



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A1 North of Tyne Bridge NB

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the A1 carriageway. The works will consist of carriageway resurfacing and reinstatement of road markings for a length of 2.79km (approximately 2.64ha) on the northbound (NB) carriageway.

The construction activities for the resurfacing procedure are as follows:

- Set up traffic management (TM) and mark out site;
- Milling of existing bituminous material by road planer;
- Jackhammer and compressor for breaking up surfaces not accessible by planer (e.g., around gullies);
- Loader/excavator used to collect and move excess material;
- Sweeper to collect loose material and provide clean laying surface;
- Milled out/excavated materials all taken off site;
- Tack/bond coat laid;
- Binder material laid and compressed by paver (where required);
- Material compacted using a heavy roller;
- New bituminous surface course material laid by paver;
- Material compacted using a heavy roller;
- Mechanical sweeper to collect loose material;
- HGV for removal and replacement of material;
- Road markings and studs applied where necessary;
- Remove TM and open road.

The works are currently programmed to be completed within the 2024/2025 financial year with works expected to begin on 7th May 2024. Works are programmed to be completed over eight nights (19:30 – 06:00). Traffic management (TM) is currently anticipated to comprise of a night-time full NB road closure with signed diversion. Traffic travelling NB will be diverted off the A1 at Thistly Cross Roundabout. The diversion route will then lead onto A199 before re-joining the A1 at Abbotsview Junction. This adds an extra three minutes to affected journeys and no additional miles. There are no pedestrian or other non-motorised user (NMU) facilities with connectivity to the scheme extents.

Location

The scheme lies on the A1 northbound (NB) carriageway approx. 0.7km south of East Linton and is surrounded with areas of grassland and arable land, along with dense/fragmented tree shelterbelts (Figure 1).

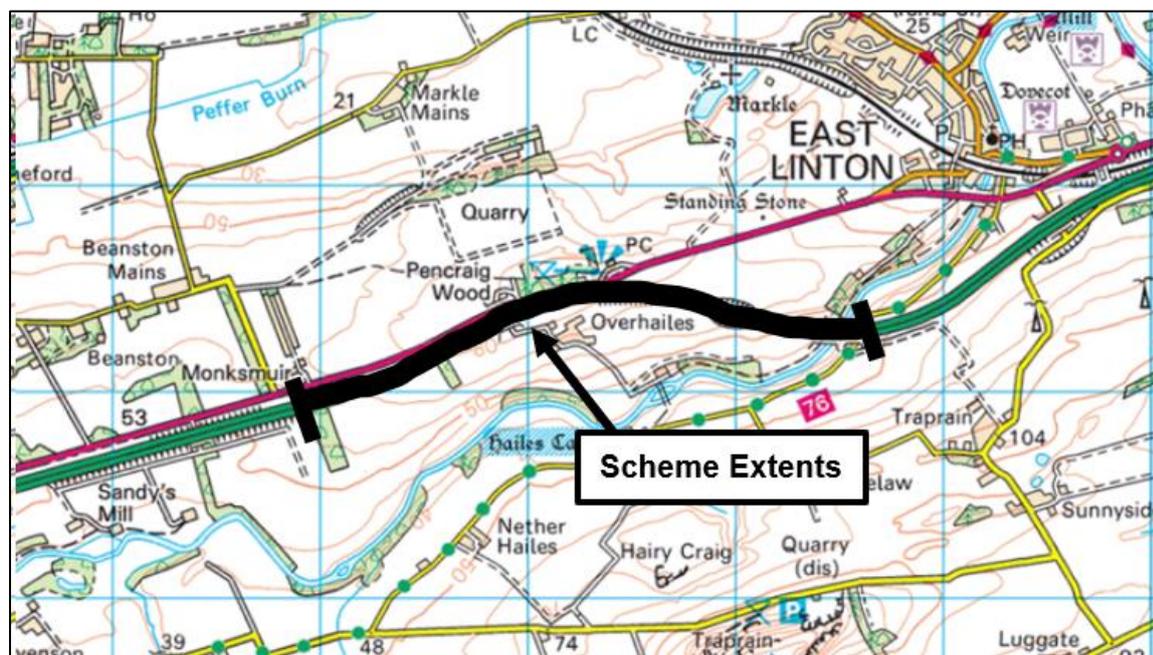


Figure 1: Extent of the works - Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

Description of local environment

Air quality

A search of the [Air Quality in Scotland](#) online mapping tool records that the scheme extents are not located within an Air Quality Management Area (AQMA). Sites monitoring air quality in the wider areas record bandings to be within the 'green zone' (Low Index 1-3).

The scheme is located within the 'East Lothian' Council boundary area, which currently has one Air Quality Management Area (AQMA) within its administrative boundary. The closest AQMA, 'High Street, Musselburgh,' is located approx. 21.9km west of the scheme extents. This AQMA is declared for nitrogen dioxide (NO₂).

