

EC DIRECTIVE 2011/92/EU (as amended)

ROADS (SCOTLAND) ACT 1984 (Environmental Impact Assessment) Regulations 2017 (as amended)

RECORD OF DETERMINATION

Name of Project:

M74 Junction 6 Southbound

Location:

The scheme is located in between Hamilton and Motherwell, falling within the region of South Lanarkshire. The National Grid References are:

- Scheme start: NS 73762 55407
- Scheme end: NS 74691 54459

The length of the scheme is approximately 1.4km with an area of approximately 13,253m².

Description of Project:

The works are required to repair a section of damaged carriageway along the M74 Junction 6 southbound (SB) carriageway. The main driver for this scheme is due to severe crazing and longitudinal cracking which suggests structural failure of the carriageway. This also indicates the surface course is approaching the end of its serviceable life.

The works will consist of an inlay treatment of TS2010 road surfacing throughout the length of the scheme including the hard shoulder; AC20 binder and AC32 base will be utilised in areas of deeper treatment, to repair the defective road surface. Carriageway siding out and filter drain works are also included as part of the works.

The package of works is set to take place in March 2021 for the duration of ten working nights. Operating hours will be between 20:00 and 06:00. South Lanarkshire Council's Environmental Health Team were contacted regarding the required works and provided no comment.

Traffic management will involve lane closures to achieve the works, the carriageway will remain open at all times.

Please see Appendix 1 for a Location Plan and Scheme Extents drawing.

Description of Local Environment:

The following baseline descriptions have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of sensitivity.

1. Population and Human Health

The scheme is found east of Hamilton and west of Motherwell. Areas of woodland and agricultural land encompasses the stretch of the carriageway.

There are no provisions for pedestrian, cyclists or community facilities within proximity of the scheme.

Residential properties exist within 300m of the scheme extents, of which the closest is found on Valleyfield Crescent at an estimated distance of 65m south.

Traffic count in 2018 accounted for 23,767 vehicles per day, with an average of 20.3% heavy goods vehicle. A rail line travels below the carriageway within the scheme extents.

The day and night modelled noise level (Lden) for the carriageway along the route of the scheme ranges from 75dB and over whereas the night only modelled noise level (Lnight) ranges between 70dB and 75dB¹.

The scheme does not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan, Road Maps².

2. Biodiversity

Areas of woodland and agricultural land encompasses this stretch of the carriageway.

A desktop study using Nature Scot's Sitelink Map³ highlights Clyde Valley Woods designated as a Special Area of Conservation (SAC) located approximately 1.1km west of the M74 carriageway. There are no direct connections to the SAC from the construction site (i.e. watercourses) which are likely to affect the designated site.

Amey's Invasive Non-native Species (INNS) Database does not highlight any INNS within proximity of the scheme location.

Field Survey

The area of woodland found north of the carriageway spans over 1km before reaching the town of Motherwell. Avon Water exists within this area of woodland, located approximately 220m from the carriageway.

A field survey was undertaken on 3rd February 2021 by the Environmental and Sustainability (E&S) Team to determine the requirement for protected mammal species licensing, under the Wildlife and Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Conservation (Natural Habitats, &c.) Regulations 1994, Wildlife and Natural Environment (Scotland) Act 2011 and the Protection of Badgers Act 1992.

The woodland surveyed was sparse and narrow in places, primarily composed of young to semi-mature trees (sycamore, ash, hawthorne, spruce). Areas of flat ground towards the end of the scheme extents were boggy and waterlogged with tussocks of tall grass. Unsuitable for badger.

