



**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

# **Environmental Impact Assessment Record of Determination**

## **M8 Prior to Junction 3 WB**

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## Project Details

### Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the M8 carriageway. The works will consist of carriageway resurfacing, including the hard shoulder, and reinstatement of road markings for a length of 1.13km (approximately 1.1ha) on the westbound (WB) 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 (in accordance with [Chapter 5](#));
- Remove TM and open road.

The works are currently programmed to be completed within the 2024/2025 financial year (April 2024 – March 2025). Works are expected to be completed over five nights (20:30 – 06:00). Traffic management (TM) is currently anticipated to comprise of a night-time full road closure with signed diversion. The diversion will add approximately 7.6km and 15 minutes onto existing journeys. As the scheme is located on the M8 motorway there are no pedestrian routes/footpaths, or other community assets with connectivity to the scheme extents.

## Location

The scheme lies on the M8 carriageway between Junction 2 and 3, approximately 1.7km north from the centre of Livingston, surrounded with grassland and areas of rough grazing, along with populated urban areas located to the south of the scheme (Figure 1).

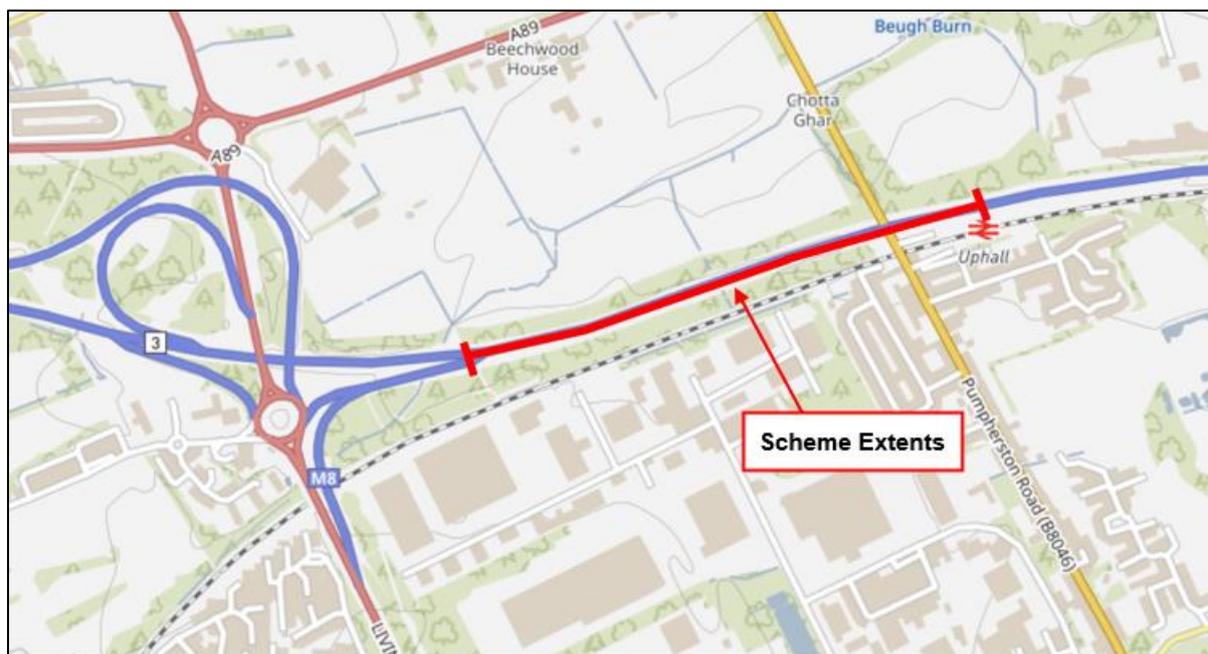


Figure 1: Extent of the works - Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

## 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 West Lothian Council boundary area, which has three Air Quality Management Areas (AQMA) within its administrative boundary. The closest AQMA, 'Broxburn,' is located approximately 3.37km northeast of the scheme extents and is declared for nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub>).

