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Environmental Impact Assessment Record of Determination

A82 South of Arden
Roundabout (Rdbt)

& A82 North of Arden Rdbt

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works and structural maintenance on two sections of the A82 trunk road (A82 South of Arden Rdbt and A82 North of Arden Rdbt), with a combined length of 2,040m (860m and 1,180m respectively), and combined area of 1.76ha (0.67ha and 1.09ha respectively). Carriageway resurfacing and structural maintenance will involve the milling out and replacement of bituminous material. Following the resurfacing works, road markings will be reinstated. Works have been identified from surface and structural deterioration and works are proposed to address these issues. The works will include:

- Set up traffic management (TM) and mark out site
- Mill out old surface course
- Lay new surface course
- Roll surface and allow it to go off
- Install road markings
- Remove TM and open road

The works comprise two schemes which are located along the A82 trunk road either side (north and south) of Arden roundabout. The schemes are currently programmed for delivery within the 2026/2027 financial year, with a proposed start dates in July and August 2026. The resurfacing works will be undertaken over a total of 20 nights (19:00-06:00; 10 nights per scheme). Changes in the programmes may result in a change to the proposed working hours/commencement dates.

Traffic Management (TM) for both schemes will consist of 2-way temporary traffic lights (TTL) and convoy system during the working hours.

Location

The schemes are located on the A82 on the western bank of Loch Lomond, approximately between 3-5km north of the town of Balloch, within the Argyll and Bute Council administrative area (Figure 1) between the following National Grid References (NGRs):

- A82 South of Arden Rdbt; NS 36601 83995 - NS 35977 84517
- A82 North of Arden Rdbt; NS 35944 84798 - NS 35477 85852.



Figure 1. A82 South of Arden Rd (Blue) and A82 North of Arden Rd (Red) scheme extents.

Description of local environment

Air quality

Air Quality Management Areas (AQMA) are located within 10km of the scheme ([Air Quality Management Areas](#)).

There is one air quality monitoring site located within 10km of the scheme ([Scottish Air Quality](#)). The West Dunbartonshire Glasgow Road site recorded NO₂ concentrations corresponding to an air quality index of 1 (Low band) and lies approximately 9.5 km southeast of the scheme at its closest point.

One Scottish Pollutant Release Inventory (SPRI) site which record air pollutant releases, lies within 10km of the scheme ([Scottish Pollution Release Inventory](#)). The 'Barr Environmental, Auchencarroch Landfill, Jamestown' site manages waste and wastewater and records multiple air pollutants. It is located approximately 5 km southeast of the scheme at its closest point.

Due to the location of the works, baseline air quality is likely to be primarily influenced by traffic travelling along the A82 and local roads; with secondary sources likely shaped by local land management practices.

Cultural heritage

No Scheduled Monuments, Garden and Designed Landscapes, Battlefields, Conservation Areas, or World Heritage sites were identified within 300m of the scheme ([PastMap](#)).

The following cultural heritage features are recorded within 300m of the scheme ([PastMap](#)):

- A total of 16 listed buildings are located within 300m of the scheme extent; the closest of which are listed below:
 - Arden House, Lodge with Gatepiers and Boundary Wall (Category B; LB43869) lies approximately 15m from scheme extents and is accessed via Arden Roundabout.
 - Arden House, Gates, and Gatepiers (Category B; LB43868) are located directly adjacent to the A82 and the southbound verge footpath within the scheme extent.
 - Low Bridge (Category B; LB43975) lies within approximately 10m from the scheme at its closest extent.

- Lomond Castle Estate, Mackie Lodge including Boundary Wall and Gate (Category C; LB43878) is located approximately 80m east of scheme extents.
- The remaining listed buildings noted within 300m of the scheme are set-back at least 100m from the works
- Several National Records of the Historic Environment (NRHE) and Historic Environment Records (HER) lie within 300m of the scheme. The closest feature is 'Dumbarton – Tarbet – Inveraray – Tyndrum Military Road' (HER, Reference: 22377) of which the scheme lies within.

