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Record of Determination

M74 Junction 13 Drainage Works

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Project Details

Description

On the 30th December 2015 the north bound M74 motorway was closed at Junction 13 (Abington) for seven hours due to serious flooding. The flooding began to affect the southbound (SB) carriageway mid-morning resulting in it being closed for approximately 4 hours. Investigations following this flooding event identified drainage improvements required to reduce the risk of a recurrence.

As such, works are required to upgrade drainage at this location, with proposed improvements comprising creation of an interception ditch on the northbound (NB) verge, construction of new buried drainage network on the southbound (SB) verge, and installation of a new culvert below the M74 to connect these new drainage features. New drainage features will be connected to the existing drainage system. Preliminary design drawings can be seen Drawing 70065027-DR-001 attached although these may be subject to change.

Works will involve the following construction activities:

- Thrust boring (a trenchless, jacked and drilling boring method used for the installation of pipes and conduits), will be utilised for the following:
 - Installation of an interception ditch on the northbound verge, and
 - Culvert installation below the M74 carriageway.
- Open trench excavation where required;
- Installation of connection drainage components;
- Landscaping; and
- Fence and gate installation (placing of wooden/steel posts, securing with concrete).

The proposed construction date for the package of works is yet to be determined, however it will likely commence in spring/summer 2022, for a duration of approximately twelve weeks. Works will likely involve daytime working only.

Traffic management (TM), where required, will involve predominantly hard-shoulder closures, with no active lane closures required on the M74 due to thrust boring construction technique and predominantly off-network construction.

Location

The site is located along the M74 carriageway, approximately 100km north of Carlisle, immediately to the north of Junction 13 of the M74 Motorway in South Lanarkshire. The centre of the site is located at the approximate National Grid Reference (NGR) NS 92882 25000.

The area of proposed works is approximately 1.3ha (13,000m²), comprising all construction siting works.

