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Environmental Impact Assessment Record of Determination

A75 Cairntop to Layby

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Project Details

Description

The works are required to maintain the safety and integrity of the A75 carriageway within the scheme extents. The main driver for this scheme comes from the widespread fretting, cracking and rutting, and from the extensive potholes.

Works will involve surface course treatment using TS2010 via inlays of various depths ranging from 30mm upto 350mm across the length of the scheme. The total area of the works is approximately 12,166m².

Construction activities will likely include:

- Milling of existing bituminous material by road planer;
- Hand-held jackhammer and compressor for breaking up surfaces not accessible by planer;
- Loader/excavator used to collect and move excess material;
- Base/binder material laid and compressed (where required);
- New bituminous material laid by a paver;
- Material compacted using a heavy roller;
- Mechanical sweeper to collect loose material;
- HGV for removal and replacement of material; and,
- Road markings replaced.

The works have been programmed for July 2022, for the duration of nine 24 hour shifts.

Traffic management (TM) will consist of daytime convoy operations, and temporary traffic lights during nights. The carriageway will remain open throughout the works.

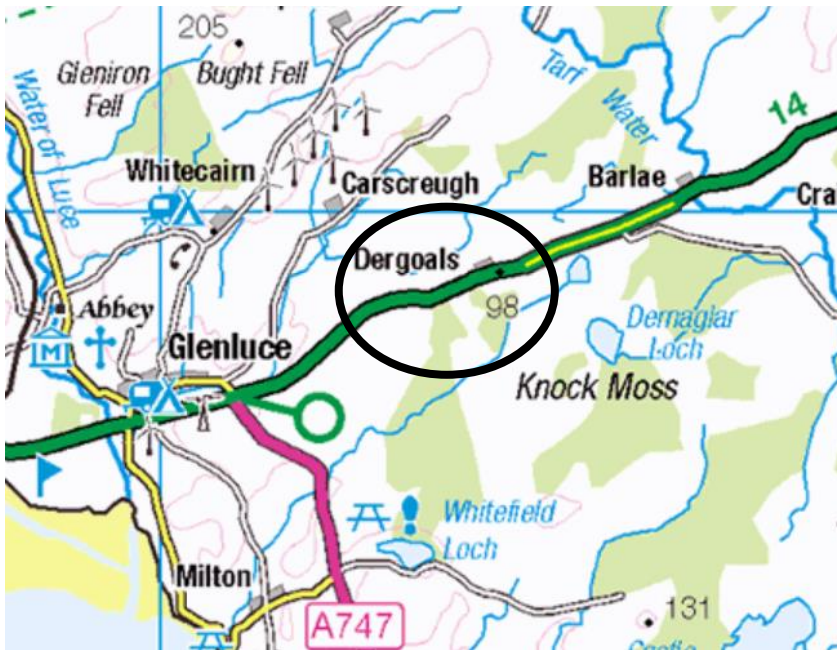
Location

The works are located on a rural stretch of the A75 carriageway east of Glenluce, within Dumfries and Galloway. The works have the following National Grid References:

Scheme Start: NX 25636 59439

Scheme End: NX 24538 59075

Figure 1 - Scheme Location

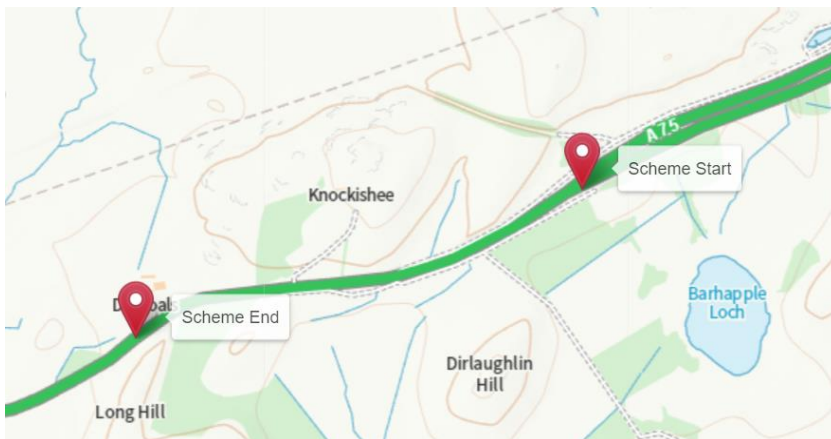


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Figure 2 - Scheme Extents



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Description of local environment