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

- API Foils, Houstoun Industrial Estate, Livingston for non-methane volatile organic compounds (NMVOCs) and toluene ( $C_6H_5CH_3$ ) (located approximately 1.16km south of the scheme),
- Balerno Poultry Farm, Lanark Road West, Balerno for ammonia ( $NH_3$ ) and particulate matter ( $PM_{10}$ ) (located approximately 8.42km southeast of the scheme),
- Clapperton Poultry Complex, Broxburn, West Lothian for ammonia ( $NH_3$ ) and particulate matter ( $PM_{10}$ ) (located approximately 3.3km northeast of the scheme),
- Clifton Poultry Farm, Clifton Road, Newbridge for ammonia ( $NH_3$ ) and particulate matter ( $PM_{10}$ ) (located approximately 4.7km southeast of the scheme),
- Hillwood Quarry, Ratho, Midlothian for carbon dioxide ( $CO_2$ ) and particulate matter ( $PM_{10}$ ) (located approximately 6.7km east of the scheme),
- Kaimes Quarry Landfill Site, Kirknewton for methane ( $CH_4$ ) (located approximately 7.73km southeast of the scheme),
- Progress Rail Services UK Ltd for particulate matter ( $PM_{10}$ ) (located approximately 8.8km northeast of the scheme),
- Ravelrig Quarry, Kirknewton, Midlothian for particulate matter ( $PM_{10}$ ) and particulates ( $PM_{2.5}$  and smaller) (located approximately 8.2km northwest of the scheme),
- Raw Camps Poultry Farm, Kirknewton, West Lothian for ammonia ( $NH_3$ ) and particulate matter ( $PM_{10}$ ) (located approximately 4.67km southeast of the scheme),
- Shin-Etsu Handotai, Wilson Road, Livingston for ammonia ( $NH_3$ ) and non-methane volatile organic compounds (NMVOCs) (located approximately 4km southwest of the scheme),
- Stepend Poultry Farm, West Calder, West Lothian for ammonia ( $NH_3$ ) and particulate matter ( $PM_{10}$ ) (located approximately 6.19km southwest of the scheme),
- VION Food Scotland Ltd, Broxburn for carbon dioxide ( $CO_2$ ) (located approximately 3.05km northeast of the scheme), and
- Wyman Gordon Ltd, Livingston for carbon dioxide ( $CO_2$ ) and trichloroethylene ( $C_2HCl_3$ ) (located approximately 0.79km south of the scheme).

The baseline air quality within the scheme extents is primarily influenced by vehicles travelling along the M8 trunk road. Secondary sources are most commonly derived from vehicles travelling along local network roads, day-to-day urban and industrial activities, and day-to-day agricultural land management activities.

## Cultural heritage

The [PastMap](#) and [Historic Environment Scotland](#) (HES) online mapping tools records no designated cultural heritage sites within 300m of the scheme. The

nearest record pertains to Moss Houses ID:LB7417 (Category B), located approximately 950m south from the northern end of the scheme extents.

Of lesser cultural heritage value, seven undesignated cultural heritage assets (UCHAs) lie within 300m of the scheme. The nearest record pertains to Uphall Station (Canmore ID: 214781), located approximately 25m south of the carriageway boundary. There is no connectivity between the scheme and any of the UCHAs.

Construction of the M8 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 (as identified in Environmental Baseline) 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 'Urban' (no. 0), of which there are no key characteristics listed ([Scottish Landscape Character Types](#)) and Lowland Plain (no. 274) which has the following key characteristics:

- Smoothly rolling, large scale agricultural plain with local interruptions of volcanic hills forming visual foci.
- Rivers cut through the farmland in incised valleys.
- High quality agricultural land with a predominantly rural character, divided into a strong pattern of large arable fields by fences, hedges, occasional walls and a network of shelterbelts.
- Policy woodlands and shelterbelts associated with designed landscapes, mansions, gatehouses and boundary walls contributing to character.
- Numerous villages and hamlets, including industrial settlements.
- Substantial but localised urban fringe influence around Edinburgh Airport, motorways and settlement expansion.
- Gentle sinuous sweep of the Union Canal as it leaves Edinburgh and heads northwest.
- Industrial heritage legacy, with prominent quarrying, landfill and shale bing impacts.
- Important setting for western Edinburgh.