Landscape and visual effects

The schemes lie within the Loch Lomond and The Trossachs National Park (LLTNP, NatureScot Site code: [8621](#)) which has the following special general qualities:

- A world-renowned landscape famed for its rural beauty
- Wild and rugged highlands contrasting with pastoral lowlands
- Water in its many forms
- The rich variety of woodlands
- Settlements nestled within a vast natural backdrop
- Famous through-routes
- Tranquillity
- The easily accessible landscape splendour

The A82 North of Arden Rdbt scheme extents also lies within Loch Lomond National Scenic Area (NSA, NatureScot Site code: [9135](#)) with has the following special general qualities:

- A world-renowned landscape famed for its rural beauty
- Wild and rugged highlands contrasting with pastoral lowlands
- Water in its many forms
- The rich variety of woodlands
- Settlements nestled within a vast natural backdrop
- Famous through-routes
- Tranquillity
- The easily accessible landscape splendour

The scheme does not lie within a National Nature Reserve (NNR) or a Local Nature Reserve (LNR) ([SiteLink](#)).

Landscape Character Type (LCT) for the schemes is listed as [LCT No. 263 - Lowland Loch Basin - Loch Lomond & The Trossachs](#), which has the following key characteristics:

- Expansive loch basin rising to steep-sided hills and mountains to the east and west, and a low ridge to the south.
- Rivers flowing into the loch and their floodplains, with associated gently undulating valley sides, forming an integral part of the basin.
- Indented shores and some pronounced broad promontories on the west coinciding with alluvial fans from water courses flowing into the loch.
- Shoreline of rocky promontories and sand or pebble beach.
- Many wooded islands in the Loch appear to coalesce with shoreline promontories, breaking down the expanse of water visible in loch or shore views to form narrow straits and more intimately scaled areas of water.
- Extensive native oak dominated woodlands fringing the eastern side of the loch and wisps of birch threading up through narrow gullies which cut deeply into bracken/rough grass covered hill slopes.
- Well-settled loch margins with tourism and recreation developments such as chalet parks, golf courses, and hotels, some accommodated in former estates.
- A number of small planned estate-influenced settlements on the shores of the Loch and the southern Luss small planned estate village. The settlement of Balloch has a more urban character.
- Loch shores a focus for estates and their designed landscapes with mixed policy woodlands and parkland contributing to the diversity of the loch basin. Twisting dead end road providing access on the east side of the loch, contrasting with the heavily trafficked A82 aligned close to western side of the loch. Views from these roads to the Loch often restricted by shoreline vegetation. Tourist facilities located close to these routes.
- Boating activities including sailing, canoeing, kayaking, and power boats and other sport activities such as jet skis on Loch Lomond. Ferries are a feature of the water bodies.
- Highly scenic landscape composition of island, water, and indented shoreline, especially when viewed from surrounding hills and the south of the loch.

The land use surrounding the scheme is listed as Urban Areas, Rectilinear Fields and Farms, Designated Landscape, Golf Course, Motorway and Major Roads, Managed woodlands, Golf Course and Freshwater Area ([HLA Map](#)).

The A82 Trunk Road, within the North West, connects Alexandria with Crianlarich, Fort William and Inverness. It commences immediately north of Tullichewan Roundabout in Alexandria leading generally northwards for a distance of 243 kilometres to its junction with the A9 at (but excluding) Longman Roundabout in Inverness. The A82 is predominantly single carriageway along its length, with some

lengths of '2+1' carriageway. The scheme takes place on a section of single carriageway.

Biodiversity

The Loch Lomond Woods Special Area of Conservation (SAC) (NatureScot Site Code: [8298](#)) and Loch Lomond Ramsar (NatureScot Site Code: [8437](#)) lie approximately 5.3km northeast of the A82 South of Arden Rdbt and 4.7km northeast of the A82 North of Arden Rdbt.

