EC DIRECTIVE 2011/92/EU (as amended)

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

RECORD OF DETERMINATION

Name of Project:

A77 Burnside to Dowhill

Location:

The scheme is located on a semi-rural section of the A77 approx. 3.2km north of Girvan, South Ayrshire. The National Grid Reference are:

- Scheme start – NS 19906 01559
- Scheme end - NS 20222 03004

The scheme length is approx. 1.5km with a total area of approx. 1.2 hectares.

Description of Project:

The works are required to maintain the safety and integrity of the A77 carriageway. The main driver for this scheme is the proliferation of structural defects in the form of alligator pattern, longitudinal and transverse cracking throughout the scheme extents. In the last 470m of the scheme, surface defects in form of fretting and crazing is also of concern.

Works will involve carriageway surface reconstruction utilising TS2010 treatment to depths of 10mm and 100mm across the full extents of the works. AC20 Binder will be used to a 20mm depth across the scheme.

Construction activities will include:

- Milling of existing bituminous material by road planer;
- Additional bituminous material removed by jack hammer where not accessible by planer;
- Road sweeper to collect any loose material;
- HGV for removal and replacement of material;
- Tack/bond coat laid;
- New bituminous material laid by a paver;
- Material compacted using a heavy roller;
- Road markings and studs will be applied where necessary.

The works are programmed to take place from 19/02/2021 to 26/02/2021. They will take place during night-time hours.

Traffic management will involve the full closure of the carriageway facilitated by an appropriate diversion route.

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 works are located on a semi-rural section of the A77 carriageway to the north of Girvan. The majority of the surrounding environment is made up of agricultural land. There are a number of residential properties within proximity to the scheme, the closest being situated adjacent to the carriageway (southbound lane).

The works do not fall within a Candidate Noise Management Areas (CNMA) as defined by the Transportation Noise Action Plan, Road Maps[1].

Baseline noise at the works location is likely to be primarily influenced by vehicle traffic from the carriageway, local agricultural activities and noise from FMC Biopolymer site.

Access to the local road network, residential properties and FMC Biopolymer is gained directly from the carriageway within the scheme extents.

One parking layby exists at the scheme end.

2. Biodiversity

The works are located along a semi-rural stretch of the A77 carriageway. Agricultural fields dominate the surrounding habitat, with minor areas of intermittent scrub and trees spread throughout the scheme extents.

A desktop study using NatureScot Sitelink[2] has identified Turnberry Dunes (1571) SSSI approx. 1.9km north of the scheme end. This area has been designated for beetle assemblage.

Amey's Invasive Non-native Species Database has highlighted two growths of Japanese knotweed *Fallopia japonica* within the scheme extents.

Given the reduced suitability for features and surrounding land uses, the area has been deemed unfavourable for protected species shelter. The burns and rivers are likely used by otter for passage between more suitable habitats. As a result of this assessment, no field survey was required.

[1] https://noise.environment.gov.scot/action-planning-round-two.html (Accessed on 12/01/2021)
[2] https://sitelink.nature.scot/map (Accessed on 12/01/2021)

Description of Local Environment:
3. Land The trunk road footprint consists of one northbound and one southbound lane. Road verges are vegetated with low lying grass and thin intermittent strips of scrub/trees. A mixture of agricultural fields, an industrial plant and residential properties are present beyond the A77.
4. Soil The National Soil Map of Scotland has highlighted the surrounding local soils to consist of brown earths and noncalcareous gleys[3]. The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS)[4] or geologically designated SSSIs[5]. A desktop study using the British Geological Survey Map[6] has identified major local geology type as the following: • Bedrock geology - Lanark Group - Sandstone and Conglomerate, Interbedded. • Superficial deposits - Raised Marine Deposits - Sand and Gravel.
5. Water Drumbain Burn (unclassified by SEPA) flows under the carriageway towards the middle of the scheme. SEPA's Water Classification Hub Map[7] identifies Girvan coastal water (ID 200015) approx. 160m west of the scheme. This has been given an overall status of 'good'. SEPA Flood Risk Maps[8] has not identified a risk of surface water flooding within the scheme extents. Road drainage consists of a positive system using top entry gullies.
6. Air The A77 is a main route connecting Kilmarnock and Stranraer. Rural land encompasses the scheme location. Average traffic count sits at 3,537 vehicles per day, with an average of 24% heavy goods vehicle. Local air quality is likely to be impacted by road traffic and rural land use activities as well as FMC Biopolymer. No Air Quality Management Areas have been declared by South Ayrshire Council.