Air quality

The works are located on a rural stretch of the A75 carriageway. One farmstead, Dergoals, is located approximately 70m north of the carriageway. A second property, Knockishee, is located approximately 200m north. Both properties gain direct access via the A75 carriageway.

The Annual Average Daily Traffic Flows (AADT, 2021) at this location is 2,211 approximately 32% of which consists of Heavy Goods Vehicles (HGVs).

No [Air Quality Management Areas](#) (AQMA) have been declared by Dumfries and Galloway Council.

The works are of a temporary nature and will not result in any permanent local changes to air quality levels.

Cultural heritage

[PastMap](#) has identified nine features noted on the Historic Environment Record and three Canmore features within 300m of the A75 within the proposed scheme extents.

The works will be limited to the existing man-made carriageway structure and are not currently expected to utilise a treatment depth beyond the existing pavement depth.

As a result of the works taking place strictly within the existing man-made footprint, it has been determined that the proposed project does not carry the potential to cause direct or indirect impact to cultural heritage. As such, impact has been assessed as being 'no change' and has been scoped out of requiring further assessment.

Landscape and visual effects

[NatureScot Sitelink](#) and [PastMap](#) have not identified any designated landscape features within proximity to the works.

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 or visual effects and has been scoped out of requiring further assessment.

Biodiversity

The works are located on a rural stretch of the A75 carriageway primarily surrounded by agricultural fields. Two areas of plantation woodland are located adjacent to the carriageway within the scheme extents.

[NatureScot Sitelink](#) has identified the following European designated sites within 2km of the works:

- Flow of Dergoals
 - Special Area of Conservation and Site of Special Scientific Interest
 - Located approximately 360m south-west of the scheme extents, out with the trunk road boundary.
 - Designated for blanket bog and depression on peat substrates

Amey's Invasive Non-native Species Database has not identified any invasive plant species within the scheme extents.

Field Survey

Woodland areas adjacent to the A75 were surveyed for the presence of protected species on the 2nd of May 2022.

The woodland adjacent to the westbound carriageway consisted of planted conifers as part of a plantation.

The woodland adjacent to the eastbound carriageway consisted primarily of conifer trees, but with a small portion of broadleaf planted along the boundary line. Large rhododendron growths were also present within the area of woodland.

Geology and soils

The [National Soil Map of Scotland](#) has identified the surrounding local soils to consist of brown earths.

A desktop study using the [British Geological Survey Map](#) has identified major local geology type as the following:

Bedrock

Shinnel Formation - Wacke. Sedimentary bedrock formed approximately 444 to 458 million years ago in the Ordovician Period. Local environment previously dominated by deep seas.

Superficial

Till, Devensian - Diamicton. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.

Material assets and waste

Key Materials Required for Activities

The following materials will be required for the works:

- TS2010 surface course
- AC32 base
- AC20 binder
- Bitumen
- Road pain
- Road studs

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 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.

Key Waste Arising from Activities

Road planings and studs will be produced as waste from the works.

On-site coring investigations found one core with traces of tar at a depth 170mm – 240mm.

All works will operate above 170mm and therefore the tar will not be disturbed.

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.

Noise and vibration

The works are located on a rural stretch of the A75 carriageway. One farmstead, Dergoals, is located approximately 70m north of the carriageway. A second property, Knockishee, is located approximately 200m north.

Baseline noise levels are likely primarily influenced by vehicle traffic from the carriageway, with secondary sources from local rural activity.

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

The Annual Average Daily Traffic Flows (AADT, 2021) at this location is 2,211 approximately 32% of which consists of Heavy Goods Vehicles (HGVs).

