TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

transport.gov.scot

Record of Determination

A985 Kincardine Bridge Southern Piled Viaduct Propping Repairs

Contents

Project Details

Description

The southern approach of the Kincardine Bridge comprises the Southern Piled Viaduct (SPV) which consists of 24 spans and conveys the road over the intertidal habitats on the southern side of the Firth of Forth for 76.2m.

The SPV is currently propped to improve its load carrying capacity. However, recent inspection has identified that a significant number of the props do not make contact with the SPV and are therefore not functional in maintaining the required capacity of the SPV.

The existing contacts between the SPV and the propping system are made by two methods: a cement grout applied into the gap between the SPV and the propping structure; and steel shims (thin steel plates) inserted between the SPV and the propping structure. A significant number of props no longer make contact with gaps between the cement grout/steel shims.

The whole SPV is programmed to be replaced beginning 2022, however as an interim measure the proposed works aim to reinstate contact points between the SPV and deck to ensure a minimum carrying capacity is achieved.

Where contact between the props and SPV needs reinstating, steel shims will be used, as follows.

- Where steel shims are currently used, additional shims will be installed to make the required contact between the SPV and the propping structure.
- Where cement grout has been used previously, this will be removed and replaced with steel shims.

To undertake the proposed works the contractor will use a moveable tower scaffold founded on geotextile matting or plywood boards. Geotextile matting and boards will also be used to transport materials over the saltmarsh between the southern abutment and the SPV. The proposed works to the SPV are located below the Mean High Water Springs (MHWS). The total area required to facilitate the works is approximately 0.1ha, however not all of this area will be required at once as the works will be phased. Once a scaffold tower is in place the contractor will remove any cement grout with hand tools or small mechanical tools. Shims will be inserted using hand tools and, to ensure the steel shims do not move, they will be tack welded together. Tack welding will require a supply of gas via bottle and electricity via generator. The works will be phased so that tack-welding is carried out once all additional shims and grout have been removed so as to reduce the requirement for the generator within the main works area to a few days only.

A compound will be set up east of the sustainable urban drainage system (SuDS) pond, south-west of the Kincardine Bridge. Access to the SPV will be on foot along the path to the south of the A985 approach to the Kincardine Bridge and down the southern embankment. No vehicular access to the intertidal area is required. A welfare unit will be installed at the compound with an internal generator. No external

lighting will be required at the compound, however there will be lighting available inside the welfare cabins.

The proposed scheme works will be undertaken as soon as possible and are expected to be complete within 8 weeks accounting for tidal considerations. The anticipated working hours are between 07:00 and 19:00 and scheduled to commence in August 2021. As such, no working in the hours of darkness is required.

Location

The proposed works are located at the SPV on the southern side of Kincardine Bridge which is within Falkirk Council area. The Kincardine Bridge crosses the Firth of Forth between Higgins Neuk in Falkirk Council area and the town of Kincardine in Fife Council area. The Kincardine Bridge is used to carry the A985 Kincardine – Rosyth Trunk Road (A985) over the Firth of Forth via a two-lane single carriageway road. The A985 connects to the A876 at the Higgins Neuk Roundabout which lies to the south-west of the Kincardine Bridge. Figure 1 details the location of the Kincardine Bridge with Figure 2 showing the location of the proposed scheme works to the SPV.