There are three sites registered on the Scottish Pollutant Release Inventory ([SPRI](#)) for pollutant releases to air within 10km of the scheme:

- ‘Appin Poultry Farm, Drem, East Lothian’ - Intensive livestock production and aquaculture, declared for ammonia and particulate matter (PM₁₀ and smaller) (approx. 4.7km northwest),
- ‘Ferrygate Farm, Dirleton, North Berwick’ - Intensive livestock production and aquaculture, declared for ammonia and particulate matter (PM₁₀ and smaller) (approx. 8.3km north), and
- ‘Top & Park Unit, Ruchlaw Mains Farm, Dunbar’ - Intensive livestock production and aquaculture, declared for ammonia and methane (approx. 3.4km southeast).

The baseline air quality within the scheme extents is primarily influenced by vehicles travelling along the A1 trunk road. Secondary sources are most commonly derived from vehicles travelling along local network roads, day-to-day urban, industrial and agricultural land management activities.

Cultural heritage

The [PastMap](#) and [Historic Environment Scotland](#) (HES) online mapping tools record one listed building within 300m of the scheme extents. There is no connectivity between the scheme and the listed building i.e. the listed building lies out with the carriageway boundary approx. 130m south of the scheme.

There are three scheduled monuments (SM) located within 300m of the scheme extents. There is no connectivity between the scheme and the SMs i.e. the nearest lies outwith the carriageway boundary approx. 85m south of the scheme extents.

Of lesser cultural heritage value, 30 undesignated cultural heritage assets (UCHAs) located within 300m of the scheme extents. Seven of these UCHAs lie within 10m of the scheme extents. Details are as follows:

- East Linton, Brae Heads, A1 Bridge – Road Bridge (Period Unassigned) – Canmore and Historic Environment Record (HER),
- Pencraig – Road (Period Unassigned) – Canmore and HER,
- Overhailes - Pit; Settlement; Structure – HER,
- Pencraig Hill - Findspot; Site; Mortuary Enclosure; Cremation; Cist – HER,
- Pencraig Hill - Cremation (Period Unassigned), Enclosure (Period Unassigned) – Canmore.

There is no connectivity between the scheme and the remaining UCHAs i.e. the nearest lies out with the carriageway boundary approx. 40m north of the scheme extents.

Construction of the A1 carriageway is likely to have removed any archaeological remains that may have been present within the trunk road boundary. The potential

for the presence of unknown archaeological remains in the study area has therefore been assessed to be low.

Factor has no constraints that are likely to be impacted by the proposed works and has therefore been scoped out of further environmental assessment.

Landscape and visual effects

The scheme is not situated within a [National Park](#) (NP) or [National Scenic Area](#) (NSA).

The Landscape Character Type (LCT) within the study area is 'Lowland Farmed Plain - Lothians' (no. 275) ([Scottish Landscape Character Types](#)) the key characteristics of which are:

- Smooth rolling, large-scale arable plain landforms with occasional igneous intrusions forming local landmarks,
- Small streams forming shallow breaks in the smooth slopes, feeding into the broad meandering valley of the River Tyne,
- High quality agricultural land, divided into a chequerboard pattern of fields with historic field pattern being retained in some areas. Field boundaries defined by clipped hedges, scattered hedgerow trees, post and wire fences and occasional stone walls,
- Occasional small-scale woodlands and shelterbelts relate to watercourses and reinforce field pattern,
- Policy woodlands, estate houses and, and buildings and boundary walls of several estates throughout the area create a historic character,
- Numerous conservation villages spread throughout the Landscape Character Type with a scattering of farmsteads and small housing clusters, as well as larger settlement of Haddington, and
- Open views across the landscape to Edinburgh, the coast to the north, and hills to the south.

[Land use](#) located within 300m of the scheme extent can be categorised as the following:

- Rough grazing,
- Motorway and major roads,
- Recreation area,
- Managed woodland, and
- Rectilinear fields and farms.

The [national scale land capability for agriculture](#) classifies land surrounding the scheme as being:

- 'Class 2' – Land capable of producing a wide range of crops, and
- 'Class 3.2' – Land capable of average production though high yields of barley, oats, and grass can be obtained. Grass leys are common.

Woodland within study area consists of approx. 20ha of broadleaved woodland which borders the western scheme extents, (approx. 4ha of which is registered on the [Native Woodland Survey of Scotland](#) and approx. 9.5ha of which is recorded on the [Ancient Woodland Inventory Scotland](#)). Approx. 5.5ha of native mixed mainly broadleaved woodland borders the scheme extents to the north. Additionally, approx. 6.5ha of native riparian, broadleaved woodland, surrounds the banks of the River Tyne, is spanned by the A1 within the eastern scheme extents. There are no trees covered by a Tree Preservation Order (TPO) with connectivity to the scheme extents.