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

- Restored agricultural land,
- Motorway and major roads,
- Plantation,
- Industrial or commercial area,
- Rough grazing,
- Holdings,
- Recreation area,
- Managed woodland, and
- Urban area.

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 8' – Urban.

The scheme extent lies approximately 1.7km north from the centre of Livingston. The north of the scheme is bordered by open grassland and areas of rough grazing, separated from the scheme extents by dense shelterbelt plantation. The south of the scheme is bordered by Houston Industrial Estate and Uphall residential areas separated from the scheme by dense shelterbelt plantation and the Uphall to Livingston North railway line.

There are no woodlands registered on the [Ancient Woodland Inventory Scotland](#) database, areas of woodland registered on the [Native Woodland Survey of Scotland](#) database, and 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 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

According to the online mapping tool [NatureScot SiteLink](#) there are no 'sensitive areas' designated for nature conservation i.e. Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar Sites within 2km of the scheme extents.

No Sites of Special Scientific Interest (SSSI) designated for nature conservation have been identified within 300m of the scheme extents.

No Local Nature Conservation Site's (LNCS) or Local Nature Reserves (LNRs) designated for biodiversity features have been 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*).
- Two injurious weeds (as listed under the Weeds Act 1959):
  - Broad-leaved dock (*Rumex obtusifolius*),
  - Creeping thistle (*Cirsium arvense*)
  - Curled dock (*Rumex crispus*), and
  - Common ragwort (*Senecio jacobaea*).
- One invasive native perennial (as listed in the Trunk Road Inventory Manual):
  - Rosebay willowherb (*Chamerion angustifolium*).

The closest record relates to Himalayan balsam found approximately 950m west of the scheme within Deer Park Golf Course.

A search of the Asset Management Performance System (AMPS) online mapping tool records rosebay willowherb, an invasive native perennial (2018 and 2015) within the scheme extents. There are no INNS within the scheme extents (within the last 10-years):

The habitat immediately bordering the WB carriageway consists primarily of natural roadside vegetation (e.g., large trees, shrubs, etc.) creating a combination of dense and fragmented shelterbelts, and made verges which undergo cyclic maintenance (e.g., grass-cutting, weed control, etc.). While there is a 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 heavy traffic flow. The presence of the M8 trunk road also limits the connectivity and continuity for species between their potential habitats on either side of the carriageway.

## Geology and soils

The M8 within the scheme extents is not located within any [Geological Conservation Review Site](#) (GCRS) or [Local Geodiversity Sites](#) (LGS).

The [National Soil Map of Scotland](#) online mapping tool records one generalised soil type and major soil group beneath the scheme extents:

- Brown soils.

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:

- Hopetoun Member – sedimentary rock cycles, Strathclyde group type, and
- Dinantian to Westphalian Sills of Lothian and Fife – analcime, microgabbro, olivine.

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 (as identified in Environmental Baseline) 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
- EME2 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.

The 1.13km scheme involves removal of the surface course and localised areas of base and binder course. In total, approximately 1,950 tonnes of bituminous material (European Waste Catalogue Code: 17 03 02) will be removed from site. Bituminous material classified as hazardous material containing coal tar (exact tonnage currently unknown) (European Waste Catalogue Code: 17 03 01\* (bituminous mixtures containing coal tar (Hazardous))) will also be removed from the site.

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

## 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 70 and 75 decibels with noise levels ranges dropping to between 60 and 65 decibels for the nearest surrounding Noise Sensitive Receptor (NSR) (residential property) ([Scotland's Noise Scotland's Environment](#)).