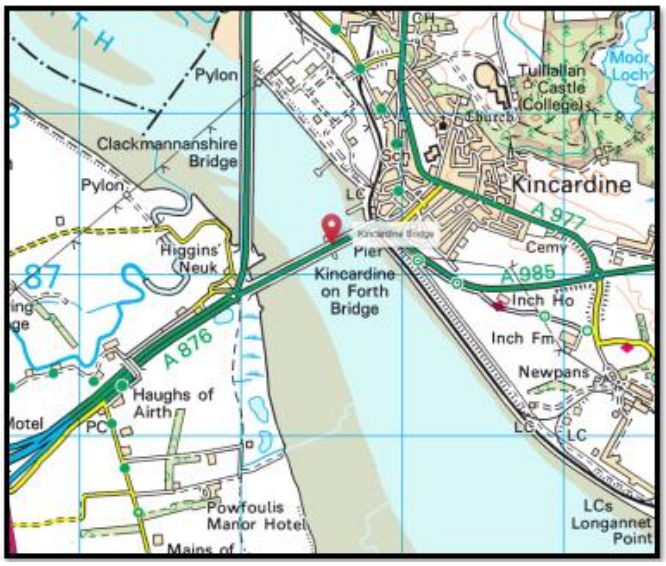

Figure 1: Kincardine Bridge location

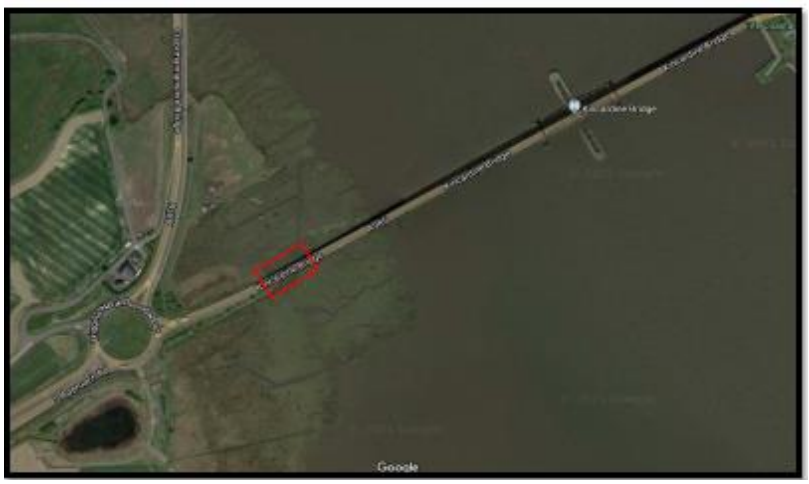

Figure 2: Location of proposed scheme works to SPV

Description of Local Environment

Population and Human Health

The proposed works are located on the southern side of Kincardine Bridge which is located near Higgins Neuk in Falkirk Council area. The Kincardine Bridge is used to carry the A985 Kincardine – Rosyth Trunk Road (A985) over the Firth of Forth via a two-lane single carriageway road. The A985 passes through the south of Kincardine to join Kincardine Bridge and then connects to the A876 at the Higgins Neuk Roundabout which lies to the south-west of the Kincardine Bridge. The A876 extends north from the Higgins Neuk Roundabout and crosses the Firth of Forth on the Clackmannanshire Bridge.

There are two residential properties at Higgins Neuk approximately 150m away from the SPV. There are no commercial properties located within 300m of the SPV.

There is one planning application located within 300m of the SPV which involves the demolition of an existing Kiosk adjacent to the A876 (P/20/0398/FUL) (Falkirk Council 2021). Maintenance works are proposed by BEAR Scotland to take place on Kincardine Bridge in winter 2021/2022 including repairs to concrete and steel spans, anemometer replacements, gauge board and navigational lighting installation, and general maintenance activities. Concrete/steel investigations are proposed to take place at the Kincardine Bridge in October 2021.

The Kincardine Bridge has segregated footways either side of the carriageway. Core Path 010/100 (Higgins Neuk to Clackmannanshire Bridge) crosses Kincardine Bridge to the west of the SPV and connects to the Right of Way CF97 at the south of Higgins Neuk Roundabout. The Right of Way CF97 starts to run south from Higgins Neuk Roundabout and passes adjacent to the proposed works compound. NCN Route 76 crosses the A876 south-west of the Higgins Neuk Roundabout.

The proposed scheme is located at the SPV of Kincardine Bridge with the compound located to the east of the existing SuDS, south of Higgins Neuk Roundabout. The land to the western side of Kincardine Bridge, adjacent to the SPV, is predominantly saltmarsh and non-prime agricultural land (land capable of use as improved grassland and land capable of average production though high yields of barley, oats and grass can be obtained) (Scotland's environment, 2021b).