The existing trunk road is a prominent linear landscape feature. The trunk road corridor, for example, has a distinct character shaped by moderate volume, fast-flowing traffic, road markings, safety barriers, signage, landscaping, etc. The scale of the trunk road detracts from the quality and character of the wider landscape.

Biodiversity

The [NatureScot SiteLink](#) online mapping tools identifies that the scheme is not situated within 2km of a 'sensitive area' designated for biodiversity features e.g., Special Protection Areas (SPA), Special Areas of Conservation (SAC) or Ramsar etc.

The Firth of Forth SPA and Ramsar Site lies approx. 5km northeast of the scheme (at its nearest point (straight line distance)). The scheme is located on the A1 which spans the River Tyne a tributary of the Firth of Forth. The River Tyne outfalls to the Firth of Forth approx. 5.78km (hydrological distance) east of the scheme and as such shares connectivity with the Firth of Forth SPA and Ramsar Sites which are designated for a number of bird species. The Firth of Forth is also identified as a Site of Special Scientific Interest (SSSI) (Site Code 135202).

One additional SSSI is located within 2km of the scheme extents:

- Traprain Law SSSI (Site Code 135202) notified for lichen assemblage, lowland calcareous grassland and lowland acid grassland is located 1.2km south of the scheme extents.

Two Local Nature Conservation Site's (LNCS) designated for biodiversity features have been identified within 300m of the scheme extents:

- River Tyne (is spanned by the A1 within the eastern scheme extents), and
- Pencraig Wood (located approx. 40m north of the scheme).

There are no Local Nature Reserves (LNRs) designated for biodiversity features identified within 300m of the scheme extents.

A search of the NBN online mapping tool records the following within 2km of the scheme extents (within last 10-years):

Two invasive non-native species (INNS):

- Himalayan balsam (*Impatiens glandulifera*), and
- Japanese knotweed (*Reynoutria japonica*).

The closest of which relates to Himalayan balsam approximately 120m north of the scheme recorded along the banks of the River Tyne.

A search of the Asset Performance Management System (AMPS) online mapping tool records no invasive non-native species (INNS), injurious weeds (as listed under the Weeds Act 1959), or invasive native perennials (as listed in the Trunk Road Inventory Manual) within the scheme extents (within the last 10-years).

The habitat immediately bordering the A1 carriageway consists primarily of natural roadside vegetation (e.g., trees, shrubs, dense tree shelterbelts etc.) and made verges which undergo cyclic maintenance (e.g., grass-cutting, weed control, etc.) with the River Tyne flowing below the eastern extents of the scheme, out with the road boundary areas of grassland and arable land border the A1 with a large quarry found to the north of the scheme. While there is high availability of roadside vegetation, the habitat immediately bordering the trunk road is assessed to be of reduced ecological value, due to the likelihood of trunk road disturbances from traffic flow and that the A1 trunk road limits the connectivity and continuity for species between their potential habitats on either side of the road.

Geology and soils

One SSSI designated for geological features is located within 2km of the scheme extents:

- Traprain Law SSSI (Site Code 135202) notified for Igneous petrology: Carboniferous - Permian Igneous located 1.2km south of the scheme extents.

There is one [Local Geodiversity Sites](#) (LGS) located 300m of the scheme extents:

- 'Pencraig Wood Quarry' (located approx. 130m north of the scheme).

There are no [Geological Conservation Review Site](#) (GCRS) within 300m or which shares connectivity with the scheme extents.

The [National Soil Map of Scotland](#) online mapping tool records two generalised soil types beneath the scheme extents are:

- Brown soils, and
- Mineral gleys.

The major soil groups beneath the scheme extents are:

- Brown soils, and
- Gleys.

The [British Geological Survey](#) online mapping tool records that the superficial geology in the scheme extents is comprised of:

- Till, Devensian – diamicton.

The bedrock geology in the scheme extents is recorded as:

- Garleton Hills Volcanic Formation – basaltic rock, basalt, plagioclase, olivine, clinopyroxene, macrophyric,
- Pencraig Sill – trachyte, and
- Garleton Hills Volcanic Formation – mugearite.

There is no evidence of historical industrial processes or the storage of hazardous materials that could have given rise to significant land contamination.

Factor has no constraints that are likely to be impacted by the proposed works and has therefore been scoped out of further environmental assessment.

Material assets and waste

The proposed works are required to resurface the worn carriageway and reinstate road markings. Materials used will consist of:

- TS2010,
- AC20 dense binder,
- Gas, oil, petrol, and diesel,
- Bitumen emulsion,
- Hot bitumen,
- Cold bitumen sealant,
- Marker paint,
- Tar glue remover,
- Thermoplastic road markings, and
- Milled in/surface-mounted road studs.

As the value of the scheme exceeds £350,000, a Site Waste Management Plan (SWMP) will be created for these works.