Figure 1 - Works Location

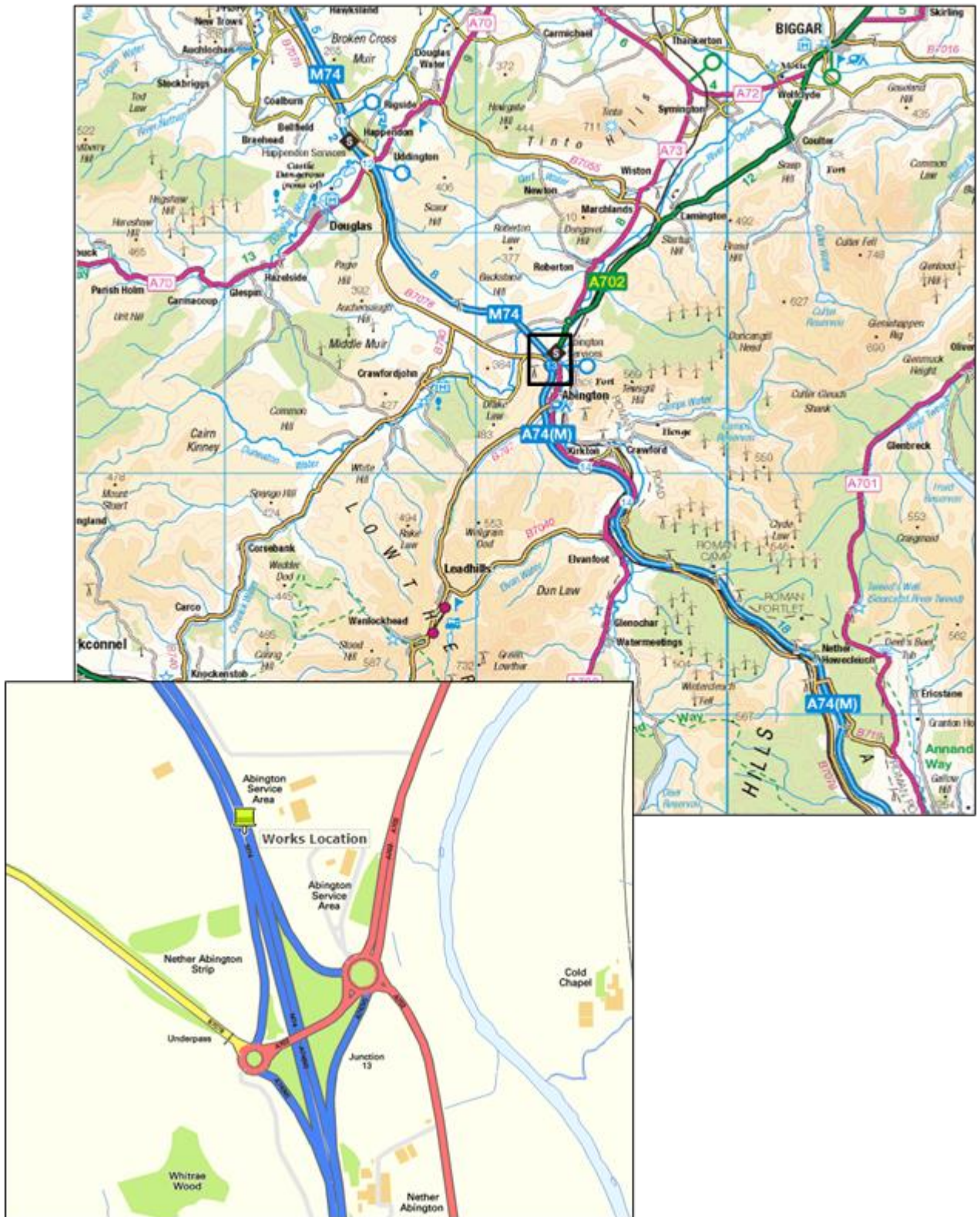


Figure 1 - Scheme Location

Description of Local Environment

Population and Human Health

The works area is located within a semi-rural stretch of the M74 carriageway, within South Lanarkshire, surrounded predominantly by low lying farmland. The West Coast Main Line railway runs parallel to the M74 approximately 650m east of the works location, emerging from the Clyde Valley at this point and beginning its ascent up Beattock Summit. The village of Abington is located approximately 1km south, and Abington Services are located immediately adjacent to the works location.

The M74 is the main connecting route between Glasgow and Gretna, providing further access to the M6 and the South. The vehicle count per day on the M74 (based on 2019 data) at this location is 34,428, with a heavy goods vehicle (HGV) average of 22%. The local baseline noise environment is likely to be primarily influenced by road traffic noise including vehicle movements on the M74 carriageways and slip roads, with secondary sources including commercial activity from nearby Abington Services and railway transport.

The closest residential property (Cold Chapel) is located approximately 700m southeast, with a further two rural properties / farm steads located intermittently within a 1km radius of the works location.

A hotel, Days Inn by Wyndham Abington M74, is located approx. 60m northeast from the works location. A commercial building, Welcome Break Abington, is located between the works location and this receptor, which provides an element of screening.

Due to motorway status, no non-motorised user (NMU) provisions are present within the scheme extents. A [Core Path \(CL/5951/1\)](#) and a [National Cycle Network](#) Route 74 are located approximately 250m south of the scheme location. Pedestrian footpaths are present within the boundary of Abington Services, located adjacent to the works area.

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

Biodiversity

The scheme is located on the southbound (SB) verge at Junction 13 of the M74, within a semi-rural area, surrounded predominately by agricultural land. The River Clyde flows approximately 300m east and small pockets of wooded areas are located periodically in the surrounding landscape.

A desktop study using [NatureScot Sitelink](#) Online Interactive Map has not highlighted any national or European designated sites within proximity of the works location.

A desktop review using Google Maps imaging (March 2019 and August 2019) and the [National Biodiversity Network \(NBN\) Atlas](#) does not highlight presence of any invasive non-native plant species (INNS) growth within proximity of the works location.

The NBN Atlas has record of field vole *Microtus agrestis* within 2km of the works location.

Small areas of coniferous plantation woodland and broadleaved woodland exist in the surrounding environment that provide some foraging habitat for bats, however the location surrounding the scheme is generally open and exposed, reducing likelihood of bat presence.

Areas of scrub are present within and surrounding the scheme extent, which provide some habitat suitable for nesting birds. Works will likely be completed within the key breeding bird season, as works will likely commence in spring/summer 2022.

Field Survey

Surrounding environment consists of predominantly open, low-lying agricultural land, with vegetated pockets and thin strips located intermittently in the surrounding landscape. An ecological site walkover was undertaken in April 2021 by the WSP Ecology team, covering the Site area and up to 100m beyond this where natural habitats exist and were safe to access (the 'Study Area').

The survey found no evidence of badger activity or setts, potential roost features (PRFs) or invasive species. Woodland in proximity was deemed unsuitable to support roosting bats, as (in addition to no visible PRFs), these are not well connected to suitable foraging habitat.

Evidence gathered from the survey suggests that no protected or notable species are present within or adjacent to the Site. Habitats present within the Site do not provide suitable habitat for roosting bats or badger setts.

Land

The works footprint falls within the grassed area between the SB M74 J13 off-slip and Abington Services, and within farmland adjacent to the NB carriageway.

The scheme falls partly within the M74 Trunk Road boundary, and partly within two areas of private land; Abington Welcome Break Holdings and Nether Abington Farm.

The road verge at this location is vegetated with low lying grass and individual trees.

Soil

The [National Soil Map of Scotland](#) has identified the local generalised soil type as mineral gleys, with a major soil subgroup of noncalcareous gleys.

The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS) or geologically designated Sites of Special Scientific Interest (SSSIs).