Noise and Vibration

There are no Candidate Noise Management Areas (CNMA) or Candidate Quiet Areas (CQA) located within proximity to the proposed scheme (Scotland's environment, 2021). The existing noise climate is influenced by the traffic on the existing surrounding infrastructure. There are two Annual Average Daily Flow (AADF) count points on Kincardine Bridge which in 2019 calculated the AADF as 12303 of which 6% consisted of Heavy Good Vehicles (Department for Transport, 2019).

Biodiversity

The Firth of Forth Special Protection Area (SPA), Ramsar site and Site of Special Scientific Interest (SSSI) cover the intertidal area and saltmarsh habitats within and adjacent to the proposed scheme.

The biological features for which the SSSI is notified for are: coastlands (maritime cliff, saltmarsh, sand dunes); mudflats and saline lagoons; lowland neutral grassland; fen transition grassland; and species including vascular plants, invertebrates, wintering and breeding birds (NatureScot, 2021).

The SPA is designated for its internationally important population of waders and wildfowl which visit the area during winter, and for Sandwich tern migration (NatureScot, 2021).

The Ramsar site is designated for its non-breeding waterfowl assemblage and passage and non-breeding bird species populations of international importance (NatureScot, 2021).

Immediately downstream of the SPV, on the southern bank of the estuary, is Skinflats Royal Society for the Protection of Birds (RSPB) Reserve which encompasses saltmarsh and mudflat habitats, offering important bird habitat particularly for over-wintering and passage birds including migrant and wintering wildfowl, pink-footed geese and waders. The vast majority of the reserve is situated within the Firth of Forth SPA, SSSI and Ramsar sites boundary.

The following Invasive Non-Native Species (INNS) have been recorded within 5km of the SPV in the past 10 years under CC-BY and OGL licences (NBN Atlas, 2021):

- rhododendron (*Rhododendron sp.*)
- Japanese knotweed (*Fallopia japonica*)

The site of the proposed scheme has been surveyed as part of the A985 Kincardine Bridge Refurbishment: Piled Viaduct Replacement Environmental Impact Assessment Report (EIAR). Ecological constraints identified during these surveys have been considered in regard to the proposed scheme. In particular it is noted that additional protected terrestrial species to those mentioned above have the potential to be present within the study area.

Landscape

The SPV encroaches into Carselands Landscape Character Type (LCT) which has the following key characteristics:

- Flat, open, large scale Carselands of predominantly open agricultural landcover forming the floor and former floodplains of the River Forth, River Devon and Black Devon.
- Important as landscape setting of Stirling, Stirling Castle, and the Ochil Hills.
- Absence of settlement across the Carselands, restricted to villages on the peripheral slopes and scattered farmsteads along the valley floors.

- Periodic extensive flooding continues to influence land use.
- Trunk roads run in parallel to the northern and southern perimeters of the Carselands.
- Distinct character of group of Hillfoot villages, and their relationship with streams issuing from Ochil Hills within Lower Devon area, as well as major overhead power lines and their pylons.
- Recent expansion of settlement boundaries at edge of carse making new development very visible.
- Industrial and agricultural buildings, and bonded warehouse on open carseland prominent in views within Lower Devon area
- Largest remaining intact raised bog in Britain at Flanders Moss, with international importance for nature conservation.
- Importance of Carse of Forth open farmland for flocks of wintering geese.
- Open views across carse accentuated by consequent dramatic contrast with the adjacent escarpments of the Ochils and Fintry, Gargunnock and Touch Hills.

The SPV is not located within a National Scenic Area (NSA).

The land surrounding the SPV lacks any dense or high vegetation with no woodland registered on the Ancient Woodland Inventory Scotland and no trees on the Native Woodland Survey of Scotland within 300m of the SPV (Scotland's environment, 2021c).

Geology and Soils

The land surrounding the SPV falls within the Firth of Forth SSSI. The Firth of Forth SSSI covers an extensive coastal area located on the east coast of Scotland, stretching from Alloa to Crail on the north shore and to Dunbar on the south shore. Bedrock features designated within the SSSI include Stratigraphy of the Lower and Upper Carboniferous. The SSSI is also designated for coastal geomorphology and quaternary deposits although these are not located within the study area.

The primary soil type underlying the SPV is saltings (intertidal deposits) derived from saltmarsh, marine and estuarine alluvial deposit material.