The 2.79km scheme involves removal of the surface course and localised areas of base and binder course. In total, approx. 2,885 tonnes of bituminous material (European Waste Catalogue Code: 17 03 02) will be removed from site, none of which is classified as hazardous material containing coal tar.

Noise and vibration

Works are not located within a [Candidate Noise Management Area](#) (CNMA) or [Candidate Quiet Areas](#) (CQA).

The night-time noise level (L_{night}) modelled within the scheme extents ranges between 60 and 65 decibels with noise level ranges dropping to between 50 and 55 decibels for the nearest surrounding Noise Sensitive Receptor (NSR) (residential property) ([Scotland's Noise Scotland's Environment](#)).

The baseline noise and vibration in the scheme extents is primarily influenced by vehicles travelling along the A1 trunk road. Secondary sources are most commonly derived from motor vehicles travelling along local network roads, day-to-day urban, industrial, and agricultural land management activities.

Population and human health

There are approx. 50 properties located within 300m of the scheme extents, including a farmstead and holiday cottages with the remaining being residential. The nearest property (residential) is located approx. 70m north of the carriageway boundary and is screened from the scheme extents by tree shelterbelt (40m wide). All other properties located within 300m are also screened from the scheme by a combination of tree shelterbelt, intervening properties and/or topography.

Core Path (ID: 27093) follows the banks of the River Tyne and passes beneath the A1 within the scheme extents. National Cycle Network route 76 passes beneath the A1 within the scheme extents following Brae Heads Loan Road. There are no other non-motorised user (NMU) or community facilities within the scheme extents.

Street lighting is absent throughout the scheme extents.

The A1, within the scheme extents, is a dual carriageway with a speed limit of 70mph applying throughout. The Annual Average Daily Traffic (AADT) flow is low (14,985 motor vehicles (ID: 80904, 2022 data)) ([Road Traffic Statistics](#)) and is comprised of:

- 69 two wheeled motor vehicles,
- 11,570 cars and taxis,
- 94 bus and coaches,

- 1,919 Light Goods Vehicles (LGVs), and
- 2,328 Heavy Goods Vehicles (HGVs).

There are no congestion issues noted on the A1 within the scheme extents during the proposed working hours.

Road drainage and the water environment

The Scottish Environment Protection Agency ([SEPA](#)) River Basin Management Plan online mapping tool records one classified surface waterbody within 300m of the scheme extents:

- River Tyne (Birns Water confluence to Estuary) (ID: 4000), is spanned by the A1 trunk road within the eastern scheme extents. It is within the River Tyne catchment of the Scotland river basin district with the main stem being approx. 23.9km in length and has been assigned a Water Framework Directive 2000/60/EC (WFD) overall classification of 'Poor'. The River Tyne is separated from the carriageway by a concrete kerb and by grassed verges at the ends of the bridge of the road bridge.

A search of the [SEPA's Flood Map](#) online mapping tool records that the trunk road is recorded as having no risk of surface water flooding each year

A search of [Scotland's Environment \(SE\)](#) online mapping tool determined that the trunk road lies on the 'Haddington' groundwater, which has been classified as 'Good'.

A search of the [Scotland's Environment \(SE\)](#) determined that the trunk road, within the scheme extents, lies within the 'Edinburgh, East Lothian, and Borders' Nitrate Vulnerable Zone (NVZ).

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 ([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](#)). 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 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](#)).

Description of main environmental impacts and proposed mitigation

Air quality

During the construction phase, activities undertaken on site could potentially have some minor localised and short-term air quality impacts in proximity to the works. The construction phase will, for example, require a range of ancillary plant, vehicles, and non-road mobile machinery (NRMM) which will contribute to local dust and air pollutants. The main sources are likely to be dust generated by cold milling in preparation of carriageway resurfacing, as well as exhaust emissions from ancillary plant and vehicles. As a result, there is potential for impacts to local air quality.

However, considering the nature and duration of the scheme, along with implementation of mitigation detailed below, the proposed works impacts on local air quality levels during the construction period are assessed to be temporary, negligible adverse in magnitude.

Upon completion of the works, no residual air quality impacts are anticipated.

Air quality mitigation measures:

- 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.
- Materials that have a potential to produce dust will be removed from site as soon as possible, and vehicles that remove cold-milled material from site will have sheeted covers.
- Ancillary plant, vehicles and NRMM will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and NRMM will be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Cutting, grinding, and sawing equipment (if required) will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when activities that have the potential to impact local air quality are occurring. In the unlikely event that unacceptable dust or exhaust emissions are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method of working, etc.

Landscape and visual effects

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, people, ancillary plant, vehicles, NRMM and materials are restricted to areas of made/engineered ground on the A1 NB carriageway, and construction works are programmed to be undertaken at night (eight nights) on a rolling programme. As such, the visual impact of the works will be somewhat reduced.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed below, impacts on landscape and visual effects are assessed as temporary, negligible adverse in magnitude.