Baseline noise levels are mainly influenced by vehicles travelling along the motorway, with secondary sources likely derived from vehicles travelling along the local road network, and industrial activities, with Houston Industrial Estate found to the south of the works. The Uphall to Livingston North railway line lies approximately 50 m south of the scheme (at the nearest point) and as such occasional train movement will therefore also have an impact.

## Population and human health

There are numerous properties (residential, business, and industrial) located within 300m of the scheme extents. The nearest property (residential) is located approximately 60m south from the scheme. All properties are screened from the M8 trunk road by a combination of dense roadside tree shelterbelt plantation and intervening topography.

There are no sensitive receptors/land uses located within 300m of the scheme.

There is no non-motorised user (NMU) or community facilities with connectivity to the scheme extents.

Street lighting is not present throughout the scheme extents.

The M8, within the scheme extents, is a motorway carriageway with a speed limit of 70mph applying throughout. The Annual Average Daily Traffic (AADT) flow is high (59,849 motor vehicles (ID: 80499, 2022 data)) ([Road Traffic Statistics](#)) and is comprised of:

- 39 two wheeled motor vehicles,
- 39,705 cars and taxis,
- 226 bus and coaches,
- 13,436 Light Goods Vehicles (LGVs), and
- 6,444 Heavy Goods Vehicles (HGVs)

There are no congestion issues noted on the M8 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 no classified surface waterbodies within 300m of the scheme extents.

One unclassified waterbody Beugh Burn is culverted below the M8 within the northern extents of the scheme. It is separated from the works to the north by the eastbound M8 carriageway and to the south of the scheme by the Junction 3 Offslip.

A search of the [SEPA's Flood Map](#) online mapping tool records that the M8 trunk road, has a low to medium (i.e. each year this area has between a 0.1% and 0.5% chance of flooding) likelihood of surface water flooding along the scheme extents.

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

A search of the [Scotland's Environment \(SE\)](#) determined that the trunk road, within the scheme extents, does not lie within a 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 CO<sub>2</sub> 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 dust, particular matter, and exhaust emissions (DPMEE) to be emitted to the atmosphere.

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).
- Where practicable, if powered generators are required, the use of mains electricity or battery powered ancillary plant will be considered in place of diesel or petrol alternatives.
- 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 DPMEE generating activities are occurring. In the unlikely event that unacceptable DPMEE 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 M8, and construction works are programmed to be undertaken at night (five 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.

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

The scheme is not situated within any 'sensitive area' designated for biodiversity features (e.g., Special Protection Area, Ramsar, Special Area of Conservation, SSSI, etc), and there are no LNCSs or LNRs designated for biodiversity features with connectivity to the scheme extents.

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 M8, and the scheme is of short duration (five nights). The potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.

Rosebay willowherb has been identified along the carriageway verge within the scheme extents, however, all works are restricted to a 1.13km stretch of made-ground on the M8 carriageway surface, with only like-for-like replacement of carriageway road surface being undertaken. As such, there is limited potential for the spread or introduce INNS, invasive native perennials, or injurious flowering plant species. Rosebay willowherb (and any other invasive or injurious flowering plant species) will also be controlled/treated by cultural methods and/or chemical weed control as per the Sout East Annual Landscape Management Plan.

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:

- Where possible, artificial lighting used during night works will be sufficiently screened and aligned so as to ensure that there is no direct illumination of neighbouring habitat (e.g., 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.
- Toolbox Talk TTN-009 'Working with Injurious Weeds & Invasive Plants' will be briefed prior to works commencing. Site personnel will remain vigilant for the presence of any potentially unrecorded instances of invasive or injurious weeds in road verges throughout the works period.
- 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 Scotland'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 must be gradually increased over a period of 30 minutes to permit animals (including birds) to move away from the disturbance.
- All equipment stored onsite 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, to avoid mammals falling in and becoming trapped.

- 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. Furthermore, given the identification of coal tar within the area required to be resurfaced there is also potential for impacts to occur as a result of the improper storage or disposal of waste.