The Loch Lomond Special Protection Area (SPA) (NatureScot Site Code: [8531](#)) lies at its closest point 6.1km north east of the A82 South of Arden Rdbt and 4.8km north of the A82 North of Arden Rdbt.

There are no locally or nationally designated sites for biodiversity such as Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) or Local Nature Reserves (LNR) located within 300m of the schemes ([SiteLink](#)).

The National Biodiversity Network ([NBN](#)) Atlas holds several records of bird species within 2km of the schemes. The search criteria included only records during the past ten years, and which have open-use attributions (OGL-CC0-CC-BY). Under the Wildlife and Countryside Act 1981 (as amended), all wild birds and their active nests are protected, with certain species receiving additional protections.

The NBN Atlas holds following injurious weeds and/or invasive plants (as listed in the Network Management Contract (NMC)) under the same search criteria for both schemes:

- Japanese knotweed (*Renoutria japonica*)

Transport Scotland's Asset Management Performance System (AMPS) holds no records of injurious weeds and/or invasive plants (as listed in the NMC) within 300m of the scheme.

Habitat in the surrounding area is predominantly farmland, woodland, and recreational land (i.e. golf courses), with freshwater habitat provided by Loch Lomond which is connected to the scheme by the Fruin Water way which is spanned by the A82 within the North of Arden Rdbt scheme extent.

Three area of woodland listed as 'ancient (of seminatural origin)' on the Ancient Woodland Inventory ([AWI](#)) lies within 300m of the scheme extents; the closest of which, 'Wood ID: 26779', lies adjacent to the A82 South of Arden Rdbt scheme extent.

There is one Tree Preservation Order (TPO) designated by the LLTNP Authority within 300m of the schemes ([TPO](#)). TPO Ref: 2022/0001/TPO - Arden House, Arden' lies directly adjacent (within 10m) to the southbound (SB) exit of Arden roundabout and encompasses numerous trees.

BEAR Scotland undertook an ecological constraints survey (ECS) on 2nd June 2026, encompassing the Fruin Water way and the embankments surrounding the bridge within the A82 North of Arden Rdbt Scheme extent. This area was prioritised due to the heightened ecological sensitivity of the Fruin Water crossing, which may provide connectivity to the Loch Lomond Woods SAC.

Geology and soils

There are no Geological Conservation Review Sites (GCRSs) or Geological SSSIs located within 300m of the scheme ([SiteLink](#)).

The [British Geological Survey](#) (BGS) online mapping tool records that the bedrock geology within the schemes extents is recorded as:

- Inchmurrin Conglomerate Member - Conglomerate.
- Cromlix Mudstone Formation - Mudstone.
- Rosneath Conglomerate Formation - Conglomerate.
- Inverclyde Group - Sandstone with subordinate argillaceous rocks and limestone.
- Highland Border Complex - Serpentinite.

The BGS mapping tool records the following superficial deposits within the scheme extents:

- Glaciofluvial sheet deposits - Sand and gravel.
- Alluvial fan deposits - Sand and gravel.
- Alluvium - Clay, silt, sand, and gravel.

Soils within the schemes are recorded as humus-iron podzols from fluvioglacial and raised beach sands and gravels derived from acid rocks ([Scotland's Soils](#)).

Soils within the scheme extents are recorded as being 'Class 0' as displayed on [Scotland's Peat Map](#). Class 0 are mineral soils where peat is not typically found.

Material assets and waste

The proposed works will entail the resurfacing of the A82 carriageway and road markings with material used to consist of:

- Asphaltic material
- Bituminous emulsion bond coat
- Milled in road studs
- Thermoplastic road marking paint

Wastes are anticipated to be primarily planings from the carriageway surface course. All road planings will be managed in accordance with the SEPA Position Statement WAS-PS-07 (Low Risk Waste Activity (LRWA 3) and recycled in line with SEPA Guidance WAS-G-DEF-05 on End-of-Waste for Recycled Aggregates. The Contractor will be responsible for ensuring full compliance with these requirements. Coal tar has not been highlighted as being present within the schemes.