Upon completion of the works, no residual impacts on landscape and visual effects are anticipated e.g., when complete the visual appearance will remain largely unaffected, with a renewed road surface being the only discernible change.

Landscape and visual effects mitigation measures:

- The site will be monitored regularly for signs of litter and other potential contaminants, and litter will be removed before and after works take place.
- The site will be left clean and tidy following construction.
- Where possible, construction vehicles will not be left in places where soil or vegetation can be damaged. If damage to road verge occurs this must be lightly cultivated or graded (upon completion of the works) to allow natural recolonization by local species and promote integration with existing landscape character.

Biodiversity

While the works are located upstream of the Firth of Forth SPA, Ramsar and SSSI, they will be restricted to the existing A1 carriageway boundary which is approx. 5.78km from the designated site hydrologically, this coupled with standard working practices that would be implemented regardless of the designations will negate the potential for any impacts to the qualifying features.

Additionally, Traprain Law SSSI is located 1.2km south of the scheme extents. However, this site is designated for grassland and given the distance separating it from the works, no impacts are anticipated.

The 'River Tyne' and 'Pencraig Wood' Local Nature Conservation Site's (LNCS) designated for biodiversity features have been identified within 300m of the scheme extents, however, all works are minor in nature and are restricted to carriageway resurfacing within the A1 boundary, and no plant, personnel or NRMM will access land out with the works corridor. Furthermore, mitigation measures detailed below will be implemented on site, therefore, no impacts upon the LNCSs are anticipated.

A temporary short-term increase in noise levels may cause disturbance to local wildlife if present in the vicinity of the works. The works will, for example, require a range of ancillary plant, vehicles and NRMM which will emit noise and create potential disturbance. The works will also require delivery of materials and the presence of personnel to facilitate the improvements to the road surface. However, 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 A1, furthermore the scheme is of short duration (eight nights) and will be undertaken on a rolling programme. The potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.

No invasive non-native species (INNS), injurious weeds, or invasive native perennials have been recorded within the scheme extents. There are also no earthworks or vegetation clearance associated with the scheme, 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. As such, the works will not involve any physical altering or removal of habitat or result in habitat fragmentation, and there is limited potential to spread or introduce INNS, invasive native perennials, or injurious flowering plant species.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the proposed works impacts on biodiversity throughout the construction period are therefore assessed to be temporary, minor adverse in magnitude.

Upon completion of the works, no residual impacts are anticipated in relation to biodiversity.

Biodiversity mitigation measures:

- Site personnel will be made aware of the sensitivity and proximity of the River Tyne LNCS, and no access to the River Tyne or surrounding river embankments will be permitted.
- Where possible, artificial lighting used during the works will be sufficiently screened and aligned to ensure that there is no direct illumination of neighbouring habitat (e.g., River Tyne watercourse and riparian habitat, locations adjacent to tree shelterbelt, woodland etc.) to ensure minimal impact on nocturnal species.
- All site workers will have received adequate training relevant to their role prior to working on the site, including specific environmental inductions and 'toolbox talks' as required.
- Site personnel will remain vigilant for protected species and will not approach or touch any animals seen on site. Any sightings of protected species will be reported to BEAR's Environmental Team. Should a protected species be encountered or move within 50m of the active works (including compounds), works will be temporarily halted until the animal(s) move at least 50m away from the construction site, or until BEAR Scotland's Environmental Team can provide advice.

- The Contractor will employ 'soft start' techniques for all noisy activity to avoid sudden and unexpected disturbance during works. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to permit animals (including birds) to move away from the disturbance.
- All equipment stored onsite, if necessary, will be checked at the start of each workday to ensure mammal species are not present. Any storage containers/plant within the compound will also be secured overnight to prevent exploration by mammal species. Any areas where an animal could become trapped (e.g., storage containers) will also be covered at the end of each working day.
- People, ancillary plant, vehicles, NRMM and materials will be restricted to areas of made/engineered ground (as much as is reasonably practicable). If during works unforeseen access to the surrounding environment is required, works will cease in this area and BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects.
- BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects if:
 - unforeseen site clearance is required,
 - unplanned works must be undertaken out with the carriageway boundary,
 - there is any deviation from the agreed plan, programme and/or method of working,
 - nesting birds are found onsite.
- BEAR Scotland's Control Room will be contacted if there is a pollution incident.

Material assets and waste

Minimising impacts arising from construction materials are focussed upon making the most efficient use of materials onsite to reduce the need for imported primary materials and minimise the creation and disposal of waste through (i) reduction, (ii) re-use, and (iii) recycling. Potential impacts have been assessed for both the construction and operational phases of this scheme. It is anticipated that most material impacts are likely to arise during construction, though long-term residual impacts could occur post construction during the operational phase e.g., during the disposal of materials arising from routine maintenance operations.

