origins as far as reasonably practicable within design specifications.
- Care will be taken to order the correct quantity of required materials to prevent the disposal of unused materials.
- Where possible, minimal packaging shall be requested on required deliveries to reduce unnecessary waste and production of packaging materials.

There is potential for impacts during works as a result of the improper storage or disposal of waste. The following mitigation measures will be put in place:

- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.

- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- Containment measures will be in place to prevent debris or pollutants from entering the surrounding environment.
- All wastes and unused materials will be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier will have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation must be present on site and be available for inspection. A copy of the Duty of Care paperwork should be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste will be encouraged, and the subcontractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g., waste carrier's licence, transfer notes, and waste exemption certificates).
- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works.

With the above mitigation measures in place, it is anticipated that any material assets and waste effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Noise and vibration

Construction activities associated with the proposed scheme works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. The works will employ a night-time working; however, properties are suitably screened from the scheme by intervening tree belts. The proposed scheme is anticipated to result in temporary minor adverse noise impacts. The following mitigation measures will be put in place:

- The Best Practice Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum.
- The Environmental Health Officer (EHO) and local residents will be notified of works and provided with a 24-hour contact number for the BEAR Scotland Control Room.

- On-site construction tasks shall be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- For night works within 300m of residential properties, the noisiest works shall be programmed to be completed before 23:00 each night where possible.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during works and of the site-specific sensitivities.
- All plant, machinery and vehicles will be switched off when not in use.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms should be utilised during construction.
- Where ancillary plant such as generators are required, they will be positioned so as to cause minimum noise disturbance. Where deemed necessary, acoustic screens will be utilised.

With the above mitigation measures in place, it is anticipated that any noise and vibration effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Population and human health

During construction, activities undertaken on site may have temporary adverse impacts on local residents, vehicle travellers, and non-motorised road users (NMUs) as a result of vehicle noise and delays due to traffic management measures. Local residents in proximity to the scheme are suitably screened from the scheme extents and if their access is affected by the works then they will be notified of works via letter drop and road users will be informed of works through a media release, which will provide details of construction dates and times. The works will be of short duration and will move progressively along the full scheme extent. With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- If access to local residents' properties is restricted then they will be notified of the impending works. Information will provide contact details (office phone number and e-mail address) for the Project Engineer as well as a 24-hour contact number for the BEAR Scotland Control Room.
- Any changes of schedule will be communicated to local residents throughout the programme.

- Appropriate provisions / measures shall be implemented within the traffic management to allow the safe passage of NMUs of all abilities through the site.
- Journey planning information will be available for drivers online at the trafficscotland.org website. Journey planning information will also be available for drivers online through BEAR's social media platforms.

With the above mitigation measures in place, it is anticipated that any population and human health effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Road drainage and the water environment

During the VRS works, there is potential for temporary impacts on the water environment. Potential changes in water quality from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain or tidal movements) during works have the potential to have a direct or indirect effect on the surrounding waterbodies. The following mitigation measures will be put in place to reduce the risk of pollution incidents as a result of works:

- The scheme will not entail any in-stream works.
- Standard working practices to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water are detailed in the Site Environmental Management Plan (SEMP) and will be adhered to on site.
- No discharges into any watercourses or drainage systems are permitted. Appropriate containment measures must be in place to prevent any loss of construction materials into the water environment.
- An incident response (contingency) plan will be put in place to reduce the risk from pollution incidents or accidental spillages. All necessary containment equipment, including suitable spill kits (for oil and chemicals) will be available on site, quickly accessible if needed, and staff trained in their use.
- All spills will be logged and reported. In the event of any spills into the water environment, all works will stop, and the incident will be reported to the project manager and the BEAR Scotland Environmental Team. SEPA will be informed of any such incident as soon as possible using the SEPA Pollution Hotline.
- All plant and equipment will be regularly inspected for any signs of damage and leaks. A checklist must be present to make sure that the checks have been carried out.

- Storage of hazardous material, oil and fuel containers shall be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowsers shall be stored on an impermeable area and be fully bunded. This shall be distanced more than 10m from any watercourses.
- During refuelling of smaller mobile plant, a funnel will be used, and drip trays will be in place. Care will be taken to reduce the chance of spillages. Spill kits will be quickly accessible to capture any spills should they occur. The ground / stone around the site of a spill will be removed, double bagged and taken off site as special contaminated waste.
- Generators and static plant may have the potential to leak fuel and / or other hydrocarbons and will have bunding with a capacity of 110%. If these are not bunded then drip trays shall also be supplied beneath the equipment with a capacity of 110%.