The value for each site exceeds £350,000; therefore, a Site Waste Management Plan (SWMP) is required for both sites.

Noise and vibration

The works do not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan 2024-2028 ([TNAP](#)).

Lden or 'day, evening, night average noise levels' are modelled within the scheme extent. Noise levels are recorded as being between 64 and 80dB on the road ([ScotGov](#)).

Baseline noise and vibration in the study area is mainly influenced by traffic travelling along the A82 and local roads; with secondary sources likely shaped by local land management practices.

Population and human health

The schemes lie along the western bank of Loch Lomond, directly adjacent to a golf course, Arden and Lomond Castle estates, which all have several residential and holiday properties within 300m of the scheme extent. The closest property to the scheme extent is 'Castle steadings,' which lies within 5m of the A82 South of Arden Rdbt scheme extent and has limited visual and acoustic screening.

Access arrangements are present throughout both scheme extents, including multiple property roads and field access gates. SB laybys are present within both scheme extents with a northbound (NB) layby also present within the South of Arden Rdbt scheme extent.

Non-motorised user (NMU) facilities are present across the scheme extent, with a footpath running adjacent to the SB carriageway along the majority of scheme extents. Additionally, the two laybys located NB and SB within the South of Arden Roundabout scheme extent include bus shelters.

In terms of wider NMU connectivity, no National Cycle Network ([NCN](#)) routes or walking routes listed on [WalkHighlands](#) are within 300m of the scheme extents. However, one LLTNP Core Path ([LLTNP](#)); 'RCR40' runs alongside the A82 utilising the aforementioned footpath. Additionally core path (S0796) lies approximately 80m east of the scheme extents.

A Transport Scotland Road Traffic Counter on the A82 Loch Lomond (Site ID: 108260) located approximately 2km north of the scheme at its closest extent recorded an Average Daily Traffic (ADT) flow in 2025 of 17,675 vehicles with 6.6% of them being Heavy Goods Vehicles (HGVs).

According to the Scottish Road Works Commissioner there are no other works scheduled within 300m of the scheme ([Scottish Road Works Commissioner](#)).

TM will involve 2-way TTLs and convoy during working hours (19:00-06:00).

Road drainage and the water environment

The schemes fall within the 'Loch Lomond and Leven Sand and Gravel' (ID 150766) and 'Balloch' (ID 150651) groundwater bodies which were classified by the Scottish Environment Protection Agency ([SEPA](#)) in 2024 as having an overall status of 'good' and are also recorded as Drinking Water Protected Areas (Ground) ([DWPA](#)).

Loch Lomond (South) (ID: 100257), is in the River Leven (Loch Lomond) catchment of the Scotland river basin district. It is approximately 51.6km² in area and lies approximately 100m east of the scheme at its closest point. In 2024, it was assigned an overall status of 'moderate ecological potential' by SEPA under the Water Framework Directive (WFD) ([SEPA](#)).

Fruin Water (ID: 10158) lies within the River Leven (Loch Lomond) catchment of the Scotland river basin district. The main stem is approximately 21.1km in length and is spanned by the A82 within the North of Arden Rdbt scheme extents. In 2024, it was assigned an overall status of 'moderate ecological' by SEPA under the WFD ([SEPA](#)).

The schemes fall within an area that has a high likelihood (i.e. 10% chance) of flooding each year from river or surface water and small watercourses ([SEPA Flood Map](#)).