¹ <https://noise.environment.gov.scot/noisemap/> (Accessed 03/01/2021)

² <https://consult.gov.scot/transport-scotland/transportation-noise-action-plan-2019-2023/> (Accessed 03/01/2021)

³ <https://sitelink.nature.scot/map> (Accessed 03/01/2021)

Description of Local Environment:	
There were no major watercourses noted during the survey, only minor burns which passed under the carriageway via culverts/pipes. These watercourses were narrow, shallow and murky, and void of cover and aquatic life. They were therefore deemed to provide little value for semi-aquatic protected mammals (i.e. otter, water vole).	
3.	<p>Land</p> <p>The trunk road footprint consists of two northbound and southbound lanes, separated by a central reservation, with a hard shoulder.</p> <p>On site work activities will be confined within the M74 carriageway boundary and will not require access over any private or community land.</p>
4.	<p>Soil</p> <p>The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS)⁴ or geologically designated SSSIs⁵.</p> <p>The National Soil Map of Scotland⁶ identifies the local soils at the southern extents to consist of brown earths.</p> <p>A desktop study using the British Geological Survey Map⁷ has identified local geology types as the following:</p> <p>Bedrock Geology</p> <ul style="list-style-type: none"> Scottish Coal Measures Group - Mudstone, Siltstone, Sandstone, Coal, Ironstone and Ferricrete. Sedimentary Bedrock formed approximately 309 to 313 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas. <p>Superficial Deposits</p> <ul style="list-style-type: none"> Alluvium - Clay, Silt and Sand. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by rivers.
5.	<p>Water</p> <p>There are no waterbodies within the scheme extents. Avon Water is located approximately 220m north of the scheme. SEPA has classified this waterbody with an overall status of moderate and an ecology status of moderate⁸.</p> <p>The Indicative River & Coastal Flood Map⁹ by SEPA highlights the carriageway to be at risk of surface water flooding.</p>

⁴ <https://www.google.com/maps/d/viewer?mid=1HfclRWclTRxXUZWNARManI-PUhE&ll=57.74680670722851%2C-5.313263556249922&z=6> (Accessed 03/01/2021)

⁵ <https://gateway.snh.gov.uk/sitelink/searchmap.jsp> (Accessed 03/01/2021)

⁶ http://map.environment.gov.scot/Soil_maps/?layer=1 (Accessed 03/01/2021)

⁷ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Accessed 03/01/2021)

⁸ <https://www.sepa.org.uk/data-visualisation/water-classification-hub/> (Accessed 02/10/2020)

⁹ <http://map.sepa.org.uk/floodmap/map.htm> (Accessed 02/10/2020)

Description of Local Environment:

Drainage is provided by top entry recessed gullies in the nearside kerb line of the hard shoulder. Filter drainage is also present along the grass verge throughout the full length of the scheme.

6. Air

Residential properties exist within 300m of the scheme extents, of which the closest is found on Valleyfield Crescent at an estimated distance of 65m south.

Traffic count in 2018 accounted for 23,767 vehicles per day, with an average of 20.3% heavy goods vehicle. A rail line travels below the carriageway within the scheme extents.

The scheme location does not fall within any of South Lanarkshire Council's declared Air Quality Management Areas¹⁰.

7. Climate

The Climate Change (Scotland) Act sets out the target and vision set by the Scottish Government for tackling and responding to climate change. The Act includes a target of reducing CO2 emissions by 80% before 2050 (from the baseline year 1990).

Amey, working on behalf of Transport Scotland, undertake carbon monitoring. Emissions from our activities are recorded using Transport Scotland's Carbon Management System.

To support the journey towards carbon neutral and zero waste, Amey include potential opportunities for enhancement utilising circular economy principals within assessment of material assets.

8. Material Assets

Activity	Material Required	Origin/ Content
Site Construction	<ul style="list-style-type: none"> • TS2010 Surface (bitumen and aggregate) • Road Paint / studs • AC32 / AC20 Binder and Base • Filter drain stones 	<p>A proportion of reclaimed asphalt pavement (RAP) is used in asphalt production. Typical RAP values for base and binder are 10% - 15% with up to 10% in surface course.</p> <p>TS2010 Surface Course 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 sources¹¹.</p>

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	<ul style="list-style-type: none"> • Road Planings 	Uncontaminated road planings generated as a result of the works will be fully recycled

¹⁰ <http://www.scottishairquality.scot/laqm/aqma> (Accessed 02/10/2020)

¹¹ Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)