The [geology](#) for this location comprises the following:

- Bedrock geology: Kirkcolm formation - Wacke. Sedimentary bedrock formed approximately 449 to 458 million years ago in the Ordovician Period. Local environment previously dominated by deep seas.
- Superficial deposits: Till, Devensian - Diamicton. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (U).

No recent available [borehole records](#) in proximity are available of the works location. It is assumed that some Made Ground soils will be present at the site where the excavations are proposed, due to presence of adjacent carriageways and Abington Service Area.

Water

No watercourses exist within the works area. The River Clyde flows northerly approximately 300m east of the scheme location, and two very small tributaries are located 170m and 260m east and south east respectively, one of which outflows into the River Clyde.

The 2018 [Scottish Environment Protection Agency \(SEPA\) classification](#) of this section of the River Clyde (Potrail Water to Mouse Water, ID:10042) gives an overall status of 'Moderate', with an overall ecology status of 'Moderate'.

The scheme is not located within, or within proximity to, any hydrologically designated Sites of Special Scientific Interest (SSSIs).

The hydrogeology in the vicinity of the scheme is characterised as a low productivity aquifer. The land is highly indurated greywackes with limited groundwater in the near surface weathered zone and secondary fractures. Trial pit and borehole records from 1989 are present for the site. Trial pit NS92NW12828/P59 approximately 150m north west of the site indicates water is present 3.00m below ground level (bgl). Boreholes NS92SW12828/51A and NS92SW12828/52, adjacent to and south east of the site did not encounter groundwater at 5.80m and 9.05m bgl respectively.

[The Indicative River & Coastal Flood Map](#) by SEPA has highlighted small areas of surface water flood risk at the A702/M74 off-slip roundabout, approx. 250m south of the scheme location.

A surface water flooding event, as reported by Autolink, occurred on the M74 carriageway at this location in 2015, as outlined in the 'Description of Project' section above.

Carriageway drainage is currently provided by combined filter drainage within the verge area adjacent to both the NB and SB carriageway, connected below carriageway by carrier pipes. A concrete channel exists within the field area adjacent to the NB carriageway.

Air

The scheme is located within a semi-rural setting at J13 of the M74, surrounded predominantly by agricultural land. The village of Abington is located approximately 1.2 km south, and Abington Services commercial area is located directly adjacent to the work location to the east.

The M74 carriageway is a main connecting route between Glasgow and Gretna, providing access to the M6 and the South. The vehicle count per day on the M74 in 2019 at this location is 34,428, with a heavy goods vehicle (HGV) average of 22%.

The relevant modelled background air pollutant concentrations for 2021 from the [Air Quality in Scotland data archive](#) (NO₂, NO_x and PM₁₀) and the [Defra background air](#)

[quality archive](#) (PM_{2.5}) are shown in Table 1. These are calculated from the current base year of 2018.

Table 1 - 2021 Modelled Background Air Pollutant Concentrations

x	y	Pollutant concentrations (µg/m ³)			
		NO ₂	NO _x	PM ₁₀	PM _{2.5}
292500	624500	3.9	5.4	8.6	5.4
292500	625500	5.0	6.9	9.4	5.8
293500	624500	4.6	6.3	9.2	5.7
293500	625500	3.7	5.2	8.3	5.2

The air pollutant concentrations in Table 1 show that air quality in the area of the works can be considered good, despite the presence of the M74 motorway that is the principle source of emissions in the area. Whilst NO₂ and NO_x concentrations are very low, PM₁₀ and PM_{2.5} concentrations are around 50% of the objective values of 18 µg/m³ and 10 µg/m³ respectively. Abington Service Area, a commercial property, exists adjacent to the works area and is the only location where relevant human receptors are present. There are no residential properties within the scheme extents or within 350 m for the purposes of construction dust exposure.

The works location does not fall within proximity to any [Air Quality Management Areas](#) declared by South Lanarkshire Council. No monitoring of air quality levels has been undertaken as part of this assessment and, at the time of writing, no air quality monitoring sites near the scheme location. The closest monitoring sites are at Lanark and Eskdalemuir, which lie approximately 40km southeast and 19km north respectively and so are too remote from the works to be considered representative.

The Scottish Pollutant Release Inventory data presented on the Scotland's Environment online mapping tool shows that there are no registered industrial or waste management sources of emissions to air within 1 km of the works location.

Baseline air quality is mainly influenced by vehicles travelling along the M74 carriageway. Secondary sources are derived from nearby commercial activity within Abington Services, day-to-day agricultural land management activities and railway transport.

Climate Change

The works location is approximately 1.2 km north of Abington village. The climate here recorded as warm and temperate, and the driest month is April, which sees an average of 88mm of rain. Most precipitation falls in January, with an average of 134 mm of rain. According to [Köppen and Geiger](#), this climate is classified as a temperate oceanic climate (Cfb). The average annual temperature is 6.9 °C in Abington. The rainfall here averages 1,312 mm per year. The prevailing wind

direction is from the southwest with over 600 hours per year where wind speeds are at or above 12 mph which is generally considered capable of mobilising and transporting dust.

