Transport Scotland

Record of Determination A77 Glen App Improvement Resurfacing

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 Glen App Improvement Resurfacing

Location:

The works are located within the rural setting of South Ayrshire, on both the north and southbound carriageway. The works have the following National Grid References:

- Scheme Start: NX 09275 77498
- Scheme End: NX 09459 78993

The length of the scheme is approx. 1517m, with a total working area of approx. 10,619m^2 (1.06ha).

Description of Project:

The improvement scheme is required to renew worn and damaged road surfacing present within the scheme extents of the A77 carriageway, over both south and northbound lanes. This will address carriageway defects, including widespread fretting and localised areas of potholes between areas of patched carriageway surface.

The existing carriageway surface will be replaced with an inlay treatment using TS2010 Surface to a depth of 30mm throughout the length of the scheme. All road markings shall be replaced in accordance with Traffic Signs Regulations and General Directions 2016.

The works will take place in Summer 2020 and are expected to be completed over the duration of one weekend with night-time operations in order to open the road by Monday 7am.

South Ayrshire Council Environmental Health Department have been notified of planned night time working, however provided no comment.

Traffic management (TM) will involve a full closure of the A77 carriageway at this location. This closure will be facilitated by an appropriate diversion route minimising traffic disruption as far as practicable.

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 A77 at this location falls within the rural environment of South Ayrshire, surrounded by farmland and areas of low lying vegetation. The A77 is the major route connecting Stranraer with Kilmarnock, and providing further access to the M77 and Glasgow. In 2018, the vehicle count per day was 1,657 with an average of 28.5% heavy good vehicle (HGV). This high volume of HGV is thought to be due to connection with Cairnryan Ferry Terminal, which makes the A77 a route of great economic significance. As the scheme is located in a rural environment, the ambient noise levels are primarily influenced by vehicle traffic from the A77 carriageway, with secondary sources possibly including agricultural practices from adjacent farmland activity. No residential properties are located within proximity to the works. Several accesses are present within the scheme extent, which give access to farmland, the local road network, and Auchencrosh converter station. Core Path SA63 meets and crosses the A77 carriageway at the northern extent of the scheme. The scheme does not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan, Road Maps.
2. Biodiversity The works are located within a rural setting of South Ayrshire, surrounded by farmland and areas of low lying vegetation. A desktop study using SNH's Sitelink[1] online interactive map has identified that the works area falls partly within Glen App and Galloway Moors, a Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). The Scotland TranServ Animal Roadkill Database (2000 – 2019) has not highlighted any protected species roadkill within the scheme extents. Scotland TranServ's Invasive Non-native Species Database (INNS) has identified a high number of rhododendron *Rhododendron ponticum* growth within the scheme extents. The INNS are located towards the northern and southern part of scheme extents, within the verge area on both sides of the carriageway. No barrier is present between the INNS growth and the A77 carriageway. These INNS growths have the following National Grid References: • Northbound Growth; - Growth Location: NX 09305 77269 • Southbound Growth; - Section 1 Start: NX 09324 77294 - Section 1 End: NX 09306 77610 - Section 2 Start: NX 09445 78802 - Section 2 End: NX 09660 79552

[1] https://gateway.snh.gov.uk/sitelink/searchmap.jsp (Accessed 06/01/2020)

Description of Local Environment:
3. Land On site work activities will be confined within the A77 carriageway boundary, and will not require access over any private or community land.
4. Soil The scheme is not located within, or within proximity to, any geologically designated SSSIs. The soil composition within the surrounding area consists of peaty gleys and brown earths.
5. Water A desktop study using SEPA's River Basin Management Plan Interactive Map[2] has not identified any SEPA classified watercourses within proximity to the works. Several issues and drains (all unclassified by SEPA) flow below and within proximity to the A77 carriageway within the scheme extents. According to the Indicative River & Coastal Flood Map[3] by SEPA, a small section of the A77 carriageway at the southern extent of the scheme has been identified as being at risk of surface water flooding.
6. Air The A77 is the main connecting route between Stranraer and Kilmarnock, and giving further access to the M77 and Glasgow. As such, air quality is affected by the daily use of the carriageway by road vehicle users. South Ayrshire Council has not declared any Air Quality Management Areas (AQMAs).
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). Scotland TranServ, working on behalf of Transport Scotland, undertake carbon monitoring. Emissions from our activities are recorded using Transport Scotland's Carbon Management System. In addition, Scotland TranServ undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. Actions and considerations for this scheme are detailed in 8 Material Assets.

[2] http://gis.sepa.org.uk/rbmp/ (Accessed 06/01/2020)
[3] http://map.sepa.org.uk/floodmap/map.htm (Accessed 06/01/2020)

Description of Local Environment:

8. Material Assets

Key Materials Required for Activities

Activity	Material Required	Origin/ Content
Site Construction	• TS2010 Surface • Road paint • Road studs	A proportion of reclaimed asphalt pavement (RAP) is used in asphalt production. Typical RAP values for binder is 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 SMA. As a result the use of TS2010 will reduce the usage of imported aggregates, and increase the use of a wider range of sustainable aggregate sources[4].