The superficial geology is characterised as reclaimed intertidal deposits of silt and clay from the intertidal zone. Bedrock geology at the site of the SPV is composed of Carboniferous sedimentary rock of the Passage Formation and Lower Coal Measures Formation. The Passage Group is a cyclic formation which directly underlies the SPV, consisting primarily of sandstones and seatearths. The Scottish Lower Coal Measures Formation consists of Sandstone, siltstone and mudstone in repeated cycles that most commonly coarsen upwards, but also fine upwards locally, with seatclay or seatearth and coal at the top and underlies the SPV (BGS, 2021).

There are no Geological Conservation Reviews (GCR) within 300m of the SPV.

Road Drainage and the Water Environment

The SPV is directly adjacent to both the Upper Forth Estuary (SEPA ID: 2000437) and the Middle Forth Estuary (SEPA ID: 200436). The Upper Forth Estuary is 9.7km^2 and is designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact from an increased risk of subsidence or flooding. The Middle Forth Estuary is 38.2 km2 and is designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact on navigation and from an increased risk of subsidence or flooding (SEPA, 2021a).

The transitional water bodies both have an overall status of 'Moderate ecological potential' and overall ecology of 'Moderate'. The physico-chemical status for both water bodies is classified as 'Good' (SEPA, 2021a). The intertidal area (between MLWS and MHWS) of both water bodies form part of the Firth of Forth SPA, SSSI and Ramsar site.

The SPV is located within the Airth groundwater waterbody (SEPA ID: 150441) which SEPA classified as having an overall status of 'Poor' in 2018 (SEPA, 2021a).

There are small scattered areas of medium surface water flood risk ((0.5% Annual Exceedance Probability (AEP) 200-year flood event)) adjacent to the SPV. However, the majority of the area surrounding the SPV including the Firth of Forth and its banks has a high risk of coastal flooding (10% AEP, 10-year flood event) (SEPA, 2021b).

The SPV is located within an area of saltmarsh which is within the intertidal zone for the Forth Estuary, and the area below Mean High Water Springs (MHWS) is subject to twice daily tidal inundation.

Air Quality

The SPV is not located within an AQMA with the closest being Grangemouth AQMA located 4.2km to the south. Four air quality monitoring stations are located within Grangemouth which at the time of writing were reporting a Low (Index 1) pollution level which includes PM2.5, PM10, nitrogen dioxide, sulphur dioxide, and nitrogen oxides (Scotland's environment, 2021d).

Existing air quality is primarily influenced by the traffic using the A876, A985, the local road network in Kincardine and Kincardine Bridge.

There are two residential properties at Higgins Neuk approximately 150m away from the SPV.

Climate

The Climate Change (Scotland) Act 2009 creates mandatory climate change targets to reduce Scotland's greenhouse gas emissions. BEAR Scotland have a Carbon Management Policy in place with the core aim of reducing out carbon footprint which is measured and report annually.

Material Assets and Waste

New materials required for the proposed scheme is likely to include cement grout, steel shims, fuel for vehicles and machinery, gas for tacking, and electricity from a generator.

Waste considered likely to arise from the proposed scheme includes concrete foundations, grout, corroded steel, soil and earthworks, and wastewater.

All wastes will be disposed of to a licensed waste facility by a licensed waste carrier with the appropriate waste transfer notes in place.

Cultural Heritage

The Kincardine Bridge is designated a Category A Listed Building and is located at an historic crossing point of the River Forth. It is a large and important swing bridge that when completed (in the 1930s) it was the largest road bridge in Britain and the largest swing span bridge in Europe (HES, 2021).

There are undesignated cultural heritage assets of known interest within 300m of the SPV associated with Higgins Neuck landing point, drove road and ferry pier.

Vulnerability of the Project to Major Accidents and Disasters

The SPV is not located within a geographical region that is subject to natural disasters.

There are small scattered areas of medium surface water flood risk ((0.5% Annual Exceedance Probability (AEP) 200-year flood event)) adjacent to Kincardine Bridge. However, the majority of the area surrounding the SPV including the Firth of Forth and its banks has a high risk of coastal flooding (10% AEP, 10-year flood event) (SEPA. 2021b).