[3] http://map.environment.gov.scot/Soil_maps/?layer=1 (Accessed on 12/01/2021)
[4] https://www.google.com/maps/d/viewer?mid=1HfclRWcITRxXUZWNARManI-PUhE&ll=57.74680670722851%2C-5.313263556249922&z=6 (Accessed on 12/01/2021)
[5] https://sitelink.nature.scot/map (Accessed on 12/01/2021)
[6] http://mapapps.bgs.ac.uk/geologyofbritain/home.html (Accessed on 12/01/2021)
[7] https://www.sepa.org.uk/data-visualisation/water-classification-hub/ (Accessed on 12/01/2021)
[8] https://map.sepa.org.uk/floodmap/map.htm Accessed on 12/01/2021)

Description of Local Environment:

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 and Waste

Activity	Material Required	Origin/ Content
Site Construction	• TS2010 Surface (bitumen and aggregate) • Road Paint/studs • AC20 Binder	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. 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[9].

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	• Road Planings	Road planings generated as a result of the works will be fully recovered in accordance with the criteria stipulated within SEPA document 'Guidance on the Production for Fully Recovered Asphalt Road Planings'[10]. 24 cores were tested, none of which contained coal tar. Special waste disposal will not be required.

[9] Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)
[10] SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings

Description of Local Environment:
9. Cultural Heritage A desktop study using PastMap[11] has identified the following feature of cultural heritage within proximity of the works: • Dowhill Mount,Dun And Earthwork (SM5595) is a scheduled monument approx. 60m east of the scheme extents.
10. Landscape A desktop study using PastMap[12] and Nature Scot Sitelink[13] online interactive map has not highlighted any areas designated for landscape characteristics within the works location. Historic Environment Scotland's HLAMap[14] has highlighted the surrounding landscapes as Rectilinear Fields and Farms and a small area of Plantation.

Description of the main environmental impacts of the project and proposed mitigation:
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.
11. Population and Human Health 11.1 Impacts • The layby parking will not be available during works. • Access to residential properties, local road network and FMC Biopolymer will be temporarily restricted during the work; • Traffic management will involve a full closure of the A77 carriageway within the scheme extents; • TM arrangements may cause delays to road users and increase congestion on local roads; • TS2010 road surfacing is shown to have superior durability and noise reducing features compared to standard road surfacing mixes; thus preventing the need for reoccurring routine maintenance and associated levels of disruption. 11.2 Mitigation • Given that access to some residential properties is gained via the carriageway, the property will be notified in advance of the timing, nature and duration of the works, as well as any contacts to obtain access as necessary. • The road closures/restrictions will be widely publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers. • Local access will be granted by site operatives as and when required.

[11] https://pastmap.org.uk/map (Accessed on 12/01/2021)
[12] http://pastmap.org.uk/ (Accessed on 12/01/2021)
[13] https://sitelink.nature.scot/map (Accessed on 12/01/2021)
[14] https://map.hlamap.org.uk/ (Accessed on 12/01/2021)