Description of Local Environment:		
	<ul style="list-style-type: none"> • Existing filter drain stones • Excavated soils • Excavated dirt and drainage waste 	<p>in accordance with the criteria stipulated within SEPA document 'Guidance on the Production for Fully Recovered Asphalt Road Planings'¹².</p> <p>Existing filter stones should be re-used where possible to reduce waste and the cost of transport for new materials.</p> <p>A core report has yet to be received.</p> <p>Coal Tar contain high levels of Benzo (a) pyrene.</p> <p>Any waste containing coal tar will be classed as special waste. This will require landfill disposal to a site capable of accepting coal tar contaminated waste.</p> <p>The disposal of special waste is also subject to obtaining a SEPA consignment note and providing advance notice of at least three days prior to any waste movement.</p>
<p>9. Cultural Heritage</p> <p>A desktop study using PastMap¹³ does not identify any protected features of cultural heritage within proximity of the scheme location.</p>		
<p>10. Landscape</p> <p>The works are located within a semi-urban area of the A82, with the surrounding environment consisting of residential properties, small areas of woodland and a quarry. The A82 within the scheme extents does not fall within any designation for landscape quality or character.</p>		

Description of the main environmental impacts of the project and proposed mitigation:	
<p>The following environmental impacts have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of impact severity. Construction and operational impacts, including impact on Policies and Plans, are covered within each environmental topic heading where applicable.</p>	
<p>1. Population and Human Health</p> <p>1.1 Impacts</p>	<ul style="list-style-type: none"> • Given the night-time programming of the works, residential properties nearby may experience a level of disturbance;

¹² SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings

¹³ <https://pastmap.org.uk/> (Accessed on 13/01/2021)

Description of the main environmental impacts of the project and proposed mitigation:

- TS2010 will be utilised for resurfacing purposes, which is shown to have superior durability compared to standard road mixes;
- Reduced reoccurring routine maintenance and associated levels of disruption due to TS2010 durability and;
- TS2010 will afford benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result, ambient noise levels may decrease post construction¹⁴.

1.2 Mitigation

- Properties within proximity of the scheme, will be notified prior to the works starting; detailing the nature, timings and duration of works along with traffic management arrangements.
- Operatives will be briefed with the Noise and Vibration toolbox talk before starting works (see Appendix A below).
- Effects from noise should be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery.
- All exhaust silencers will be checked at regular intervals to ensure efficiency.
- Artificial site lighting shall be directional and pointed away from residential areas.
- Switching off plant and vehicle when not in use.

It has been determined that the proposed project will have slight temporary impact to population and human health.

2. Biodiversity

2.1 Impacts

- Artificial site lighting may disturb foraging habits of local nocturnal species.
- Significant effects on the Natura 2000 site are unlikely.

2.2 Mitigation

- It is an offence to intentionally kill, injure or take (capture) a protected species; Operatives will be vigilant for potential presence of protected species. If a protected species is sighted within proximity to the works location, work will be temporarily suspended, until it has moved on. Any sightings will be reported to the Environmental and Sustainability team.
- Safe storage of oil, fuels and other potential pollutants or poisonous materials on site.
- Ramping of any trenches or excavations to avoid entrapment.
- On site light sources will be kept to a minimum, and only used as required. When in use, any artificial light should be pointed down and directed at the area of works as far as reasonably practicable, reducing any light spill into the wider surroundings including to nearby sensitive areas.

It has been determined that the proposed project will not have direct or indirect significant effects to biodiversity.

3. Land

The works will be kept to the existing M74 carriageway boundary and will not require or prevent access to private or community land out.

¹⁴ Transport Scotland TS2010 Specification and Guidance Issue 03, October 2015 (as amended)

Description of the main environmental impacts of the project and proposed mitigation:

It has been determined that the proposed project will not have direct or indirect significant effects to land.

4. Soil

Excavation of the grass verge will be required in order to replace and repair filter drains. Where possible excavated soils will be reused for backfilling purposes.

It has been determined that the proposed project will not have direct or indirect significant effects to soil.

5. Water

5.1 Impacts

- If not adequately controlled, debris and run off from the works could be suspended in the surface water, in the event of a flooding incident, this debris may be mobilised and could enter the road drainage having a detrimental effect on the surrounding local water environment;
- Potential for spills, leaks or seepage of fuels and oils associated with plant to escape and reach drainage systems and watercourses, if not controlled;
- Drainage improvements may contribute to reducing the likelihood of surface water flooding, possibly resulting in reduced rates of accidents due to water build-up, especially in harsh weather.