The total number of reported road accidents in Falkirk Council in 2019 were 127, accounting for 2.2% of the total reported in Scotland. The total number of reported for accidents in Fife Council in 2019 were 306, accounting for 5.3% of the total reported in Scotland (Transport Scotland, 2019).

Description of Main Environmental Impacts and Proposed Mitigation

Population and Human Health

Construction activities will be contained to the Kincardine Bridge and will not require any private land acquisition. As such, the proposed scheme is assessed as having no impacts on residential, commercial, or community land.

It is anticipated that the during the duration of the construction activities, Kincardine Bridge will remain open with access provided to vehicular and non-vehicular travellers, with no lane closure or traffic management required on Kincardine Bridge or the surrounding network. In addition, the Right of Way, Core Path, and National Cycle Network will remain open and require no diversions during the works. Due to the nature and short-term duration of the works, impacts on population and human

health and assessed as temporary negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated in relation to population and human health.

Noise and Vibration

Construction activities associated with the proposed scheme works have the potential to cause noise and vibration impacts, as well as through the use of plant and construction vehicles for the proposed activities. The works are anticipated to take place between 07:00 and 19:00 with no night-time working required. Given the short-term duration and time of day, proximity to sensitive receptors, nature of the works, and in consideration of the below mitigation, the proposed scheme impacts on noise levels throughout the construction period are assessed to be temporary negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated in relation to noise.

Mitigation proposed:

- The Best Practice Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum.
- On-site construction tasks should be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- All plant, machinery and vehicles will be switched off when not in use.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms should be utilised during construction.

Biodiversity

The proposed works do not require the removal of any habitat. No night-time working is required to facilitate the proposed works. However, construction activities associated with the proposed scheme works have the potential to cause impacts on local biodiversity and the adjacent environmentally protected sites.

The proposed works have the potential to cause noise and visual disturbance impacts to the qualifying features of the SPA, Ramsar and SSSI. This disturbance would be caused by machinery, vehicles and the presence of personnel however will be mostly localised to the SPV and immediate surrounding area.

The Proposed Works will require access to and working from the saltmarsh under and adjacent to the bridge. Working on the saltmarsh, particularly use of machinery could lead to compression of sediments which in turn could lead to damage to the saltmarsh and natural geomorphic processes being compromised. Furthermore, as the proposed works are scheduled to commence in August 2021, and are anticipated to take up to eight weeks, there is the potential for some works to be undertaken during September/early October. Works within the saltmarsh may result in localised fragmentation/temporary loss of habitat for qualifying interests of the SPA and Ramsar and notified features of the SSSI, especially those which rely on saltmarsh

as their primary habitat type over winter. A geotextile mat is proposed to be placed on the saltmarsh to minimise potential impacts. Given the nature and scale of the Proposed Works it is unlikely for there to be any significant damage to the saltmarsh, and the area of habitat temporarily unavailable to important bird populations over winter is likely to be negligible.

Furthermore, there is potential for impacts to marine ecology in relation to potential spillages of fuels or oils within the intertidal area.

The proposed works also have the potential to disturb otter with noise and visual disturbance. The proposed works require a disturbance licence to be obtained by NatureScot prior to any mobilisation on site.

NatureScot have been consulted with the regards to the proposed works and suggested mitigation to be employed to help reduce potential impacts.

Given the short-term duration, timing, nature of the works, and in consideration of the below mitigation, the proposed scheme impacts on biodiversity throughout the construction period are assessed to be temporary minor adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated in relation to biodiversity.

