TRANSPORT SCOTLAND
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Environmental Impact Assessment Record of Determination

M8 1 Mile Prior to Junction 3A Westbound

Contents

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 and reinstatement of road markings for a length of 1.2km (1.39ha) to a maximum depth of 355mm inlay. Due to the integrity of the hydraulic bound materials (HBM) and the sensitivity within this section of the M8 a stress absorbing membrane interlayer (SAMI) will be laid on the HBM layer where applicable in place of a crack and seat treatment.

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 programmed to be completed over the 2024/2025 and 2025/2026 financial years with works expected to begin on 31st March 2025. Works are programmed to be completed over ten nights (20:30 – 06:00). Traffic Management (TM) is currently programmed to be in the form of a full night time road closure with a signed diversion. Traffic will be diverted via M8 Junction 3, A899, M805, M879 to M8 Junction 3A Westbound Onslip.

Location

The scheme lies on the M8 carriageway, south of Boghall, within the West Lothian Council boundary, and is surrounded predominantly by areas of agricultural land (Figure 1).

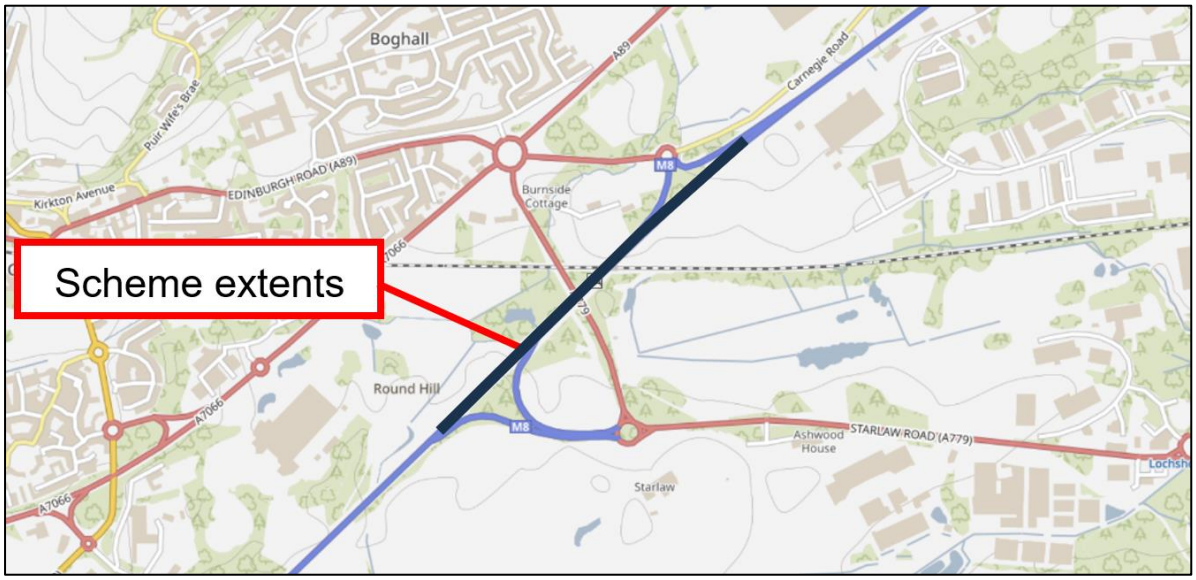

Figure 1. Extents of the Works. - Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

Description of local environment

Air quality

For properties within 300m of the scheme refer to “Population and Human Health”.

Air quality monitoring sites in the wider area record bandings in the ‘green zone’ (Low Index 1-3).

The scheme extents are located within the West Lothian Council, which has no active and three revoked Air Quality Management Areas (AQMAs) within its administrative boundary. The nearest active AQMA, ‘Glasgow Road 2013’ within the Edinburgh City Council boundary, lies approx. 12.7km northeast of the scheme and has been declared for nitrogen dioxide (NO_2).