Description of the main environmental impacts of the project and proposed mitigation:
• South Ayrshire Councils Noise team have been notified of these works (13/01/21), the council have responded and have no comment. • Effects from noise will 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 will be directional and pointed away from residential properties, The residual impact to population and human health is considered negligible. Upon completion, the works will have a slight beneficial impact for all road users. It has been determined that the proposed project will not have direct or indirect significant effects to Population and Human Health.
12. Biodiversity 12.1 Impacts • Works have the potential to spread the invasive plant Japanese knotweed. 12.2 Mitigation • Operatives will be briefed in advance of the location of the Japanese knotweed and with the relative toolbox talk. If appropriate, an exclusion zone will be set up to prevent access. • No machinery, traffic management, or site operatives will enter the verge within the vicinity of the Japanese knotweed. • If any protected species are sighted within the works area, all works will temporarily halt until the animal has moved on. Any sightings will be reported to the E&S Team. • Operatives will be briefed with protected species toolbox talk. No residual impact is predicted to local biodiversity. It has been determined that the proposed project will not have direct or indirect significant effects to Biodiversity.
13. Land The works will be kept to the existing A77 carriageway boundary and will not require access to private or community land. Plant, materials and any temporary storage will be kept to the made carriageway surface only. It has been determined that the proposed project will not have direct or indirect significant effects to land.
14. Soil The works will be kept to the existing carriageway and soils shall not be impacted. It has been determined that the proposed project will not have direct or indirect significant effects to soil.
15. Water 15.1 Impacts • If not adequately controlled, debris and run off from the works could be transported into the watercourse below the scheme.

Description of the main environmental impacts of the project and proposed mitigation:
• Potential for spills, leaks or seepage of fuels and oils associated with plant to escape and reach drainage systems and watercourses, if not controlled. 15.2 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 readily available onsite, the use of funnels and drip trays when transferring fuel, the use of drain covers. • Oil, fuels and other potential pollutants or poisonous materials will be stored safely on site. • Visual pollution inspections of the working area will be conducted frequently, especially during heavy rainfall and wind. • Weather reports will be monitored prior and during all construction activities. In the event of adverse weather / flooding events, all activities will temporarily stop, and only reconvene when deemed safe to do so, and run-off / drainage can be adequately controlled to prevent pollution. • 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. It has been determined that the proposed project will not have direct or indirect significant effects to water.
16. Air 16.1 Impacts • The use of vehicles and plant emitting carbon emissions may temporarily affect air quality. • On site construction activities carry a potential to produce airborne particulate matter that may have a slight impact on local air quality levels. 16.2 Mitigation • Best practice measures will to be adopted for the duration of the scheme. Best practice measures will include but not 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. • Planing operations will be wetted to reduce dust arising. • Drop heights to haulage vehicles and onto conveyors will be minimised. • Lorries will be sheeted when carrying dry materials. • Surfaces will be swept where loose material remains following planing. It has been determined that the proposed project will not have direct or indirect significant effects to air quality.
17. Climate 17.1 Impacts • Greenhouse gas emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials).

Description of the main environmental impacts of the project and proposed mitigation:
17.2 Mitigation • Where possible local suppliers will be used as far as practicable to reduce travel time and greenhouse gases 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.
18. Material Assets 18.1 Impacts • Contribution to resource depletion through use of virgin materials, • Greenhouse gas emissions generated by material production and transporting to and from site, • Transportation and recovery of planings will require energy deriving from fossil fuel, • Limited quantity of waste from sweeping will arise requiring disposal. 18.2 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. • 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'. • 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. • Road sweeping waste will be treated at a licenced facility to separate useful materials such as stone/aggregate as far as reasonably practicable, recovering this waste and diverting it from landfill. <u>Circular Economy</u> 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.
19. Cultural Heritage Given the restriction of the works to the existing carriageway and the distance separating works from the above highlighted feature of cultural heritage, no impact is predicted. It has been determined that the proposed project will not have direct or indirect significant effects to Cultural Heritage.

Description of the main environmental impacts of the project and proposed mitigation:
20. Landscape Works will be like for like in nature and will not have any lasting visual change. Views of and from the road will be impacted by the presence of traffic management, plant and vehicles during construction. This is predicted to be a slight temporary impact locally, with no permanent change to views following the completion of works. It has been determined that the proposed project will not have direct or indirect significant effects to Landscape.
21. 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.

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 Ayrshire Council

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), as 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 1.2 ha 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.
- 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, 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.
- 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.

File references of supporting documentation: N/A

APPENDIX 1 : SCHEME LOCATION AND EXTENTS