5.2 Mitigation

- Appropriate measures will be implemented onsite to prevent any potential pollution to the natural water environment (e.g. debris, dust and hazardous substances). This will always include spill kits being present onsite, the use of funnels and drip trays when transferring fuel, the use of drain covers.
- Visual pollution inspections of the working area will be conducted frequently, especially during heavy rainfall and wind.
- Weather reports shall be monitored prior and during all construction activities. In the event of adverse weather / flooding events, all activities should temporarily stop, and only reconvene when deemed safe to do so, and run-off / drainage can be adequately controlled to prevent pollution.
- Debris and dust generated as a result of the works must be prevented from entering the drainage system. This can be via the use of drain covers or similar.
- Oil, fuels and other potential pollutants or poisonous materials will be stored safely on site to prevent spillages;
- Best practice, as detailed by SEPA's Guidance for Pollution Prevention (GPPs), will always be followed onsite. This will ensure that any potential sediments / spills are not allowed to enter road drainage unchecked.

The installation of the new sub-surface drainage system will be connected to an existing drainage system, therefore, under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR regulations), the scheme does not require any form of registration or license.

It has been determined that the proposed project will not have direct or indirect significant effects to water.

Description of the main environmental impacts of the project and proposed mitigation:

6. Air

6.1 Impacts

- The use of vehicles and plants emitting carbon emissions may temporarily affect air quality and will require the use of finite resources.
- On site construction activities carry a potential to produce airborne particulate matter that may have a slight impact on local air quality levels.

6.2 Mitigation

- Best practice measures will to be adopted for the duration of the scheme. Best practice measures will include but not be limited to:
 - Vehicle and plant servicing/checks as per manufacturing and legal requirements;
 - Adoption of drive green techniques;
 - Route preparation and planning.
 - When not in use plant and vehicle will be switched off.

It has been determined that the proposed project will not have direct or indirect significant effects to air quality.

7. Climate

7.1 Impacts

- Greenhouse gas emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials).

7.2 Mitigation

- Where possible local suppliers will be used as far as practicable to reduce travel time and greenhouse gas emitted as part of the works;
- Vehicles / plant shall not be left on when not in use to minimise and prevent unnecessary emissions being emitted.
- Further actions and considerations for this scheme are detailed in section 8 Material Assets.

It has been determined that the proposed project will not have direct or indirect significant effects to climate.

8. Material Assets

8.1 Impacts

- Contribution to resource depletion through use of virgin materials,
- Greenhouse gas emissions generated by material production and transporting to and from site,
- Special waste disposal may be required, if tar is present.

8.2 Mitigation

- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications to reduce natural resource depletion.
- Uncontaminated road planings generated will be recovered by a licenced contractor for reuse and / or recycling in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'.

Description of the main environmental impacts of the project and proposed mitigation:

- The chosen material TS2010 Surface Course 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.
- Any waste containing coal tar will be classed as special waste. This will require landfill disposal to a site capable of accepting coal tar contaminated waste.
- The disposal of special waste is also subject to obtaining a SEPA consignment note and providing advance notice of at least 3 days prior to any waste movement.
- Filter stone arising from the works are fully re-usable and are able to be used on future projects either as replacement material or as a component in other structures.

Circular Economy

The design life for the TS2010 surfacing proposed is estimated to be 20 years. This will reduce the requirement for maintenance to this section of road over the period.

It has been determined that the proposed project will not have direct or indirect significant effects to the consumption of material assets or disposal of waste.

9. Cultural Heritage

It has been determined that the proposed project will not have direct or indirect significant effects to features of undiscovered cultural heritage.

10. Landscape

The M74 within the scheme extents does not fall within any designation for landscape quality or character.

Views of, and from, the road will be temporarily affected during construction due to the presence of works, traffic management and plant. As the works are operating on a like-for-like basis, no permanent changes to landscape features are predicted.

It has been determined that the proposed project will not have direct or indirect significant effects to landscape.