With the above mitigation measures in place, it is anticipated that any road drainage and the water environment effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Climate

Construction activities associated with the proposed scheme works have the potential to cause local air quality impacts as a result of the emission of greenhouse gases through the use of vehicles and machinery, material use and production, and transportation of materials to and from site. The following mitigation measures will be put in place:

- BEAR Scotland will adhere to their Carbon Management Policy.
- Where possible, the works will be undertaken utilising a daytime work pattern to reduce the requirement for additional lighting.
- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- Where possible, materials will be sourced locally to reduce greenhouse gas emissions associated with materials movement, and waste will be disposed at local landfill.
- BEAR Scotland participate in CEEQUAL.

With the above mitigation measures in place, it is anticipated that any climate effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Major Accidents and Disasters

The A9 within the scheme extent has been highlighted as being at high to medium risk of surface water flooding (10% - 5% chance of flooding each year).

Works are restricted to the A9 carriageway boundary (including verges), and any traffic management will be designed in line with existing guidance. The proposed works are anticipated to last 19 nights (4 weeks). Traffic management will consist of single lane closures with temporary traffic lights. Where required, alternative pedestrian routes will be included in the traffic management setup, to minimise impact of the works on NMUs.

These measures, along with mitigation measures and standard working practices, will be detailed in the SEMP and adhered to on site.

As the works will be limited to the VRS replacement with an improvement element, there will be no change in vulnerability of the road to risk, or in severity of major accidents/disasters that would impact on the environment. In fact, the works will improve the road traffic safety at this section of the road during the operation phase. The vulnerability of the project to risks of major accidents and disasters is considered to be low.

Assessment of cumulative effects

The proposed works are not anticipated to result in significant environmental effects. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

The proposed works are not anticipated to result in significant environmental effects. A search of the Perth and Kinross Council Planning Portal ([Map Search](#)) identified no planning applications within 300m of the scheme.

A search of the Scottish Roads Works Commissioner's website ([Map Search](#)) has identified that no other road works are currently ongoing, or noted as being planned, on the trunk road at the same time as this scheme. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

BEAR Scotland programme all of their proposed works in line with appropriate guidance and contractual requirements. All schemes are programmed to take into account existing and future planned works, with a view of limiting any cumulative effects relating to traffic management. As a result of this exercise, where a potential for cumulative impacts is identified, BEAR will reprogramme schemes to avoid / limit any cumulative effects or will utilise existing traffic management to complete multiple

schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of traffic management, resulting in minimal disruption to users of the Scottish trunk road network.

Overall, it is unlikely that the proposed works will have a significant cumulative effect with any other future works in the area.

Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section within this Record of Determination, there are no significant effects anticipated on any environmental receptors as a result of the proposed works.

Statement of case in support of a Determination that a statutory EIA is not required

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road safety and it is greater than 1 hectare in area and is also located within River Tay (Dunkeld), which is a sensitive area within the meaning of regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

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 by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken, and review of available information has not identified the need for a statutory EIA.

The project will not have significant effects on the environment by virtue of factors such as:

Characteristics of the scheme:

- Construction activities are restricted to the approximate 1.9ha area of existing carriageway boundary (including verges).
- The works will be temporary and localised, with any permanent changes minor and in keeping with the surrounding landscape.
- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding environment.

- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- No in-combination effects have been identified.
- The risk of major accidents or disasters is considered to be low.
- By upgrading VRS at this part of the A9 carriageway will result in safer conditions for road users.

Location of the scheme:

- Although the works are located within 300m of the River Tay SAC, the high-level HRA concluded that the works would not result in any LSE on the qualifying features of this.
- Works will not result in any adverse visual impact, and as such will not have a resulting adverse impact on the River Tay (Dunkeld) NSA.
- The scheme will be confined within the existing carriageway boundaries and as a result will not require any land take and will not alter any local land uses.
- Any impacts to the local landscape during the construction phase will be minor, temporary and not considered significant. In addition, no operational impacts are anticipated.
- The site compound will be located on made ground.

Characteristics of potential impacts of the scheme:

- Any potential impacts of the works are expected to be temporary, short-term, non-significant, and limited to the construction phase.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- The SEMP will include plans to address environmental incidents.
- No impacts on the environment are expected during the operational phase as a result of works. The works are expected to result in positive impacts on road users during the operational phase.
- Mitigation measures detailed above and in the SEMP are put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.

Annex A

“sensitive area” means any of the following:

- land notified under sections 3(1) or 5(1) (sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004
- land in respect of which an order has been made under section 23 (nature conservation orders) of the Nature Conservation (Scotland) Act 2004
- a European site within the meaning of regulation 10 of the Conservation (Natural Habitats, &c.) Regulations 1994
- a property appearing in the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage
- a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979
- a National Scenic Area as designated by a direction made by the Scottish Ministers under section 263A of the Town and Country Planning (Scotland) Act 1997
- an area designated as a National Park by a designation order made by the Scottish Ministers under section 6(1) of the National Parks (Scotland) Act 2000.



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