Climate

The [Climate Change \(Scotland\) Act 2009](#) ('The Act'), and its subsequent amendment under the [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#), sets the framework for the Scottish Government to address climate change. The Act has an ambitious target to reach Net Zero greenhouse gas emissions by 2045, with any residual emissions balanced by removing carbon dioxide from the atmosphere. This is five years earlier than the rest of the UK due to the greater potential for carbon sequestration in Scotland.

The Act was amended to replace interim targets with carbon budgets. Carbon budgets are legally binding caps on greenhouse gas emissions in Scotland over five-year periods. In line with the Act, the Climate Change Committee (CCC) published advice on the level of Scotland's four carbon budgets, covering the period 2026 to 2045, recommending what the Scottish Government sets its carbon budgets at for annual average levels of emissions. These recommendations are based on an ambitious but credible route to Net Zero for Scotland by 2045.

Emissions reductions from surface transport are the largest contribution to meeting the first two carbon budgets. The pathway for surface transport emission reduction is primarily driven by the uptake of electric vehicles, in addition to measures to enable a shift from car use to public transport and active travel, which all play a role in reducing emissions from fossil fuel cars. Ensuring efficiency of existing transport infrastructure and improving/providing new active travel facilities is therefore important to support these carbon reduction budgets.

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 the above noted legally binding target of net-zero by 2045. 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](#)).

Policies and plans

This Record of Determination 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.

- A water-assisted dust sweeper will sweep the carriageway after dust-generating activities, and waste will be contained and removed from site as soon as is practicable.
- When not in use, plant and vehicles will be switched off; there will be no idling vehicles.
- All plant, machinery and vehicles associated with the works will be maintained in order to minimise emissions, as per manufacturing and legal requirements. No significant dust, particulate matter, and exhaust emissions sources will be introduced by the works.
- Green driving techniques will be adopted, and effective route preparation and planning will be undertaken prior to works.
- 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.
- Activities involving cutting/planing will be appropriately managed to reduce the potential for dust creation. This will involve use of measures such as dampening down or on tool extraction where required.
- Material stockpiles will be reduced as far as is reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists.
- Materials will be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.
- Drop heights to haulage vehicles and onto conveyors will be minimised.

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 cultural heritage sites (including four listed buildings) within 300m of proposed works, excavation may unearth previously unrecorded artefacts. Accordingly, the following mitigation measures will be implemented:

- In the event of any unexpected archaeological finds, all works will cease immediately, the area will be cordoned off, and a member of the BEAR Environment Team will be contacted for advice. Historic Environment Scotland (HES) will be contacted as required.
- Laydown areas will be sensitively located (e.g., on areas of made ground) to avoid areas of cultural heritage interest where possible.
- There will be no storage of plant, materials or equipment against buildings, bridges, walls or fences; especially areas surrounding listed buildings adjacent to scheme extents which will all be highlighted within the Site Environmental Management Plan (SEMP).

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

Landscape and visual effects

Both schemes are located within the LLTNP and the North of Arden Rdbt scheme also lies within the Loch Lomond NSA, however, the works are like-for-like general maintenance of the trunk road surface and as such the works will not result in any residual changes to the landscape character and special qualities associated with the LLTNP or NSA. Therefore, consultation with NatureScot regarding the works impact on the scenic value of the area is not required.

There will be a short-term impact on the landscape character and visual amenity of the site as a result of the presence of construction plant, vehicles, and TM, however this will be restricted to the construction duration only. Following the works, renewed road surface will be the only change. Land use will not change as a result of the works. No residual change is anticipated.

The following mitigation measures will be put in place during works:

- The National Park Authority will be notified in advance of the 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.

- Works will avoid encroaching on land and areas where work is not required or is not permitted. This includes general works, storage of equipment/containers and parking.
- Where applicable, upon completion of the works, any damage to the local landscape will 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

The scheme is located within proximity to and holds ecological connectivity with the Loch Lomond Woods SAC, Loch Lomond SPA and Ramsar sites.