Note: All materials will be procured in accordance with Balfour Beatty Sustainable Procurement Policy[5].

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	• Road Planings	Road planings generated as a result of the required works will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings.'[6]

9. Cultural Heritage

A desktop study using PastMap [7] has not highlighted any features of cultural heritage within proximity of the works.

10. Landscape

The A77 carriageway within the scheme extents does not fall within an area designated for its landscape quality or character. Surrounding landscape consists of farmland and areas of low lying vegetation.

[4] Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)
[5] http://www.balfourbeatty.com/media/164249/sustainability_procurement_policy_june_2016.pdf (Accessed 06/01/2020)
[6] SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings
[7] https://pastmap.org.uk/map (Accessed 06/01/2020)

Description of Local Environment:
11. Vulnerability of the Project to Risks According to the Indicative River & Coastal Flood Map8 by SEPA, a small section of the A77 carriageway at the southern extent of the scheme has been identified as being at risk of surface water flooding. Drainage measures are provided via presence of filter drains which run adjacent to the carriageway.

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.
1. Population and Human Health 1.1 Impacts • 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. • 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 construction. • Core Path SA63 route may be temporarily impacted by the works. • Traffic management arrangements are anticipated to cause slight levels of disruption to road users including traffic from nearby Cairnryan ferry terminal in the event of day time closures, and has potential to increase traffic levels in the surrounding road networks in the event of a diversion route. 1.2 Mitigation • Operatives will have measures in place to allow pedestrians of all abilities to safely pass by the works. • The road closures/restrictions will be widely publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers. • Advance traffic warning signs will be placed prior to the commencement of works. • In the event of day time closures, Cairnryan ferry terminal will be advised of closures and route restrictions. • Traffic Management will be in accordance with Traffic Signs Manual, Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations. With best practice mitigation measures in place the residual impact to population and human health is considered to be negligible.

[8] http://map.sepa.org.uk/floodmap/map.htm (Accessed 06/01/2020)

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 population and human health.
2. Biodiversity 2.1 Impacts • As works will be strictly limited to the carriageway footprint, and will involve like-for-like replacement of the existing carriageway surface, no impact is predicted to the nearby designated sites and associated features; - Consultation was undertaken with Scottish Natural Heritage regarding working within Glen App and Galloway Moors Special Protection Area and Site of Special Scientific Interest. They concluded that "there should be no damaging impacts on the conservation interests of the site" and therefore no likely significant impacts are predicted to the sensitive area. • Potential for disturbance to bird species from construction noise; • Potential for light pollution from night time working, which may impact nearby species; - Artificial light could confuse birds that migrate or hunt at night by using the moonlight/starlight to navigate, or which depend on cues from properly timed seasonal schedules. Artificial light could cause them to migrate too early or too late and miss ideal climate conditions for nesting, foraging and other behaviours. - Due to short duration of the works risk is considered low. • Potential for INNS to spread if construction works are not effectively controlled. 2.2 Mitigation • Operatives will be briefed on the location of the Rhododendron (please refer to the location map above for reference); • Plant and vehicles will not be parked on the grassland verge to avoid the spreading of INNS. No persons, plant, or vehicles will enter areas of INNS growth; • Construction activities will be restricted to the paved carriageway at all times; • Artificial lighting will be used only as required and directed onto working area, reducing light spill into surrounding areas. • The following toolbox talks will be briefed to all operatives before starting works - Rhododendron - Nesting Birds and Vegetation Clearance With best practice mitigation and pollution control measures in place, the residual impact for biodiversity is considered neutral. It has been determined that the proposed project will not have direct or indirect significant effects to biodiversity.
3. Land On site work activities will be confined within the existing A77 carriageway boundary, and will not require or prevent access to private or community land. It has been determined that the proposed project will not have direct or indirect significant effects to land.
4. Soil

Description of the main environmental impacts of the project and proposed mitigation:
The works are confined to the carriageway, and no areas of soil will be disturbed. As such, no impact to soils is predicted. It has been determined that the proposed project will not have direct or indirect significant effects to soil.
5. Water 5.1 Impacts • Surface water flooding may impact the scheme extent delaying the works; • There is potential for fuel/chemical spillages through the operation of resurfacing and use of various machinery and vehicles, which may affect the water environment if not effectively controlled. Spillages, leaks or seepages of fuel or oils from plant can be hazardous to waterbodies in proximity to the scheme; • Construction works could give rise to fine sediments which may enter nearby drainage which, if allowed to enter into the watercourse unchecked, could cause pollution. • Due to connectivity with designated sites, there is potential for run-off, and thus potential for pollution. 5.2 Mitigation • Spill kits will be replenished and readily available at all times during the construction activities; • Debris and dust generated through the works will be prevented from entering nearby drains; - Roads will be brushed or scraped to reduce dust and debris deposits, and material collected will be disposed of appropriately; - Materials/waste will be stored in designated areas, isolated completely from surface water drains. • Visual pollution inspections of the working site (particularly areas near drainage) will be conducted in frequency, especially during periods of heavy rain and/or wind; • Weather reports will be monitored prior to and during the works with all activities temporarily halting in the event of adverse weather/flooding event. The works should only continue when it is deemed safe to do so and run-off/drainage can be adequately controlled to prevent pollution. Providing all environmental controls will be in accordance with best practice as set out within SEPAs Guidance for Pollution Prevention, and works will operate in accordance with current best practice, and the residual impact for water is considered neutral. It has been determined that the proposed project will not have direct or indirect significant effects to the water environment.
6. Air 6.1 Impacts • The use of vehicles, plants and generators emitting carbon emissions may temporarily affect local 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; • Traffic management may increase congestion and night time noise to local environments. 6.2 Mitigation