Material Assets

The following materials will likely be used during construction; however, this is subject to change:

- Timber fencing (post and 4 rail fence, HCD H3);
- Pre-cast concrete culvert components (including headwall, chambers and receival pit);
- Concrete; and
- 15000 micro tunnel.

The following equipment/fleet will likely be used during the scheme construction:

- Thrust boring plant and equipment;
- Generator;
- Excavator;
- Welfare plant;
- Hand tools; and
- Cars and Vans.

The following fuel and/or chemicals will likely be stored on site for the duration of the scheme:

- Diesel;
- Petrol;
- Gas;
- Oil; and
- Lubricant.

Waste

Waste materials will likely comprise of the following:

- Rock and soil excavated to construct interception ditch and drainage channels;
- Waste concrete from the current drainage components (channels, etc); and
- Waste piping from the current drainage components.

The final destination for these materials is yet to be confirmed; however, all relevant SEPA exemptions and consents will be in place to ensure the material is suitable for its given purpose and that all appropriate regulatory processes have been followed.

Cultural Heritage

Baseline information was collected through a number of desktop resources including data obtained from [Historic Environment Scotland's National Record of the Historic Environment](#) and a review of the [National Library of Scotland's Historic Mapping](#).

One Scheduled Monument (Abington Motte & Bailey, Castle SM2609), is located approx. 220m east of the works location. This asset is also listed on the local Historic Environment Record (West of Scotland Archaeology Service (WoSAS) PIN 10523). There is no direct association between the scheme and this feature.

A review of historic mapping has identified a single asset present on the 1st Edition Ordnance Survey mapping, located approx. 200m to the west of the works location. The presence of a small unroofed structure and a walled enclosure for sheep is located on the western side of the M74 and as such direct impacts are unlikely.

Works are not located within 300m of a World Heritage Site, listed buildings, Conservation Area, Inventory Battlefield, Garden and Designed Landscape or any other historically designated site.

Vulnerability of the Project to Risks

[The Indicative River & Coastal Flood Map](#) by SEPA has highlighted a small area surface water flood risk at the A702//M74 off-slip roundabout, approx. 250m south of the scheme location.

A surface water flooding event, as reported by Autolink, occurred on the M74 carriageway at this location in 2015, as outlined in the 'Description of Project' section above.

Carriageway drainage is currently provided by combined filter drainage within the verge area adjacent to both the NB and SB carriageway, connected below carriageway by carrier pipes. A concrete channel exists within the field area adjacent to the NB carriageway.

No other existing vulnerabilities exist at the scheme location.

Description of Main Environmental Impacts and Proposed Mitigation

Population and Human Health

Impacts

- Due to their location outwith the immediate vicinity of the works area, and that they would be subject to only transient occupation, no significant impact is predicted to the Core Path or National Cycle Network route.
- Footpaths within Abington Service Area may be impacted by presence of works and associated plant.
- No residential properties will be impacted during the works, due to sufficient distancing and the localised nature of the works.
- Access and egress at nearby Abington services and Nether Abington Farm may be impacted during site works, including site set-up and take-down.
- During the construction phase, activities undertaken on site have the potential to generate localised noise, however the only receptor in the vicinity of the works is the Days Inn Hotel which is circa 60m away from the closest proposed works. This facility is subject to transient occupation rather than permanent occupation (so less sensitive than, for example, residential dwellings). In addition, key impact areas at this receptor are internal rather than external (not external habitable spaces), and so benefit from the noise reduction afforded by the hotel building façades. This receptor is also located in close proximity to the M74 motorway where high baseline noise levels are expected. This substantially reduces the potential for significant noise level increase to arise from the construction works. The construction works would be temporary in nature and short term (circa 12 weeks), whilst night-time works would be avoided where possible.
- Due to majority off-line works, minimal traffic management (TM) is expected, and as such traffic levels in surrounding road networks are not expected to be impacted, and no disruption or impact on journey times for users of the M74 carriageway is predicted.
- This section of carriageway will benefit from reduced flooding incidents, reducing likelihood of travel impacts associated with this.

Mitigation

- Advance traffic warning signs will be placed prior to road closures in order to inform road users of temporary traffic management arrangements. The road closures/restrictions will be widely publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers.