It was assessed that ecological connectivity exists between the proposed works and the designated sites due to the mobile nature of some of their qualifying features, and suitable connecting habitat in proximity to the scheme extents. BEAR Scotland produced a Habitats Regulation Appraisal (HRA) which concluded proposed works would not result in any likely significant effects (LSE) on the qualifying features of the Loch Lomond Woods SAC, Loch Lomond SPA and Ramsar sites due to the following reasons:

- Distance between the above sites and proposed works.
- Lack of habitat removal/alteration during works due to works being restricted to the resurfacing of the existing A82 carriageway.
- Abundant habitat in the surrounding area within these sites.

Activities undertaken on site could potentially have a temporary adverse impact on biodiversity in the area as a result of an increased vehicle presence and the potential for disturbance to protected species and pollution of habitats. Works are, however, restricted to the A82 carriageway and the number of construction vehicles and construction operatives required onsite is low given the scale and scope of works. In addition, any species in the area are likely to be accustomed to noise and visual disturbance pertaining to vehicle movements on the A82. The works are of short duration (10 nights each) and will take place on a rolling programme throughout scheme extents. As such, potential for significant species disturbance in proximity to scheme extents is considered to be low.

There are no records of invasive non-native species (INNS) of plants within the footprint of the works. Furthermore, works are restricted to the A82 carriageway and

will not involve in-stream works, vegetation clearance, or earthworks. As no land-take, site clearance, or material import is required, the risk of spreading invasive non-native or injurious plant species is low. However, operatives may encounter such plant species within adjacent verges, so relevant toolbox talks will be included in the SEMP as a precaution.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the SEMP and adhered to on site. Therefore, with the following mitigation measures in place, the risk of significant impacts on biodiversity are considered to be low:

- No in-water works will be permitted. Works will be strictly limited to areas required for access and resurfacing 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, which will be included in the SEMP. The toolbox talks will provide information on the legislation, general ecology, and best practice measures for relevant protected species.
- Site personnel will remain vigilant for the presence of potentially unrecorded instances of invasive plants or injurious weeds in road verges throughout the works period; should any be identified in working areas, no works will take place within 7m of these areas until the BEAR Scotland Environment Team can provide further advice on additional mitigation measures.
- 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 will temporarily halt until the species has sufficiently moved on. Any sightings of protected species will be reported to the BEAR Scotland Environment Team.
- 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.
- Any artificial lighting used during periods of low light levels will be directional and will avoid spilling into sensitive areas and nearby habitat where possible.

- If fencing is utilised at any point during the works, a gap of 200mm from ground level will 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

The scheme is not located within a Geological Conservation Review Site (GCRS) or a geological SSSI. The proposed works are limited to the resurfacing of the existing A82 carriageway. As such, there is minimal risk of impacts to geology or soils. Standard good practice measures outlined in the SEMP as follows:

- Upon completion of the works, any damage to the local landscape (e.g. 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.
- The parking of machinery/vehicles and storage of equipment on grass will be minimised as far as is reasonably practicable.
- Additional pollution prevention measures as outlined in 'road drainage and the water environment' section below 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 will 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 road planings will be managed in accordance with SEPA Position Statement WAS-PS-07 (LRWA 3) and recycled in line with SEPA Guidance WAS-G-DEF-05 on End-of-Waste for Recycled Aggregates. The Contractor will be responsible for ensuring full compliance with these requirements.
- 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 will be present on site and will be available for inspection. A copy of the Duty of Care paperwork will 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 undertaken where possible, 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.
- Waste will be transported in a safe and secure manner to prevent the release of contaminated material en-route.

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 have the potential to generate noise and vibration through the use of plant, machinery, and construction vehicles. The closest residential property is located approximately 5m from the A86

with minimal existing acoustic screening. However, the works are not located within a Candidate Noise Management Area (CNMA). Both schemes will be completed over 10 night rolling programmes (20 nights total), with the aim of completing the noisiest works (e.g. planing) by 23:00. Works with the potential to induce worst-case scenario noise and vibration will also be intermittent, temporary, transient, and short-lived. Due to the short duration and localised nature of the works, the proposed scheme is anticipated to result in temporary minor noise impacts during the construction programme.