However, the detailed design will reduce the requirements for primary materials e.g., the carriageway surfacing, and subbase will be carefully considered to minimise the requirements for importing primary material. Materials will also be derived from recycled, secondary, or re-used origin as far as practicable within the design specifications to reduce natural resource depletion. Specifying TS2010 surface course also allows a wider array of aggregate sources to be considered when compared to typical stone mastic asphalt (SMA). As a result, the use of TS2010 should reduce the usage of imported aggregates and increase the use of a wider

range of sustainable aggregate sources. The design life for the TS2010 surfacing is also estimated to be 20 years. The enhanced durability of TS2010 therefore reduces reoccurring routine maintenance and associated levels of traffic disruption to this section of road over the period.

A SWMP will be partially completed by the Design Engineer and then will be issued to the Contractor with the SWMP to complete the contract delivery section. The SWMP will provide details of the following:

- The quantity and type of waste that will be produced,
- How waste will be minimised, reused, recycled, recovered, or otherwise diverted from landfill,
- How materials that cannot be reused, recycled, or recovered will be removed from site and consigned, transported and disposed of in full accordance with all relevant UK legislation.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on material assets and waste throughout the construction period are therefore assessed to be temporary, negligible adverse in magnitude. Upon completion of the works, no residual impacts are anticipated on materials or waste.

Material assets and waste mitigation measures:

- A SWMP will be completed by the Designer and Contractor as required.
- Good materials management methods (e.g., 'just-in-time' delivery) will be implemented wherever possible.
- The Contractor will comply with all 'Duty of Care' requirements, ensuring that any surplus materials or waste are stored, transported, treated, used, and disposed of safely without endangering human health or harming the environment. Waste transfer notes and/or waste exemption certificates (if required) will also be completed and retained.
- The Contractor is responsible for the reuse / disposal of non-hazardous road planings, and this has been registered in accordance with a Paragraph 13(a) waste exemption issued by SEPA as described in Schedule 3 of the Waste Management Licensing Regulations 2011 (exemption number: WML/XS/2008108), the rules of which will be complied with.
- Designated areas will be identified within which all materials and personnel, including construction compounds, will be contained to limit environmental disturbance during construction works. This will include a designated area (if required) for segregation and reuse of waste materials.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage. Stockpiled materials with leachate potential, for example, will be stored away from road drainage to prevent cross-contamination with other materials, wastes, or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft, or vandalism.

- All temporary road signs and traffic cones will be removed from site on completion of works.
- Wastewater from welfare facilities (if required) will be subject to effluent treatment followed by tanker removal.
- If hazardous substances are used onsite, each substance will be subject to assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. Hazardous substances will also be clearly labelled, and disposed of, in line with COSHH safety data sheets and the Special Waste Regulations 1996. Special waste will also not be mixed with general waste and/or other recyclables.

Noise and vibration

Activities undertaken on site could potentially have some localised and short-term noise impacts in proximity to the works. The road works will, for example, require a range of ancillary plant, vehicles and NRMM for cold milling in preparation for carriageway resurfacing. Noise will also be generated by using breakers (jackhammers), chipping hammers, use of rollers, etc. As a result, there is potential for noise and vibration effects to residential properties within the local area, the closest of which are approx. 70m from the scheme.

However, the works are not located within a CNMA or CQA, and works will also be completed over eight nights, with the aim being to complete the noisiest works by 23:00. In addition, the proximity of road space suggests that residents have a degree of tolerance to noise and disturbance.

The road surface is in a poor condition, with a series of defects. Replacing the life-expired surface course with TS2010 road surfacing affords the benefits of a reduction in mid-to-high frequency traffic noise and a reduction in the ground vibrations. As a result, upon completion of the work, noise associated with the movement of vehicles on the trunk road should decrease post construction.

Considering the likely sources of noise and vibration, with the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, it is unlikely that noise and vibration associated with the works will lead to significant impacts, disruption and/or complaints. The proposed scheme is therefore anticipated to result in temporary, minor adverse noise impacts.

Noise and vibration mitigation measures:

- The local authority environmental health department will be notified of nighttime working by BEAR Scotland's design engineer.
- Where possible, the noisiest work operations (e.g., cold milling, using breakers (jackhammers), chipping hammers, use of rollers, etc.) will be completed before 23:00.
- If unacceptable noise is emanating from the site the operation will, where possible, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) repositioning equipment,

(d) changing the method of working etc. Corrective actions will be actioned through the non-conformance reporting procedure, which ensures a root-cause analysis is carried out on each incident. The non-conformance procedure also ensures that appropriate corrective and preventative action measures are agreed and implemented in a timely fashion with all parties, and are recorded and actioned through to closeout, and fully auditable and traceable.