There are 12 sites registered on the Scottish Pollutant Release Inventory (SPRI) for air pollutant releases which lie within 10km of the scheme:

- Shin-Etsu Handotai, Wilson Road, Livingston - Chemical industry – declared for ammonia (t), located approx. 2.2km southeast from the scheme.
- Stepend Poultry Farm, West Calder, West Lothian - Intensive livestock production and aquaculture – declared for ammonia (t), located approx. 3.2km southeast from the scheme.
- API Foils, Houstoun Industrial Estate, Livingston - Other activities – declared for non-methane volatile organic compounds (NMVOCs) (t) and toluene (kg), located approx. 5km northeast from the scheme.
- Wyman Gordon Limited, Livingston - Production and processing of metals – declared for carbon dioxide (kt) and trichloroethylene (t), located approx. 5km northeast from the scheme.
- Rusha Poultry Farm, West Calder - Intensive livestock production and aquaculture – declared for ammonia (t), located approx. 5.7km southwest from the scheme.
- Beeches Poultry Farm, Longridge, Bathgate - Intensive livestock production and aquaculture – declared for ammonia (t), located approx. 6km south from the scheme.
- Caradale Bricks, Etna Works, Armadale - Mineral industry – declared for fluorine and total inorganic fluorine compounds, such as hydrogen fluoride (HF) (t), located approx. 5.1km west from the scheme.
- Bathgate Compressor Station, Avonbridge, Falkirk - Energy sector – declared for carbon dioxide (kt), methane (t), located approx. 7km northwest from the scheme.

- Bathgate Compressor Station (Site 2) - Energy sector – declared for carbon dioxide (t), methane (t) and NMVOCs, located approx. 7km northwest from the scheme.
- Clapperton Poultry Complex, Broxburn, West Lothian - Intensive livestock production and aquaculture – declared for ammonia (t), particulate matter – PM_{10} and smaller (t), and particulate matter - total (t), located approx. 8km east from the scheme.
- VION Food Scotland Limited, Broxburn - Animal and vegetable products from the food and beverage sector – declared for carbon dioxide (kt), located approx. 9km northeast from the scheme.
- Raw Camps Poultry Farm, Kirknewton, West Lothian - Intensive livestock production and aquaculture – declared for ammonia (t), located approx. 9.5km east from the scheme.

Baseline air quality within the scheme extents is likely to be primarily influenced by traffic along the M8 carriageway. Secondary sources are most commonly derived from motor vehicles travelling along local network roads and day-to-day agricultural land management activities.

The Glasgow to Edinburgh railway is spanned by the motorway within the scheme extents. Therefore, train movements will also have an impact.

Cultural heritage

The PastMap and Historic Environment Scotland (HES) online mapping tools record no designated cultural heritage assets within 300m of the scheme.

Of lesser cultural heritage value, four undesignated cultural heritage assets (UCHAs) lie within 300m of the scheme. Two UCHAs lie within 15m of the trunk road scheme extents and pertain to:

- Starlaw, Historic Environment Record (HER) - Classification: Buildings; Enclosure, located approx. 10m south of the scheme extents.
- Starlaw, Canmore - Classification: Building(S) (Period Unassigned), Enclosure (Period Unassigned), located approx. 15m south of the scheme extents.

There is no connectivity between the scheme and the remaining UCHAs e.g., the nearest lies approx. 20m west of the scheme.

Construction of the M8 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, given that the works will be restricted to the existing M8 carriageway. As such cultural heritage has 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 scheme lies within the 'Lowland Plateaux - Lothians' Landscape Character Type (no. 273) (Scottish Landscape Character Types). The key characteristics of this LCT are:

- Broadly undulating and open plateau landform, becoming more rolling to the south and east to form a series of craggy hills above Blackridge.
- The principal rivers form shallow valleys, with more deeply incised tributaries.
- A pastoral landscape with post and wire fences, thin hedges and windswept shelterbelts.
- Important wetland habitats and lowland peat bogs.
- Scattered woodland consisting of small areas of coniferous, deciduous and mixed species.
- Evidence of historical mining activity, leaving highly visible traces in the red shale bings.
- Widespread residential and commercial development, as well as major transport corridors.
- A landscape with extensive presence of modern human development and infrastructure.

Land use within 300m of the scheme is categorised into the following:

- Motorway and Major Roads.
- Rough Grazing.
- Rectilinear Fields and Farms.
- Plantation.
- Recreation Area.
- Industrial or Commercial Area.
- Urban Area.

The national scale land capability for agriculture classifies land surrounding the scheme as being:

- 'Class 3.1' – land capable of producing consistently high yields of a narrow range of crops and/ or moderate yields of a wider range. Short grass leys are common.