Mitigation proposed:

- The Contractor will utilise a Site Environmental Management Plan (SEMP), which will detail the mitigation to be implemented and how this will be monitored. The SEMP will include best practice construction methods (CIRIA, 2015) and include the use of appropriate pollution controls (i.e. Guidance for Pollution Prevention (GPPs)) and removal of all loose materials from the intertidal area.
- The footprint of the working area will be minimised as far as possible and vehicles, plant and personnel will be constrained to this area through the use of temporary barriers to minimise the damage to habitats located within and adjacent to this footprint.
- The access track and working platforms on the saltmarsh will be created through use of geotextile matting or plywood sheets. This will prevent construction materials sinking into, and machinery/vehicles compacting the saltmarsh.
- On completion of the works, and during each tide cycle as required, all access tracks and working areas will be removed in their entirety from the saltmarsh. There will be no materials stored on the saltmarsh or below MHWS during the works.
- The works will be timed, as far as practicable to avoid peak times when qualifying interests are present, undertaking as much of the work as practicable before September 2021.
- All works will be undertaken in daylight hours (07:00-19:00). No external lighting will be used at the compound.

- A suitably qualified Ecological Clerk of Works (ECoW) will be appointed by the Contractor and will be on site during the Proposed Works if these works extended into September 2021 onwards. The ECoW will provide ecological support to the Contractor during the Proposed Works. The ECoW will observe birds' reactions to the works to identify if there is significant disturbance. If significant disturbance is identified, works will cease and appropriate mitigation will be proposed and discussed with NatureScot.
- Screening of at least 2m in height (such as Heras Printed Barriers or Noise Barriers (Heras 2021)) will be installed between the site compound and the coastal area for works in September 2021 onwards. Screens should be located to reduce the visual and noise disturbance from site operatives and construction related activities at the compound.
- An otter disturbance licence must be provided by NatureScot prior to the works. A copy will be kept on site at all times and all conditions within will be strictly adhered to.
- The site supervisor will brief all site personnel as part of the induction process with regard to the potential presence of protected species, the mitigation measures, their legal obligations and any licensing conditions imposed on them.
- Toolbox Talks as appended to the SEMP will be given to all site personnel prior to any works commencing and will provide details of all protected species that have the potential to be impacted by the works and any mitigation measures required to prevent disturbance.
- The Contractor will employ a 'soft-start' to all noisy activities to avoid sudden and unexpected disturbance, where practical. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to allow otter (or any other protected species) that may be in the vicinity of the works area to relocate.
- Access to the saltmarsh will be made on foot from the embankment on the south-east of the approach road.
- The positioning of works compounds, storage areas, temporary access tracks and other works, should avoid otter commuting routes as far as practicable.
- Any sightings of protected species should be reported to Jacobs Environmental Team. Should a protected species be noted during construction, works should temporarily halt until the Jacobs Environmental Team can advise.

- Excavations, entrances to pipes/drains, or storage containers will be covered over and/or sealed off when not in use and/or at the end of each shift, and following completion of works, to prevent wildlife and members of the public falling into them and becoming trapped or injured.
- All equipment stored on site and the immediate area will be checked at the start of each work day to ensure otters or other protected species are not present. Any storage containers/shed within the compound will be secured overnight to prevent exploration by otter.

Landscape

Construction activities associated with the proposed scheme including the use of vehicles and machinery, working areas and personnel, will result in a temporary impact to the landscape and views to and from the Firth of Forth. No vegetation is expected to be removed as a result of the proposed scheme. Due to the nature and duration of the works, and in consideration of the mitigation below, impacts on landscape are assessed as temporary minor adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated to local landscape.

Mitigation proposed:

- The site should be clean and tidy at all times, with materials and wastes appropriately stored.
- Works must avoid encroaching on land and areas where work is not required or does not have permission to do so. This includes general works, excavating, storage of equipment/containers and parking.
- Any damage to the landscape, e.g. damage to grass verges, should be reinstated as far as possible to the original condition.

Geology and Soils

Construction activities associated with the proposed scheme works to the SPV, in particular gaining vehicular access to the propping system, have the potential to disturb superficial geology and soils associated with the Firth of Forth SSSI. Vehicular access to the contact points will be taken over a geotextile matt to reduce the potential impact on soils.

Due to the limited disturbance of the works, and in consideration of the mitigation detailed in the Biodiversity section, impacts on soil associated with the SPV works are assessed as temporary minor adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated on soils.