- Where possible, the noisiest work operations (e.g. cold milling, using breakers (jackhammers), chipping hammers, etc.) will be completed during typical daytime construction working hours, e.g. 07:00 to 19:00 hours Mondays to Fridays, 07:00 to 13:00 Saturdays with no works on Sundays and Bank Holidays.
- If unacceptable noise is emanating from the site the operation will, where possible, be modified and rechecked to verify that the corrective action has been effective. Actions to be considered include (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) repositioning ancillary plant, (d) changing the method of working etc.
- Ancillary plant, vehicles and non-road mobile machinery (NRMM) will (where practical) be shut down in intervening periods between site operations.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- Ancillary plant, vehicles and NRMM will be started sequentially rather than all together.
- All ancillary plant, vehicles and NRMM used onsite will have been regularly maintained, paying attention to the integrity of silencers and acoustic enclosures.
- The use of paving breakers (jackhammers), grinders, impact wrench's, chipping hammers, etc. will be avoided (except where there is an overriding justification), and if used will be fitted with mufflers or silencers of the type recommended by the manufacturer.
- All compressors will be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed when in use.
- Reversing warning systems of HGVs, site vehicles and NRMM will be switched to the minimum setting required by HSE and, where possible, will utilise 'broadband non-tonal' or 'directional sound reversing' alarms.

Based on DMRB LA112, it has been determined that the proposed project will not have direct or indirect significant effects to population and human health during the operational phase.

Biodiversity

Impacts

- There is potential for the works to cause disturbance to rabbits and moles assumed present within proximity.
- There is potential for disturbance of nesting birds due to scrub/vegetation removal works, if undertaken during the nesting bird season (broadly March to August inclusive).

- In the absence of mitigation there is potential for pollution and/or sediment laden runoff during construction to enter road gullies within the scheme extent. Pollution and/or sediment laden runoff would thereafter have a pathway to enter River Clyde via drainage outlets. Although there would be dilution of any pollutants/sediment laden runoff within the river system, mitigation will be required to provide pollution control measures and so that no significant effects result. Refer to the 'Water' section for details.
- It is likely that ancillary plant, vehicles and NRMM as part of the work processes will lead to a slight increase in noise in the area surrounding the works. This could potentially disturb local wildlife. However, considering the nature, duration, size and scale of the scheme, and the good site practice mitigation measures which will be followed during the construction phase, it is unlikely that works will pose a significant environmental risk.

Mitigation

- All fencing that is erected around the Proposed Development will be designed to allow the escape of small mammals should they be flushed out, preventing entrapment.
- An ecologist will attend site no longer than two weeks prior to the commencement of works to ensure there are no changes to the current baseline information. This will be focused on the area of woodland in the southwest corner of the Site.
- Industry standard pollution prevention practices, waste management, storage locations etc. shall be adopted throughout works associated with the Proposed Development.
- Plant and machinery shall be housed in a secure location overnight.
- Any exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals becoming trapped.
- Any excavations shall be back filled during the same day or include a 45° ramp to allow for wildlife to escape in the event they become trapped.
- Construction methods will take place sensitively to reduce as far as possible encroachment of plant and machinery on habitats outside of the work footprint.
- Mitigation measures described in the Water Section will be followed to minimise potential impacts on the water environment.
- Site personnel will remain vigilant for the presence of protected species and nesting birds over the works period.

- If vegetation works are required during breeding season (March to August inclusive), a nesting bird check will be carried out by a competent person prior to clearance (a maximum of 48hrs prior). If an active nest is discovered, all works will stop until advice is provided by a competent person.
- Where mammals are encountered or move within the active works, works will cease until the animal(s) move on.
- Material, ancillary plant, vehicles, NRMM and personnel will be constrained to the laydown area, thereby eliminating potential direct mortality and disturbance to species.
- If during works unforeseen disturbance of protected species becomes evident, works will cease in this area, and appropriate mitigation measures will be discussed, agreed and implemented with stakeholders e.g. NatureScot, SEPA, etc.
- Appropriate persons within the WSP Environment team will be contacted to allow consideration of potential environmental effects if:
 - Unforeseen site clearance is required.
 - Unplanned works must be undertaken out-with the designated works area.
 - There is any deviation from the agreed plan, programme and/or method of working.
 - Breeding birds / nests are found onsite.

Based on DMRB LA108, it has been determined that the proposed project will not have direct or indirect significant effects to biodiversity.

Land

Impacts

- Access via and siting within third party land (out-with the Transport Scotland trunk road boundary) will be required to complete the works, potentially disrupting landowners undertaking day-to-day activities.
- Works will result in permanent change to local land features, due to presence of new drainage features.
- Land area to facilitate the permanent resulting works site will be required to be obtained by compulsory purchase order (CPO), resulting in a permanent loss land within private boundaries.
- Material and equipment storage required on private property will see a reduction of space.

- The creation of an interception ditch will result in a permanent loss of land with limited agricultural value adjacent to the M74 carriageway.

Mitigation

- All land acquisition will be undertaken in line with CPO legislation and procedures.
- Consultation will take place with private landowners prior to the works, detailing the nature of the works and any temporary storage space requirements.
- Communications will be maintained with private landowners' company throughout the works, ensuring they remain fully informed of the works progress and any potential disruptions.
- Works shall be planned and programmed efficiently to ensure timeframe for any requirement for siting on private land, out with area of CPO, is met.
- Operatives will ensure the area is tidy during and upon completion of the required works.
- The areas will be left free from debris, with any damage to existing structures reinstated upon completion.
- All vehicles shall be parked, and materials/equipment stored appropriately to minimise disturbance to nearby services/properties.
- Plant and equipment will be stored on site only as required.