11. Vulnerability of the Project to Risks

As the works will be limited to the like-for-like replacement of the carriageway pavement, 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.

An improved filter system will lead to faster drainage of the carriageway and less prone to flooding. Therefore, the likelihood of road accidents are reduced, particularly in harsh weather, and the scheme will provide an overall benefit for road users.

Extent of EIA work undertaken and details of consultation:

The following environmental parameters have been considered within this Record of Determination:

- Population and Human Health
- Biodiversity
- Land
- Soil
- Water
- Air
- Climate
- Material Assets
- Cultural Heritage
- Landscape

The following statutory organisations have been consulted:

- South Lanarkshire Council's Environmental Health Team have been notified of the proposed works.

The following environmental surveys / reviews have been undertaken:

- A field survey was undertaken on 3rd February 2021.
- A design Initial Environmental Review of the scheme, undertaken by the Environmental and Sustainability Team at Amey in January 2021.

Statement of case in support of a Determination that a formal EIA and Environmental Impact Assessment Report is not required:

The works are considered to constitute a relevant project falling within Annex II as referred to in the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended), since they 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). Screening using Annex III criteria, reference to consultations undertaken and review of available information has identified there is no need for a full EIA.

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

Characteristics of the scheme:

- Construction activities are restricted to the 13,253m² / 1.3ha area of existing carriageway.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA.
- Uncontaminated road planings will be fully recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.

- The design option (replacing the defective surfacing) conveys sustainability benefits by significantly reducing the quantity of maintenance interventions required at the location over approximately 20 years.

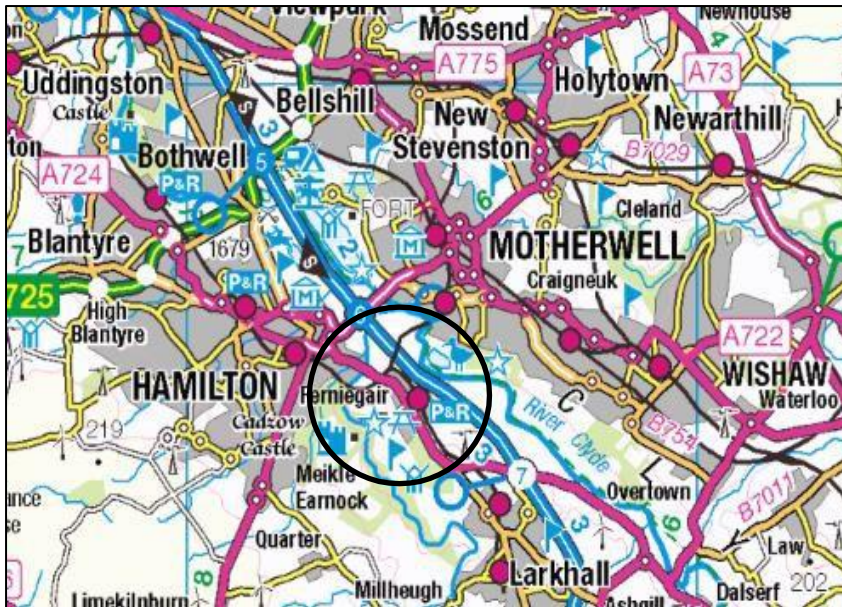
Location of the scheme:

- The scheme will be confined within the existing carriageway boundaries and as a result will not require any land take and will not alter any local land uses.
- The scheme is not situated in whole or in part in a “sensitive areas” as listed under regulation 2 (1) of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).

Characteristics of potential impacts of the scheme:

- As the works will be limited to the like-for-like replacement of the carriageway pavement and filter drain, 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.
- No significant residual impacts are predicted. Disruption due to construction activities are not expected to be significant and will be mitigated as far as is reasonably practicable.
- The successful completion of the scheme will afford benefits to road users.
- Drainage improvements may contribute to reducing the likelihood of surface water flooding, possibly resulting in reduced rates of accidents due to water build-up, especially in harsh weather.
- The use of TS2010 road surfacing affords the benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result, ambient noise levels should decrease post construction.

APPENDIX 1: SCHEME LOCATION AND EXTENTS



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