Road Drainage and the Water Environment

Construction activities associated with the proposed scheme works have the potential to cause pollution to the Firth of Forth in the form of sediments / particulate matter / chemicals / fuels, either by direct accidental spillage or by mobilisation in surface water caused by rain or tidal movements. BEAR Scotland has been in

discussions with Marine Scotland regarding approval for the works on the basis of their urgent nature.

Given the nature of works and with the implementation of mitigation detailed below, the proposed scheme impacts on the water environment are assessed as minor adverse. Upon completion of the proposed scheme no residual impacts are anticipated on the water environment.

Mitigation proposed:

- No materials are to be stored below the Mean High Water Springs level during the works.
- Monitoring of all works will be undertaken by BEAR Scotland Engineer to ensure works are undertaken in compliance with approved method statements and best practice.
- Works should adhere to the standard set out in SEPA Pollution Prevention Guidelines (PPGs), Guidance for Pollution Prevention (GPPs) and the General Binding Rules (GBR) set out in the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR).
- Specific documents refer to: GPP 5: Works and maintenance in or near water; PPG 7: Safe storage – The safe operation of refuelling facilities; PPG 22: Incident response – dealing with spills; PPG 1: Understanding your environmental responsibilities – good environmental practices; PPG 6: Working at construction and demolition sites; and GPP 21: Pollution incident response planning.
- A spillage control procedure must be in place and all staff should be trained on how to deal with spillages.
- Suitable spill kits must be present on site and staff should know how and when to use them.
- Storage of Control of Substances Hazardous to Health (COSHH) material, oil and fuel containers should be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area must be identified. Fuel bowsers should be stored on an impermeable area and be fully bunded. This should be distanced more than 10m from any watercourses.
- Generators and static plant may have the potential to leak fuel and / or other hydrocarbons and must have bunding with a capacity of 110%. If these are not bunded then drip trays should also be supplied beneath the equipment with a capacity of 110%.

- During refuelling of smaller mobile plant, a funnel must be used, and drip trays must be in place. Care must be taken to reduce the chance of spillages. Spill kits must be quickly accessible to capture any spills should they occur. The ground / stone around the site of a spill must be removed, double bagged and taken off site as special contaminated waste.
- All spills must be logged and reported. In the event of any spills into the water environment, all works MUST STOP, and the incident be reported to the project manager and the Jacobs Environment Team. SEPA must be informed of any such incident as soon as possible and within 24 hours at the latest.
- All plant and equipment must be regularly inspected for any signs of damage and leaks. A checklist must be present to make sure that the checks have been carried out

Air Quality

Construction activities associated with the proposed scheme works have the potential to cause local air quality impacts through the production of dust and particulate matter during works to the SPV, as well as through the increase of emissions from plant and construction vehicles for all proposed activities. Given the short-term duration, proximity to sensitive receptors, nature of the works, and in consideration of the below mitigation, the proposed scheme impacts on local air quality levels throughout the construction period are assessed to be negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated to local air quality.

Mitigation proposed:

- All plant, machinery and vehicles associated with the scheme must be maintained to the appropriate standards and must switch off their engines when not in use.
- Material stockpiles will be reduced as much as is reasonably practicable.

Climate

Construction activities associated with the proposed scheme works have the potential to cause local air quality impacts through the production of dust and particulate matter during works to the SPV, as well as through the increase of emissions from plant and construction vehicles for all proposed activities. Given the short-term duration and nature of the maintenance works, and in consideration of the below mitigation, the proposed scheme impacts on the climate are assessed to be negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated on the climate.

Mitigation proposed as shown above for Air Quality.

Material Assets and Waste

There is potential for temporary impacts on the environment during construction due to the use of materials and natural resources. Given the minimal materials required for the maintenance works, the proposed scheme impacts on material assets are assessed to be negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated on materials assets.

There is potential for temporary impacts on the environment during construction due to the production of wastes. Given the minimal amount of waste expected to be produced as part of the works, and with incorporation of the following mitigation, the proposed scheme impacts on waste are assessed to be negligible adverse in magnitude. Upon completion of the proposed scheme no residual impacts are anticipated on waste.