- Toolbox Talk TTN 095 'Noise and Vibration (wildlife)' will be briefed to all personnel onsite prior to works commencing.
- Ancillary plant, vehicles and NRMM with directional noise characteristics will (where practical) be shut down in intervening periods between site operations.
- The use of paving breakers (jackhammers), chipping hammers, etc. will be avoided (except where there is an overriding justification), and if used will be fitted with mufflers or silencers of the type recommended by the manufacturer.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- All ancillary plant, vehicles and NRMM used onsite will have been regularly maintained, paying attention to the integrity of silencers and acoustic enclosures.
- All compressors will be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed when in use.
- HGV, site vehicles and NRMM will be switched to the minimum setting required by HSE and, where possible, will utilise 'broadband non-tonal' or 'directional sound reversing' alarms. Speed limits will also be reduced through the works.

Population and human health

During construction, activities undertaken on site have the potential to have temporary adverse impacts on local residents and road users.

While a core path and NCN route are spanned by the trunk road within the scheme extents, works will be restricted to the A1 trunk road and will not impact upon the paths below. There are no other NMU facilities, or community assets, with connectivity to the scheme extents. Moreover, TM will only be in place for eight nights (when traffic flows will be at a minimum), and no congestion issues are noted during the proposed construction hours.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation described above, impacts on population and human health are assessed as temporary, minor adverse in magnitude.

Upon completion of the works, there will be a positive impact in relation to population and human health due to the improvement of usability and safety provided by the new carriageway surface.

Population and human health mitigation measures:

- Construction lighting will take into account the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders, letter drop (for night-time works), etc.) will be initiated to keep local residents and/or businesses informed of the proposed working schedule, particularly the times and durations of noisy construction activities. The communication strategy will also provide a 24-hour contact number for the BEAR Scotland Control Room.
- Given the proximity of residential properties Toolbox Talk TTN-042 Being a Good Neighbour will be briefed to staff prior to the commencement of works.
- Advanced signage will be strategically placed on the trunk road to notify stakeholders of the road closure and diversion.
- 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.

Road drainage and the water environment

During resurfacing works, there is potential for temporary adverse impacts on the water environment. Potential changes in water quality e.g., from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain) during works have the potential to have a direct or indirect effect on the River Tyne and surrounding waterbodies.

However, the works will be restricted to the existing A1 carriageway. All land out with the A1 road is considered out-of-bounds to all construction staff during the works (i.e. no 'in-water' works required) and there is no requirement for land take, site clearance or resources from within a waterbody. There is also no requirement for the abstraction or transfers of water from, or discharges to a waterbody. The potential for a direct pollution incident within a waterbody is also unlikely e.g., experience gained from BEAR Scotland maintenance schemes elsewhere on the network has shown that where standard best working practice is adopted (e.g., adherence to SEPA GPPs, etc.), water quality is protected.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on the road drainage and water environment are assessed as temporary, negligible adverse in magnitude.

Upon completion of the resurfacing works, no residual impacts are anticipated in relation to the road drainage and water environment.

Road drainage and the water environment mitigation measures:

- If any works are identified that would require entering the River Tyne, BEAR Scotland's Environmental Team will be contacted (before works commence) to allow consideration of potential environmental effects.
- The abstraction or transfers of water from, discharges to, or the washing of tools in the River Tyne is not permitted.
- An edge protection system will be utilised to prevent material, debris, sediment etc. escaping over the A1 Tyne Bridge deck during the resurfacing works located on and in proximity to the bridge deck. Sandbags will be located at the bottom of the containment systems and debris netting will cover the edge protection system.
- The Contractor will implement measures to minimise the risk of sediment or accidental spillages entering the road drainage system e.g., prior to works commencing any roadside gullies within 10m of work activities will be bunded (e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect bunds periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris as necessary. If it is identified that bunds are not up to standard, the works will not commence until they have been reinstated to the condition, they were originally in.
- All site personnel will be made aware of site spillage response procedures and in the event of a spill, all works associated with the spill will stop, and the incident reported to the Site Supervisor. Small spills that did not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact would most likely not be required to be notified to SEPA or other authorities. However, all such incidents will be recorded and reported to BEAR Scotland's Environmental Team. In the event of a 'serious incident,' SEPA will be notified without delay. Such notification will include: (i) the time and duration of the incident, (ii) a description of the cause of the incident, (iii) any effect on the environment as a result of the incident, and (iv) any measures taken to minimise or mitigate the effect and prevent a recurrence.
- All waste, vehicles, ancillary plant, NRMM and fuels will be stored in the compound(s) or laydown area and will be secured and located, if space is available, at least 10m from drainage entry points and the River Tyne, in order to comply with GPP 5 'works and maintenance in or near water'. Refuelling will only be undertaken at designated refuelling areas (e.g., on hardstanding, with spill kits available, and >10m from the River Tyne and drainage entry points, where practicable). Spill kits will also be available within all site vehicles and spill kits will be replenished onsite when required. Only designated trained and competent operatives will be authorised to refuel plant. Generators, and other ancillary plant and NRMM, where there is a risk of leakage of oil or fuel, will have internal bunding or must have a secondary containment system placed beneath them that meets 110% capacity requirements. Containment systems will also be emptied regularly. All waste, vehicles, ancillary plant, NRMM and fuels will also be stored in a manner that ensures they are protected from damage by collision or extremes of weather.