Description of the main environmental impacts of the project and proposed mitigation:
• Best practice will be implemented on site including measures to ensure that plant and vehicles are not left idling and all fuel operated equipment is regularly serviced and is not generating excessive fumes. Best practice measures will be followed, the scheme is predicted to have no additional impact to local air quality during construction when compared with average daily vehicle use, with no permanent change predicted. 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, transport and manufacture of materials used. 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; • Materials containing recycled and virgin materials will be utilised as far as practicable to reduce the impacts associated with exploration and production from virgin resources. It has been determined that the proposed project will not have direct or indirect significant effects to climate.
8. Material Assets 8.1 Impacts • Greenhouse gas emissions generated by material production and transporting to and from site; • Contribution to resource depletion through the use of virgin materials. 8.2 Mitigation • Materials will be locally sourced and derived from recycled, secondary or re-used origin as far as practicable within the design specifications to reduce natural resource depletion. • TS2010 SMA allows a wider array of aggregate sources to be considered when compared to typical SMA, resulting in reduced use of imported aggregates, and an increased use of a wider range of sustainable aggregate sources. • 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. • Waste will follow the hierarchy and be reduced, reused and recycled where possible. • Road planings generated will be recovered by a licenced contractor for reuse and / or recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'. <u>Circular Economy</u> The design life for the TS2010 SMA surfacing is considered to be around 20 years. This will reduce the requirement for maintenance to this section of road over the next 20 years.

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 production of material assets.
9. Cultural Heritage Work activities will be restricted to the carriageway and involve like-for-like replacement, and as such will not impact any potential undiscovered features of cultural heritage. It has been determined that the proposed project will not have direct or indirect significant effects to cultural heritage.
10. Landscape 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 land.
11. Vulnerability of the Project to Risks 11.1 Impacts • Flooding could be exacerbated and pollution of the water environment could occur if dust/debris created is not effectively managed during the works. 11.2 Mitigation • Debris and dust generated through the works will be prevented from entering nearby drains; - Roads will be brushed or scraped to reduce dust and debris deposits, and material collected will be disposed of appropriately; - Materials/waste will be stored in designated areas, isolated completely from surface water drains. • Visual pollution inspections of the working site (particularly areas near drainage) will be conducted in frequency, especially during periods of heavy rain and/or wind. Due to like-for-like replacement of materials, and works operating in accordance with current best practice, the project is not deemed likely to increase vulnerability of the carriageway to risks. It has been determined that the proposed project will not directly or indirectly significantly affect the vulnerability of the carriageway to risks.

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

Transport Scotland

Record of Determination A77 Glen App Improvement Resurfacing

Extent of EIA work undertaken and details of consultation:

- Air
- Climate
- Material Assets
- Cultural Heritage
- Landscape

The following statutory organisations have been consulted:

- South Ayrshire Council Environmental Noise Team have been notified of the proposed works.
- Nature Scot have been notified of the proposed works due to proximity to Glen App and Galloway Moors SPA and SSSI. Response from Nature Scot confirmed that providing the works will be undertaken in accordance with best practice, and ensuring that there are no deliberate or accidental incursions into the protected site, there should be no damaging impacts on the conservation interests of the site, and therefore no likely significant impacts are predicted to the sensitive area.

The following environmental surveys / reviews have been undertaken:

- A design Initial Environmental Review of the scheme, undertaken by the Environmental and Sustainability Team at Scotland TranServ issued December 2019.

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, and are located within environmentally sensitive areas.

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 will involve the milling and replacing of the defective carriageway surface via 30mm inlay, over an approximate 1517m stretch of the A77 carriageway.
- The total area of the works is approximately 10,619m^2 (1.06ha).
- Virgin materials will be required for the scheme construction, however the sustainable design chosen will minimise materials required and the levels of wastes generated. The use of TS2010 will reduce the use of imported aggregates and increase the use of a wider range of sustainable aggregate sources, as resurfacing material will contain a percentage of recycled material content where practicable.

- 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.
- Glen App and Galloway Moors SPA and SSSI is located directly adjacent to the northbound carriageway at the works location. These designated sites will not be impacted by the proposed work activities.
- The A77 within the scheme extents does not fall within any designation for landscape quality or character.

Characteristics of potential impacts of the scheme:

- As the works will be limited to the like-for-like replacement of the carriageway surface, there is no change to the vulnerability of the road to the risk or severity of major accidents or disasters that would impact on the environment.
- No significant residual impacts are predicted. Disruption due to construction activities is 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 will afford 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