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 template 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 Site Waste Management Plan (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. Material 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/2007957), the rules of which will be complied with.
- A currently unknown tonnage of bituminous material classified as hazardous due to the presence of coal tar will be appropriately processed in line with Transport Scotland's Guidance Note on dealing with coal tar bound arisings (Coal Tar Guidance). This will include, but not be limited to:
  - Coal tar contaminated road planings will be classified as a Special Waste.
  - All waste will be appropriately segregated, with coal tar contaminated planings being kept separate from uncontaminated planings.
  - Coal tar contaminated road planings will be transported by a registered waste carrier and be accompanied by a SEPA-issued consignment note or code. SEPA will be notified, at least 72 hours before and no longer than one month before, prior to Special Waste leaving site. It will be sent to a facility that holds suitable pollution prevention and control permits and waste management licences. Copies of consignment notes will be retained for a period of three years.

- Waste will be transported in a safe and secure manner to prevent the release of contaminated material en-route.
- 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.

However, the works are not located within a CNMA or CQA, and works will also be completed over five 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 closest residential properties (i.e. 60m south) are afforded a level of screening by the existing shelterbelt plantation and the presence of a railway. As such 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.

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.

Noise and vibration mitigation measures:

- The local authority environmental health department will be notified of nighttime working by BEAR Scotland's design engineer.
- Wherever possible, careful consideration will be given to the siting and orientation of particularly noisy items of NRMM so that it is located away from surrounding properties. Activities which have the potential to produce excessive noise e.g., cutting and grinding of materials will also, if possible, be undertaken away from surrounding properties.
- 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.
- 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. Moreover, TM will

only be in place for five 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:

- 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.
- Advanced signage will be strategically placed on the trunk road to notify stakeholders of the road closure and diversion.
- Given the proximity of urban development to the scheme extents, Toolbox Talk TTN-042 'Being a Good Neighbour' will be briefed prior to works commencing.
- Construction lighting will consider the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- 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 Beugh Burn and surrounding waterbodies.

However, the works will be restricted to the existing M8 carriageway. All land out with the M8 road boundary is also 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 or PPGs, utilisation of drain covers or similar, 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 Beugh Burn, 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 Beugh Burn is not permitted.
- 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, 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 Beugh Burn 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) 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 gas 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 M8 within the scheme extents upon completion of the works, although repairs to the carriageway pavement will provide localised benefits for road users.

Works are restricted to the M8 WB carriageway boundary, with access to the scheme gained via the M8 mainline. TM will employ road closure with signed diversion beginning at Junction 2 WB and ending at Junction 3 WB. There are no local pedestrian access/footpaths, or any other community assets located within the

scheme extents or that share connectivity with the scheme. 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 risks 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. Any future BEAR Scotland schemes will be programmed to consider already-programmed works and as such, any cumulative effects will be limited.

In addition, a search using [West 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.

## **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 1 hectare in area.

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/engineered ground on the M8 carriageway boundary.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- No works are required within Beugh Burn, which is culverted beneath the M8 within the scheme extents, therefore there will be no change in the hydrological regime or water quality within Beugh Burn.
- No in-combination effects have been identified.
- The risk of major accidents or disasters is considered to be low.
- By removing the carriageway defects, this will provide this section of the M8 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.
- No impacts on the environment are expected during the operational phase as a result of the works.
- As the works are restricted to the like-for-like replacement of worn road surface, there is no change to the vulnerability of the road to the risk or severity of major accidents/disasters that would impact on the environment.

Location of the scheme:

- The scheme is not situated within 2km of, and does not share connectivity with, a 'sensitive area' designated for biodiversity features e.g., SAC, SPA, Ramsar, SSSI etc.
- The scheme does not lie within any sites of historical, cultural, or archaeological significance, and will not have any impact on the Historic Environment Record (HER) noted within 300m of the scheme.
- 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 five nights to complete on a rolling programme, with the aim being to complete the noisiest works by 23:00.

- Best practice and pollution prevention measures will be included in the SEMP and implemented on site.

## 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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