- Regular visual pollution inspections of the designated laydown area and work site (particularly near road drainage entry points and the River Tyne) will be conducted (e.g., site walkover by engineer or Site Supervisor), especially during periods of heavy rain.
- All vehicles and NRMM onsite will have been regularly maintained, paying attention to the integrity of oil tanks, coolant systems, gaskets etc. A checklist will be present to make sure that the checks have been carried out.

Climate

BEAR Scotland, working on behalf of Transport Scotland, undertake carbon monitoring of major projects and operational activities. Emissions from activities are recorded using Transport Scotland's Carbon Management System. BEAR Scotland also undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. The works will also extend the maintenance intervals required for future works. In doing so, the service life of the trunk road is also extended.

During works there is potential for impacts as a result of the emission of greenhouse gases through the use of equipment, vehicles, and NRMM, material use and production, and transportation of material/waste. However, considering the nature, duration, size and scale of the scheme, and the mitigation detailed below, the risk of significant impacts to climate are considered to be negligible and adverse in magnitude.

Upon completion of the proposed scheme no residual impacts are anticipated on the climate.

Climate mitigation measures:

- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gases emitted as part of the works.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, waste will be removed to local waste management facilities.

Vulnerability of the project to risks

There will be no change to the likelihood of flooding on the A1 within the scheme extents upon completion of the works.

Works are restricted to areas of made ground on the A1 NB carriageway surface, with access to the scheme gained via the A1 mainline. TM will employ road closure with signed diversion. There are no NMU facilities, or other community assets, with connectivity to the scheme extents that have the potential to be impacted. As such, the proposed work impacts on road traffic accidents are assessed to be of negligible magnitude.

A Site Environmental Management Plan (SEMP) will be produced by BEAR Scotland which sets out a framework to reduce the risk of adverse impacts from construction

activities on sensitive environmental receptors. The Contractor will comply with all conditions of the SEMP during works and may be subject to audit throughout the contract.

Considering the above, the vulnerability of the project to of major accidents and disasters is considered to be low.

Assessment 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.

In addition, a search using [East Lothian Council 'Simple Search'](#) identified no planning applications within 300m of the scheme. Overall, it is unlikely that the proposed works will have a significant cumulative effect with any other future works in the area.

A search of the Scottish Road Works Commissioner's website ([map search](#)) has identified that no other road works are currently ongoing, or noted as being planned, on the A1 trunk road or surrounding roads in proximity to the scheme which will be undertaken at the same time.

While not occurring at the same time, a separate BEAR Scotland resurfacing scheme will be undertaken on the A1 directly west of this 'A1 West of Monksmuir NB'. This scheme will be undertaken between the 17th and 25th May with the A1 North of Tyne Bridge NB commencing prior to these works on the 7th May 2024 until the 15th May 2024. Both schemes involve a closure of the A1 north bound carriageways with the same diversion routes being used for each, as such there is a potential for the extended closure of the A1 to result in cumulative impacts. However, the works will be undertaken at night when traffic flows are reduced and as such these impacts are not considered to be significant. Any future BEAR Scotland schemes will be programmed to consider already-programmed works and as such, any cumulative effects will be limited.

Considering the nature and scale of the minor resurfacing works being undertaken by BEAR Scotland, no in-combination effects are anticipated.

Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section, 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 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) exceed 1ha.

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/damaged road surface, with all works restricted to made ground on the A1 carriageway surface.
- 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.
- By removing the carriageway defects, this will provide this section of the A1 carriageway with another life cycle, and significantly improve the ride quality, which will result in safer conditions for road users.
- Any potential impacts of the works are expected to be temporary, short-term, not significant, and limited to the construction phase.

Location of the scheme:

- The scheme extents span the River Tyne, however, no works are required within the watercourse and therefore there will be no change in the hydrological regime or water quality within the River Tyne.
- The scheme extents are found 5.78km upstream of the Firth of Forth SPA, Ramsar Site and SSSI, however standard working practices will be implemented that would be in place regardless of the designations that will negate the potential for any impacts to the qualifying features
- The scheme does not lie within any sites of historical, cultural, or archaeological significance.
- The scheme is not located within any areas designated for landscape interests.

- Land use will not change as a result of the works.
- The works do not require any private land acquisition.
- The scheme is not located within a densely populated area.
- Characteristics of potential impacts of the scheme:
- The waste hierarchy will be followed to reduce waste to landfill.
- Works are programmed to take eight nights to complete on a rolling programme, with the aim being to complete the noisiest works by 23:00.
- With good practice pollution prevention measures implemented onsite, there is a negligible risk of a pollution event e.g., compliance with the SEMP.

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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