Woodland in the study area comprised of:

- Approx. 3.7ha of mixed mainly conifer woodland, which borders the southbound carriageway within the scheme extents.
- Approx. 4.5ha of young tree woodland, which borders the northbound carriageway north of the scheme extents, 1.4ha of which is registered on the Native Woodland Survey of Scotland (NWSS).
- Approx. 3.7ha of broadleaved woodland, lies southwest of the scheme extents.
- Approx 1.2ha of shrub and young tree woodland which is registered on the NWSS, located approx. 200m east of the scheme.
- Approx 6.5ha of young tree woodland registered on the NWSS, located approx. 160m northwest of the scheme extents (at the nearest point).
- Additionally, approx. 21ha of mixed mainly conifer woodland, located approx. 240m east of the scheme extents.

There are no areas of woodland on the Ancient Woodland Inventory Scotland (AWIS) and no trees covered by a Tree Preservation Order (TPO) within 300m of 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

The NatureScot Sitelink online mapping tools identifies that there are no European Sites designated for nature conservation i.e. Special Protection Areas (SPA), Special Areas of Conservation (SAC), or Ramsar Sites, located within 2km of, or which share connectivity with the scheme extents.

Tailend Moss Site of Special Scientific Interest (SSSI) (EU Site Code: 135258) borders the westbound carriageway within the scheme extents.

Tailend Moss Local Nature Conservation Site (LNCS) borders the southbound carriageway within the scheme extents.

There are no Local Nature Reserves (LNR) designated for biodiversity features within 300m of the scheme extents. While not designated as an LNR, Tailend Moss is a Scottish Wildlife Trust Nature Reserve and is noted as being important for birds, peatland plants, damselflies and dragonflies.

In addition, NBN atlas holds records of numerous bird species within 2km over a ten-year period. Under the Wildlife and Countryside Act 1981 (as amended), all wild birds and their active nests (typically active March to August inclusive) are protected. Only records with open-use attributions (OGL, CC0, CC-BY) were included in the search criteria.

A search of the NBN online mapping tool records the following plant species as listed within the Network Management Contract (NMC) within 2km of the scheme extents (within the last 10-years):

Two invasive non-native species (INNS):

- Giant hogweed (*Heracleum mantegazzianum*).
- Himalayan balsam (*Impatiens glandulifera*).

Four injurious weeds:

- Common ragwort (*Senecio jacobaea*).
- Creeping thistle (*Cirsium arvense*).
- Spear thistle (*Cirsium vulgare*).
- Broad-leaved dock (*Rumex obtusifolius*).

One invasive native perennial:

- Rosebay willowherb (*Chamaenerion angustifolium*).

The closest record pertains to spear thistle, common ragwort and creeping thistle, located approx. 0.5km east of the scheme extents (2016).

A search of the Asset Performance Management System (AMPS) records the following plant species (as listed in the NMC) within and in proximity to the scheme extents:

One invasive injurious weed:

- Spear thistle (2018) located along the eastbound verge approx. 15m north, out with the scheme extents.

One invasive native perennial:

- Rosebay willowherb (2015, 2018) located along the westbound verge within the scheme extents.

Habitat immediately bordering the trunk road tends to be of low intrinsic value because the existing road verge is subject to cyclic maintenance e.g., grass cutting, weed control, tree, and shrub cut-back etc. The roadside verges therefore comprise a homogenous species-poor semi-improved grassland alongside broadleaved tree and shrub shelterbelt. Roadside vegetation generally offers low ecological habitat value due to its limited scale, fragmented nature and high potential for disturbance owing to cyclic trunk road landscape maintenance, and the proximity of the trunk road (with its fast-flowing traffic). The presence of the trunk road also restricts continuity of, and connectivity between, habitats either side of the trunk road boundary.

Outwith the trunk road boundary, the surrounding area consists of a mixture of agricultural land with pockets of woodland and Tailend Moss SSSI. Woodland bordering the agricultural fields and along the railway corridor could offer suitable habitats to a number of wildlife, with the Tailend Moss SSSI to the south also supporting a number of species. However, the result of abundance of surrounding intensive agricultural land management is to restrict the occurrence of these semi-natural and natural vegetation types. Most field boundaries are post-and -wire fencing, with vegetative features further delineating field boundaries e.g., shrub hedgerow, rough grassland, ruderal herb stands, scrub and tree shelterbelt. Linear features at field boundaries such as the woodland habitats have wildlife value, both as corridors in an intensively managed landscape, and as habitats for birds and small animals.

Geology and soils

Tailend Moss Local Geodiversity Sites (LGS) borders the westbound carriageway within the scheme extents. The importance of this site is reflected in the fact that it is both a Scottish Wildlife Trust Reserve and a SSSI and is one of the few remaining raised peat bogs in West Lothian.

The M8 within the scheme extents is not located within a Geological Conservation Review Site (GCRS).