Mitigation proposed:

- All appropriate waste documentation must be present on-site and be available for inspection.
- All materials and wastes must be suitably stored on-site, with appropriate protection from the elements.
- All litter, wastes, and unused materials should be removed from site in a safe manner by a licenced waste carrier upon completion of the works. Waste carrier will have a valid SEPA waste carrier registration. A copy of the waste transfer note must be provided to BEAR timeously.
- A copy of the duty of care paperwork will be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- COSHH waste and special waste should be removed from site by a specialised waste carrier. COSHH waste should NOT be mixed with general waste and/or other recyclables.

Cultural Heritage

The majority of works will be restricted to the existing Kincardine Bridge with only minimal disturbance of ground associated with the SPV works at the steel propping columns. As such, the proposed scheme works are assessed as having a negligible risk to disturb or damage previously undiscovered items of cultural interest or other cultural items not associated with category A listed building Kincardine Bridge. The works to Kincardine Bridge are essential in order to allow the bridge to remain open. Due to the nature of the works, and in consideration of the below mitigation, the proposed scheme impacts on Kincardine Bridge are assessed as negligible in magnitude.

Proposed mitigation:

- People, plant and materials should, as much as is reasonably practicable, only be present on areas of made/engineered ground, i.e. The Kincardine Bridge and surrounding road network.
- The site compound be located to the south of Higgins Neuk Roundabout and will have designated access routes for vehicles and operatives on foot.
- Should any unexpected archaeological evidence be discovered by the works, construction activities in the vicinity should halt and the Jacobs Environment Team should be contacted

Vulnerability of the Project to Major Accidents and Disasters

Due to the location of the SPV works below the MHWS, there is potential for flooding impacts for the proposed scheme. However, the works will be timed appropriately during lower tidal states to avoid any potential flooding and pollution.

The proposed works require no lane closure or traffic management for vehicular travellers. As such, the proposed scheme impacts on road traffic accidents is assessed to be of negligible magnitude.

Cumulative Effects

The planning application located within 300m of the western side of the proposed scheme is considered suitably distant from the SPV works to avoid any significant cumulative effects. Concrete/steel investigations are proposed to take place at the Kincardine Bridge in October 2021. The investigations will be carried out on the 50ft concrete spans, southern steel spans, northern steel spans and central swing span. Investigations will be made via underdeck mobile platform for the 50ft concrete spans and all steel spans (northern and southern), with additional on ground access to the intertidal area required for close inspection of the 50ft concrete spans. Swing span investigations will be carried out via a specialist suspended access system. Due to the nature and duration of the concrete/steel investigations, no significant cumulative effects are anticipated. Overall, no significant cumulative effects are anticipated.

Assessments of the Environmental Effects

As detailed in Description of Main Environmental Impacts and Proposed Mitigation section, there are no significant effects on any environmental receptors as a result of the proposed scheme. A Habitat Regulations Appraisal (HRA) has been prepared for the proposed scheme works and has concluded that no likely significant effects (LSEs) are anticipated on the Firth of Forth SPA, Firth of Forth Ramsar, and River Teith SAC. No further assessment of environmental effects or consultation with statutory bodies is required.

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) are situated in part in the Firth of Forth SPA, SSSI and Ramsar site which are sensitive areas within the meaning of regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

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:

- The works are essential in order to ensure the minimum carrying capacity is achieved. The works consist of maintenance works to the existing structure and require replacement of existing materials only.
- The works are temporary and short-term and are anticipated to be completed in less than 8 weeks during day-time hours.

Location of the scheme:

- The scheme is located within a relatively small area within the Firth of Forth SPA, SSSI and Ramsar site and the potential impacts are highly localised. An HRA for the proposed scheme concluded that no LSE's are anticipated on these sensitive sites as a result of the works.

Characteristics of potential impacts of the scheme:

- The potential for impacts as a result of the scheme are minor, temporary and not significant.

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.

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Further copies of this document are available, on request, in audio and visual formats and in community languages. Any enquiries regarding this document / publication should be sent to us at info@transport.gov.scot

This document is also available on the Transport Scotland website: www.transport.gov.scot

Published by Transport Scotland, August 2021

Follow us:

transcotland

@transcotland

transport.gov.scot

Scottish Government
Riaghaltas na h-Alba
gov.scot