Based on DMRB LA112, it has been determined that the proposed project will not have direct or indirect significant effects to land.

Soil

Impacts

- Works will involve excavation of soils, including Made Ground soils, to varying depths, as yet to be confirmed. Excavation will result in soil disturbance which can create adverse conditions, including erosion.

Mitigation

- Weather reports will be monitored prior to the works, with all construction activities temporarily halting in the event of predicted high rainfall or wind.
- Excavation of soils will be kept to a minimum and only undertaken where necessary, with any excavated soils being re-used on site as far as reasonably practicable.
- Excavated soils will be appropriately contained/covered and protected from the elements.

- Additional mitigation items are covered in section Water Mitigation.

With mitigation measures in place, residual impact to soils is predicted as neutral.

Based on DMRB LA109, it has been determined that the proposed project will not have direct or indirect significant effects to local soils.

Water

Impacts

- A number of potential pollutants would be present onsite including oil, fuels, chemicals, concrete and waste and wastewater from construction activities. With these being stored and used onsite there is the potential for an incident. Any pollution incident occurring on the site could have a detrimental effect on the water quality of the nearby surface waters and groundwater.
- Sediment generation may occur in areas where the ground has been disturbed during construction. Surface water passing through the drainage network, efficiently draining the new infrastructure, increases the potential for erosion.
- Surface flows could be impeded by construction activity. Blockages could be caused by inadequate control of earthmoving plant, sedimentation and poor waste management, all of which could lead to flooding on, and adjacent to, the site.
- Soil water conditions at the site are likely to be primarily influenced by surface water and direct rainfall, with groundwater having minimal influence. However, excavation could disrupt shallow groundwater systems. Groundwater controls, such as physical cut-offs or dewatering, would be utilised to prevent the excavations filling with water. This would result in the temporary lowering of groundwater levels in the immediate vicinity of the excavations and alterations to flow paths during dewatering activities.

Mitigation

Measures will be implemented to minimise the risk of sediment or accidental spillages entering the road drainage system (and by association the River Clyde) e.g.:

- No discharges into any watercourses or drainage systems are permitted.
- Prior to works commencing, any roadside gullies within 10 m of work activities will be bunded to ensure full segregation of the works from the road drainage system (and by association River Clyde);
- Bunds will be inspected periodically to ensure that they have not been removed, damaged or interfered with and they will be cleaned of silt and debris as necessary. If it is identified that bunds are not up to standard, the works will not

commence until they have been reinstated to the condition, they were originally in.

- The Site Supervisor and/or Clerk of Works will undertake regular visual inspections of the designated laydown area and work site (especially during periods of heavy rain).
- Consideration will be given to work patterns in relation to wet weather. Periods of heavy rainfall will be avoided and after heavy rainfall, inspection and maintenance of all controls will be undertaken. All waste, vehicles, ancillary plant, non-road mobile machinery (NRMM) and fuels will be stored in the laydown area and will be secured and located, if space is available, at least 10 m from drainage entry points in order to comply with GPP 5 'works and maintenance in or near water'.
- All material, waste, vehicles, ancillary plant, NRMM and fuels will be stored in a manner that ensures they are protected from damage by collision or extremes of weather.
- Refuelling will only be undertaken at designated refuelling areas (e.g. on hardstanding, with spill kits available, and >10 m from drainage entry points where practicable. Only designated trained and competent operatives will be authorized to refuel plant. Generators, and other ancillary plant and NRMM, where there is a risk of leakage of oil or fuel, will have internal bunding OR will have a secondary containment system (e.g. drip trays, plant nappies, etc.) placed beneath them that meets 110% capacity requirements. Containment systems will also be emptied regularly.
- All hazardous material will be stored in accordance with Control of Substance Hazardous to Health (COSHH) data in a designated storage area at least 10m away from any watercourses, drains and / or waterbodies.
- All vehicles and NRMM used onsite will have been regularly maintained, paying attention to the integrity of oil tanks, coolant systems, gaskets etc. A checklist will be present to make sure that the checks have been carried out.
- Any vehicles and NRMM not in operation will (where possible) be sited in the laydown area.
- Vehicle washing will take place in approved vehicle washing areas with access to appropriate drainage.
- Any dewatering activity will be limited to the minimum necessary duration.
- If the mixing of concrete on site is required, site operatives will apply suitable controls to prevent the mixture escaping to the surrounding environment:

- Any mixing shall occur in contained areas, preventing flow/spill to nearby receptors.
- All mixing shall take place a minimum of 10m away from any drains/watercourses where possible. Drains within proximity to any mixing will be securely covered or sealed off.
- Any plant/equipment wash out will be in a contained area away from surface water drains and channels to prevent pollution. Where possible, washout water will be stored and reused.
- Spill kits will be available and replenished onsite when required.
- All site personnel will be made aware of site spillage response procedures and in the event of a spill, all works associated with the spill will stop, and the incident reported to the Clerk of Works. Small spills that did not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact would most likely not be required to be notified to SEPA, NatureScot or other stakeholders. However, all such incidents will be recorded and reported to internally.
- In the event of a 'serious incident', SEPA and NatureScot will be notified without delay. Such notification will include: (i) the time and duration of the incident, (ii) a description of the cause of the incident, (iii) any effect on the environment as a result of the incident, and (iv) any measures taken to minimise or mitigate the effect and prevent a recurrence.
- During operation, there will be a slight beneficial impact on the water environment during heavy rainfall/extreme weather events, due to drainage improved drainage capability which will reduce the likelihood of flooding on the carriageway and out with the drainage system, reducing sediments entering watercourses.

Based on DMRB LA113, it has been determined that the proposed project will not have direct or indirect significant effects to local water environment.

Air

Impacts

During the construction phase, activities undertaken on site could potentially have some localised and short-term air quality impacts in proximity to the works. The construction phase will, for example, require a range of ancillary plant, vehicles and NRMM which will contribute to local dust and air pollutants.

Mitigation

The following mitigation measures will be implemented to ensure potential impacts are not significant:

- Materials that have a potential to produce dust will be removed from site as soon as possible, unless being re-used on site.
- A designated laydown area will be established on level ground away from the excavation and works.
- Material stockpiles will be reduced as much as reasonably practicable by using a 'just in time' delivery system.
- Prolonged storage of debris on site exposed to wind will be avoided. Materials will be wetted down or covered when exposed to wind for lengthy periods of time.
- Materials will be removed from site as soon as is practical.
- Where possible, materials are to be sourced locally to reduce greenhouse gas emissions associated with materials movement.
- Cement bags will remain closed when not in use to prevent cast off to the surrounding environment.
- Vehicles removing excavation materials will have their loads effectively covered.
- A designated laydown area for plant, material and welfare facilities will be established on made ground, at least 10 m from road gullies.
- Good housekeeping will also be employed throughout the works.
- All construction vehicles will comply with relevant EU standards e.g. (i) vehicles will be maintained, ensuring engines and catalyts work efficiently, and (ii) all vehicles will comply with MOT emission standards.
- Vehicle and machinery engines will be switched off when stationary to prevent exhaust emissions. If any emissions of dark smoke should occur (except at start-up), the vehicle or machinery involved will be taken out of service immediately and any defect rectified before use.
- All delivery vehicles carrying material with dust potential will be covered when traveling to or leaving site, preventing the spread of dust beyond the work area.
- Wherever possible, ancillary plant and NRMM will be shut down when stationary. All ancillary plant and NRMM will also have been regularly maintained, paying attention to the integrity of exhaust systems.
- If powered generators are required, the use of diesel or petrol will be avoided, and the use of mains electricity or battery powered equipment will be used (where practicable).

- Cutting, grinding and sawing equipment will be fitted or used in conjunction with suitable dust suppression techniques e.g. water spray or exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g. by engineer or Clerk of Works) will take place when dust, particulate matter and exhaust emissions (DPMEE) generating activities are occurring. In the unlikely event that unacceptable DPMEE are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions that will be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method of working, etc.
- Upon completion of the works, the working area will be cleaned.

With mitigation in place following 'Best Practicable Means' and 'Best Practice Guidelines', effects on air quality during construction are not anticipated to be significant, and any minor impacts will also be intermittent, temporary and short-lived.

Based on DMRB LA105, it has been determined that the proposed works are not expected to have any direct or indirect significant impacts on air quality during the operational phase as there will be no change in traffic levels or dynamics at this location.

Climate Change

Impacts

- Fuel will be required for transport to and from the scheme which will lead to greenhouse gas emissions. Any release of greenhouse gas emissions can contribute to climate change.
- The scheme is unlikely to be affected by the impacts of climate change, other than increasing likelihood of extreme weather events leading to issues with work taking place on site.

Mitigation

- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.

Material Assets

Impacts

- There will be limited consumption of materials and natural resources associated with the works.
- During construction, there will be a temporary impact as a result of materials.

Mitigation

- Care will be taken to only order the correct quantity of required materials, preventing disposal of unused materials
- Where applicable, all temporary signage will be removed from site on completion of the works. Good materials management methods (e.g. use of 'just-in-time' delivery), will be implemented wherever possible.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage entry points. Stockpiled materials with leachate potential, for example, will be stored away from road drainage and to prevent cross contamination with other materials, wastes or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft or vandalism.
- All temporary road signs and traffic cones will be removed from site on completion of works.
- If hazardous substances are used on site, each substance will undergo assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. Hazardous substances (if required) will also be clearly labelled and stored in line with COSHH safety data sheets within the designated laydown area, at least 10 m from surface drains (where possible).
- If any substance used on site displays the 'Dangerous to the Environment' COSHH symbol, then the following controls will be implemented: (i) the substance will not be permitted to enter surface drains (ii) any spillages will be contained using bunding and then absorbed with an absorbent material (e.g. dry sand or earth) and then collected and stored in a suitable container which is properly labelled and sealed securely in preparation for disposal, (iii) spillages or uncontrolled discharges will be immediately reported to SEPA.