The National Soil Map of Scotland online mapping tool records that the Generalised Soil Type and Major Soil Group within the study area is Alluvial soils and Brown soils.

The British Geological Survey online mapping tool records that the superficial geology underlying the scheme extents is comprised of:

- Peat (peat).
- Superficial Deposits (sediment).

- Glaciofluvial Ice Contact Deposits (gravel, sand and silt).
- Alluvium (clay, silt, sand and gravel).
- Till, Devensian (diamicton).

The bedrock geology underlying the scheme extents is comprised of:

- Hopetoun Member (sedimentary rock cycles, Strathclyde group type).
- Midland Valley Sill-Complex (quartz-microgabbro).

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

Material assets and waste

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

- TS2010 10mm Surface Course Site Class 1/2,
- EME2 14mm,
- AC20 dense binder,
- AC32 Base Material Tack/Bond coat,
- Paving Grade Bitumen,
- Crack sealing,
- Thermoplastic road markings, and
- Embedded and surface mounted road studs.

As the value of the scheme is greater than £350,000, a Site Waste Management Plan (SWMP) is required for these works.

The scheme involves removal of the surface course and localised areas of base and binder course. Approx. 2,221 tonnes of bituminous material (European Waste Catalogue Code: 17 03 02) will be removed from site, approx. 760 tonnes of which is classified as hazardous material containing coal tar.

Noise and vibration

Receptors – refer to ‘Population and Human Health’.

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

The night-time modelled noise level (Lngt), within the scheme extents, ranges between 70 and 75 decibels, with levels dropping to between 50 and 55 decibels at the nearest NSR (residential property) (Scotland’s Noise Scotland’s Environment).

Baseline noise levels are mainly influenced by vehicles travelling along the trunk road. Secondary sources are likely derived from vehicles travelling along the local road network and day-to-day agricultural land management activities.

The Glasgow to Edinburgh railway is spanned by the motorway within the scheme extents. Therefore, train movements will also have an impact.

Population and human health

Six properties lie within 300m of the scheme including business and residential properties. The closest properties relate to a business premises located approx. 50m southeast of the scheme, which receives very limited screening from a hedgerow bordering the M8 at this location. The nearest residential property is located 140m north of the motorway and receives partial screening from the topography of the intervening field and roadside shelterbelt. Of note a Premier Inn Hotel is located approx. 280m northwest of the scheme and is screened by woodland (approx. 200m wide).

The remaining receptors receive good screening provided by a combination of roadside tree shelterbelt, woodland, raised roadside embankment, topography, and distance from the scheme.

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

Street lighting is absent throughout the scheme.

The M8, within the scheme extents, is a two-lane motorway with continuous hard shoulder and national speed limit applying throughout. The Annual Average Daily Flow (AADT) is high (69,241 motor vehicles (ID: 80499, 2023 data)) (Road Traffic Statistics) and is comprised of:

- 170 two-wheeled motor vehicles,
- 47,911 cars and taxis,
- 385 bus and coaches,
- 14,945 Light Goods Vehicles (LGVs), and
- 5,830 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 there are no classified surface waterbodies within 300m of the scheme extents.

Ten small minor unclassified surface waterbodies, considered to be drainage channels, small watercourses or ponds lie within 300m of the scheme extents. Details are as follows:

- Drain1 – is culverted beneath the motorway within the scheme extents and flows into Pond1 located approx. 25m north of the scheme. The culvert of Drain1 extents approx. 3m either side of the carriageway and is separated by a kerbline grass verge.
- Pond1 – is located approx. 25m north of the scheme.
- Drain2 - lies approx. 35m north of the scheme extents.
- Drain3 – lies approx. 45m north of the scheme extents (at the nearest point) and is culverted beneath the motorway 220m west of the scheme.
- Pond2 – is located approx. 80m south of the scheme extents.
- Bog Burn – is located approx. 90m north of the scheme extents (at the nearest point).
- Drain4 – is located approx. 110m south of the scheme.
- Drain5 – is located approx. 130m south of the scheme and flows into Pond2.
- Pond3 – is located approx. 220m northeast of the scheme extents.
- Pond4 – is located approx. 270m north of the scheme extents.

All the waterbodies are too small (in terms of catchment area) to be classified as a main stem waterbody by SEPA under the WFD.

A search of the SEPA Flood Map online mapping tool shows that an approx. 250m stretch of the motorway within the southern scheme extents is at a high to medium risk of surface water flooding (e.g., each year this area has a 0.5% - 10% chance of flooding).