Population and human health

One farmstead, Dergoals, is located approximately 70m north of the carriageway. A second property, Knockishee, is located approximately 200m north. Both properties gain direct access via the A75 carriageway.

A lay-by is located within the scheme extents.

No non-motorised provisions or community facilities exist along the A75 within the scheme extents.

Road drainage and the water environment

The Scottish Environmental Protection Agency's (SEPA) [Water Classification Hub](#) has identified the following waterbodies:

- Lady Burn approximately 460m northwest of the scheme. SEPA has classified Lady Burn as having an overall status of moderate with good water quality.
- An unclassified issues has been highlighted approximately 40m west of the works and likely shares connectivity with Lady Burn.
- Further unclassified issues have been highlighted adjacent to the lay-by area, which may share connectivity with Dergoal's Burn, located approximately 600m south of the works at its closest point.

- SEPA has designated Dergoal's Burn as being heavily modified and it's classified as having moderate ecological potential with good water quality. Dergoal's Burn passes through the Flow of Dergoals SAC.

The [Indicative River & Coastal Flood Map](#) by SEPA has not identified any areas of flood risk within the scheme extents.

Drainage is provided via top-entry gullies throughout the scheme extents.

Climate

Carbon Goals

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).

The Scottish Government has since published its indicative Nationally Determined Contribution (NDC) to set out how it will instead reach net-zero by 2045, working to reduce emissions of all major greenhouse gases by at least 75% by 2030. By 2040, the Scottish Government is committed to reduce 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, this commitment is being enacted through the Mission Zero for Transport. Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, TS are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Amey's Company Wide Carbon Goal is to achieve Scope 1 and 2 net-zero carbon emissions, with a minimum of 80% absolute reduction on our emissions by 2035. Amey is aiming to be fully net-zero, including Scope 3 emissions, by 2040.

Amey are working towards a contractual commitment to have carbon neutral depots on the SW NMC network by 2028. Amey have set carbon goals for the SW NMC contract as a whole to be net-zero carbon by 2032.

Monitoring, Management and Opportunities

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

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

Further information identifying how Amey will obtain the above Carbon Goals can be viewed within the Carbon Management and Sustainability Plan Roadmap to net-zero: STRNMC – South West.

Description of main environmental impacts and proposed mitigation

Air quality

Impacts

- The use of vehicles, plant and generators 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.

Mitigation

- All works shall operate in accordance with current best practice as outlined in the Guidance on the assessment of dust from demolition and construction (2014) published by the IAQM, which includes the following mitigation relevant to this scheme:
- When not in use plant and vehicles will be switched off; there will be no idling vehicles.
- All plant and fuel-requiring equipment utilised during construction shall be well maintained in order to minimise emissions, as per manufacturing and legal requirements.
- Green driving techniques will be adopted, and effective route preparation and planning shall be undertaken prior to works.
- 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.

Providing all works operate in accordance with current best practice, the residual impact for air is considered neutral.

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

Biodiversity

Impacts

- Protected species may be subject to a minor degree of light/noise disturbance from the works.
- In the event that an uncontrolled event was to occur, it could potentially lead to impact on the Flow of Dergoals SAC.

Mitigation

- A Habitat Regulations Assessment (HRA) has been undertaken and has determined that no likely significant effects will arise as a result of the proposed works. This is a result of strict standard industry pollution prevention measures coupled with the restriction of the works to the existing man-made carriageway boundary.
- Operatives should remain vigilant for the presence of protected species within or near the works. If an animal is spotted, all works should temporarily halt until the animal has moved on. Any sightings should be reported to the E&S Team.
- Effects from noise should be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers should be checked at regular intervals to ensure efficiency.
- Artificial site lighting should be kept directional to the works area and switched off when not in use.

Providing all works adhere to best practice and mitigation measures as detailed above, the residual impact to local biodiversity is predicted to be 'no change'.

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

Material assets and waste

Impacts

- Contribution to resource depletion through use of virgin materials,
- Greenhouse gas emissions generated by material production and transporting to and from site,

- 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.

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.
- 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.
- Operatives will be briefed with the Basic Waste Rules briefing.
- 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'.