Based on DMRB LA110, it has been determined that the environmental impacts from the use of materials and natural resources during the construction phase, are not anticipated to result in direct or indirect significant effects.

Waste

Impacts

- There will be limited generation of waste associated with the works.
- During construction, there will be a temporary impact as a result of waste.

Mitigation

- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- Care will be taken to only order the correct quantity of required materials, preventing disposal of unused materials
- All wastes removed from site will be consigned, transported and disposed of in full accordance with all relevant UK legislation e.g. Duty of Care requirements apply e.g. evidence of material transfer notes and/or waste exemption certificates will be supplied by a licenced waste carrier.
- Where applicable, all temporary signage will be removed from site on completion of the works. Good materials management methods (e.g. use of 'just-in-time' delivery), will be implemented wherever possible.
- Designated areas will be identified, within which all materials and personnel (including construction compounds), will be contained to minimize environmental risk during construction works. This will include a designated area (if required) for segregation and reuse of waste materials.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage entry points. Stockpiled materials with leachate potential, for example, will be stored away from road drainage and to prevent cross contamination with other materials, wastes or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft or vandalism.
- All temporary road signs and traffic cones will be removed from site on completion of works.
- The site will be monitored regularly for signs of litter and other potential contaminants, and litter will be removed before and after works take place. The site will be left clean and tidy.
- COSHH waste shall not be mixed with general waste and/or other recyclables.
- COSHH waste and/or special waste (if required) will be removed from site by a specialised waste carrier.
- All waste will be disposed of safely and legally with regard to Duty of Care.

Based on DMRB LA110, it has been determined that the environmental impacts from the use of materials and natural resources, and disposal of waste during the construction phase, are not anticipated to result in direct or indirect significant effects.

Cultural Heritage

- Due to sufficient distancing, no direct or indirect impacts are predicted to the nearby Scheduled Monument.
- Works will involve excavation to facilitate installation of new drainage features. Due to close proximity to the Abington Service Area development and M74 carriageway, it is assumed that the area of works requiring excavation will likely have been adversely impacted on by previous construction and any existing archaeological resource in the area. As such, no significant adverse impact is predicted on the cultural heritage resource.

Based on DMRB LA106, it has been determined that the proposed project will not have direct or indirect significant effects to cultural heritage.

Vulnerability of the Project to Risks

- The scheme is required to reduce the risk of flooding events at this location, and as such, likelihood of flooding exists within the scheme extents.
- AADT flow on the M74 is high at this location, which presents a risk of collision from errant vehicles within traffic management for carriageway works. A significant portion of the works package will be undertaken off-line, and the duration of on-line works will be temporary and short-lived.
- The works will improve drainage capability of the M74 carriageway at this location, reducing the risk or severity of major accidents/disasters associated with this.

Considering the above, it is judged that the residual effects of the scheme to risks from major accidents or disasters is low.

Cumulative Effects

No cumulative effects have been identified.

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) exceeds 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 (including site and plant) are restricted to the 13,000m² (1.3ha) works area.
- This programme of works is being carried out to reduce the risk of flooding events in the area.
- Works are scheduled to take 12 weeks in an area where there are few sensitive receptors.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.

Location of the scheme:

- The scheme does not lie within a densely populated area.
- The scheme does not lie within any sites of historical, cultural or archaeological significance.
- The scheme does not lie within any sites designated for their geology or soils.
- The scheme does not lie within any sites designated for their landscape character or quality.
- The scheme will require land take via CPO, however land required will be minor, and will not significantly 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:

- No impacts on any features of cultural heritage interest are anticipated.

- Any impacts on air quality or noise levels are temporary during the construction period. Due to the distance of the works from sensitive receptors and with mitigation measures in place, impacts are expected to be minor at worst and not significant.
- There is potential for an impact on water quality during construction as a result of potential spillage of fuels, oils and mobilisation of silt. However, with pollution prevention measures in place, this risk is considered to be negligible.
- No impacts on biodiversity are expected due to lack of protected species in proximity of the works.
- There is potential for an impact on breeding birds during construction as a result of scrub/vegetation clearance likely to take place within the bird breeding season (March to August inclusive). However, with mitigation in place (pre-clearance checks), impacts are minor and not significant.
- As the works are predominantly off-line, 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. Flood risk will be reduced on the M74 at this location following the works.
- 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, due to a reduction in risk of flooding on the M74 at this location, and a reduction in associated travel impacts due to this (increased journey times, delays, etc.).

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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