A search of the 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 SE online mapping tool 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_2 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 during construction. 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 (ten nights). 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

Tailend Moss SSSI (EU Site Code: 135258) and LNCS borders the westbound carriageway within the scheme extents. However, the works will be restricted to the trunk road carriageway and will be undertaken over a short duration. With mitigation measures detailed below being implemented, the risk of impacts will be further reduced. Therefore, the works are not expected to result in any impacts to the SSSI or LNCS.

A temporary short-term increase in noise levels may cause disturbance to local wildlife if present in the vicinity of the works. Disturbance to local wildlife may occur through the use of plant, vehicles and NRMM which will emit noise and create vibrations. In addition, the works will also require delivery of materials, the use of temporary artificial lighting and the presence of personnel to facilitate the improvements to the road surface, which could result in disturbance. 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, furthermore, the scheme is of short duration (ten nights) and will be undertaken on a rolling programme. As such, with the below mitigation being implemented, the potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.

No INNS have been recorded within the trunk road boundary of the scheme extents. Of lesser importance, invasive native species rosebay willowherb has been recorded along the verge within the scheme extents, however given that the works are restricted to the carriageway boundary, there is no likelihood of impact from this 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 Tailend Moss SSSI and LNCS.
- Given the presence of rosebay willowherb along the verge within the scheme extents, Toolbox Talk TTN-009 Working with Injurious Weeds & Invasive Plants will be briefed to all site personnel prior to the commencement of works.
- 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., Tailend Moss SSSI / LNCS, 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 laydown areas), works will be temporarily halted until the animal(s) move at least 50m away from the construction site, or until BEAR’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 to move away from the disturbance.

- The works are not permitted to disturb or destroy any active birds nests. If an active birds nest is identified onsite that will be impacted by works, the Environmental Team will be contacted.
- 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.

Geology and soils

Road schemes have the potential to impact upon the geology and soils through direct and indirect impacts on sensitive sites, loss or sterilisation of mineral deposits or soil resources, disturbance of contaminated land, or surcharging of ground which may accelerate erosion and subsidence.

Tailend Moss Local Geodiversity Site (LGS) borders the westbound carriageway within the scheme extents. However, works are minor in nature and relates to carriageway resurfacing, with all works restricted to made/engineered ground on the M8 carriageway.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on geology and soils 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 geology and soils.

Proposed mitigation measures:

- Site personnel will be made aware of the sensitivity and proximity of Tailend Moss LGS and no waste, vehicles, ancillary plant, NRMM and fuels will be stored within the boundary of the LGS.
- Works will be restricted to made/engineered ground on the M8 carriageway as far as reasonably possible.
- Any areas of exposed soil/bare earth/damaged verge as a result of construction works will be reinstated and re-seeded once the works are complete.

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.

Approximately 760 tonnes of bituminous material classified as hazardous due to the presence of coal tar will be appropriately processed of in line with Transport Scotland's Guidance Note on dealing with coal tar bound arisings (Coal Tar Guidance).

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. 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.
- For removal of coal tar contaminated plannings the following will be undertaken:
    - Coal tar contaminated road planings will be classified as Special Waste.
    - Special waste consignment notes (SWCN) will be obtained from SEPA to allow the movement of the contaminated planings.
    - 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 to an appropriate waste recovery facility and accompanied by a SEPA-issued consignment note or code. The approx. 760 tonnes being disposed of 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
    - SEPA will be notified at least 72 hours before (and no longer than one month before) Special Waste leaving site.
    - Waste will be transported in a safe and secure manner to prevent the release of contaminated material en-route.
- 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/2008061), the rules of which will be complied with.
- Designated areas will be identified within which all materials and personnel, including construction compounds, where necessary, 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 their relevant waste regulations. 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 is located approximately 140m north of the scheme extents.

However, the works are not located within a CNMA or CQA, and works will also be completed over ten 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.
- 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. Given the proximity of properties there is potential for noise and vibration however, the closest relate to business properties which are less likely to be occupied during night time working hours. A small number of residential properties and a hotel are found within 300m, as such there is potential for noise and vibration disturbance as well as some limited potential for visual disturbance to these residents and hotel users during the works. However, the works will be of short duration (i.e. over ten nights) and providing mitigation measures detailed below are adhered to the impacts are assessed to be somewhat reduced.

Moreover, TM will only be in place for ten nights (when traffic flows will be at a minimum), as such 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 during construction 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, Premier Inn Livingston (Bathgate) Hotel 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 at least seven days in advance.
- 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.