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

Noise and vibration

Impacts

- Works will take place over the course of 24 hours for nine days. Nearby residents may be disrupted by noise from the works.
- Reduced reoccurring routine maintenance and associated levels of disruption due to TS2010 durability.
- TS2010 road surfacing will be utilised, which should improve the skid resistance and reduce mid to high frequencies of traffic noise levels.

Mitigation

- Due to the extended duration, residential properties in proximity will be notified in advance of the works, providing details of timings, nature, and duration of the works, as well as any potential access restrictions.
- Operatives will be briefed with the Amey in-house Noise and Vibration toolbox talk before starting works.
- Effects from noise should be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers should be checked at regular intervals to ensure efficiency.
- The noisiest works should be scheduled for before 11:00pm if feasible.

The residual impact throughout the duration of the works will be considered slight adverse throughout the works. The residual impact for noise and vibration is considered beneficial upon completion.

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

Population and human health

Impacts

- Access to residential properties may be temporarily restricted due to the works and/or traffic management.

Mitigation

- Site operatives will grant local access as and when required.
- Residential properties will be notified in advance of any potential access restrictions.

The residual impact for population and human health is considered negligible.

It has been determined that the proposed project will not have direct or indirect significant effects to local population and human health.

Road drainage and the water environment

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;
- An uncontrolled pollution event may impact the Flow of Dergoals SAC due to connected waterbodies.

Mitigation

- All plant and fuel storage at the site compound located on hardstanding and more than 10m from any watercourse;

- Storage areas located away from areas that see high vehicular movement to prevent accidental damage;
- All oils and fuels will be returned to storage area after use;
- No refuelling will take place within 10m of any watercourse, including drains;
- Spill kits will be kept for rapid deployment on the worksite wherever fuel or oil or machinery is present;
- Bunds to be provided around drums up to 205 litres with a buffer of 25% of their capacity; and
- Bunds to be provided around bulk storage to a capacity of 110% of the stored fuel/oil.
- 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.
- Best practice, as detailed by SEPA's Guidance for Pollution Prevention (GPPs), will always be adhered to onsite.

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

Climate

Impacts

- Greenhouse gas emissions will be emitted through the use of machinery, material production, materials used (containing recycled and virgin materials), and transporting to and from site.

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 the Material Assets and Waste section.

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

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.

It has been determined that the proposed project is not expected to alter the vulnerability of the existing trunk road infrastructure to risk of major accidents or disasters.

Assessment cumulative effects

The [Scottish Road Workers Commission](#) Interactive Map does not highlight any other works in the area at the time of construction.

[Dumfries and Galloway Council's Planning Portal](#) does not highlight any proposed developments or planning applications within proximity to the A75 within the scheme extents.

Amey's current programme of works does not feature any nearby schemes which may result in a combined effect on nearby receptors, such as vehicular travellers and residential/sensitive properties.

Any future schemes will be programmed to take into account already programmed works, and as such any effect (such as from TM arrangements and potential construction noise) will be limited.

Assessments of the environmental effects

The HRA Stage 1 Screening has determined that, with standard industry operating practices being followed, the proposed works do not carry the potential to cause likely significant effects to the Flow of Dergoals SAC.

This environmental assessment, as detailed within this Record of Determination, has determined that the project will not have any residual impact on the environment with appropriate mitigation measures being in place before and during construction.

Dumfries and Galloway Council were contacted on the 16th of June 2022 regarding the night works. No comments have been made.

Statement of case in support of a Determination that a statutory EIA is not required

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road and the completed works

(together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) exceed 1 hectare in area.

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken and review of available information has not identified the need for a statutory EIA.

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

Characteristics of the scheme:

- Construction activities are restricted to the 12,116m² (1.2ha) area of existing carriageway.
- Dumfries and Galloway Council were contacted on the 16th of June 2022 regarding the night works. No comments have been made.
- 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 stone mastic asphalt (SMA).
- 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 HRA Screening has determined that the works will have no likely significant effects on the Flow of Dergoals SAC situated approximately 360m from the works area.
- 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.

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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