The road surface is in poor condition, with a series of defects. Replacing the life-expired surface course with new surfacing will provide two positive benefits: improved road condition and a reduction in noise generated by vehicle movements once the works are complete.

The following mitigation measures will be put in place:

- Local residents which are affected by the works will be notified in advance of the works, likely by a letter drop, which will contain details of the proposed timings and duration of the works, in addition to contact details for the Site Supervisor.
- The Best Practicable 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 local authority (Argyll and Bute Council) Environmental Health Officer (EHO) will be notified of the works.
- On-site construction tasks will be programmed to be as efficient as possible, with a view to limiting noise disruption to the local area.
- All site staff will receive the 'Being a Good Neighbour' toolbox talk.
- Where possible and where works will take place within 300m of residential properties and other sensitive receptors, the noisiest work operations (e.g., cold milling, using breakers (jackhammers), chipping hammers, use of rollers, etc.) will be completed before 23:00.
- 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 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 will 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 have the potential to have temporary adverse impacts on local residents, vehicle travellers, and NMUs. TM will involve 2-way TTL and a convoy system during working hours. There are NMU facilities located within the scheme extent. However, access for NMUs within the scheme extents will be maintained and majority of the works are being undertaken at night when footfall and cyclist counts are likely to be at its lowest.

Several residential properties are found within 300m of the scheme. The closest property to the scheme extent is 'Castle steadings', which lie within 5m of the A82 within the scheme extent and has limited visual and acoustic screening. Although the works are being undertaken at night, potential for disturbance from noise, vibration and the additional construction lighting is limited. Disturbance to residents will be mitigated by the following measures; with these in place the risk of significant impacts on population and human health is considered to be low:

- Notification will be issued to local public transport operators prior to commencement of the works, advising of any proposed works and expected restrictions.
- Construction lighting will consider the need to avoid illuminating surrounding environment and properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- Local access will be granted as required.
- Appropriate provisions / measures will be implemented within the TM to allow the safe passage of NMUs of all abilities through the site as required.
- 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

There is potential for temporary impacts on the water environment due to operation of plant within and within proximity to watercourses and/or drainage systems, which

may lead to 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).

No in-water works will take place and there is no requirement for the abstraction or transfers of water from, or discharges to, a waterbody. As such, the potential for a direct pollution incident within a waterbody is unlikely. Experience gained from BEAR maintenance schemes elsewhere on the network has shown that where standard good working practice is adopted (e.g., adherence to SEPA good practice guidance, utilisation of drain covers or similar, etc.), water quality is protected.

The works may result in potential direct or indirect effects on surrounding waterbodies. The following mitigation measures will be put in place to reduce the risk of pollution incidents as a result of works:

- No work has been identified that would require entering any surface waterbodies. If such a need were identified onsite, BEAR Scotland's Environmental Team will be contacted (before the works commence) to allow consideration of potential environmental effects.
- Standard working practices to comply with Environmental Authorisations (Scotland) Regulations (EASR) for works in or near water will be detailed in the SEMP and adhered to on site.
- No discharges into any watercourses or drainage systems will be permitted. Appropriate containment measures will be in place to prevent any loss of construction materials into the water environment.
- Appropriate measures will be implemented during resurfacing operations to limit the potential for wastes (i.e. road planings) and materials (i.e. new asphalt) to enter any gullies present on site. On completion of resurfacing operations, any gullies present on site will be visually checked to ensure they have not become blocked as a result of the scheme.
- 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 will be present to make sure that the checks have been carried out.