- Journey planning information must be available for drivers online at the trafficscotland.org website. Journey planning information must also be available for drivers online through BEARs social media platforms.

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 surrounding waterbodies such as the unclassified waterbodies within close proximity to the scheme.

Four out of the ten small minor unclassified surface waterbodies found in the study area lie within 50m, these relate to, Drain1, Pond1, Drain2 and Drain3. Drain1 is culverted beneath the motorway within the scheme extents and flows into Pond1 located approx. 25m north of the scheme, and Drain2 and Drain3 are located approx. 35m and 45m north of the scheme respectively. As such, unmitigated, there is potential for pollution/run-off to enter these watercourses during the works.

However, no ‘in-water’ works are required, therefore there will be no change in the hydrological regime or water quality within surrounding waterbodies. There is also no requirement for the abstraction or transfers of water from, or discharges to a waterbody. The potential for direct or indirect pollution incident to a waterbody is considered unlikely e.g., experience gained from BEAR maintenance schemes elsewhere on the network has shown that where standard best working practice is adopted (e.g., adherence to SEPA GPPs, 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:

- Site operatives will be made aware of the location and proximity of Drain1, Pond1, Drain2 and Drain3.
- If any works are identified that would require entering a waterbody, 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 surrounding waterbodies will not be 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 protected (e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect these periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris as necessary.
- 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 surface waterbodies, 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 will 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.
- On completion of resurfacing operations, any gullies present on site will be visually checked to ensure they have not become blocked as a result of the scheme.

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 M8 within the scheme extents upon completion of the works.

Works are restricted to areas of made ground on the M8 carriageway surface, with access to the scheme gained via the M8 mainline. TM will employ a full road closure with signed diversion. There are no NMU or community facilities with connectivity to the scheme. As such, the proposed works' 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.

A search using the Scottish Road Works Commissioner identified no planned roadworks with connectivity or within 300m of the scheme extents.

- M8 Westbound Junction 3a On-Slip from Junction 3, Bathgate, starting between 31/03/25 - 08/04/25 for five working days involving M8 westbound road closure.

However, the works will not be undertaken simultaneously. The M8 1 Mile Prior to Jct 3A WB resurfacing scheme will be completed before the bridge works on the M8 WB Junction 3a On-Slip from Junction 3 will be undertaken. Additionally both sets of works are being carried out off peak and are therefore not expected to have a significant impact.

In addition, a search using West Lothian Council Planning Portal identified four planning applications within 300m of the scheme extents within the last two years. Details are as follows:

Table 1: Planning Applications in Last 2 Years

Reference	Proposal	Status	Decision	Distance from scheme
0081/FUL/23	External alterations to industrial unit to form additional window and door openings, alterations to yard and installation of LPG tanks and enclosure	Decided	Grant Planning Permission	Approx. 50m north
0377/FUL/23	Engineering works and importation of material (in retrospect)	Decided	Grant Planning Permission	Approx. 95m south
0166/CLU/23	Certificate of lawfulness for a proposed attic conversion and extension to rear of house	Decided	Grant Certificate of Lawfulness-Existing	Approx. 120m north

Two of the above planning applications relate to retrospective planning permissions for completed work and as such there is no potential for cumulative impacts. While it is not possible to gain an understanding on the timing or duration of the above planning application for alterations to the industrial unit, it is considered that even in the event that these works were being progressed at the same time as the planned BEAR Scotland resurfacing works, given the small scale nature of the planning

application, coupled with the minor nature of the BEAR Scotland resurfacing works over a short duration (ten nights), 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 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 (EIA) is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken and review of available information has not identified the need for a statutory EIA.

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

Characteristics of the scheme:

- Works are restricted to like-for-like replacement of worn/damaged road surface, with all works restricted to made ground on the M8 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 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.

Location of the scheme:

- The scheme is not situated within 2km of, and does not share connectivity with, a European Site designated for biodiversity features e.g., SAC, SPA, Ramsar.
- Tailend Moss SSSI (EU Site Code: 135258) and LNCS borders the westbound carriageway within the scheme extents. However, the works are not expected to result in significant disturbance.
- Tailend Moss LGS borders the westbound carriageway within the scheme extents. However, works are restricted to made/engineered ground on the M8 carriageway therefore effects are expected to be negligible adverse in magnitude.
- 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 does not lie within any sites designated for geology or soils
- 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 ten 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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