- Storage of hazardous material, oil and fuel containers will be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowzers will be stored on an impermeable area and will be fully bunded. This will 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 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 will 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.
- The works will utilise the use of Warm Mix Asphalt (WMA) for binder layer in favour of Hot Mix Asphalt (HMA) where possible.
- 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 removed to a local waste management facility.

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.

Vulnerability of the project to risks

Works will be programmed as far as is reasonably practicable to avoid periods of adverse weather or heavy rainfall. There will be no increase to the likelihood of flooding on the A82 within the scheme extents upon completion of the works.

A Traffic Management Plan (TMP), which includes measures to avoid or reduce disruption to road traffic, will be produced in accordance with the Traffic Signs Manual (Department of Transport 2009). The TMP will ensure that there is no severance of community assets, access routes, or residential development.

These measures, along with mitigation measures and standard working practices, will be detailed in the SEMP and adhered to on site. 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. A search of the Argyll and Bute Council Planning Portal ([Map Search](#)) identified no approved planning applications within 300m of the scheme extent within the last six months.

A search of the Scottish Roads Works Commissioner website ([Map Search](#)) has not identified any other works to be undertaken during the same period as proposed works. Due to the nature, scale, and location of the proposed works, lack of overlapping works; no cumulative environmental effects are anticipated in combination with 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 TM. 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 TM to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of TM, 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.

An HRA was undertaken due to the scheme's proximity and ecological connectivity with the Loch Lomond Woods SAC, Loch Lomond SPA and Loch Lomond Ramsar, which concluded that the works will not result in LSE on the designated feature of the Loch Lomond Woods SAC, Loch Lomond SPA and Loch Lomond Ramsar due to the following reasons:

- Distance between the above sites and proposed works.
- Lack of habitat removal/alteration during works due to works being restricted to the resurfacing of the existing A82 carriageway.
- Abundant habitat in the surrounding area within these sites.

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 and the completed works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) is situated wholly within the LLTNP National Park, 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 Environmental Impact Assessment 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:

- Works are restricted to like-for-like replacement of worn road surface and drainage maintenance, with all activities confined to the A82 trunk road boundary.
- Construction activities are restricted to area of 0.67ha (along an 860m stretch of the A82) and 1.09ha (along a 1,180m stretch of the A82).
- The works will be temporary, transient, localised, and completed during night-time hours on a rolling programme by utilising 2-way TTL and convoy system during the working hours.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- The risk of major accidents or disasters is considered to be low.
- Removing the carriageway defects will provide this part of the A82 carriageway with another life cycle, and significantly improve the ride quality, which will result in safer conditions for road users.
- No impacts to 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.

Location of the scheme:

- The scheme is fully located within the existing A82 road boundary (carriageway surface) with no requirement to access land adjacent to the carriageway and as such no land take is required.
- Ecological connectivity exists between proposed works and three European sites: Loch Lomond Woods SAC, Loch Lomond SPA and Loch Lomond Ramsar. The HRA concluded that no LSE would occur on the qualifying features of these sites as a result of proposed works.
- The schemes are both located within the Loch Lomond and the Trossachs National Park, and the northern scheme is also located within the Loch Lomond NSA. However, it was concluded that due to the like-for-like nature of the works there would be no adverse impact on the qualities of the park as a result of the proposed works.
- The scheme lies within close proximity to several listed buildings, however all works are restricted to the A82 trunk road boundary with no impacts anticipated on these listed buildings as a result of proposed works.

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.
- 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, ecological and human receptors during the operational phase.
- Works are programmed to be of short duration, and nighttime resurfacing works will be completed on a rolling programme, with the aim being to complete the noisiest works by 23:00.
- Mitigation measures detailed above (and in the SEMP) will be put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.
- In the event that INNS are found on site, measures to prevent potential INNS spread will be implemented

References of supporting documentation

A82 Arden Roundabout Combined - Habitats Regulations Appraisal Proforma. BEAR Scotland, May 2026

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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Published by Transport Scotland, July 2026

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